Study on the costs and benefits of the different policy options for mortgage credit

Final report

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Internal Market and Services DG

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Executive Summary

Four policy areas are considered in this study on the costs and benefits of different policy options for (residential) mortgage credit. The policy four areas are:

- Pre-contractual information;
- Annual percentage rate of charge;
- Early repayment; and,
- Responsible lending and borrowing.

The approach to assessing the costs and benefits follows that stated in the European Commission's Impact Assessment Guideline 2009, and, as such, the analysis accounts for the costs and benefits that can impact upon the following six stakeholder groups:

- Mortgage credit providers, both domestic and cross-border;
- Mortgage credit intermediaries;
- Borrowers;
- Credit registers;
- Public authorities; and,
- The public at large.

In order to establish the baseline from which to assess the costs and benefits, two different baselines have been established. These baselines are the following:

1. A legal baseline which establishes what the legal framework for mortgage lending is likely to be in the future in the absence of the policy measures which are assessed. This processes involved an extensive information gathering exercise which engaged national regulators and national industry associations in the 27 Member States.

2. An economic baseline which forms the backbone against which the economic costs and benefits of the different policy options are assessed. The economic baseline must be forward looking and therefore it includes four different future economic scenarios. These scenarios are the following:

i. steady recovery with no inflationary pressures;

ii. faster recovery with inflationary pressures but no asset price inflation;

iii. faster recovery with asset price inflation; and,

iv. prolonged asset price depression scenario (along the experience of Japan in the 1990s).

In order to assess the costs and benefits to the different stakeholder groups, a second information collection exercise was undertaken. This involved a series of eight stakeholder cost-benefit questionnaires in each of the 27 Member States. The stakeholder groups that were invited to answer the cost-benefit questionnaires were the following:

- Consumer Associations;
- Credit registers;
- Credit Intermediaries;
- Associations of credit intermediaries;
- Mortgage Associations;
- Lenders;
- Regulators; and,
- Policy-makers.

As a complement to these cost-benefit questionnaires, the project team undertook in-depth face-to-face stakeholder interviews in seven Member States, and distributed specific quantitative requests to mortgage/banking industry associations in ten Member States. Further, the team met with nine European associations that represent national stakeholders both on the supply and demand side of the mortgage markets.

To ensure consumer experiences and behaviours were captured in the study, household telephone questionnaires were conducted by national consumer associations in ten Member States, and these questionnaires were then followed by consumer focus groups to further investigate consumer experiences and beliefs about the future impact, on them, of the policy options. Details of the household survey are presented in a separate annex to this report.

The cost benefit modelling accounts for both the immediate impacts of policy change (static impacts), and the broader impacts in terms of customer

mobility, consumer confidence, product choice and mortgage market completeness, and cross-border lending. Further, it also addresses the broader impacts such as financial stability. The modelling also accounts for any change in administrative costs of the policy options.

The detailed cost-benefit analysis was undertaken for eleven Member States that were used as case studies from which extrapolation to the EU-27 is made. To ensure the case studies countries are representative of the 27, the project team assessed the distance of each of the 27 Member States from the "policy frontier" (the policy option under consideration). Each Member States was then assigned a distance value. Namely, 1) at or close the policy frontier, 2) medium distance from the frontier, and 3) a far distance from the frontier. This process then allowed, upon completion of each policy option cost-benefit analysis using the case studies, extrapolation to the EU as a whole by applying the result of one or several Member States on the basis of distance value, and accounting for the relative weights of the Member States in the total EU residential mortgage market.

Below we present key conclusions emerging from the analysis of the costs and benefits of the different policy proposals in the four policy areas of interest.

Pre-contractual information

The quantitative analysis reported in the present study shows that overall the proposed policy of either a continuation of the voluntary approach with a strengthened monitoring and enforcement mechanisms or a legal requirement to provide a revamped, more informative and simplified ESIS would have beneficial effects for consumers across the EU except Germany, where the provision of an ESIS will soon be a legal requirement and the UK where the KFI is being replaced by an ESIS.

At the level of the economy as whole, the situation is more varied. Countries with a high compliance rate in the provision of an ESIS would face higher net cost as the main effect would be consumers seeking to obtain an ESIS from more lenders in the post policy intervention environment while in the low compliance countries, consumers would also benefit from significant saving in searching for information as, in the post policy intervention period, the likelihood of obtaining an ESIS when contacting a lender increases sharply.

The analysis also shows that increased provision of an ESIS strengthens consumer confidence in mortgage markets, encourages customer mobility and cross-border lending.

APRC

The qualitative and quantitative CBA analysis of the three policy options regarding the definition of the APRC suggests that the adoption of an APRC will benefit consumers while imposing some costs on lenders.

The benefits, and the costs, grow with the broadness of the APRC and the aggregate combined impact on consumers and lenders cannot be predicted a priori as it depends on a wide range of factors.

At the present time, of the 24 Member States for which information is available, all but four (Latvia, Lithuania, Luxembourg and Slovakia) use a specified APRC. Moreover, in all but one of the 19 Member States a narrow APRC has been adopted. The exception is France where a broad APRC has been adopted.

The implementation of an APRC is also likely to boost consumer confidence in mortgage products and stimulate consumer mobility. Moreover, the broader the APRC, the larger the likely impact on confidence and mobility.

However, the impact on product choice and market development is likely to be small or nil.

In contrast, cross-border mortgage lending may grow somewhat as a result of the adoption of an APRC.

Early repayment

We use a detailed empirical review to derive an option cost pricing – compensation or fee level curve that is the basis for the cost benefit analysis. We conclude from this that the early repayment option at zero compensation or fee level can be assumed to lead to additional interest rate costs on fixed-rate mortgages in the range of 45 basis points in Europe, assuming Euro area conditions, a 10-year interest rate fixing period, and a functioning market of investors in products carrying the option. This figure contains only small costs for foregone intermediation profit – most early repayments in Europe do not involve switching - and is largely a result of reinvestment risk loss faced by long-term lenders or investors. Fixed-rate mortgage contracts subject to fair value compensations that eliminate the financial incentive to prepay can be assumed to carry zero option costs, adjustable-rate mortgages only the option costs associated with foregone intermediation profit.

We are able to rank the proposed policy options along this curve. For the case of the contractual option (i.e. no statutory early repayment right) we assume a negotiated (as opposed to contractually agreed

and/or statutorily limited) compensation level above fair value and commensurate loan pricing discounts granted by lenders.

The comparative statics of shifting points on the curve via policy interventions are demonstrated with a simulation model: lenders can improve their profit levels when compensation is cut back statutorily if they are able to charge an options premium commensurable to rising costs. Consumers vice versa may benefit from removing tight caps and shifting towards a fair value compensation regime when options costs decline as a result. The practice of statutory fee caps, as opposed to caps imposed on fair value compensations, may lead to an increase in reinvestment profit of lenders when interest rates rise. Lender profit across the board declines and consumer benefit increases when moving to symmetric fair value compensation that allows consumers to claw back lender profit when prepaying when interest rates have risen while still making them liable to reimburse lender loss when interest rates have fallen.

Our results for the full set of case countries and EU-27 aggregating these effects yield that any departure from a given point on the curve results primarily in a redistribution between lenders and consumers and net social effects of intervention are only small. The sign of the effects for lenders and consumers depends moreover strongly on the grandfathering rules adopted for pre-reform cohorts. The policy options located in the centre of the curve – symmetric and asymmetric fair value compensations - show the least aggregate swing of all policy options. These solutions also safeguard a continued existence of fixed-rate mortgages with pricing characteristics close to government bonds ('non-callable') and at the same time flexibility of consumers to prepay when they need to.

With regard to policy options at the extremes of the curve, contractual option / mutual recognition on the one hand and tightly capped compensation or fee on the other hand, some negative outcome in other dimensions of the analysis cannot be excluded. When prepayment is denied or made very expensive for consumers – e.g. those locked in high interest rate contracts or for consumers with unstable incomes – default and loss of consumer confidence and customer mobility can be the result. Similarly, when compensation is cut back to low levels, lenders may face high cash flow instability and asset-liability management risk while consumers will lose with the 'non-callable' fixed-rate mortgage a product that offers mezzanine levels of protection at low costs. The result of lower product diversity might be the unintended consequence of an increasing market share of adjustable-rate mortgages that pass all interest rate risk on to consumers.

Responsible lending

Our empirical review yields that responsible lending conditions are often violated in European mortgage markets, partly due to necessity – where no alternative affordable product is available as interest rates or house prices are high – and partly due to idiosyncratic market practice. A paramount factor driving non-responsible practices is house price inflation, which prompts lenders to reduce amortisation and increase the use of teaser rates and discounts. While the genuine European non-prime market is small, it faces similar problems of risk-layering as in the US.

We also see scope for non-responsible practices in incentive structures of agents, such as insufficient pressure to modernise credit assessment techniques of lenders, broker-lender fee arrangements and adverse selection issues of lenders by brokers, and investors by lenders. Compared to the US, European consumers face stricter insolvency legislation, but the net disciplining effect on borrowing behaviour is unclear.

Against this background, necessarily the effectiveness of consumer protection rules faces limitations. We see some of the policy options presented – A2 (credit assessment), A3 (adequate explanations) and B4 (refrain from lending) – as potentially powerful instruments to address a wide range of the issues identified above. In fact, in a simulation we find that option B4 could generate substantial social benefits if truly leading to credit denial, especially during spells of inflated house prices. But we also note operability problems due to lack of specificity in the current formulations, questions of legal consequences and implementation that might limit their effectiveness.

Potentially more effective, or at least specific, measures currently part of national reform efforts include mandatory stress tests, fully-indexed-fully-amortising loan underwriting, mandatory downside limits on risk shifted to borrowers in payment shock products, and in the isolated case product bans (or bans of risk layering practices).

Our conclusion is that the proposed options, unless greater specification and effectiveness is reached and additional measures are adopted, are unlikely to reach the stated goal of greater responsible lending impact, even where they are not already legally required. Also the adoption of the various principles for lenders will not impose immediate costs on the mortgage lending industry except for a possible risk of increased risk of litigation.

1 Introduction

The objective of the study is to examine the costs and benefits of different policy options for the following four policy areas:

- Pre-contractual information;
- Annual percentage rate of charge;
- Early repayment; and,
- Responsible lending and borrowing.

In each policy area, the costs and benefits of a number of options are assessed individually.

In line with the Commission's Impact Assessment Guidelines[1], the costs and benefits to the relevant stakeholder groups are taken into account. The following stakeholder groups have been identified:

- Mortgage credit providers both domestic lenders and those providing cross-border mortgage loans (foreign lenders).
- Mortgage credit intermediaries ranging from those with small operations with links to only a few mortgage providers and mostly active in regional markets to large operations with links to many domestic and, potentially, foreign lenders and which are active on a national basis.
- Other professionals involved in the mortgage granting process (e.g., legal professionals, notaries, etc).
- Households who borrow to acquire residential property (i.e. obtain a mortgage for a first or second residence).
- Credit register owners as, in some cases, the proposed policy options will have a direct impact on the operations of credit registers. Therefore, we consider this group to be a separate stakeholder group.
- Public authorities in Member States distinguished by two sub-groups, namely the authorities responsible for mortgage credit policy development and legislation (such as, for example, Ministries of Finance or Justice) and the regulators responsible for mortgage credit lending (in case of sectoral based regulation) or institutions (credit

[1] European Commission, Impact Assessment Guidelines (2009c).

institutions and non-credit institutions) engaged in mortgage lending (in case of institution based regulation).

- The public at large will be impacted directly through any effect of the policy options on overall financial stability.

Cross-border mortgage provision can take the following forms:[2]

- **Cross-border trade:** The lender is located in country A, the borrower and the property on which the loan is secured or which the loan is intended to purchase are in country B, and the lender has no physical presence in country B, either through branches, subsidiary firms or distribution agreements with local brokers or other firms.

- **'Holiday-home' purchase:** the lender is located in country A and the relevant property in country B. The borrower is normally resident in country A. The relevant property may not strictly be a holiday home.

- **Cross-border entry via branching:** a lender with headquarters in country A opens branches in country B and conducts mortgage business through these branches.

- **Cross-border entry via establishment of subsidiaries:** a lender with headquarters in country A establishes a subsidiary in country B, perhaps through a merger or acquisition. The lender then conducts mortgage business through the branches of this subsidiary.

- **Cross-border distribution agreements:** a lender with headquarters in country A agrees with a broker or other financial institution in country B that the latter will sell the lender's mortgage products in country B.

- **Cross-border secondary-market transactions:** a lender with headquarters in country A buys or sells mortgages, mortgage bonds or mortgage-backed securities originated or issued by a lender in country B.

Information and data required to undertake the detailed cost-benefit analyses (CBAs) were gathered through surveys of the main stakeholder groups (consumer, mortgage lenders, credit intermediaries, national associations of lenders, national association of credit intermediaries, credit registers, governments and financial sector regulators.) In addition, we have used informed opinions based on our knowledge of, and experience in, European mortgage markets.

[2] These definitions also appear in the glossary to this report (Annex 2).

The structure of the present study is as follows:

- Chapter 2 provides an up-to-date state of play of the transposition of the Consumer Credit Directive (CDD) in individual Member States and the potential application of elements of the CCD to mortgage lending;
- Chapter 3 provides background information on the EU-27 mortgage markets and other issues of relevance for the CBAs;
- Chapter 4 sets out the methodology adopted for undertaking the CBAs;
- Chapter 5 describes the economic scenarios used in the CBAs;
- Chapter 6 sets out the detailed CBAs for the policy options in the area of pre-contractual information;
- Chapter 7 presents the detailed CBAs for the policy options in the area of the APRC;
- Chapter 8 describes the detailed CBAs for the policy options in the area of early repayment;
- Chapter 9 provides the detailed CBAs for the policy options in the area of responsible lending;
- Chapter 10 sets out the overall conclusions of the analysis reported in chapters 6 to 9.

A number of annexes at the end of the present report provide more detailed information on:

- The Consumer Credit Directive (Annex 1);
- The various terms used in the study are included in the glossary (Annex 2);
- The results of the surveys of stakeholders (Annex 3);
- The organisations included in the stakeholder consultations undertaken as part of the project (Annex 4);
- The response rate to the stakeholder surveys (Annex 5);
- Background information in regard to the APRC assessment (Annex 6);

- Information on residential-mortgage backed securities used in the responsible lending analysis (Annex 7); and,
- Net present values for the early repayment options, detail for lenders and consumers in the case study countries (Annex 8).

In addition, the present report is accompanied by four stand-alone annexes:

1. Annex A provides the detailed results of the consumer surveys and consumer focus groups undertaken as part of this project;
2. Annex B describes for each Member State the current legal and regulatory regimes concerning the policy areas of interest and any announced changes to the legal framework for mortgage lending;
3. Annex C provides a description of the model used in the CBA for pre-contractual information (ESIS); and,
4. Annex D provides a description of the model used in the CBA for responsible lending and early repayment.

Acknowledgments

We would like to thank the following stakeholders that the project team had met with over the course of the project for the valuable advice and information they have provided:

- **European associations** (European Mortgage Association, European Savings Bank Group, Eurofinas, European Banking Federation, European Federation of Building Societies, European Association of Cooperative Banks, European Consumer Organisation, Association of Consumer Credit Information Suppliers (ACCIS) (via phone), European Association of Public Banks);
- **National mortgage lender associations** (Association of German Banks bdb, Deutscher Sparkassen- und Giroverband DSGV, Verband privater Bausparkassen VdPB, Münchener Hypothekenbank, Bundesverband deutscher Volks- und Raiffeisenbanken BVR, Verband deutscher Pfandbriefbanken vdp, Hypoport , RealKredit Foreningen, Danish Bankers Association, RealKreditradet, Spanish Mortgage Association, BBVA, Banco Santander, French Banking Association, Hungarian Mortgage Bank Association, FHB mortgage bank, Hungarian Banking Association, OTP Bank, Italian Banking Association, Council for Mortgage Lenders); and

- **National consumer associations** (Verbraucherzentrale Bundesverband , Verbraucherzentrale Bremen, Danish Consumer Council, Danish Mortgage Credit Complaint Board, Spanish Association of Users of Banks, Savings Banks and Insurance (ADICAE) Consumer Association, Agence Nationale pour l'Information sur le Logement (ANIL), Agences Départementales d'Information sur le Logement (ADIL), Adiconsum, Which?).

We would also like to thank all of the national policymakers, national regulators, national mortgage associations, mortgage associations, national associations of credit intermediaries, individual mortgage lenders, individual mortgage credit intermediaries, credit registers, consumer associations surveyed for their informative questionnaire responses.

All stakeholders consulted are listed individually in Annex 4.

2 Transposition of the Consumer Credit Directive and mortgage credit

The Directive of the European Parliament and of the Council of 23 April 2008 on credit agreements for consumers[3], the so-called Consumer Credit Directive (CCD), addresses in the area of consumer credit many of the policy issues of interest for the present study of mortgage credit.

This CCD is currently undergoing transposition[4] into national legislation in the Member States, and in some cases, it is planned that certain aspects of the CCD will also be applied to mortgage lending.

Therefore, as background information to the present study, this chapter identifies for each Member State any parts of the CCD which will also be applied to mortgage lending.

2.1 Application of the CCD to mortgage credit

This information has been provided by national regulators and national mortgage or banking associations in the EU-27.

A copy of Directive 2008/48/EC is provided in Annex 1 to this report.

The following thirteen Member States have decided to transpose parts of the CCD in a way that also applies to mortgage credit[5]:

- Austria (it is expected that the CCD will apply to mortgage credit, however, negotiations about how it will apply to mortgage credit have not been completed to date);
- Bulgaria (articles 4, 5, 8 and 9 of the CCD);
- Cyprus (there are plans to apply the CCD to mortgage credit, but it has not yet been decided which articles will apply);
- Finland (it is expected that the CCD will be transposed to mortgage credit, but there is still work underway to determine how it may be transposed);

[3] Directive 2008/48/EC of the European Parliament and of the Council of 23 April 2008 on credit agreements for consumers and repealing Council Directive 87/102/EEC, Official Journal of the European Union L 133/66 of 22 May 2008.
[4] Transposition in this context means the processes to transfer the Directive to national law.
[5] If Member States have reported a date for when the CCD provisions will apply to mortgage credit, then the date is stated above. Otherwise no date has been provided by national regulators.

- Germany (articles 5, 8, 10, 14, 15 and 17 of the CCD will apply from 11 June 2010)[6];
- Hungary (expected that the CCD as whole will apply to mortgage credit);
- Latvia (there are plans to apply the CCD to mortgage credit, but it has not been decided which articles of the CCD will apply to mortgage credit);
- Malta (expected to apply to "home loans" within the Maltese Consumer Credit Regulations of 2005, however, consultations have not begun to date and therefore which articles may apply to home loans is not known);
- Netherlands (The CCD will apply in part to mortgage credit. Article 4 of the CCD will apply to mortgage credit. This will come into force in June 2010;
- Poland (articles 5 and 10 of the CCD will be applied to mortgage credit);
- Romania (there are plans to apply the CCD to mortgage credit, but no decision as to which articles will apply to mortgage credit has been taken to date);
- Slovenia (there are plans to apply the CCD to mortgage credit, but no decision as to which articles will to mortgage credit has been taken to date);
- Sweden (While parts of the CCD will apply to mortgage credit, it has not yet been decided which articles of the CCD will apply to mortgage credit).

Ten Member States have no plans at the moment to transpose the CCD in a way that also applies mortgage credit. These Member States are:

- Belgium;
- France;
- Greece;

[6] The CCD has been transposed into German law by a special implementation act. This implementation act will change parts of several existing acts, including The German Civil Code, The Introductory Law of the German Civil Code, The Law on Price Regulation, The Regulation of Information Requirements related to the German Civil Code, The German Banking Act, and The German Data Protection Act. The CCD provisions will apply from June 2010.

- Ireland;
- Lithuania;
- Luxembourg;
- Portugal;
- Slovakia;
- Spain;
- UK.

The following four Member States have not decided whether the CCD, when transposed into national law, will also be applied to mortgage credit:

- Czech Republic;
- Denmark;
- Estonia;
- Italy.

Table 1 above provides a summary of the information received from the national regulators and the national mortgage or banking associations in the respective Member States. Where the information provided by these respondents is different, the information provided by the regulator is reported. However, full details of all responses are included in the individual Member State summaries in Annex B.

Table 1: Consumer Credit Directive 2008 and transposition to mortgage credit

Member State	Current actions and future plans for transposition to national law
AT	It is foreseen by the Ministry of Justice that the CCD will also be applied to mortgage credit, although it is not known what the final transposition will include at present.
BE	There are no plans to transpose the CCD into the national law for mortgage credit.
BG	There are plans to apply Articles 4, 5, 8 and 9 of the CCD to mortgage credit.
CY	There are plans to apply the CCD to mortgage credit. It has not yet been determined which articles will be apply to mortgage credit.
CZ	It has not yet been decided whether the CCD will be transposed into the national law concerning mortgage credit.
DE	The articles of the new CCD that have been transposed in way that is also applicable to mortgage credit are Articles 5, 8, 10, 14, 15 and 1. These will come into force 11 June 2010. However, Article 16 of the CCD, regulating early repayment and compensation, will not apply to a certain set of mortgages called "Loan for real estate" (Immobiliardarlehensverträge). Article 16 will apply to mortgages other than those defined in German law as "Loan for real estate".
DK	It has not yet been decided whether the CCD will be applied to mortgage credit.
EE	It has not yet been decided whether the CCD will be transposed into the national law for mortgage credit.
EL	There are no plans to date to transpose the CCD into the national law for mortgage credit.
ES	To date there are no plans to transpose the CCD into the national law for mortgage credit.
FI	The CCD 2008 has not yet been transposed, but there are plans to do so in the future. In autumn 2008, the Ministry of Justice set up a working group for the transposition of the CCD in a way that also applies to mortgage credit and the group is still working.
FR	There are no plans to transpose the CCD into the national law for mortgage credit.
HU	The CCD is in the process of being transposed in a way that also applies to mortgage credit. This process will be complete by 12 May 2010. There is no draft legislation available yet. However, we believe that the articles that will be transposed to mortgage credit are Articles 10 and 19.
IE	The CCD will not be applied to mortgage credit.
IT	The CCD may be extended to mortgage credit in addition to the transposition underway for consumer credit other than mortgages. However, this has not yet been decided by Parliament.
LT	There are no plans to transpose the CCD in a way that applies to mortgage credit.
LU	There exists no specific law regulating mortgage credit in Luxembourg. The Ministry of Finance reports that in the absence of a particular law, the general rules laid down in the civil law apply. Therefore, the CCD will not be transposed in a way that applies to mortgage credit specifically.
LV	There are plans to transpose the CCD in a way that applies to mortgage credit, but there is no information to date on which articles of the CCD will be transposed.
MT	It is expected that the CCD will be transposed into the Maltese national law for to mortgage credit. However, the necessary consultation between the Malta Financial Services Authority and the Department for Consumer Affairs has not taken place yet. The Maltese Financial Services Authority expects this to happen in the near future.
NL	The CCD will apply in part to mortgage credit. Article 4 will apply to mortgage credit and this will come into force in June 2010.
PL	There are plans to transpose Articles 5 and 10 of the CCD into the national law for mortgage credit. However, it is expected that the transposition will modify Articles 5 and 10 of the CCD in order to adapt it to the specific nature of mortgage credit. How it may be adapted has not been determined as of yet.
PT	There are no plans to transpose the CCD into the national law for mortgage credit.
RO	There are plans to transpose the CCD in a way which applies to mortgage credit, although a definitive decision has not been taken as to which articles of the CCD will be transposed into the national law for mortgage credit.
SE	The CCD will be transposed into the national law for mortgage credit. It has not yet been decided which articles of the CCD will be transposed.
SI	The CCD will be transposed into the Consumer Credit Act. The Act includes mortgage credit and therefore the CCD will apply to mortgage credit.
SK	There are no plans to transpose the CCD into the national law for mortgage credit.
UK	There are no plans to apply the CCD to first charge mortgages. This is because the UK has a separate mortgage regime based on the Financial Services and Markets Act 2000, and contained within the Financial Services Authority "Mortgage Conduct of Business" (MCOB). Second and subsequent charge mortgages are regulated under the1974 Consumer Credit Act (CCA) by the Office of Fair Trading (OFT). The CCD will not be applied to these mortgages either.

Source: London Economics legal baseline survey of the EU-27.

3 Mortgage markets in the European Union and their structure

As general background information to this study, this chapter presents facts about mortgage markets in the European Union.

First, it provides an overview of the level of residential mortgage debt in the different Member States.

Next, we present some information on cross-border mortgage lending and product choice.

Subsequently, we discuss customer mobility (i.e. switching of provider) in the EU-27 mortgage markets and present relevant data on consumer confidence.

3.1 Overview of EU residential mortgage debt

3.1.1 Level of residential mortgage debt in 2008

In 2008, total outstanding residential mortgage debt in all the EU-27 countries stood at €6,089,248m, equal to 48.7% of EU-27 GDP or €12,200 per capita.[7] This is down from 2007, when outstanding debt was equal to around 50% of EU-27 GDP.

Total outstanding residential mortgage debts were considerably higher in the UK (€1,458,707m in 2008) and Germany (€1,147,869m) compared to any other Member States, followed by France (€710,000m), Spain (€674,395m) and the Netherlands (€558,815m) (Table 2).

However, these countries are also some of the EU-27's largest economies and, as a percentage of national GDP, residential mortgage debt was highest in Denmark (95.7%) and the Netherlands (93.8%) in 2008, followed by the UK (80.3%) and Ireland (79.6%) (Figure 1).

The lowest levels of mortgage debt exist in the new Member States. Romania (3.9%), Slovenia (9.1%) and Bulgaria (11.6%) had the lowest debt as a percentage of GDP among all the Member States.

[7] The figures in this section are based on data from the European Mortgage Federation (EMF) and central banks of Member States.

Table 2: Overview of EU residential mortgage debt in 2008			
Country	**Mortgage debt (€ million)**	**Mortgage debt to GDP ratio**	**Mortgage debt per capita (€ thousand)**
Denmark	222,403	95.66%	40.4
Netherlands	558,815	93.78%	33.9
UK	1,458,707	80.32%	23.7
Ireland	147,904	79.64%	33.1
Portugal	105,210	63.29%	9.9
Spain	674,395	61.58%	14.7
Sweden	198,471	60.45%	21.4
Cyprus	8,513	50.23%	10.7
Germany	1,147,869	45.99%	14.0
Luxembourg	14,901	40.64%	30.2
Estonia	6,209	39.15%	4.6
Malta	2,218	38.51%	5.4
Belgium	132,451	38.48%	12.3
France	710,000	36.41%	11.0
Finland	67,114	36.33%	12.6
Austria	94,660	33.58%	11.3
Greece	77,700	31.98%	6.9
Latvia	7,135	30.87%	3.2
Italy	330,688	21.03%	5.5
Lithuania	6,055	18.75%	1.8
Poland	57,014	15.75%	1.5
Czech Republic	23,289	15.68%	2.2
Slovakia	9,985	15.39%	1.8
Hungary	14,859	14.04%	1.5
Bulgaria	3,960	11.61%	0.5
Slovenia	3,395	9.14%	1.7
Romania	5,328	3.89%	0.2
EU-27	6,089,248	48.67%	12.2

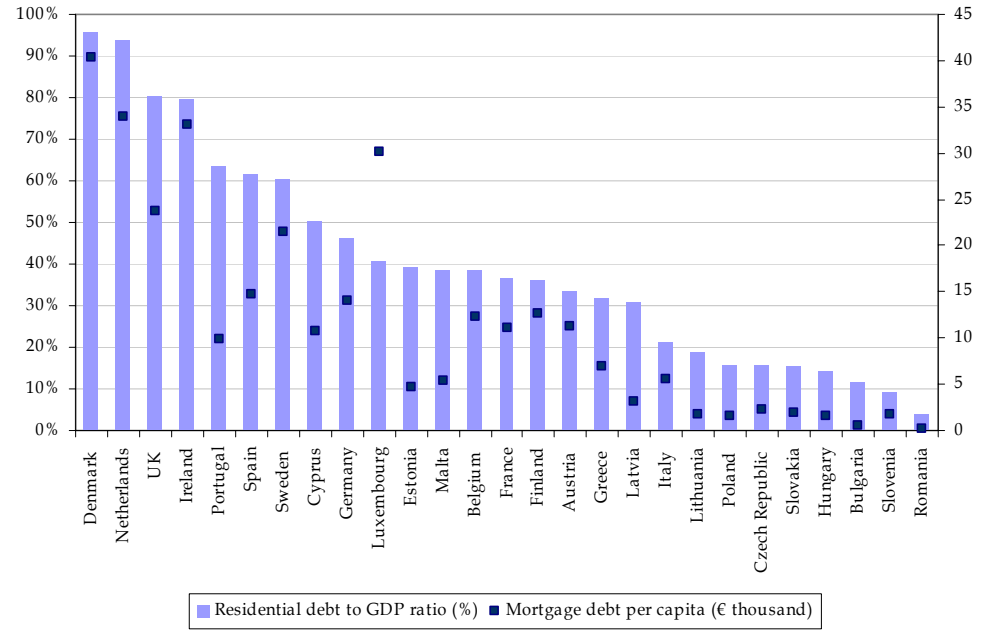
Source: EMF and central banks of Member States.

Residential mortgage debt per capita was the highest in the Netherlands (€33,900 per capita) and Denmark (€40,400 per capita).

Residential mortgage debt per capita was also high in the UK (€23,700 per capita), Ireland (€33,100 per capita) and Luxembourg (€30,200 per capita). Luxembourg stands out because it is the only country where the level of debt

per capita is high relative to other countries, whilst debt as a percentage of GDP was below the EU-27 average.

Figure 1: Residential mortgage debt in 2008



Source: EMF.

3.1.2 Recent evolution of mortgage debt in the EU

Data is available from the EMF on mortgage debt per capita and mortgage debt as a percentage of GDP across the EU by Member State from 1998 to 2008[8]. In this sub-section, we examine the evolution of mortgage debt in the EU over this period.

The first noticeable characteristic of the evolution of mortgage debt across the EU is that there has been consistent growth of debt in almost every Member State. Between 1998 and 2008, only Germany saw a decrease in mortgage debt as a percentage of GDP (Figure 2). Over the five years leading up to 2008,[9] the debt to GDP ratio in the other Member States grew by between 4 and more

[8] Data for 2008 are from the EMF and central banks of Member States.

[9] The EMF data has missing data for some countries especially early in the time series. Often the data is missing for the Member States in Eastern Europe. The longest series for which data is available for all the Member States is 2002 to 2007, with the exception of Romania for which the earliest data is from 2004.

than 44 percentage points on average each year (Table 3). No Member States saw a decrease in mortgage debt per capita from 1998 to 2008 (Figure 3).

Closer examination reveals that the evolution of mortgage debt had different characteristics when the 'established' Member States are considered compared to when the 'newer' Member States are considered. Thus, we discuss these two groups separately below.

'Newer' Member States[10]

With the exception of Malta, mortgage debt in the newer Member States grew at a high rate from low initial levels between 2002 and 2008. In 2002, mortgage debt per capita in the new Member States (except Malta) ranged from €20 in Bulgaria to €1,230 in Cyprus, and mortgage debt as a percentage of GDP ranged from 1% in Bulgaria and Slovenia to 8% in Cyprus and Estonia (Table 3).[11]

This was considerably less than the level of mortgage debt that existed in other European countries, which ranged from 11% of GDP in Italy up to 88% of GDP in the Netherlands.

However, over 2002 to 2008, every one of the new Member States saw far higher *average annual growth rates* of mortgage debt per capita and mortgage debt as a percentage of GDP than any of the other EU countries.

The smallest rises in mortgage debt as a percentage of GDP between 2002 and 2008 among the new Member States were in Slovenia and Hungary, at eight percentage points and nine percentage points respectively. However, these increases are still large relative to the initial levels of mortgage debt in these countries which were equal to 1% of GDP and 5% of GDP in 2002 (Table 3).

Cyprus, Estonia and Latvia saw large increases in the mortgage debt to GDP ratio of between 27 and 42 percentage points. These were among the largest absolute increases in the EU-27, despite low initial levels of debt in 2002 relative to many 'established' Member States (Table 3).

'Established' Member States

Whereas the recent high growth of mortgage debt in the new Member States took place from low initial levels, debt levels were already relatively high in

[10] 'New' Member States are those Member States with EU accession dates in 2004 and after: Bulgaria, Romania, Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia, and Slovenia.

[11] The earliest data points for Romania are from 2004. For this year the residential mortgage debt to GDP ratio was 2% and the residential mortgage debt per capita was just €40.

1998 in many of the 'established' Member States.[12] Further, in many of these countries, mortgage debt per capita and as a percentage of GDP continued to rise over recent years (although at a lower rate than in the new Member States), to above 90% of GDP in a number of Member States.

Spain and, in particular, Ireland displayed high growth in mortgage debt, from levels that were already relatively high (Figure 2 and Figure 3). In 1998, mortgage debt in Ireland was €5,650 per capita (27% of GDP) and increased to €33,100 per capita (79.6% of GDP) by 2008. In Spain, mortgage debt increased from €3,240 per capita (24% of GDP) to €14,700 per capita (61.6% of GDP) over the same period.

Greece and Italy have also seen large increases in mortgage debt but from relatively low starting points compared to other established Member States, especially in terms of their debt to GDP ratio (Table 3 and Figure 2).

The Netherlands and Denmark had high mortgage debt in 1998, and also experienced noticeable growth in mortgage debt over the next ten years. As a result, these countries had the highest debt levels as a percentage of GDP and per capita among the EU countries in 2008 (Figure 2 and Figure 3).

It is interesting to compare the development of mortgage debt in the UK and in Germany, which are two of Europe's largest economies and had similar levels of debt in 1998.

In 1998, mortgage debt was €11,080 per capita (51% of GDP) in the UK and €12,340 per capita (52% of GDP) in Germany.

However, between 1998 and 2008 mortgage debt per capita in Germany grew slowly and mortgage debt as a percentage of GDP actually declined slightly (Figure 2 and Figure 3). Conversely, in the UK these measures increased to €23,700 per capita and 80.3% of GDP.

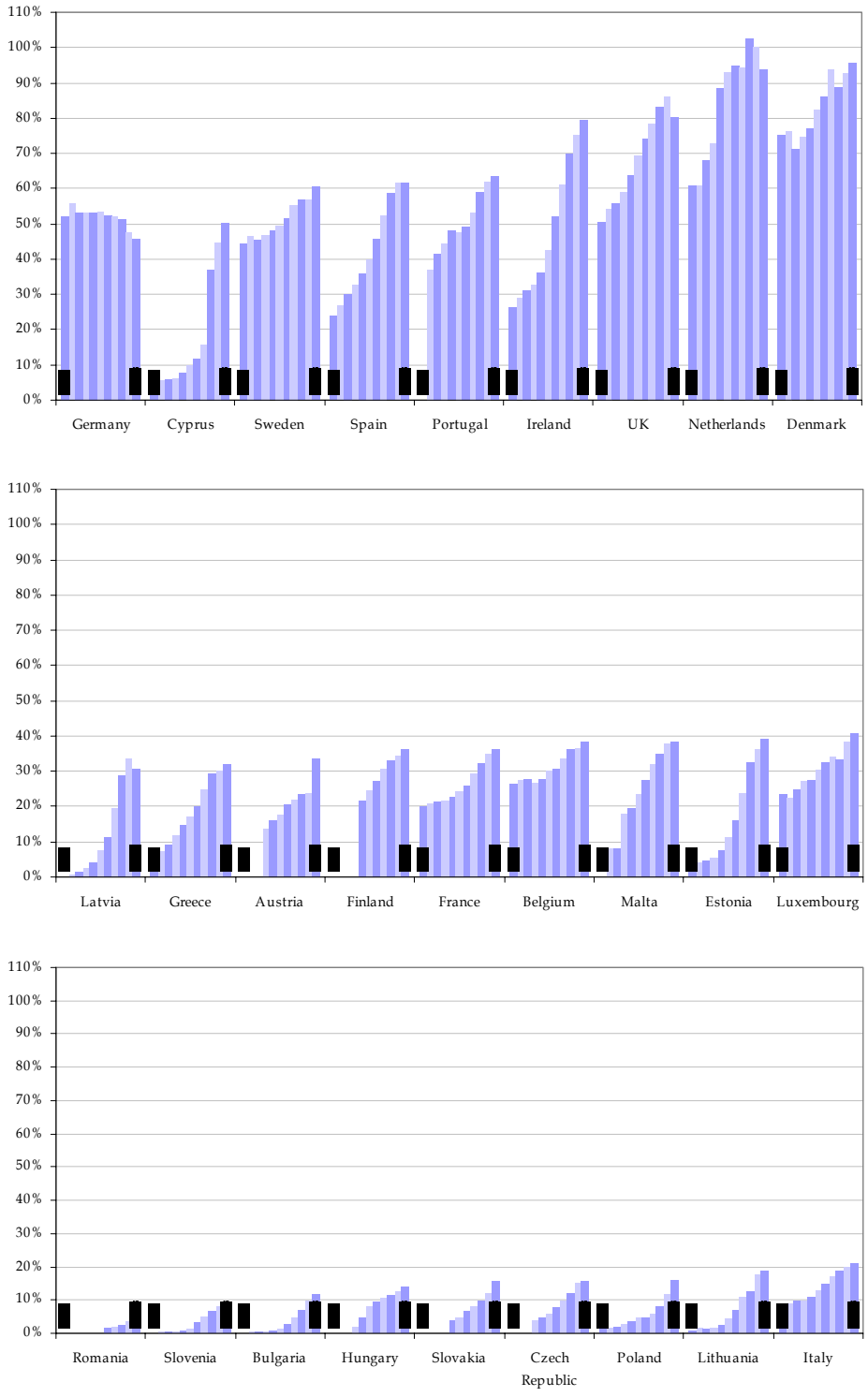
[12] The 'established' Member States are those Member States with EU accession dates in 1995 and before: Austria, Finland, Sweden, Portugal, Spain, Greece, Denmark, Ireland, UK, Belgium, France, Italy, Luxembourg, Netherlands and Germany.

Table 3: Residential mortgage debt growth, 2002-2008

	Residential mortgage debt to GDP ratio (%)			Residential mortgage debt per capita (000s)		
	2002	**2008**	**Change in mortgage debt to GDP ratio (%)**	**2002**	**2008**	**Change in mortgage debt per capita (000s)**
Ireland	36%	80%	44%	12.11	33.12	21.01
Cyprus	8%	50%	42%	1.23	10.72	9.49
Estonia	8%	39%	31%	0.44	4.63	4.19
Latvia	4%	31%	27%	0.17	3.16	2.99
Spain	36%	62%	26%	6.39	14.72	8.33
Denmark	77%	96%	19%	26.51	40.35	13.84
Malta	20%	39%	19%	2.22	5.36	3.14
Austria	16%	34%	18%	4.46	11.33	6.87
Greece	15%	32%	17%	1.94	6.90	4.96
Lithuania	2%	19%	17%	0.10	1.81	1.71
UK	64%	80%	16%	18.13	23.67	5.54
Portugal	48%	63%	15%	6.28	9.90	3.62
Finland	22%	36%	14%	5.96	12.60	6.64
France	23%	36%	13%	5.72	11.03	5.31
Poland	3%	16%	13%	0.18	1.50	1.32
Luxembourg	28%	41%	13%	14.97	30.19	15.22
Sweden	48%	60%	12%	13.93	21.44	7.51
Slovakia	4%	15%	11%	0.19	1.84	1.65
Czech Republic	5%	16%	11%	0.35	2.22	1.87
Bulgaria	1%	12%	11%	0.02	0.52	0.50
Belgium	28%	38%	10%	7.22	12.32	5.10
Italy	11%	21%	10%	2.51	5.51	3.00
Hungary	5%	14%	9%	0.31	1.48	1.17
Slovenia	1%	9%	8%	0.10	1.67	1.57
Netherlands	88%	94%	6%	25.51	33.90	8.39
Germany	53%	46%	-7%	13.83	14.00	0.17
Romania		4%	n.a.		0.25	n.a.

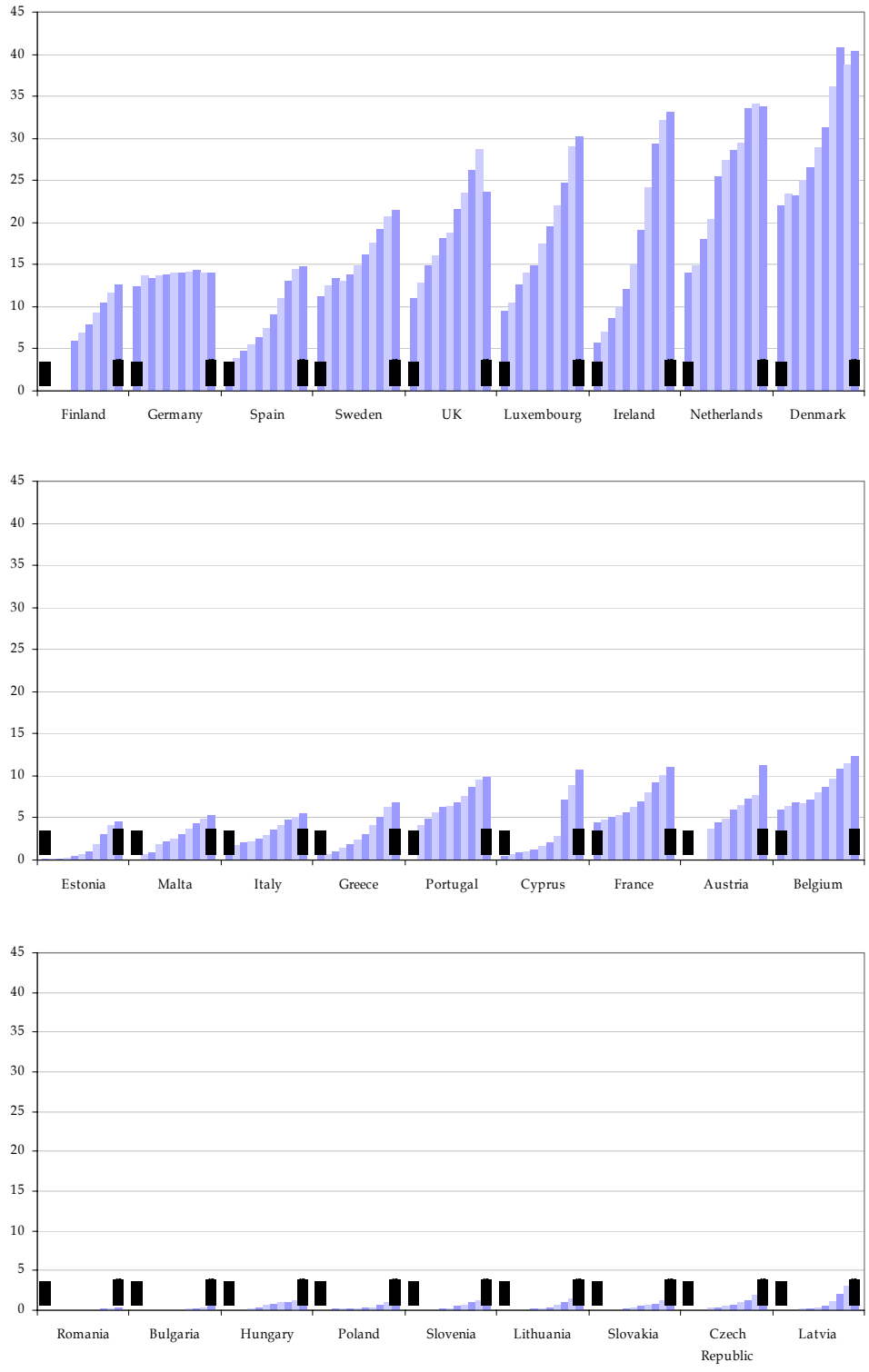
Note: The earliest data points for Romania are from 2004. For this year, the residential mortgage debt to GDP ratio was 2% and the residential mortgage debt per capita was just €40.
Source: EMF and central banks from Member States for some of the 2008 data.

Figure 2: Evolution of residential mortgage debt to GDP ratio: 1998-2008



Note: Data for the full period is unavailable for a number of Member States.
Source: EMF and central banks from Member States for some of the 2008 data.

Figure 3: Evolution of residential mortgage debt per capita: 1998-2008



Note: Data for the full period is unavailable for a number of Member States.
Source: EMF and central banks from Member States for some of the 2008 data.

3.2 Cross-border lending and competition in mortgage lending

3.2.1 Background

As was already noted in the introduction, cross-border mortgage provision can take a number of forms, namely cross-border trade, lending for holiday-home purchase, cross-border lending via branches or subsidiaries, cross-border lending via distribution agreements, and cross-border secondary market transactions.

While there is a great deal of interest in cross-border mortgage credit activity, actual data on this aspect of mortgage lending is very limited.

Below, we provide first some information on overall cross-border retail lending. Next, we provide information on the importance of subsidiaries and branches of foreign credit institutions in each EU Member State. Finally, for the Member States for which such information exists, we present information on the share of mortgage lending accounted for by foreign credit institutions.

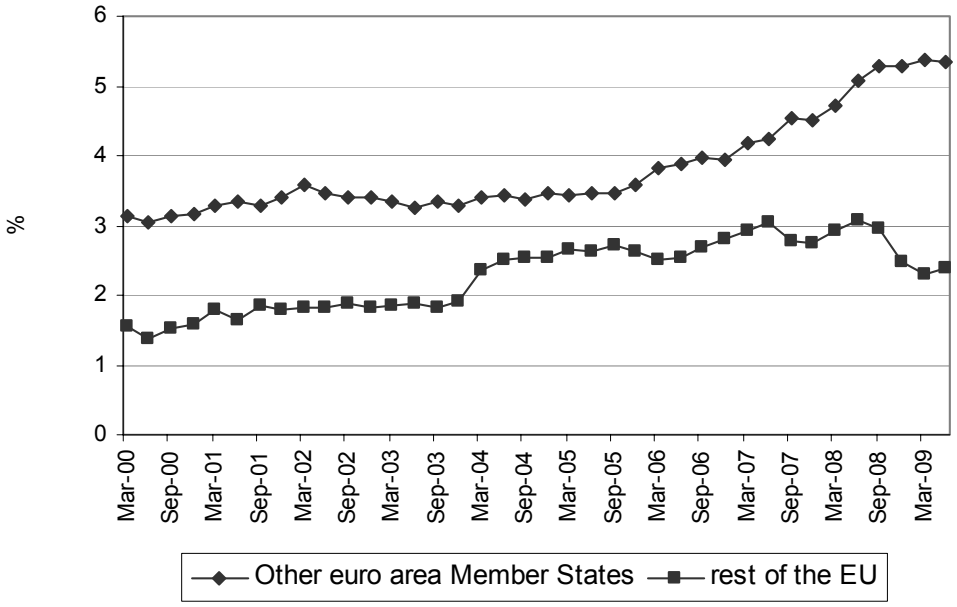
3.2.2 Cross-border retail lending

At the overall level of retail lending, the ECB, in its latest annual report on financial integration in Europe, notes that total "retail cross-border lending, on the other hands, still remains at low levels, even though it more than doubled since 1997, accelerated further in 2008".[13]

According the latest data from the ECB, outstanding loans by monetary financial institutions from the euro area to non-monetary financial institutions in euro area Member States other than their home Member State stood at 5.3% of total assets in June 2009 and loans to non-monetary financial institutions in other EU Member States stood at only 2.4% of total assets (see Figure 4).

[13] See European Central Bank (2009a), p. 28.

Figure 4: Loans by euro-area monetary financial institutions outside their home Member State in % of total assets



Note: Excluding the Eurosystem
Source: European Central Bank, financial integration database.

3.2.3 Foreign lenders in domestic credit markets

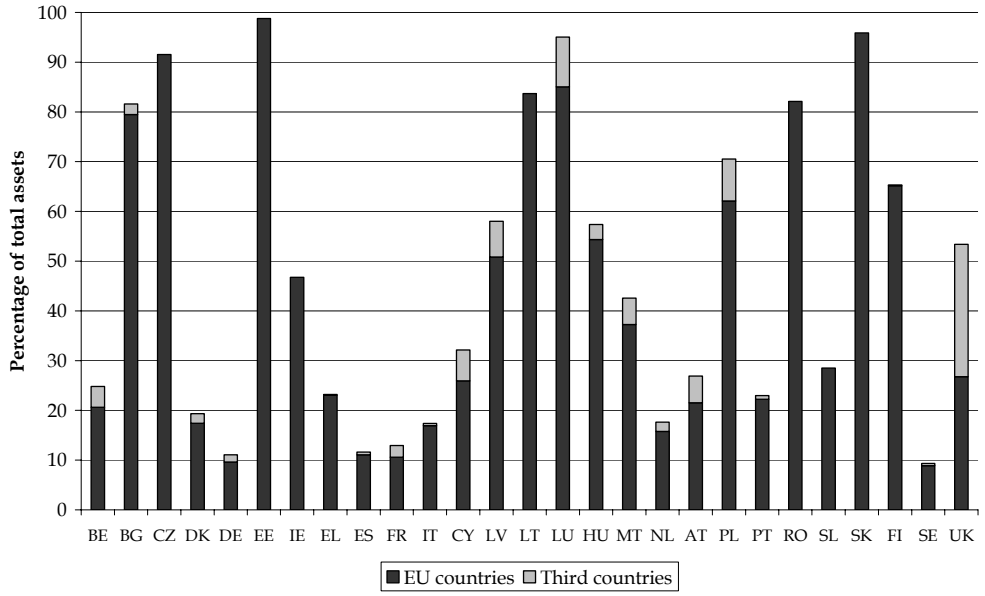
We consider two indicators of this form of cross-border activity in the domestic credit markets:

- the share of foreign ownership of assets in the credit market; and,
- the share of domestic mortgage lending provided by foreign credit institutions.

A first indication of the importance of foreign credit institutions in domestic credit markets is provided by the data from the annual report by the ECB on the EU banking structures.[14] That report provides information by Member State on total assets of branches and subsidiaries of foreign credit institutions from the EU and third countries.

[14] See European Central Bank (2008).

Figure 5: Foreign ownership (percentage of total asserts)



Source: European Central Bank (2008).

The share of assets in the sector which are owned by foreign subsidiaries or branches ranges from 9.3% in Sweden to 98.8% in Estonia (Figure 5 and Table 4) and the share of foreign ownership is more than 50% in all 'newer' Member States with the exception of Cyprus, Malta and Slovenia. Foreign ownership exceeds 90% in the Czech Republic, Estonia, Luxembourg and Slovakia (Figure 5 and Table 4).

In comparison the share of assets accounted for by foreign credit institutions is less than 50% in all 'established' Member States with the exception of the UK and Finland where it stands at 53.4% and 65.3%, respectively. However, this share is less than 20% in Denmark, Germany, Spain, France, Italy, the Netherlands and Sweden.

Table 4: Foreign ownership of banks (2007)

	Foreign EU ownership (percentage of total assets held by other EU country companies)			**Third country ownership (percentage of total assets held by third country companies)**			**Total foreign ownership (percentage of total assets held by foreign companies)**
	Subsidiaries	Branches	Total	Subsidiaries	Branches	Total	
BE	17.5	3.1	20.6	0.4	3.8	4.2	24.8
BG	75.5	4.0	79.5	2.1		2.1*	81.6
CZ	82.7	8.9	91.5		0.0	0.0	91.5
DK	12.6	4.8	17.4	1.8	0.1	1.9	19.3
DE	7.8	1.8	9.6	1.1	0.3	1.4	11.1
EE	87.6	11.2	98.8	0.0	0.0	0.0	98.8
IE	36.5	10.2	46.7	0.0		0.0	46.7
EL	13.6	9.4	23.0		0.2	0.2	23.2
ES	3.5	7.6	11.1	0.3	0.2	0.5	11.6
FR	8.6	2.0	10.6	2.1	0.2	2.3	12.9
IT	7.7	9.2	16.9	0.2	0.3	0.4	17.4
CY	20.4	5.6	25.9		6.2	6.2	32.1
LV	50.8		50.8*	7.2	0.0	7.2	58.0
LT	75.7	8.0	83.7	0.0	0.0	0.0	83.7
LU	71.4	13.7	85.0	7.8	2.2	10.0	95.0
HU	52.7	1.6	54.3	3.0	0.0	3.0	57.4
MT	37.3		37.3*	5.3		5.3*	42.6
NL	13.3	2.4	15.8	1.8	0.0	1.9	17.6
AT	20.4	1.2	21.5	5.4		5.4*	26.9
PL	58.0	4.1	62.1	8.4	0.0	8.4	70.5
PT	15.5	6.8	22.2	0.7		0.7*	23.0
RO	77.3	4.8	82.1		0.0	0.0	82.1
SL	27.9	0.6	28.5	0.0	0.0	0.0	28.5
SK	76.3	19.6	95.9		0.0	0.0	95.9
FI	60.0	5.2	65.2		0.1	0.1**	65.3
SE	0.3	8.5	8.9		0.5	0.5**	9.3
UK	3.1	23.7	26.8	8.0	18.6	26.6	53.4

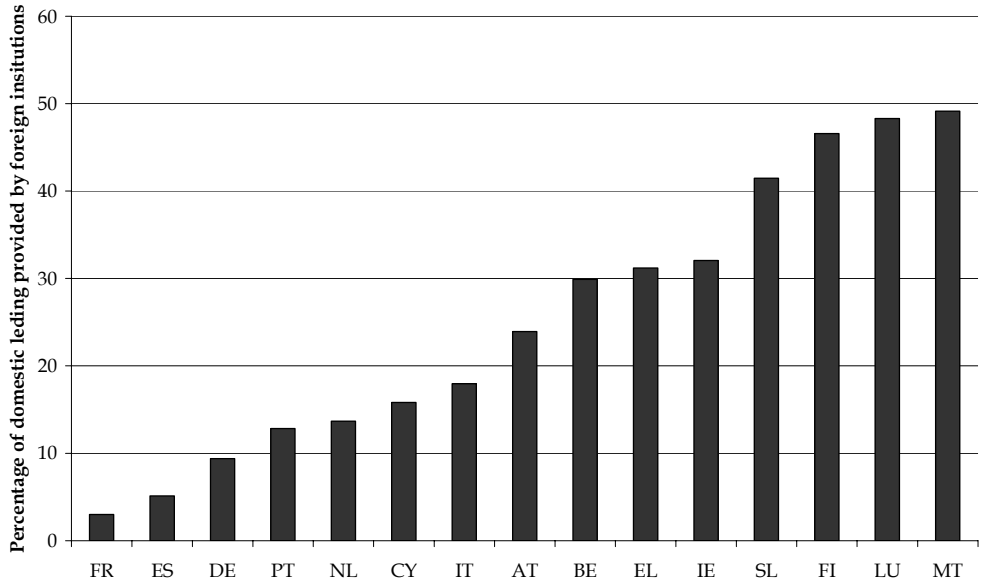
Note: * Data only available for subsidiaries. ** Data only available for branches.
Source: European Central Bank (2008).

A more precise indication of cross-border mortgage lending activity is provided by a recent report of the Task Force of the Monetary Policy Committee of the European System of Central Banks.[15] They analyse housing finance in the Euro area and in particular consider the share of domestic housing loans provided by foreign credit institutions.

In France, Spain and Germany less than 10% of housing loans are provided by foreign credit institutions.

In comparison, more than 40% of mortgage loans were provided by foreign credit institutions in Luxembourg, Malta, Finland and Slovenia.

Figure 6: Share of housing loans (in value) provided by foreign credit institutions



Source: European Central Bank (2009b).

The share of housing loans provided by foreign credit institutions suggests that there is a relatively high level of cross-border mortgage provision – in seven of the Member States covered by the ECB report, this share is 30% or higher (see Figure 6). Moreover, a recent study by Mercer Oliver Wyman into European mortgage markets noted there are also signs of increased international competition in 'established' Member States such as Germany.[16]

[15] See ECB (2009b).
[16] Mercer Oliver Wyman (2007).

Mercer Oliver Wyman analyse the outcome of competition in 13 European mortgage markets by calculating a comparable price of the mortgages which is adjusted for differences in the product mix.[17] The adjusted price is relatively low in all countries considered and has decreased since 2003 in all countries where 2003 figures are available (Table 5). Furthermore, the range of the adjusted price in 2006 was 1 percentage point. Hence 2006 prices in the different European markets were found to be low, of similar order of magnitude and decreasing. This was attributed to intense competition and transparent markets which put profit margins under pressure.

Table 5: Nominal interest rates and adjusted mortgage prices (2006)

	Adjusted price (2003)	**Adjusted price (2006)**
France	0.89%	0.36%
UK	1.15%	0.68%
Greece	0.70%	0.35%
Italy	1.34%	0.99%
Netherlands	0.97%	0.64%
Spain	1.03%	0.87%
Portugal	0.95%	0.88%
Denmark	0.70%	0.63%
Czech Republic		1.25%
Ireland		0.67%
Sweden		0.60%
Belgium		0.52%

Source: Mercer Oliver Wyman (2007).

3.3 Product choice

Product choice is discussed below from an interest rate and credit risk perspective. To facilitate the discussion of these two risk dimensions, each sub-section starts with a brief review of the relevant definitions of mortgage products. The definitions are used throughout the report. Next, we review the determinants of product choice within the risk dimensions.

[17] Mercer Oliver Wyman (2007).

3.3.1 Product choice in the interest rate risk dimension

Definitions

We use the following mortgage product class definitions in the interest rate risk dimension:

- Fixed rate mortgages (FRM): where the interest rate on the loan is fixed for more than one year – fixed either to loan maturity or where the rate is predetermined (contractually or by law) to be reset to another fixed rate period at the end of the initial fixing period.[18]

  We differentiate in this context within this product subset between 'callable' and 'non-callable' FRM, depending on the (statutory or contractual) early repayment configuration – for a more in-depth discussion of these two concepts see the early repayment chapter.

  As a rule of thumb, in European market practice, the FRMs fixed to maturity are callable while FRMs fixed for specific periods before interest rate reset are not. Examples are Danish 'callable' and 'non-callable' fixed-rate mortgages, the former with typical fixing periods of 20 and 30 years identical to maturity, the latter with typical fixing periods of 1 to 3 years. German loans fixed for longer than 10 years become callable by law for the fixed-rate period after 10 years have elapsed. However, not all European loans fixed to maturity are callable. For instance, French and Belgian FRM are fixed to maturity and carry early repayment compensations.

- Adjustable-rate mortgages (ARM): where the interest rate is fixed for 1 year or less. The ARM include various sub-cases, such as:

  - Reviewable-rate loan, a product where lenders can unilaterally change the interest rate. An example is the British Standard Variable rate product.

  - Variable-rate loan, a product that systematically ties the interest rate change to an index or other variable. An example here is the Spanish 1-year Euribor loan.

  - Hybrid adjustable rate loans can be defined as those where the interest rate is fixed for an initial period followed by variable- or reviewable-rate periods. The initial period is usually short – typically 2 years, and in rare cases 5 years. In the British

[18] Note that compared to the more generous definitions prevailing in Europe the U.S. definition of fixed-rate mortgages is restricted to loans with rates fixed to maturity. When fixing periods are shorter than maturity, and a new fixing period is predetermined, the common term used is "roll-over" or "re-set" mortgage.

market such products are standard.

The distinction between hybrid ARM and FRM with interest-rate resetting periods shorter than maturity can become blurred as the length of the fixing periods may be in some cases very similar and the existence of the prepayment option may allow borrowers of hybrid ARMs to combine several 'initial' fixing periods.[19]

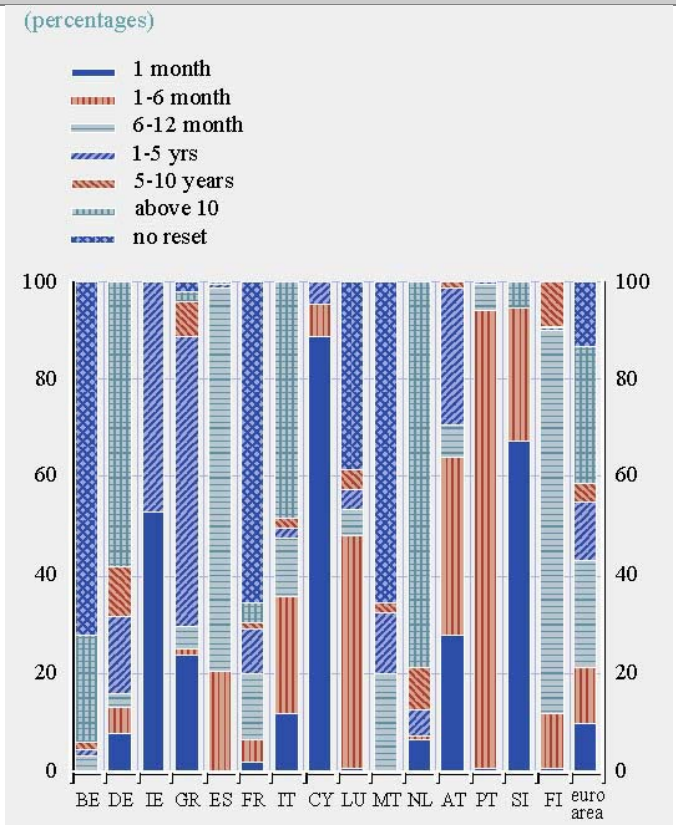
- Loans denominated in foreign currency can also be subsumed under the ARM definition, as interest (and principal) payments in local currency vary with the exchange rate. An example is the Polish Swiss Franc loan (where, moreover, the Swiss Franc interest rate is variable).

Determinants of product choice in the interest-rate risk dimension

A recent European Commission report, (Figure 7 and Figure 8), shows that for the Euro area, many European mortgage markets, and in particular large ones, feature a de-facto dominant type of contract offered in the interest rate risk dimension. Examples are Spain and Portugal using an ARM product and Germany and the Netherlands with their FRM product with typical reset periods of 10 years and above, and France and Belgium with large market shares of FRM fixed to maturity. Also, the UK is largely pooling consumers into hybrid ARMs.

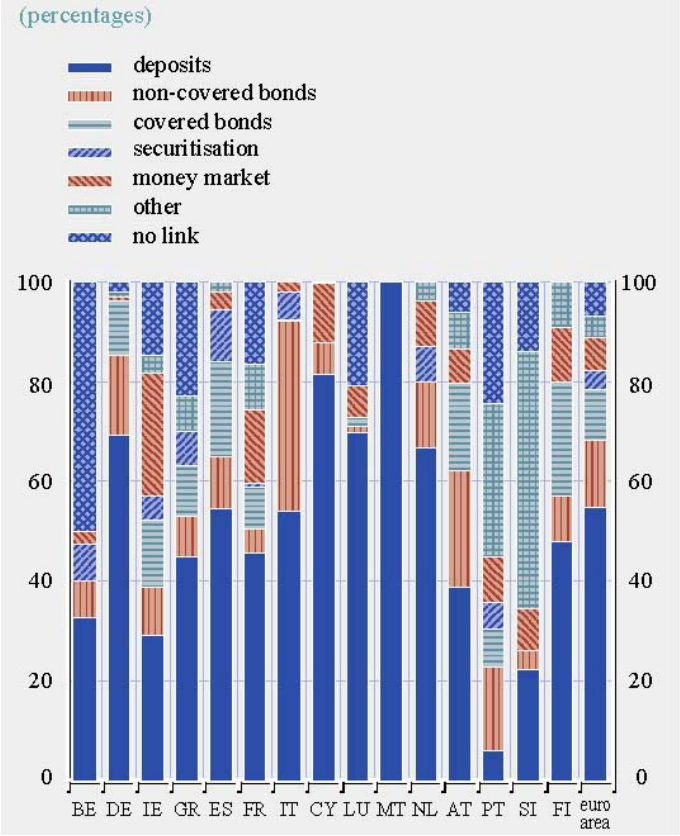
[19] This has induced the industry organisation European Mortgage Federation to use only one product class for both products in their statistics. We still opt here for a differentiation since despite overlaps the differences in the normal case are quite large (e.g. between a German 10- or 15-year FRM and a British 2-year initial fixed-rate hybrid ARM).

Figure 7: Euro area distribution of housing loans granted in 2007 by interest rate resetting period



Source: European Central Bank (2009b).

Figure 8: Euro area funding sources of banks (2007)



Source: European Central Bank (2009b).

The traditional reasons advanced to explain these fundamental differences refer to differences in long-term funding in mortgage finance. In the past, due to concerns about inflation and financial stability in certain Member States, it was more difficult to raise funds through long-term deposits or the issuance of long-term debt instruments in these Member States. Moreover, historically, bank regulation and bank risk management philosophy aimed to ensure a matching of the interest rate risk profiles of the loan and funding instruments. Overall, historically, only lenders in the (predominantly) mortgage bond-based systems – France, Germany, Austria, Denmark, Sweden, Italy, Greece – were able to offer consumers fixed-rate mortgage products while lenders in the (predominantly) depository institution-based systems – United Kingdom, Ireland, Spain – offered variable-rate mortgage products.

Since the 1990s, reflecting many capital market developments and successful anti-inflation monetary policies, this traditional picture has changed in important ways:

- First, a number of previously predominantly FRM countries turned into ARM countries, e.g. Southern Europe (Spain, Italy, Greece). Denmark, France and Belgium also experienced increases in the share of ARMs. Austria even saw the development of foreign exchange (forex) loans (in Swiss Francs) that have dominated this particular market for the last decade and are disappearing only with the current financial crisis.

  The causes of these changes are, amongst others, the trend rate compression brought about by the Maastricht process, regulatory action to 'structure' the ARM markets (e.g. Spain's legislation of 1994 and parallel Belgian legislation), the decline of previously dominant housing banks (e.g. Greece, France, Spain) that had focused on fixed-rate lending, a greater focus on short-term profitability by lenders as well as the rise of brokers and other intermediaries. An additional important factor reviewed later in detail by the present study is the impact of the legal early repayment regime on these trends.

- Secondly, countries with predominantly ARM products on offer started issuing bonds – first residential mortgage-backed securities (RMBS) and later covered bonds, most prominently the United Kingdom and Spain. However, instead of using the large institutional investor supply pool for fixed-rate (similar to government) bonds to offer FRM to the market, the bonds were either swapped into floating rate, or issued as floating rate to begin with, to assist lenders in financing the same ARM products offered to consumers as before. The bond instrument, in short, was used to finance market growth, not change the risk profile of the sector. For example, to overcome the constraints arising from the limited deposit base, lenders in Spain and the United Kingdom started to issue RMBS and covered bonds on a large scale.[20] In particular, the covered bonds issued were mostly fixed-rate bonds that were swapped back into Euribor ARM loans.

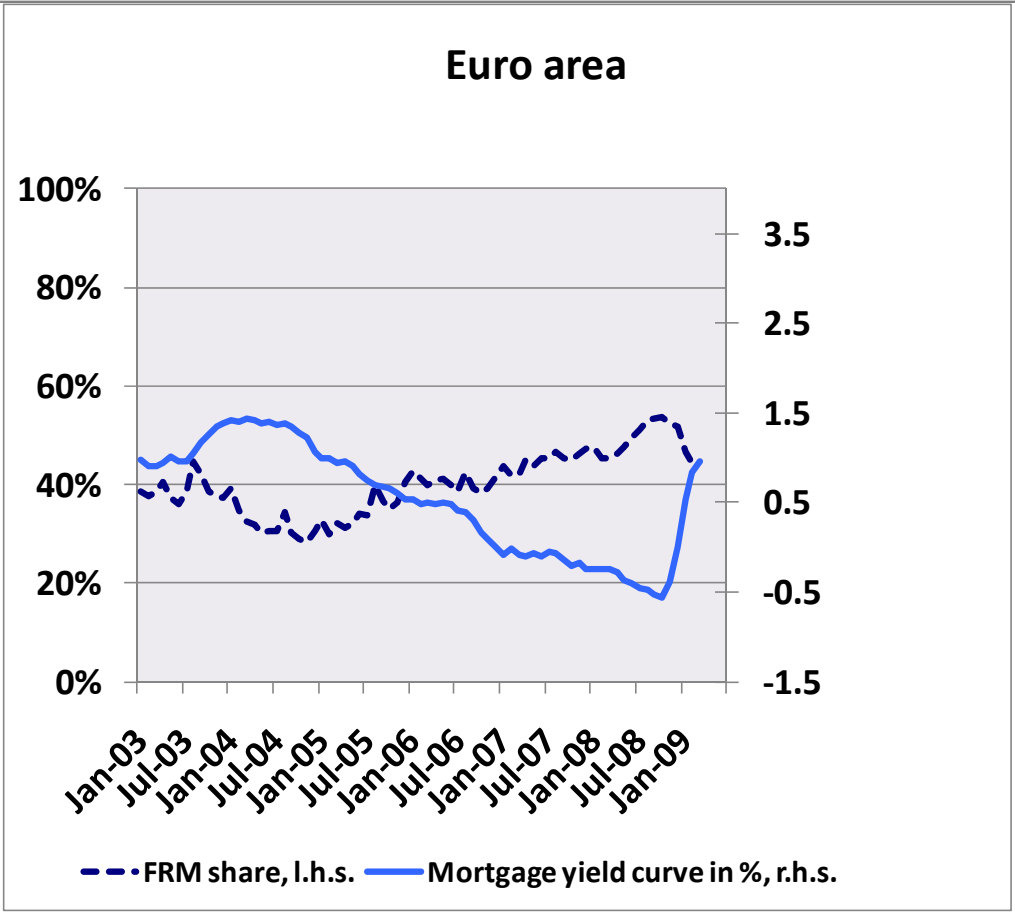
- Third, lenders and borrowers in many transition countries, including many of the new Member States, turned to foreign currency loans as a result of high, and in some cases persistent, domestic inflation and interest rates. Despite improving conditions, these products have survived in many markets as a result of, inter alia, competitive pressures in the respective mortgage markets and lack of regulatory response to such developments. Due to capital market development constraints in the region, the remaining local currency lending is also overwhelmingly in ARMs or short-term non-callable FRM (e.g. 5 years in the Czech Republic).

[20] See, for example, the 2005 annual report of the Spanish Mortgage Association AHE - http://www.ahe.es/bocms/sites/ingles/pages/MenuOK.jsp?mID=69.

This brief review yields two central conclusions: a) there has been a trend towards ARMs in Europe that is only slowly abating, and b) the product mix in countries dominated by ARMs, and to a lesser degree in countries dominated by FRMs, shows certain inertia.

We will further explore in the early repayment chapter the reasons for this trend, including regulatory reasons. But, it should be noted at this stage that, as theory would predict (see early repayment chapter), the relative demand between ARM and FRM is highly cyclical. Figure 9 shows one estimate of the mortgage yield curve, namely the difference between the long-term and short-term interest rates, in the Euro area. Taking a 5-year interest rate reset as a cutting point, one observes a clear inverse correlation between the relative price of fixed-rate lending – as measured by the yield curve – and the relative demand and supply in the Euro area. This cyclicality is a recurrent feature in the mortgage sector.

Figure 9: Mortgage product choice in the Euro area in the interest rate risk dimension – fixed-rate mortgage market share and mortgage yield curve 2003 - 2009



Note: The mortgage yield curve is computed as the difference between the "under 1 year" and "5-10 year" mortgage rates published by the ECB. The fixed-rate mortgage market share is approximated as the share of all loans with a fixed-rate period over 5 years.
Source: Finpolconsult based on ECB data.

3.3.2 Product choice in the credit risk dimension

Terminology conventions

We use the following mortgage product class definitions in the credit risk dimension:

- Prime vs. sub-prime credit. Notwithstanding the unavoidable stigmatisation of the term 'sub-prime' as a result of the US mortgage market crisis, the term appears more precise than the alternative term 'non-conforming' used in some markets(e.g., in the UK) since it refers to a single indicator, the credit rating score.

We note that, in the UK, the term 'sub-prime' applies to previously bankrupt (county court judgments) borrowers and those with impaired credit records. We consider these special factors to be covered by the credit rating scores.

- In the literature, one sometimes also finds references to a mezzanine class of 'near-prime' borrowers, i.e. borrowers with high scores that fail to produce one or several check boxes of typical prime loan definitions (such as full income documentation or sufficiently long credit histories[21]).

- High loan-to-value (LTV) lending is defined as lending at an underwriting loan-to-value ratio of more than 80% as per the Capital Adequacy Directive.[22]

- Home equity release mortgages are financial products "that allow homeowners to secure substantial lump sums or regular income payments by realising part of the value of their homes, while being able to continue to live in it."[23] They differ from other forms of equity release, which extract cash just on the value of property for consumer spending and paying-off debt.

- Low documentation / self certification mortgages loans are loans for which the borrower has to provide very little or no documentary proof on her/his specific financial circumstances.

The prevalence of non-standard mortgage products varies from country to country. However comprehensive information on the range of mortgage products which were on offer in each country before the onset of the financial crisis is very sparse.

The most recent comprehensive comparative review that we are aware off is shown in the Table 6 below which shows the access to mortgage loans by six broad categories of non-standard borrowers in 2005: those who are older, have low equity, have previously been bankrupt, have self-certified income, are credit impaired, or are self-employed.[24]

The development of the market for mortgage loans to such borrowers differs greatly across EU countries. In general, some types of borrowers were better served than others. As the table shows, self-employed individuals normally

[21] In the US, where the market is dominated by the prime credit definitions of the government-sponsored enterprises Fannie Mae and Freddie Mac, that category has been labelled 'Alt-A'.
[22] The Mercer Oliver Wyman study of 2007 on 'Risk and Funding' has used the term 'low equity' with a higher threshold level of 90%, see Douna, Dübel and Low (2007).
[23] See iff (2009).
[24] London Economics (2005).

had access to high-street providers without difficulty. In contrast, credit-impaired and previously bankrupt borrowers faced difficulties in most markets. The strict lending criteria of French, German and Dutch lenders precluded lending to credit impaired borrowers completely. Previously bankrupt borrowers were not served in the Hungarian and Portuguese market. The picture is mixed for borrowers with low equity, older borrowers and those with self-certified income. These groups were adequately served by mortgage markets in Finland, Sweden and the UK, and to varying degrees in other countries.

Table 6: Product availability for non-conforming borrowers by borrower type

	Aged 50+	Low equity (LTV>90%)	Previously bankrupt	Self-certified income	Credit impaired	Self-employed
Austria	●/○	●/○	○/x	○	○/x	○
Belgium	●	●	○	●	○	○
Czech Rep.	●	●	○	x	○	●
Denmark	●	●	x	●	●	●
Estonia	●	○	○	●	○	●
Finland	●	●	○	●	○	●
France	●	●	○	●	x	●
Germany	●	●	○	○	x	●
Greece	●	○	x	○	x	●
Hungary	○	○	x	●	●	●
Ireland	●	●	○	○	○	●
Italy	●	○	○	○	○	●
Latvia	○	○	○	●	○	●
Lithuania	●	●	○	○	○	●
Luxembourg	○	○	○	●	○	●
Malta	●	●	○	●	○	●
Netherlands	●	●	○	●	○	●
Poland	●	●	●	x	x	○
Portugal	●	●	x	○	○	●
Slovakia	○	●	○	○	x	●
Slovenia	●	○	x	○	○	○
Spain	●	●	○	○	○	●
Sweden	●	●	○	●	○	●
UK	●	●	○	●	●	●

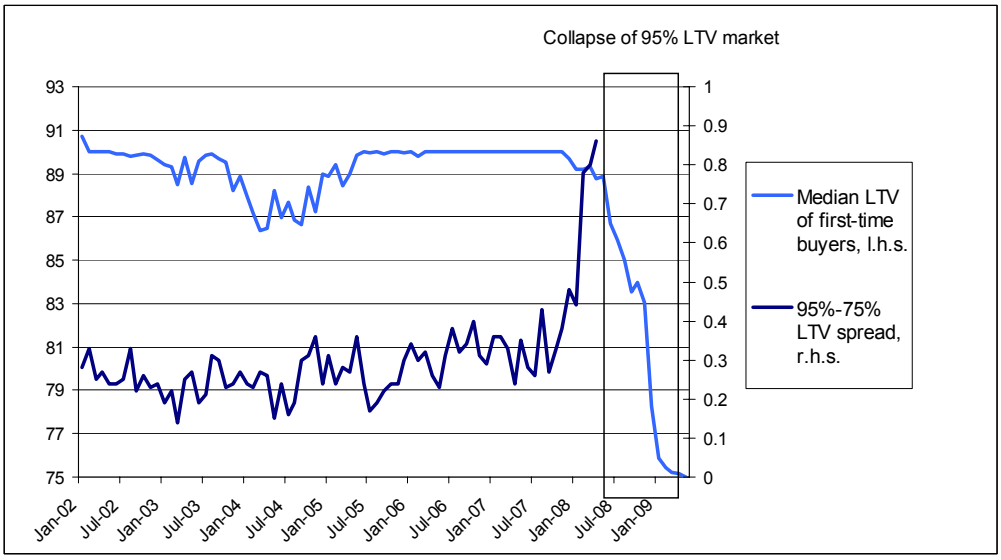
● = good availability
○ = limited availability
x = not available

Source: London Economics (2005) for NL, PL: Mercer Oliver Wyman & MITA (2005). Data are missing for Cyprus.

The financial crisis has led to a sharp curtailing of the availability of non-standard mortgage products in a number of Member States, especially as some financial institutions which specialised in the provision of such products have withdrawn from the market place. An illustration of the

change brought about by the financial crisis is provided in Figure 10 below which documents the recent collapse of high LTV mortgage loans in the UK.

Figure 10: Mortgage product choice in the UK in the credit risk dimension – median LTV of first-time buyers and 95%-75% LTV interest rate spreads for 5-year initial fixed-rate periods 1995-2009



Source: Finpolconsult based on Bank of England and CML data.

While the financial crisis has certainly brought about a major change in mortgage products available in a number of Member States, at this stage it is impossible to determine to what extent this is just a temporary phenomenon or a major structural change in the market place. Obviously, future regulatory developments will have a major impact on the range of mortgage products that will be on offer in the future.

3.3.3 Key characteristics of selected mortgage markets

Finally, to conclude the discussion about product choice, we focus on some broader characteristics of the European mortgage markets.

First, Table 7 highlights the diversity of various mortgage markets in the euro-zone in terms of the following features: typical loan-to-value ratios for first time home buyers; the importance of public or private government guarantee schemes; the nature of the arrangements for early repayment; the importance of this phenomenon; the importance of mortgages taken out for reasons other than financing a new home; and, the existence of a personal bankruptcy law.

Table 7: Characteristics of loans for house purchase in Euro area Member States

	Typical loan to value ratio for first time home buyer (%)	Government guarantee scheme (% of outstanding amount of housing loans covered by the scheme)	Private guarantee scheme (% of outstanding amount of housing loans covered by the scheme)	Early repayment Law (L) or contract (C)	% Stock affected by early repayment in 2007	Mortgage for purposes other than financing a new home (% of new housing loans)	Personal bankruptcy law
BE	80	1	18	L/C[1]	5	1	Yes
DE	70	0	0	L/C		1-2	Yes
IE	83	0	2	C	9	13[3]	Yes
EL	73	4	19	C	5	30	No
ES	73	0	1	L/C[1]	8	5	No
FR	91	14	44	L/C[1]	8	1	Yes
IT	65	0	2	L	1[2]	1	No
CY	80	0	55	L/C	4		Yes
LU	87	0	2	C	0	<1	No
MT	63	1		C		9	Yes
NL	101	13	0	C	2	3	Yes
AT	84	0	13	L	9	2	Yes
PT	71	0	0	L[1]	7	20	Yes
SI	65	0	0	C	0	11	Yes
FI	81	5	4	C	8	12	No
Euro area[4]	79	4	19		6	5	

Note: 1) Law establishes maximum value but actual cost is fixed in advance. 2) Refers to early repayments for mortgage replacements only. 3) Mainly reflects top-up mortgages. 4) Calculated on basis of countries for which data is available and may not always be fully representative.
Source: European Central Bank (2009b).

Next, we present a mortgage market index which is very similar to the index produced by the IMF and reported in the April 2008 World Economic Outlook.[25]

The index reflects the fact that access to credit in the housing market depends on the institutional characteristics of the mortgage markets such as:

- the loan-to-value ratio;
- the standard length of mortgage contracts;
- the ability to make home equity withdrawals;
- the existence of fair value refinancing possibilities; and,
- the development of secondary markets for mortgage loans.

If mortgage providers accept a high loan-to-value ratio, this enables consumers to take out a high level of debt relative to the value of the property and long standard repayment contracts make a high level of debt-to-income affordable.

Furthermore, when home equity withdrawals are allowed, consumers can access the wealth build up in their homes, for instance, due to increases in house prices.

If fair value refinancing is not available and early repayment is contingent on the payment of high compensation fees, this may limit the extent to which consumers refinance their mortgage debt in the event that interest rates decline. If, in contrast, fees are well below fair value, this may raise the cost of mortgage credit to all, including to those who are not switching as lenders may aim to recoup the costs of the early repayments at below fair value. A highly developed secondary market for mortgage loans (such as a market for covered bonds) might stimulate the availability of credit.

In addition to the institutional characteristics mentioned by the IMF (2008), the size of the mortgage market as a percentage of GDP may serve as an indicator of the overall availability of housing credit.

Cross-country differences in all of these factors are summarised in Table 8 and captured by the 'Mortgage Market Index'. The index lies between 1 and 0 with high values indicating a broader access to mortgage credit relative to that prevailing in other countries.

[25] See IMF (2008).

Table 8: Institutional differences in national mortgage markets and the Mortgage Market Index

	Mortgage Equity With-drawal	Refinancing (fair value compensation)	Typical Loan-to-Value Ratio (percent)	Average Typical Term (years)	Outstanding Covered Bonds (percent of residential lending)	Mortgage Debt to GDP Ratio	Mortgage Market Index
Austria	No	Yes	84	30	6.4	34	0.50
Belgium	No	No	80	20	n.a	38	0.23
Bulgaria	Limited	Yes	70-80[5]	5-20[5]	n.a	12	0.41
Denmark	Yes	Yes	80	30	100.0	96	0.85
Estonia	No	Yes	75[1]	40[1]	n.a	39	0.42
Cyprus	No	No	80	22.5	n.a.	50	0.26
Czech Rep.	No	No	80-90	25	n.a	16	0.21
Finland	Yes	Yes	81	22.5	n.a.	36	0.57
France	No	No	91	19	9.8	36	0.26
Germany	No	Yes (FRM)	70	30	17.9	46	0.44
Greece	No	Yes (ARM)	73	17.5	n.a	32	0.37
Hungary	Yes	No	75	25	47.9	14	0.44
Ireland	Limited	Yes	83	33	9.7	80	0.60
Italy	No	No	65	22	n.a.	21	0.18
Latvia	No	Yes	70-100[6]	25[7]	n.a	31	0.40
Lithuania	No	No	80[8]	25[8]	n.a.	19	0.21
Luxembourg	No	No	87	20	1.1	41	0.25
Malta	No		63	35	n.a.	39	0.23
Netherlands	Yes	No	101	30	2.8	94	0.55
Poland	No	No	80[3]	25[2]	1.9	16	0.20
Portugal	No	No	71	35	7.8	63	0.30
Romania	Limited		75[9]	20[1]	n.a	4	0.25
Slovakia	No	No	80[4]	20[4]	n.a	15	0.19
Slovenia	No	Yes	65	25	n.a	9	0.33
Spain	Limited	No (ARM)	75	20	41.3	62	0.42
Sweden	Yes	Yes	80	25	48.7	60	0.69
United Kingdom	Yes	Yes	75	25	4.7	80	0.65

Notes: Refinancing (fair value compensation) includes full (symmetric) and partial (asymmetric) fair value compensation. A "No" implies either a capped compensation or fee or the absence of specific rules. In cases where the regime differs between FRMs and ARMs, the prevalent mortgage type is used in the table.
The mortgage market index is calculated as follows: For "mortgage equity withdrawal" and "refinancing (fee-free prepayment)," values of 0, 0.5, and 1 are assigned to each country depending on whether mortgage equity withdrawal are nonexistent, limited, or widespread, respectively. For "refinancing" a value of 1 is there is fair value compensation and 0 otherwise. For the other four variables in the table, each county is assigned a value between 0 and 1, equal to the ratio to the maximum value across all countries. The mortgage market index is calculated as the average of the 6 indicators.
Sources: 1) iff (2009) for mortgage equity withdrawal, 2) the legal baselines presented in this report for refinancing, 3) European Central Bank (2009b) and [1]OECD (2005); [2] National Bank of Poland (2009); [3] National Bank of Poland (2008); [4]Narodna Banka Slovenska (2008); [5]United States Agency for International Development (2003); [6]Latvijas Banka (2007); [7]Latvijas Banka (2008); [8]Lietuvos bankas (2009); [9]Banka Nationala Romaniei (2008) for typical loan-to-value and average typical term, 4) EMF Hypostat (2007) for outstanding covered bonds as a percentage of residential lending.

The mortgage market index ranges from 0.18 in Italy to 0.85 in Denmark. The relatively low value in Italy reflects the fact that mortgage equity withdrawal is not possible, compensation at refinancing is capped well below fair value and there are no covered bonds. Furthermore, the loan-to-value ratio is relatively low at 65% as is the 21% mortgage-to-GDP ratio. All these factors suggest that access to mortgage credit in Italy is lower than in some countries. Obviously, other socio-economic factors may also impact on the differences in the level of the aggregate index.

In comparison, mortgage equity withdrawal is possible (and widespread) in Denmark, refinancing is at fair value, the market for covered bonds is highly developed, the typical loan-to-value ratio is 80% and the mortgage debt to GDP ratio is 96%. All these characteristics of the Danish market would suggest that the access to credit is very high.

The mortgage market index is also relatively high in Ireland (0.60), Sweden (0.69) and the UK (0.65), all of which are countries with relatively high loan-to-value and mortgage debt to GDP ratios. Furthermore, all these countries have mortgage equity withdrawal, fair value refinancing and a market for covered bonds, and their size differs significantly.

Besides Italy, a low index value is found for the Czech Republic (0.21), Poland (0.20), Slovakia (0.19), Lithuania (0.21) and Malta (0.23). These countries all have a low mortgage to GDP ratio and no possibility to access mortgage equity, refinance with fair value compensation or use covered bonds.

To examine to what extent the level of the index depends on certain institutional characteristics of the mortgage market (such as the share of the market which adheres to the code, the APRC definition (broad, narrow, no rules), the right to repay (unconditional option, conditional option, universal right, and the compensation limit (capped, fair value, no rules)), we undertook some econometric analysis.

More precisely, we tested whether the level of the index was a function of one of the following variables taken from the legal baselines presented in the subsequent chapters:

- Percentage of lenders in country i providing a pre-contractual information sheet;
- Three dummy variables relating the definition of the APRC in a country:
    i. a dummy variable equal to 1 if the APRC definition in country i is broad[26];

[26] As there is only one country with a broad APRC in the sample, the results relating to the definition of the APRC need to be considered with some caution.

ii. a dummy variable equal to 1 if the ARPC definition in country i is narrow; and

iii. a dummy variable equal to 1 if there are no rules related to the APRC definition;

- Four dummy variables relating to the right to repay the mortgage loan early:

  i. a dummy variable equal to 1 if the right to repay early is a conditional option in country i;

  ii. a dummy variable equal to 1 if the right to repay early is an unconditional option in country i;

  iii. a dummy variable equal to 1 if the right to repay is a universal right in country i; and,

  iv. a dummy variable equal to 1 if there are no laws, regulations or industry standards related to the right to repay;

- Three dummy variables relating to the existence of any limits on the early repayment fee:

  i. a dummy variable equal to 1 if the compensation limit is capped in country i;

  ii. a dummy variable equal to 1 if the compensation limit is equal to the fair value in country i; and,

  iii. a dummy variable equal to 1 if there are no laws, regulations or industry standards about the compensation limit.

It is important to note that in the empirical analysis the three dummies reflecting the cases where there are no laws, regulations or industry standards are excluded from the regression, namely:

1. the dummy variable equal to 1 if there are no laws, regulations or industry standards related to the APRC definition;

2. the dummy variable equal to 1 if there are no laws, regulations or industry standards related to the right to repay; and,

3. the dummy variable equal to 1 if there are no laws, regulations or industry standards about the compensation limit.

This implies that the results of the regressions should be interpreted relative to a baseline where there are no laws, regulations or industry standards rules in relation to the definition of APRC, the right to repay early or the compensation limit.

The results reported in Table 9 show a statistically significant and positive effect on the mortgage market index of a high degree of provision of an ESIS. The effect is, nevertheless, modest: an increase in the share of the market providing an ESIS of one percentage point only corresponds to a 0.001 increase in the mortgage market index.

In contrast there is no statistically significant effect of using a specific definition (broad or narrow) of APRC or of having rules about the right to repay (universal right, conditional or unconditional option) or about the compensation limit (cap or fair value).

Table 9: Mortgage market index and legal baseline regression

Adj. R^2 0.568	**Explanatory variables**								
Dependent variable	Share of market adhere to code	Definition of APRC		Right to repay			Compensation limit		Constant
		Broad	Narrow	Condi-tional option	Uncondi-tional option	Univers al right	Cap	Fair value	
Mortgage market index	0.001*	0.069	0.082	-0.076	-0.075	0.097	-0.143	0.133	0.161
	(0.089)	(0.713)	(0.551)	(0.785)	(0.711)	(0.715)	(0.328)	(0.280)	(0.259)

Note: The figures in brackets are the p-values. * Parameter estimate is significant at the 10% level of significance. ** Parameter estimate is significant at the 5% level. Dummies for no rules for the definition of APRC, the right to repay, and the compensation limit are excluded from the estimation as reference categories. The regression was performed using 21 observations. The countries excluded were Bulgaria, Hungary, Lithuania, Latvia, Malta and Romania for which one or more of the explanatory variables was missing

Source: London Economics.

3.4 Customer mobility

The following three tables provide background information on customer mobility in the mortgage markets. The data are taken from a recent Eurobarometer survey on consumer mobility or switching.[27] A few facts are worth highlighting:

- In general, customers do not move from one mortgage provider to another – switching rates are typically less than 15%. The only exceptions are the United Kingdom and the Czech Republic.

- By far the main the reason for not switching is the view that the current provider offers best value for money (39% of non-switchers).

[27] See Eurobarometer. (2009a).

Table 10: Experience with switching mortgage credit provider in the last two years

	Yes, switched and it was easy	Yes, switched but it was difficult	Yes, tried to switch but gave up	No, did not try because not interested in switching	No, did not try because thought it might be too difficult	No, for other reasons
AT	8	4	1	71	3	12
BE	5	2	1	72	2	16
BG	1	0	2	62	3	31
CY	10	4	2	63	0	22
CZ	7	16	7	63	1	3
DE	6	3	1	69	4	13
DK	6	2	3	75	3	10
EE	8	0	1	69	4	17
EL	8	5	1	60		21
ES	9	1	2	68		12
FI	10	2	3	56	5	22
FR	8	3	2	69	3	15
HU	4	3	2	47	17	26
IE	9	4	2	62	11	11
IT	4	1	2	67	17	9
LT	0	1	0	66	8	25
LU	8	1	0	78	5	6
LV	2	1	4	80	2	10
MT	2	4	0	79	3	10
NL	8	3	2	70	3	10
PL	6	2	0	76	5	10
PT	6	1	1	77	1	10
RO	4	1	0	57	3	25
SE	6	1	1	81	1	10
SI	11	0	0	70	2	9
SK	1	2	2	64	11	18
UK	24	4	2	51	4	14
EU-27	11	3	2	65	4	13

Note: Question: Have you tried to switch your mortgage credit provider in the last two years? Base: who use this service provider, % by country.
Source: Eurobarometer. (2009a). "Consumers' views on switching service providers: Analytical Report". Flash Eurobarometer Series #243.

- Interestingly, only 9% of respondents identify the terms of the mortgage contract as a cause of not switching.

- Factors that would entice non-switchers to consider switching include a process that costs nothing (37% of non-switchers), a website that tells you which provider is the cheapest for you (32% of non-switchers) and standardised comparable offers from providers (31% of non-switchers).

Table 11: The main reason for staying with mortgage credit provider

Your current provider offers the best value for money	39
Your contract makes switching difficult	9
The cost and effort required in switching is too large	7
The amount you could save by switching is too small	5
It is difficult to find out which provider is the cheapest	4
There is no alternative local provider	2
You did not know that you can switch	1
Other	28
DK/NA	4

Note: Question: What is the MAIN reason that caused you to remain with your mortgage credit provider? Base: who did not switch their service provider, %. DK – don't know

Sources: Eurobarometer. (2009a). "Consumers' views on switching service providers: Analytical Report". Flash Eurobarometer Series #243.

Table 12: What would persuade respondents to consider switching their mortgage credit provide	
A switching process that costs you nothing	37
A website that tells you which provider is the cheapest for you	32
Standardised comparable offers from providers	31
A switching process that is completed in 15 working days	21
A shorter contract	18
The switching process is handled by an agent/agency	18
Other	24
DK/NA	18

Note: Question: Which of the following would persuade you to consider switching your mortgage credit provider? Select as many answers as you consider relevant for you. Base: who use this service provider, % "mentioned". DK –don't know.
Sources: Eurobarometer. (2009a). "Consumers' views on switching service providers: Analytical Report". Flash Eurobarometer Series #243.

There are some interesting cross-country differences in the reasons why customers do not switch providers (see Table 13). The following table provides the country-by-country survey results of the reasons for not switching.

Table 13: The main reason for staying with mortgage credit provider										
	Percentage									
	Total number of survey respondents	There is no alternative local provider	You didn't know that you can switch	Your contract makes switching difficult	Your current provider offers the best value for money	The amount you could save by switching is too small	The cost and effort required in switching is too large	It is difficult to find out which provider is the	Other	Don't know/ No answer
BE	328	1.7	1.1	6.2	27.5	5.7	5.4	5.8	44.7	1.8
BG	54	6.4	0.6	17.2	29.9	7.1	10.7	11.6	6.1	10.4
CZ	100	0.5	2.0	22.6	26.8	3.3	2.9	10.8	24.5	6.6

Table 13: The main reason for staying with mortgage credit provider

	Percentage									
	Total number of survey respondents	There is no alternative local provider	You didn't know that you can switch	Your contract makes switching difficult	Your current provider offers the best value for money	The amount you could save by switching is too small	The cost and effort required in switching is too large	It is difficult to find out which provider is the	Other	Don't know/ No answer
DK	396	3.5	0.3	2.6	45.4	9.2	7.5	7.2	23.1	1.4
DE	134	4.4	1.0	16.5	29.8	4.8	9.2	4.1	23.0	7.1
EE	123	1.2	1.1	13.7	27.3	10.7	3.3	1.6	35.1	6.0
EL	153	6.6	0.6	8.4	35.6	4.1	9.0	2.8	29.0	3.9
ES	284	2.7	0.1	6.4	48.3	3.9	6.4	4.7	25.0	2.6
FR	243	0.8	0.0	4.3	32.6	2.6	3.0	4.6	50.5	1.7
IE	325	2.3	0.3	5.7	38.6	10	11.2	8.5	21.4	2.0
IT	62	5.8	0.6	6.8	47.9	3.6	6.0	1.1	19.1	9.1
CY	151	3.6	0.0	1.6	18.4	3.6	0.7	4.2	65.2	2.8
LV	102	0.6	0.8	7.8	43.4	8.0	13.4	1.6	17.4	6.9
LT	99	0.6	4.0	39.4	34.1	0.5	0.0	6.8	12.8	1.9
LU	127	2.3	3.1	8.5	45	2.8	10.2	9.0	17.5	1.5
HU	154	1.5	2.1	14.7	27.9	7.7	10.2	11.6	22.4	1.9
MT	84	0.8	1.3	3.0	25.6	0.8	5.2	2.5	52.5	8.3
NL	493	0.6	0.0	8.7	43.4	7.6	16.5	2.7	19.6	0.9
AT	88	5.2	0	5.5	36.2	3	4.3	1.4	38.2	6.2
PL	81	1.2	7.3	9.2	49.8	11.6	4.6	1.4	14.3	0.6
PT	261	1.9	0.7	3.1	51.4	7.5	4.6	5.1	20.5	5.3
RO	58	3.7	3.2	6.3	33.8	3.1	1.9	0	30.7	17.2
SL	31	8.1	8.2	9.0	19.6	5.0	5.9	4.1	40.1	0.0
SK	92	0.9	7.7	15.6	19.9	8.3	18.9	5.2	21.1	2.3
FI	288	3.1	0.7	3.1	43.1	7.0	9.9	2.8	24.4	5.8
SE	372	2.7	0.9	3.7	35	2.7	3.2	2.7	45.7	3.4
UK	281	1.8	0.7	14.5	41	6.1	7.6	4.5	20.6	3.1

Source: Eurobarometer (2009b).

Lack of availability of an alternative provider was not an important barrier to switching in most countries. Particularly not in the Czech Republic, Latvia, Lithuania, or the Netherlands where only 0.5-0.6% of respondents to the survey said that this was the main reason why they had not switched. In comparison, lack of alternative providers is a relatively (more) common problem in Slovenia where 8.1% of respondents argue that this is the main reason.

Consumers generally seem aware that they can switch in France, Cyprus the Netherlands and Austria as none of the consumers taking part in the Eurobarometer survey in these countries stated that they have not switched because they were not aware of the possibility. In comparison, more consumers in Slovenia (8.2%), Poland (7.3%) and Slovakia (7.7%) do not switch because they are unaware of the possibility.

The terms of the contract in some countries does seem to be a barrier to switching but there is large cross-country variation. Large shares of consumers who have not switched mortgage credit providers in Lithuania (39.4%) and the Czech Republic (22.6%) have not done so because their contract makes it difficult. This makes contract terms an important switching barrier in these countries as well as in Bulgaria (17.2%), Germany (16.5%), Estonia (13.7%), Hungary (14.7%), Slovakia (15.6%) and the UK (14.5%).

In contrast, the terms of the contract are not an important barrier to switching in Denmark (2.6%) and Cyprus (1.6%).

In most Member States, the main reason why consumers do not switch is the view that the current provider offers the best value for money. Hence this appears to be the most important reason why customer mobility is low. However, in Lithuania the contract terms appears to be a more important limit on customer mobility.

In most countries a very low share of customers does not switch because they believe that the amount they could save is too small. For instance, in Lithuania and Malta 0.5% and 0.8% of consumers (respectively) said that this was the most important reason why they did not switch. At the other end of spectrum, in Estonia (10.7%), Ireland (10%) and Poland (11.6%), the view that there are low potential cost savings is a more important factor limiting customer mobility.

In Slovakia and the Netherlands, 18.9% and 16.5% of consumers respectively, did not switch because they believed the costs and efforts required in order to switch were too high. However, in Lithuania (0%) and Cyprus (0.7%) switching costs for consumers appear to virtually non-existent.

Difficulties related to identifying the cheapest provider is generally not a big problem, particularly in Romania (0%), Italy (1.1%), Austria (1.4%), Poland (1.4%) or Latvia (1.6%). However, in Bulgaria and Hungary 11.6% of

consumers who did not switch attributed this to difficulties in finding the cheapest provider.

It should be noted that, in a number of countries (Belgium, Estonia, France, Cyprus, Malta, Austria, Slovakia and Sweden), a very large share of the respondents indicated that there were "other" reasons than those provided as to why they had not switched. Therefore, in these countries, there may be other important reasons why customer mobility is limited.

The relationship between certain institutional features of the European mortgage markets (such as the prevalence of the provision of an ESIS sheet, the definition of the APRC and the laws, rules and regulations regarding early repayment) and the reasons for not switching are analysed in a regression analysis reported below.

We perform 5 linear regressions of the following form:

$$y_i = a + bX_i + \varepsilon_i \text{ for all } i=1,2,..,21$$

where y_i is the dependent variable, a is a constant term, b is a vector of parameter estimates, X_i is a vector of explanatory variables and ε_i is an error term.

Each regression is performed on cross-country data from 21 EU countries. The countries excluded from the regression are Bulgaria, Hungary, Lithuania, Latvia, Malta and Romania. These countries are excluded due to missing data for one or more of the explanatory variables.

In each regression we use a different dependent variable (y) and the same set of explanatory variables. We use the following dependent variables from the Eurobarometer survey:

2. Percentage answering 'Your contract makes switching difficult';
3. Percentage answering 'The amount you could save by switching is too small';
4. Percentage answering 'The cost and effort required in switching is too large';
5. Percentage answering 'You did not know that you can switch'; and,
6. Percentage answering 'It is difficult to find out which provider is the cheapest'.

The explanatory variables (X) are from London Economics' analysis of the legal baselines discussed in the chapters on pre-contractual information, APRC and early repayment. They are:

- Percentage of lenders in country i providing a pre-contractual information sheet;

- Three dummy variables relating the definition of the APRC in a country:

    i. a dummy variable equal to 1 if the APRC definition in country i is broad[28];

    ii. a dummy variable equal to 1 if the ARPC definition in country i is narrow; and,

    iii. a dummy variable equal to 1 if there are no rules related to the APRC definition;

- Four dummy variables relating to right to repay early the mortgage loan:

    i. a dummy variable equal to 1 if the right to repay early is a conditional option in country i;

    ii. a dummy variable equal to 1 if the right to repay early is an unconditional option in country i;

    iii. a dummy variable equal to 1 if the right to repay is a universal right in country i; and,

    iv. a dummy variable equal to 1 if there are no laws, regulations or industry standards related to the right to repay;

- Three dummy variables relating to the existence of any limits on the early repayment fee:

    i. a dummy variable equal to 1 if the compensation limit is capped in country i;

    ii. a dummy variable equal to 1 if the compensation limit is equal to the fair value in country i; and,

    iii. a dummy variable equal to 1 if there are no laws, regulations or industry standards about the compensation limit.

[28] As there is only one country with a broad APRC in the sample, the results relating to the definition of the APRC need to be considered with some caution.

It is important to note that in the empirical analysis the three dummies reflecting the cases where there are no laws, regulations or industry standards are excluded from the regression, namely:

4. the dummy variable equal to 1 if there are no laws, regulations or industry standards related to the APRC definition;

5. the dummy variable equal to 1 if there are no laws, regulations or industry standards related to the right to repay; and,

6. the dummy variable equal to 1 if there are no laws, regulations or industry standards about the compensation limit.

This implies that the results of the regressions should be interpreted relative to a baseline where there are no laws, regulations or industry standards rules in relation to the definition of APRC, the right to repay early or the compensation limit.

The parameter estimates of b and the corresponding p-values are provided in Table 14 overleaf. It should be noted that the results should be treated with some care since as they build on only 21 observations. Nevertheless, they are indicative of the association between barriers to switching and different institutional dimensions of the European mortgage markets.

Table 14: Estimation results

Dependent variable: % of survey respondents who report that:	**Explanatory variables**									
	Information sheet provided	Definition of APRC		Right to repay early			Compensation limit		Constant	Adj. R^2
		Broad	Narrow	Conditional option	Unconditional option	Universal right	Capped	Fair value		
1. Contract makes it difficult	0.023 (0.422)	-10.805* (0.084)	-10.674** (0.025)	21.879** (0.025)	17.686** (0.014)	14.890* (0.093)	-1.072 (0.813)	0.148 (0.969)	0.208 (0.962)	0.47
2. Potential savings too small	-0.015 (0.561)	-2.960 (0.555)	1.721 (0.637)	-1.689 (0.819)	0.899 (0.867)	-0.027 (0.997)	1.797 (0.641)	1.142 (0.723)	4.450 (0.245)	-0.38
3. Cost and effort for too large	0.025 (0.458)	-11.856* (0.096)	-6.207 (0.219)	18.198* (0.086)	13.347* (0.083)	16.435 (0.104)	-1.950 (0.707)	-4.926 (0.269)	-0.768 (0.878)	-0.01
4. Not aware of switching option	-0.039** (0.009)	-5.549** (0.046)	-2.705 (0.162)	8.868** (0.033)	6.515** (0.031)	5.579 (0.141)	-0.537 (0.784)	-1.895 (0.262)	2.262 (0.247)	0.57
5. Difficult to find the cheapest provider	0.018 (0.337)	-5.915 (0.131)	-8.058** (0.010)	11.588* (0.054)	8.191* (0.059)	12.282** (0.036)	-5.728* (0.064)	-3.474 (0.167)	3.137 (0.272)	0.09
6.Informational reasons(3, 4 or 5)	0.005 (0.909)	-23.320** (0.012)	-16.969** (0.012)	38.654** (0.006)	28.052** (0.006)	34.296** (0.010)	-8.216 (0.201)	-10.295* (0.066)	4.631 (0.447)	0.30
7.Economic and legal reasons (1, 2 or 3)	0.035 (0.539)	-25.622** (0.037)	-15.159* (0.081)	38.389** (0.035)	31.932** (0.018)	31.298* (0.066)	-1.226 (0.886)	-3.636 (0.615)	3.891 (0.641)	0.28

Note: The figures in brackets are the p-values. * Parameter estimate is significant at the 10% level of significance. ** Parameter estimate is significant at the 5% level

Source: London Economics based on data from Eurobarometer (2009b) and London Economics analysis of the legal baseline.

The most interesting results for the CBA are those related to the analysis of the determinants of customers that a) the contract makes it difficult to switch (model 1) and b) they are not aware that they can switch (model 4).

Model 1 considers the share of customers not switching because the contract makes it difficult. It shows that having rules about the definition of APRC (broad or narrow) significantly reduces the share of people who do not switch for this reason.

Furthermore, the results show that the more restrictive the rules regarding early repayment, the greater the number of people finding it difficult to switch contracts. This suggests that the contract term is a more important switching barrier in countries where the right to repay is a conditional option than if it is an unconditional option and even more so if it is a universal right.

No other factors significantly affect the share of people who say that contract terms make it difficult to switch.

Model 4 focuses on the share of people who do not switch because they were unaware that they can.

As expected, if a large share of the mortgage credit institutions provide information sheets this significantly reduces the share of people who do not switch because they are unaware of the possibility to switch providers. A higher level of information available to consumers thus seems to make consumers more aware that they can switch providers. The other explanatory variables have the same sign as in Model 1.

As to other models, *Model 2* considers the share of customers who do not switch because they believe that the potential cost savings are too small. None of the factors considered significantly affects this share and this suggests that the expectations about the gains depend on other more important factors such as, most probably, differences in interest rates.

Model 3 analyses the association between different institutional features of European mortgage markets and the share of people who say that the costs and efforts required for switching are too high and that this is the main reason why they have not switched provider.

A broad definition of APRC significantly reduces the share of people who find the costs of switching too high and an optional right to repay (conditional or unconditional) significantly increases the importance of switching costs as a barrier to switching. Furthermore, although insignificant, rules about the compensation limit (capped or fair value) appear to make switching costs a less important barrier to customer mobility.

The share of people who do not switch because they find it difficult to find the cheapest provider is considered in *Model 5* and the effects of the explanatory variables have the usual sign. However, surprisingly, the share of credit institutions which provide an information sheet to consumers does

not significantly affect the importance of the difficulty of identifying the cheapest provider as a switching barrier.

Model 6 considers the share of people who do not switch either because they perceive the costs and effort required to be too high, because they are unaware of the possibility to switch provider or because they find it difficult to identify the cheapest provider. These reasons can all be seen as informational switching barriers. The results indicate that informational switching barriers generally are affected by the regulatory regime in the same way as in the models of the individual informational switching barriers.

Model 7 considers the share of people who do not switch either because the contract makes it difficult, because the potential gains are perceived to be low or because the switching costs are perceived to be too high. The findings closely resemble those obtained for models 1 to 3 which consider the three reasons separately. In particular, economic and legal switching barriers seem to be less important in mortgage markets where there are rules in place in relation to the definition of APRC and in relation to the compensation limit. It should be noted that the latter effect is statistically insignificant and a broader APRC definition encourages switching.

In light of the estimation results reported above and the overall fit of the models (i.e., the R^2 of the estimated model), models 1 and 4 are used in the quantification of the impact of different policy options which are assessed in the CBAs.

3.5 Consumer confidence

Consumer confidence in the European mortgage market depends partly on the level of confidence in the financial institutions and on the level of confidence in residential property markets. Below we present the limited data that are available on this important dimension, starting with confidence in financial institutions.

Confidence in financial institutions

Confidence in institutions is related to consumer satisfaction with the institutions and consumer awareness about the characteristics of the market. A high level of satisfaction might reflect confidence that the market is functioning well and high levels of consumer awareness may indicate that consumers have sufficient information about the market to make informed purchasing decisions.

Consumer satisfaction with financial service institutions has been assessed in a 2006 consumer survey for the Eurostat.[29] In particular, the survey considers

[29] Eurostat (2009).

satisfaction with retail banking and insurance within the Member States (see Table 15).

The survey results indicate that, in 2006 (i.e. well before the onset of the financial crisis), the majority of consumers were satisfied with retail banking in all of the countries considered except Italy. Consumers were most satisfied with retail banking in Estonia, Cyprus, Latvia, Lithuania, Finland and Sweden where at least 80% of consumers were satisfied with retail banking.

Most of the consumers who were not classified as satisfied with retail banking were classified as being neutral or directly dissatisfied. Overall, in all of the surveyed countries, less than 10% of consumers were dissatisfied and the highest share of least satisfied consumers are observed in the cases of the Czech Republic, France, Italy, and Hungary. In these countries, more than 6% of consumers were dissatisfied.

Table 15: Satisfaction rates with financial institutions (% respondents, 2006)

	Retail Banking		Insurance	
	Satisfied	Dissatisfied	Satisfied	Dissatisfied
EU-25	63	5	64	3
Belgium	76	1	74	1
Czech Republic	67	7	65	9
Denmark	72	5	74	3
Germany	79	3	81	2
Estonia	84	1	71	3
Ireland	68	4	81	1
Greece	65	2	68	2
Spain	51	5	55	3
France	56	8	65	2
Italy	37	7	42	5
Cyprus	86	3	79	4
Latvia	81	1	71	3
Lithuania	80	2	76	2
Luxembourg	75	2	75	4
Hungary	74	6	71	7
Malta	77	3	67	6
Netherlands	51	2	47	1
Austria	77	3	76	2
Poland	62	4	56	4
Portugal	65	3	50	4
Romania				
Slovenia	75	4	74	3
Slovakia	65	5	58	9
Finland	87	1	75	2
Sweden	80	2	67	4
United Kingdom	67	4	68	3

Note: Consumer satisfaction was calculated as a score out of 10, with consumers giving scores of 8 or higher classified as satisfied, 4 or less as dissatisfied and 5 to 7 as neutral.
Source: .Eurostat (2009).

While consumer satisfaction with financial institutions within their home Member State was relatively high in 2006, consumers were clearly less

confident about using financial services in other EU Member States. A 2006 special Eurobarometer provides information on the main reasons why consumers do not consider taking out insurance or obtaining a mortgage in another EU Member State.[30] With the exception of Poland the reason provided most frequently is that the consumer had no wish to do so. This is particularly the case in Greece (80%) and Malta (76%).

Table 16: Reasons for not considering using financial institutions in other Member States (2006)

	No wish to do so	**Language barriers**	**Lack of information about the opportunities**	**Concerned about administrative formalities**	**Worried that your consumer rights will not be upheld in another Member State**	**Concerned about tax implications**	**None**	**Other**	**Don't know**
EU25	**61%**	*29%*	24%	15%	12%	6%	28%	4%	4%
BE	**39%**	28%	*35%*	33%	19%	11%	19%	3%	1%
CZ	**62%**	*41%*	28%	19%	14%	7%	15%	2%	1%
DK	**63%**	21%	*32%*	19%	14%	9%	24%	4%	4%
DE	**70%**	28%	23%	12%	19%	3%	*30%*	4%	1%
EE	**67%**	21%	*28%*	5%	3%	6%	27%	3%	8%
EL	**80%**	24%	24%	8%	5%	10%	*44%*	2%	0%
ES	**67%**	19%	11%	9%	4%	2%	*40%*	4%	12%
FR	**55%**	*36%*	28%	23%	16%	6%	16%	4%	2%
IE	**54%**	*30%*	20%	16%	13%	10%	14%	2%	9%
IT	**51%**	25%	25%	9%	14%	7%	*36%*	4%	5%
CY	**68%**	19%	*30%*	9%	4%	6%	12%	3%	3%
LV	**68%**	25%	*41%*	7%	5%	5%	18%	3%	5%
LT	**65%**	*30%*	16%	8%	8%	9%	9%	7%	7%
LU	**52%**	8%	*30%*	27%	23%	15%	9%	8%	3%
HU	**63%**	*36%*	22%	10%	7%	5%	24%	2%	6%
MT	**76%**	3%	7%	5%	4%	5%	*11%*	2%	5%
NL	**65%**	21%	*38%*	22%	13%	5%	20%	2%	2%
AT	**61%**	*29%*	26%	13%	18%	10%	28%	3%	1%

[30] Eurobarometer (2006).

Table 16: Reasons for not considering using financial institutions in other Member States (2006)

	No wish to do so	Language barriers	Lack of information about the opportunities	Concerned about administrative formalities	Worried that your consumer rights will not be upheld in another Member State	Concerned about tax implications	None	Other	Don't know
PL	*35%*	**37%**	31%	27%	5%	9%	22%	5%	6%
PT	**51%**	*21%*	*21%*	17%	6%	12%	18%	10%	9%
SI	**71%**	13%	*17%*	9%	6%	8%	8%	11%	2%
SK	**51%**	*39%*	36%	23%	16%	8%	8%	3%	2%
FI	**60%**	31%	*35%*	12%	19%	7%	24%	3%	1%
SE	**72%**	19%	*36%*	20%	14%	5%	11%	3%	2%
UK	**73%**	*37%*	16%	9%	9%	5%	35%	3%	2%

Note: Bold indicate the most often mentioned reason. Italics indicate the second most often mentioned reason

Source: Eurobarometer (2006).

Language barriers and lack of information about the opportunities were also main reasons provided by many of the respondents across all countries in the survey.

In Poland, for instance, the main reason provided by most respondents was language barriers (37%) and in the Czech Republic (41%), Slovakia (39%), the UK (37%), Hungary (36%) and France (36%) a large share of respondents said that language barriers was one of the main reasons why they had not considered using financial service providers in other Member States. In comparison, only 3% of respondents in Malta and 8% of respondents in Luxembourg said that language barriers were one of the main reasons.

More importantly from the perspective of the present assessment of mortgage market policy options, a lack of information about the opportunities to use financial service providers from other EU Member States was one of the reasons provided by many respondents in Belgium (35%), Latvia (41%), the Netherlands (38%), Finland (35%) and Sweden (35%). In comparison only 7% of respondents in Malta said that this was one of the main reasons.

Relatively fewer respondents in all countries said that they did not consider providers in other EU Member States because of concerns about administrative formalities, tax implications and consumer protection.

Confidence in the market

The level of confidence in the housing market reflects peoples' future expectations in the market. When confidence is, high people expect house prices to increase in the future and therefore may be more willing to invest in property or home improvement. On the other hand, when confidence in the market is low, consumers may expect housing prices to fall in the future and, therefore, may be more wary of investing in the property market.

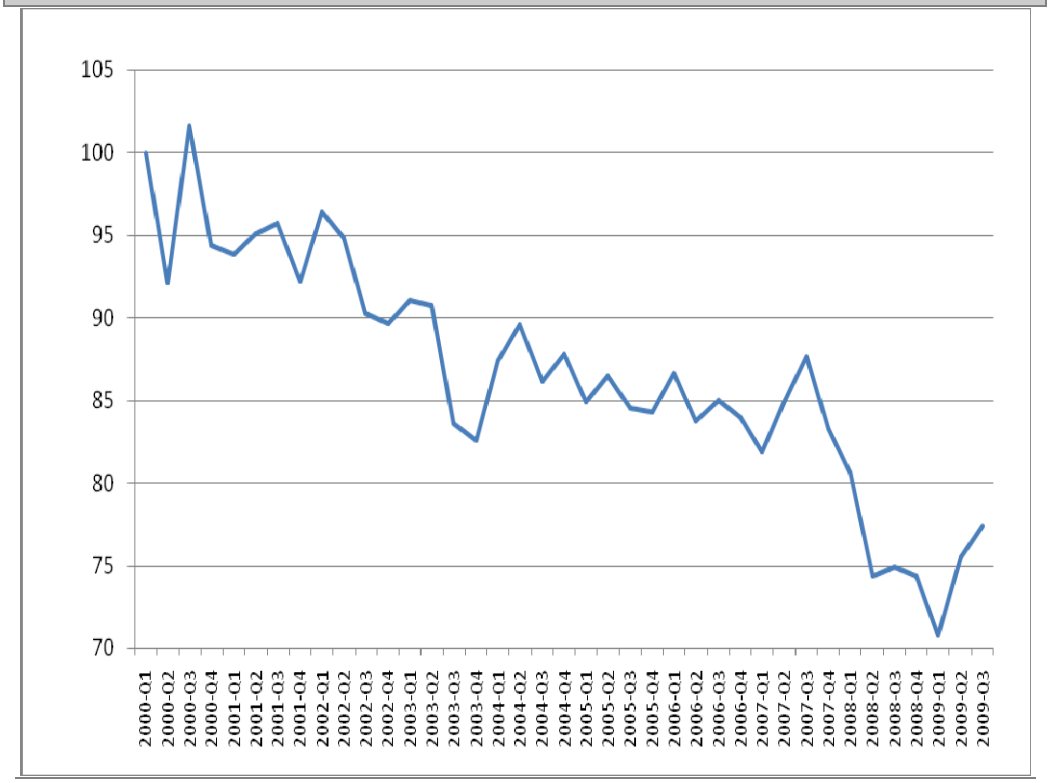
Based on the consumer confidence data available on the website of EC DG for Economic and Financial Affairs[31] a housing market consumer indicator has been constructed. It is a weighted average of the quarterly results to the survey questions in the general consumer survey about intentions to purchase or build a home within the next 12 months and intentions to make home improvements within the next 12 months.[32]

This housing market consumer confidence index is presented in the Figure 11 below.

[31] http://ec.europa.eu/economy_finance/db_indicators/db_indicators8650_en.htm. Details about the survey are provided in European Commission (2007d).

[32] Reflecting broadly the relative shares of mortgages taken out for the acquisition of a new or existing property and mortgages taken out for renovations and property improvements, a weight of 65% is given to the response about intentions to purchase or build a home within the next 12 months and a weight of 35% is given to the response about intentions to make home improvements in the next 12 months.

Figure 11: Housing indicator (2000Q1 to 2009Q2)



Note: The housing indicator was indexed to 100 in 2001-Q1.
Source: London Economics based on data from EC DG for Economic and Financial Affairs.

Over the period 2000Q1 to 2009Q2, at the EU-27 level, this confidence indicator rose in the third quarter of 2000 and then started to decline slowly.

It recovered somewhat during 2007 but then started declining very rapidly (Figure 11). The housing indicator reached its lowest level in the first quarter of 2009 and has increased slightly since.

At the individual Member State level, the date of the most recent peak in this index varies, reflecting different domestic circumstances. The indicator, for instance, peaked in the first quarter of 2000 in Belgium, Denmark, Spain, Hungary, and Finland. But, it did not peak until 2008 in Bulgaria (Q3), Romania (Q4) and Poland (Q1).

Figure 11 shows that 2007Q1 is a turning point for the European housing market. The corresponding pattern at the Member State level is illustrated in Table 17 which reports pre- and post-2007Q1 average quarterly growth rates in this indicator. For the EU-27 as a whole and for most countries, the average annual growth in the housing indicator was lower from 2007Q1 onwards than before this date. In some cases, the decline in the indicator is particularly pronounced (Cyprus, Estonia, Hungary, Latvia, Lithuania, Portugal and Romania).

Table 17: Index of consumer confidence in the housing market		
	% average quarterly change from 2000Q1 to 2006Q4	% average quarterly change from 2007Q1 to 2009Q3
EU	-0.59%	-0.55%
BE	-0.83%	0.49%
BG	2.52%	1.43%
CZ	1.89%	-2.71%
DK	-1.16%	-0.77%
DE	-1.04%	-0.45%
EE	-1.79%	-5.54%
IE	0.42%	-0.67%
EL	-0.46%	1.26%
ES	-1.29%	-2.58%
FR	0.41%	-0.01%
IT	-2.44%	3.09%
CY	-1.29%	-2.94%
LV	5.46%	-4.38%
LT	-0.19%	-5.34%
LU	-0.25%	-0.64%
HU	-2.59%	-3.40%
MT	-0.34%	-0.65%
NL	-0.31%	-0.88%
AT	0.02%	0.96%
PL	0.22%	0.90%
PT	-1.67%	-4.35%
RO	0.69%	-3.22%
SI	-0.49%	-2.17%
SK	-0.53%	-0.79%
FI	-0.34%	-0.19%
SE	-0.20%	-0.07%
UK	0.00%	-1.36%

Note: The housing indicator was indexed to 100 in 2001Q1 when data was available since 2000Q1. If data was not available for the first few quarters the housing indicator was indexed to 100 in the first year for which data was available. Therefore the indicator was indexed to 100 in 2001Q3 in Bulgaria, Czech Republic, Cyprus, Latvia and Romania. It was indexed to 100 in 2002Q1 for Luxembourg, 2002Q2 for Poland and 2003Q1 for Malta.

Source: London Economics based on data from EC DG for Economic and Financial Affairs.

However, in some countries (Denmark, Finland, Sweden, Germany, Greece, Italy, Belgium, Austria and Poland) the recent rebound in confidence has been so strong that average quarterly growth in the housing confidence indicator was higher after 2007 than it was before.

We have estimated a wide range of models aiming to determine whether the previously described institutional characteristics (such as the provision of an ESIS, the definition of the APRC and the early repayment regime) had any impact on the index of consumer confidence in the housing market.

However no statistically robust evidence was found and therefore the econometric estimation results of these models are not reported here.

Confidence in taking a mortgage loan

Finally, we note that, in 2003, the Eurobarometer[33] undertook a survey asking consumers how difficult they thought it was to understand how mortgages works and the risks involved. As far as we are aware, this is most recent pan-European survey asking such a question.

The survey was undertaken shortly after introduction of the ESIS in 2002 and early 2003 in most of EU15 and the share of the market covered by providers implementing the scheme varied.

Fifty-nine percent of consumers across EU15 found it very or fairly difficult to understand how mortgages work and the risks involved. Table 18 below provides more detailed country-by-country responses.

[33] See Eurobarometer (2004).

Table 18: Understanding how mortgages work and the risk involved *% of respondents)

Country	Very easy	Fairly easy	Fairly difficult	Very difficult	Don't know
Austria	7	21	42	14	16
Belgium	6	30	38	14	13
Denmark	8	27	29	15	21
Finland	9	37	40	9	5
Germany	3	18	44	19	16
Greece	7	24	35	23	12
France	3	21	49	20	7
Ireland	4	28	32	15	20
Italy	2	21	42	21	15
Luxembourg	14	31	35	10	10
Netherlands	10	28	31	17	14
Portugal	3	25	39	12	21
Spain	6	24	45	18	9
Sweden	5	31	42	13	10
UK	7	26	33	18	17
EU-15	4	23	41	18	14

Source: Eurobarometer (2004).

This results of this Eurobarometer survey were used to examine whether there exists a inverse relationship between consumer confidence in mortgage products (as proxied by the share of respondents who indicated that is fairly and very difficult to understanding mortgage products and their riskiness) and the extent to which an ESIS is provided (this is proxied by the share of the market covered by those providing ESIS).

The results reported in Table 19 shows that there exists indeed a negative and statistically significant relationship between the two variables. This suggests that greater provision of an ESIS enhances consumer confidence in the mortgage products.

Table 19: ESIS regression for EU15		
Adj. R^2	**Explanatory variables**	
Dependent variable	Share of market covered by those providing ESIS	Constant
Share finding it difficult to understand how mortgages work and the risks involved	-0.163** (0.014)	67.872*** (0.000)

Note: The figures in brackets are the p-values. * Parameter estimate is significant at the 10% level of significance. ** Parameter estimate is significant at the 5% level.

Source: London Economics based on data from EBIC - European Banking Industry Committee (2002) on the share of the market covered by those providing ESIS and Eurobarometer (2003) on the share of respondents finding it difficult (fairly or very) to understand how mortgages work and the risks involved.

4 Methodology of the CBA

This chapter describes the methodology used in the study. It provides information on:

- The information and data collection methodology;
- The general approach to the quantitative assessment of the costs and benefits; and,
- The establishment of the required legal and economic baselines.

4.1 Information and data collection methodology

The project team undertook a multi-step approach to the information and data collection.

First, a legal baseline was established for the 27 Member States using a detailed questionnaire for national regulators and mortgage industry representatives. The purpose and focus of the legal baseline questionnaire is presented below, and the list of organisations invited and those that participated is presented in Annex 4.

The legal baseline questionnaire was followed by cost-benefit questionnaires to industry stakeholders – national policy-makers and regulators, mortgage lender associations, credit intermediary associations, individual mortgage lenders, credit registers (both public and private), individual mortgage credit intermediaries, and national consumer organisations. Details of the purpose and focus of these questionnaires is presented below. Annex 4 presents a list of all stakeholders invited and those that participated in the cost-benefit questionnaires.

Household questionnaires and consumer focus groups were conducted by the iff, and national consumer organisations in ten Member States to gather information on consumer experiences and behaviour. The ten Member States are, France, the UK, Germany, Denmark, Hungary, Poland, Italy, the Netherlands, the Czech Republic, and Spain. Full details of the questionnaires and focus groups are presented in a separate annex to this report produced by the iff.

The project team complemented the extensive survey process with face-to-face meetings with stakeholders in seven Member States (Denmark, Germany, France, Hungary, Italy, Spain and United Kingdom). The selection of the countries for such face-to-face consultations was based on a perceived need by the project team to enrich the already available information for the

CBAs. Details of these meetings are (also) presented below. Annex 4 presents a list of participants at these meetings.

In addition, a short questionnaire that requested quantitative data for ten of the eleven Member States included as case studies for the detailed cost-benefit analyses were sent to mortgage industry associations in these Member States.[34]

All the policy areas are assessed for six Member States. These Member States are the following,

- Spain;
- France;
- Germany;
- Belgium;
- Hungary; and,
- UK.

In selecting these six Member States it was necessary to ensure that the sample of countries was (a) balanced in terms of geographical distribution of Member States; (b) included a representation of both older and newer Member States; (c) included both large and smaller Member States in terms of outstanding mortgage loans in 2007; and, (d) importantly, was balanced in terms of distance from the policy frontiers.

For France and Italy, the distance from the frontiers was judged to be small. For Hungary[35], the distance from the frontiers is judged to be wide, and for the remaining Member States the distance is judged to be average.

In addition, selected policies are assessed for five Member States. These Member States and the policies which have been assessed are the following:

- Denmark - Pre-contractual information and early repayment;
- Italy - APRC and early repayment;
- the Netherlands - pre-contractual information;
- Portugal - early repayment; and,
- Ireland - responsible lending and borrowing.

The Member States were selected based on information provided by the national regulators and industry associations in the legal baseline

[34] The short questionnaire was not sent to the mortgage industry association (The Council for Mortgage Lenders (CML)) in the UK, as much of the required information was publicly available and the project team, where necessary, sought data through direct conversation/e-mail with the CML.
[35] And Poland which is included in the list of Member States in which consumer groups took place.

questionnaires, and pre-existing published information which was assessed by the project team and the selection of these Member States were then discussed and agreed with the DG MARKT in June 2009.

The project team also met with European organisations representing the national associations for each stakeholder group. In all, the project team met with nine European organisations (Annex 4). The purpose was to ensure the European organisations were fully briefed on the study objectives and methods, they had the opportunity to provide input to the study, and to maximise the probability of their members' participation in the baseline and subsequent cost-benefit questionnaires.

The project team also presented at a number of European Banking Industry Committee (EBIC) meetings, and the European Mortgage Federation (EMF) Legal Affairs Committee meetings. EBIC members, and in turn their own members, also had the opportunity to provide detailed input to the cost-benefit questionnaires for mortgage industry associations and the individual mortgage lenders.

Despite the extensive stakeholder engagement, and detailed data collection processes, quantitative information on the costs and benefits of the policy options included in this study was extremely low. The information was predominately qualitative. Further, the response rate for the cost-benefit questionnaires was low. The detailed response rate to each survey is provided at Annex 5. The project team believes there are a number of reasons for this.

- First, it was very difficult for respondents to provide quantitative information on the benefits and costs of policy change because the details of the policy options are too broad. Namely, how the policy options are specified and how they are transposed to national laws will impact upon the existence and magnitude of any future costs and benefits to stakeholders.

- Second, many policy and regulator stakeholders responded that transposition of the Consumer Credit Directive 2008 to consumer credit other than mortgages was their main priority at this time, and they simply did not have the resources to provide quantitative information. Another issue raised by a number of respondents, was the large number of questionnaires they are receiving from the European Commission, meaning (again) they simply did not have time to provide detailed information.

- Finally, there are number of requirements placed both on individual market participants, policy makers, regulators and industry associations due to the "credit crisis", and the national responses to the crisis.

4.1.1 Stakeholder consultations and questionnaires

The legal baseline questionnaire

The baseline questionnaire asked regulators and mortgage associations in the Member States to provide information regarding the legal, regulatory and self-regulatory structures for mortgage credit in their respective countries.

Specifically, the questionnaire focused on the four policy areas to be addressed by the costs and benefits analysis of the present study, a) pre-contractual information provided to potential borrowers; b) the annual percentage rate of charge, c) early repayment and, d) responsible lending. The requirements on lenders and the rights of consumers under the current legal and regulatory structures were examined by the questionnaire, as well as likely changes in these areas in the future.

In addition, the questionnaire asked whether the 2008 Consumer Credit Directive has been transposed into national law for mortgage credit, or if there are plans to do so in the future, and, if so, which parts of the Directive will be transposed for mortgage credit.

Consumer survey and consumer focus groups

As part of the project the iff organised, managed and oversaw a series of household surveys in 10 of 27 EU Member States, namely the Czech Republic, Denmark, France, Germany, Hungary, Italy, the Netherlands, Poland, Spain and the United Kingdom and also held focus groups in these 10 countries.

Cost benefit questionnaires to stakeholders

The costs and benefits questionnaire gave individual stakeholders in the EU mortgage credit markets the opportunity to give their views on the potential costs and benefits which could arise if any of the policy options under consideration in this study were adopted.

Specifically, the respondents were asked to provide information on the likely costs and benefits that would occur as a result of the introduction of a number of policy options in each of the policy areas that are addressed, namely, a) pre-contractual information provided to potential borrowers; b) the annual percentage rate of charge, c) early repayment and, d) responsible lending. The requirements on lenders and the rights of consumers under the current legal and regulatory structures were examined by the questionnaire, as well as likely changes in these areas in the future.

Participation in the questionnaires

The empirical basis for our study was provided by a series of 10 surveys across all 27 Member States. In order to gain a full and detailed understanding of the current situation in the national mortgage markets (especially the cross-border business) and the attitudes, opinions and expectations in relating to the policy options under discussion, we contacted 8 types of stakeholders:

- Consumer Associations;
- Credit registers;
- Credit Intermediaries;
- Associations of credit intermediaries;
- Mortgage Associations;
- Lenders;
- Regulators; and,
- Policymakers at organisations such as Ministries of Finance;

The detailed list of all the stakeholders contacted as part of this project is provided at Annex 4.

The size of the surveys and the breadth of the coverage meant that we were able to compile a comprehensive picture of the market and the challenges associated with the EC's proposals as seen by the mortgage industry, consumer representatives, as well as regulators and policymakers. The respondents to the questionnaires are reported in Annex 4.

Of necessity, an element of judgement was involved in reporting the different views communicated to us. While we took great care to reflect all the views we were presented with, we placed greater emphasis on those responses that were a) more detailed; b) viewed by the project team as being more representative; and, c) more instructive (i.e. where they shed light on the reasons behind different national viewpoints).

Face-to-face interviews

In seven of the eleven Member States selected for the case studies, the project team undertook in-depth interviews with national mortgage industry associations, consumer associations and a small number of individual mortgage lenders. The selection was based on a high level assessment of the distance from the policy frontier of these Member States and the project team's knowledge of particular issues in these markets and potential lessons for the present study. These Member States are:

- Germany;
- Denmark;
- Spain;
- France;
- Hungary;
- Italy; and,
- United Kingdom.

4.2 High level overview of the approach to the quantification of the costs and benefits

Our approach follows the 2009 *Impact Assessment Guidelines* of the European Commission and consists of a number of different steps:

1. Establishing a legal baseline to determine the legal and regulatory environment to which the different policy options might be applied;

2. Developing economic medium-term scenarios to provide the anchor for the quantitative CBAs. These scenarios are presented in the following chapter;

3. Assessing qualitatively the implications of the different policy options;

4. Assessing quantitatively the implications of the different policy options. This involves an assessment of the costs and benefits to the different stakeholders and, to the extent possible, an assessment of the impact on customer mobility, cross-border lending, consumer confidence and stability.

4.2.1 Establishing the legal baseline

Information collected in the legal baseline questionnaires was summarised by the project team and then sent for verification with the national regulators. In addition, ten legal baseline summaries were verified by legal specialists mobilised by the iff. The legal baseline summaries that have been verified by the national regulators and national legal specialists are reported in the following table. The names of the regulators and legal specialists that undertook the verifications are presented at the beginning of each baseline summary in a separate annex to this report.

The legal baseline establishes what the legal framework for mortgage lending is likely to be in the future in the absence of the policy measures which are to be assessed. As the whole analysis is forward looking, the legal baseline has to take account of not only the current legal regime but also of any planned changes which are likely to occur in the absence of the policy measures assessed in the present report. The next section discusses in greater detail the process we followed in establishing the legal baseline.

Table 20: Legal Baseline verifications	
Member State	**Verification Status**
Austria	Yes, and legal specialist verification
Belgium	Yes
Bulgaria	Yes
Cyprus	Yes
Czech Republic	Yes, and legal specialists verification
Denmark	Yes
Estonia	Yes
Finland	Yes
France	Yes, and legal specialist verification
Germany	Yes, and legal specialist verification
Greece	Yes
Hungary	Yes, and legal specialist verification
Ireland	Yes
Italy	Yes
Latvia	Yes
Lithuania	Yes
Luxembourg	Yes
Malta	Yes
Netherlands	Yes
Poland	Yes, and legal specialist verification
Portugal	Yes, and legal specialist verification
Romania	Yes
Slovakia	Yes, and Legal specialist verification
Slovenia	Yes
Spain	No regulator but legal specialist verification completed
Sweden	Yes
United Kingdom	Yes and legal specialist verification

Source: London Economics Legal Baseline survey.

It is important to stress at this point that these scenarios are not precise long-term projections. But, they represent plausible medium-term economic paths which serve to quantify the economic costs and benefits under different economic conditions. The reason for the choice of these scenarios and their implications are presented in greater details in chapter 5.

4.2.2 Economic baseline

The economic baseline forms the backbone against which the various economics benefits and costs of the different policy options will be assessed. This baseline needs to be sufficiently forward looking so as to be able to assess the impacts of the proposals over a sufficiently long horizon. In light of the uncertainty about future economic developments, especially with regards to the housing market, we have developed 4 different economic scenarios for the purpose of the present study:

i. A steady recovery of the economy with a return to equilibrium over the medium term, no inflationary pressures and no further cyclical shocks after equilibrium has been attained. House prices rise in line with inflation;

ii. A faster recovery accompanied by an inflation burst which leads to an interest rate induced economic cycle as central banks raise interest raise interest rates to bring inflation back under control. In this scenario, inflationary pressures do not spill over to asset prices. Therefore, house prices do not rise faster than inflation;

iii. The same economic scenario as scenario 2 except that inflationary pressures are also felt in asset markets and house prices rise considerably faster than inflation during the inflation bubble;

iv. Finally, in the fourth scenario, the output gap which has opened as a result of the recession in 2008 and 2009 puts prolonged downward pressures on prices. The general price level and house prices decline for a number of years before returning to a very weak growth path.

It is important to stress at this point that these scenarios are not precise long-term projections. But, they represent plausible medium-term economic paths which serve to quantify the economic costs and benefits under different economic conditions. The reason for the choice of these scenarios and their implications are presented in greater details in the next chapter.

4.2.3 Qualitative assessment

For each policy area, the study provides a qualitative assessment of costs and benefits to the core stakeholders (lenders, intermediaries, consumers and government) of the different policy options.

4.2.4 Quantitative assessment

Next, in order to assess various costs and benefits, detailed costs and benefits analyses are undertaken our approach quantifies first the static cost and benefits. Next, when static effects are significant, the analysis will proceed to assess the dynamic costs and benefits. If there are no or very limited static impacts it implies that the proposed policy measures will result in very little or no change in the behaviour of the various stakeholders. Therefore, in such circumstances, the dynamic impacts will be close to nil or nil.

- The static analysis assesses the costs and benefits for different stakeholders at an unchanged volume of mortgage lending relative to the baseline. These are the immediate impacts of the policy change. In terms of Figure 12 overleaf, the objective of this block is to assess the shift of supply curve from S0 to S1 at the original lending volume V1, i.e., the distance between points A and C.

- The dynamic effects comprise a number of elements:

  - First, if the static impact discussed above is significant in terms of costs/benefits[36], it is necessary to quantify the change in the market equilibrium (mortgage rate, volume of mortgage loans) that will arise as a result of either a shift in the supply of or demand for (or a combination of both) induced by the changes assessed under the static analysis. In Figure 12 overleaf, this block involves the assessment of the shift from the point C to B to the new market equilibrium V2, r2;

  - The second dynamic effect to take into account is the impact of any increase in mortgage loan supply resulting from increased cross-border provision. Such an increase in cross-border provision shifts the new supply curve (S1) for mortgage loan provision downward, reducing the equilibrium mortgage lending rate and increasing the volume of mortgage lending. For simplicity such a shift is not illustrated in Figure 12 below;

  - The third dynamic effect to take into account is the impact of any increase in consumer confidence in the mortgage market as result of the policy intervention. Such an increase in confidence shifts the demand curve (D) for mortgage loan outwards, increasing the equilibrium mortgage lending rate and the volume of mortgage lending. Again, for simplicity such a shift is not illustrated in Figure 12 overleaf.

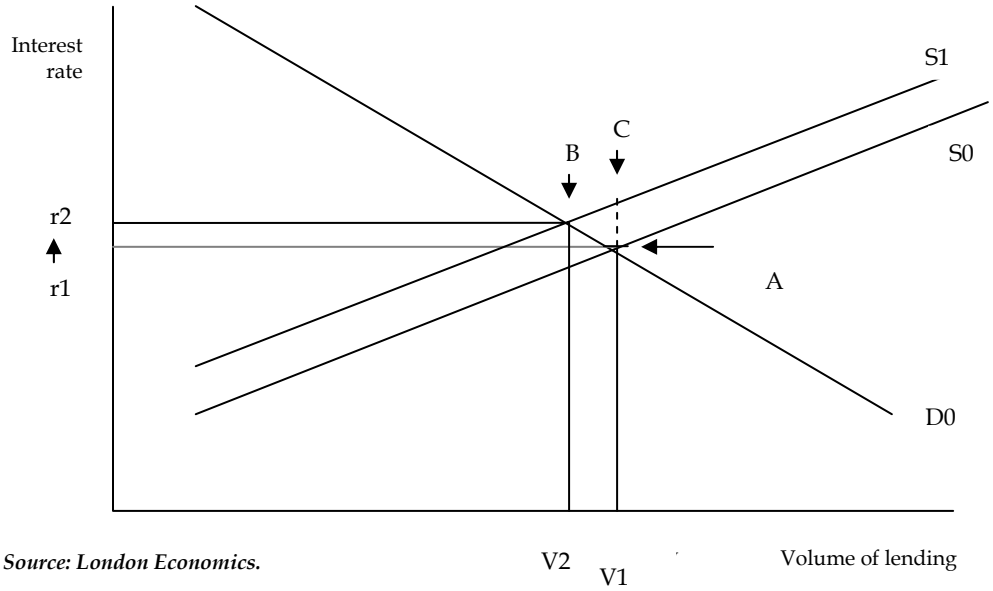
[36] The judgement of whether the impact is significant is based on an assessment of the overall impact relative to the size of the European mortgage market.

- Finally, the discussion of the cost-benefit analysis also addresses the broader impacts such as financial stability. This broader impact flows directly from any impact of a policy option of the volatility of the mortgage and housing markets and, hence of the financial institutions and markets.

It is important to note that, in order, to undertake the detailed analysis of the costs and benefits, a large amount of new primary data has to be collected as the information available on the European mortgage markets at the present time from public and private organisations is limited and often provides only a high level picture and does not give the detailed information that would be necessary to undertake a comprehensive microeconomic and macroeconomic assessment of the policy options.

Our approach is to provide, to extent possible, an evidence-based analysis and the information and data gathered during this exercise are a critical input in the cost-benefit analysis as, at the outset of the study, our objective was to minimise the use of assumptions. However, in a number of cases, assumptions had to be made in order to be able to undertake the analysis and these are clearly flagged in the report. Nevertheless, to the extent possible, we have tried to base these assumptions on the qualitative results of the different surveys and stakeholder consultations so as to approximate as closely as possible the "real world".

Figure 12: Simplified illustration of the changes in the mortgage market arising from the policy intervention



Source: London Economics.

For the policy options where the legal baseline and the interactions with stakeholders indicated that there would be clear costs and benefits, we developed detailed models which model the different impacts. While the underlying approach always underpins the analytical framework used to assess the options in each policy area, the model used to assess the options of the early repayment policy area is much more complex as many more intricate details of the mortgage market have to be modelled in order to be able to assess the impact of a given approach. The models are described in the relevant chapter of the report and detailed descriptions are provided in the companion model user guide.

We have also reviewed whether any of the policy options raise administrative costs which, according to the EC's 2009 Impact Assessment Guidelines would have to be assessed explicitly. According to the guidelines, whenever a policy action imposes significant administrative costs on business, the voluntary sector or public authorities, the EU Standard Cost Model must be applied.

Administrative costs are "*the costs incurred by enterprises, the voluntary sector, public authorities and citizens in meeting legal obligations to provide information on their action or production, either to public authorities or to private parties*".[37]

Our assessment of the various policy options is that none would result *stricto sensu* in an increased administrative burden except perhaps the monitoring of the provision of pre-contractual information in the first policy area. Therefore, in this specific case, we have explicitly allowed for administrative cost.

In addition, we have developed different approaches for assessing the impact of the options on consumer mobility, consumer confidence, cross-border lending, product diversity and financial stability.

1. The impact on the consumer mobility is assessed on the basis of the empirical analysis of the determinants of mobility reported in Chapter 1.

2. The impact on cross-border lending is assessed on the basis the responses of lenders to the lender survey undertaken as part of this study.

3. The impact on product diversity is assessed on the basis of the survey of stakeholders.

4. Finally, the impact on financial stability is discussed qualitatively.

[37] See p. 45 of the Guidelines.

4.2.5 Extrapolating the results from the detailed cost-benefit analyses to the EU-27

For efficiency reasons, the detailed cost-benefit analysis was undertaken for only a limited number of countries. In essence, on the basis of the legal baseline analysis, we established how far each Member State was from the policy option under consideration (the "policy frontier") and assigned each Member State on the basis of the assessment to one of the following three categories: 1) at or very close to the frontier, 2) at a medium distance from the frontier and 3) at a far distance from the frontier. The subsequent chapters presenting the CBA results for each policy area review in detail our assessment of the position of each Member State relative to the policy frontier of a given option.

Following the completion of the cost-benefit analysis of an option for the different Member States selected for this analysis, it is possible to extrapolate the results to the EU as a whole by applying the result of one or several Member States in a particular class (in terms of distance to the policy frontier) to other Member States in that class, taking into account the relative weights of the Member States in the total EU mortgage market.

As already noted six Member States are used as case studies for the cost-benefit analyses of all policy areas. This set of Member States includes:

- Belgium;
- France;
- Germany;
- Hungary;
- Spain; and,
- United Kingdom.

In addition, the following five countries are covered in CBAs of selected issues:

- Denmark;
- Ireland
- Italy;
- Netherlands; and
- Portugal.

All the policy options are assessed for the first six countries. According to EMF statistics, together these six Member States accounted for 67.8% of EU-27 mortgage outstanding at the end of 2008.

Only selected policies are assessed in the case of the last five countries. These Member States accounted respectively for 3.6%, 2.4%, 5.4%, 9.2% and 1.7% of EU-27 mortgage outstanding at the end of 2008.

It is important to note that the size of the mortgage market of each national market is only provided as background information and the detailed reasons why these Member States have been used as case studies for the cost-benefit analyses are presented in the individual policy.

5 Economic baseline scenarios

This chapter provides information about the economic baseline scenarios that were developed for the purpose of the cost-benefit analysis. It is important to stress again that these baseline scenarios should not be viewed as precise economic forecast but as plausible paths of the economy under different circumstances.

As the housing and mortgage market cycles tend to be long ones, the baseline scenarios extend 15 years into the future.

5.1 Description of growth scenarios

With uncertainty as to the future economic growth paths of the 12 countries under analysis (Belgium, the Czech Republic, Germany, Denmark, Spain, France, Hungary, Ireland, Italy, the Netherlands, Portugal and the United Kingdom), simulations of mortgage debt from 2010 to 2024 (15 years) have been conducted using four different scenarios. The four scenarios are:

- **Scenario 1:** Stable economic growth with no significant inflation. This scenario is referred to later on in the study as the "stability scenario";
- **Scenario 2:** In this second scenario, the economy expands at the same pace as in the first scenario and there is a temporary pick-up in inflation (as measured by the CPI). House prices, however, remain stable in real terms. In other words nominal house prices grow at the same rate as the CPI. This scenario is referred to as the "mixed volatility scenario" later in the study;
- **Scenario 3:** This third scenario shows the same real GDP and CPI profiles as scenario 2. However, during the inflation bubble nominal house prices rise faster than general inflation. This scenario is referred to as the "volatility scenario" later on in the study; and,
- **Scenario 4:** This last scenario assumes that the output gaps which opened in 2008 and 2009 will exert for several years downward pressures on general inflation and house price inflation with the both price indicators showing absolute declines for several years before growing more modestly than in the three scenarios above.

It is important to note that the inflation scenarios (scenarios 2 and 3) represent clear departures from current monetary policy objectives in the EU (and the record of the 1990s) and are only provided for illustrative purpose to show the impact of the policy options under such circumstances.

In short, the real GDP growth projections for each country are the same for every scenario.

However, the four scenarios differ in terms of inflation, house price growth, long and short term interest rates and growth in outstanding mortgages.

In each scenario, the assumed paths for inflation (general and house price), interest rates, etc are the same across the set of countries for which detailed CBAs are being undertaken except Hungary which is characterised by higher inflation and higher nominal interest rates.

Below we describe the scenarios in more detail, before presenting summary illustrations of the key economic indices to enable visual comparison of growth under the four scenarios. The detailed path for each variable in each country and each scenario is presented in tables at the end of this chapter.

5.1.1 Scenario 1: Stability scenario

This scenario is characterised by stable non-inflationary economic growth over the 15 years to 2024. After the current downturn, economic growth is projected to return to its long-run trend by 2014/2015 with no inflationary pressures, neither general consumer price inflation (CPI) nor house price inflation.

The average annual wages remain stable in real terms and grow at the same rate as inflation.

House prices in the stability scenario are assumed to change in line with the general CPI inflation rate except in 2009 and 2010. In the case of these two years, to reflect the subdued state of the housing market, it is assumed that house prices grow at half the general inflation rate.

The short-term market interest rate rises from the current low level to a long-run value of 2.6% (weighted average across all countries for detailed economic baselines were developed) (see Figure 16).

The long-term rate at rises first falls to 2.5% in 2010 and then rises gradually to 4.1% by 2103 and remains constant at that level thereafter (see Figure 17).

5.1.2 Scenario 2: Mixed volatility scenario

Scenario 2 is characterised by higher inflation and, hence nominal GDP growth, than the first scenario.

Two inflationary cycles have been assumed, peaking at 7% in 2016 and 2024. In each case, inflationary pressures result in a tightening of monetary policy and a sharp, temporary rise in short-term interest rates.

Long-term rates also rise in response to the growing inflationary pressures but peak before short-term interest rates as monetary policy is assumed to be credible and hence financial markets expect inflation to decline following the run up in short-term interest rates.

Thus, in the inflationary phase, the yield curve (as characterised by the difference between the long-term and short-term market interest rates) widens first and then turns negative during the last stage of monetary tightening.

House prices remain unchanged in real terms in this scenario, i.e. they grow at the same rate as general inflation.

To summarise, this scenario adds over the period 2009 to 2019 a full inflation cycle (and accompanying monetary policy response) to the previous scenario and the rising phase of a new inflationary cycle thereafter.

5.1.3 Scenario 3: Volatility scenario

The only difference between this scenario and the previous scenario is that house price bubbles are added on in the current scenario.

In this third scenario, between 2012 and 2016, the rate of growth in house prices accelerates, reaching 13% in 2016. Subsequently, in response to the sharp tightening in monetary policy, house prices fall in absolute terms for a couple years before showing modest growth again. Thereafter, paralleling the pickup in general inflation pick up in the later years of the simulation horizon, growth in house prices accelerates again as well.

In short, the scenario overlays onto the previous scenario a full house price cycle over the period 2009 to 2019 and the upswing phase of a new cycle thereafter.

5.1.4 Scenario 4: Depression

This fourth scenario is very different from the previous two scenarios.

It assumes deflation between 2011 and 2014, falling house prices and lower long and short term interest rates.

Thereafter, inflation and nominal house prices remain very sluggish, growing at about half the rate shown in the first scenario.

5.2 Comparative illustrations of key economic variables

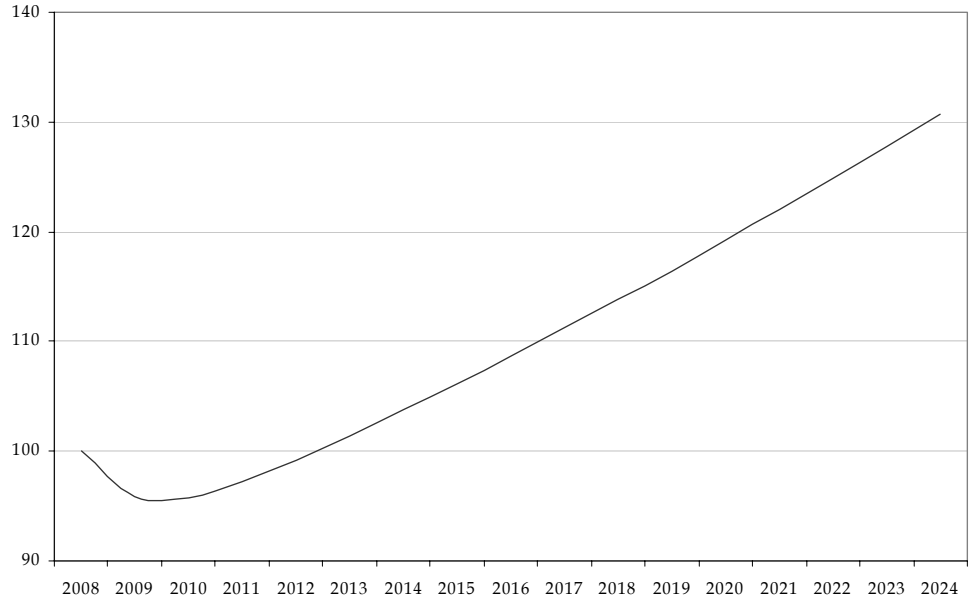
To provide a visual aide in understanding the scenarios, we present summary illustrations of the following key variables across the four scenarios:

- Index of real GDP (2009=100);
- Index of CPI (2009=100);
- Index of house prices (2009=100);
- Index of growth in outstanding mortgages (2009=100);
- Short-term interest rate;
- Long-term interest rate; and,
- Yield curve (i.e., long-term minus short-term rate.

5.2.1 Real GDP

The index of weighted average[38] of real GDP across the 12 countries is illustrated below in Figure 13. It shows that, on average across the countries, real GDP falls in 2009, followed by positive growth from 2010 onwards, with real GDP rising above the 2008 level by 2013.

Figure 13: Index of weighted average of real GDP across 12 countries (all scenarios), 2009=100



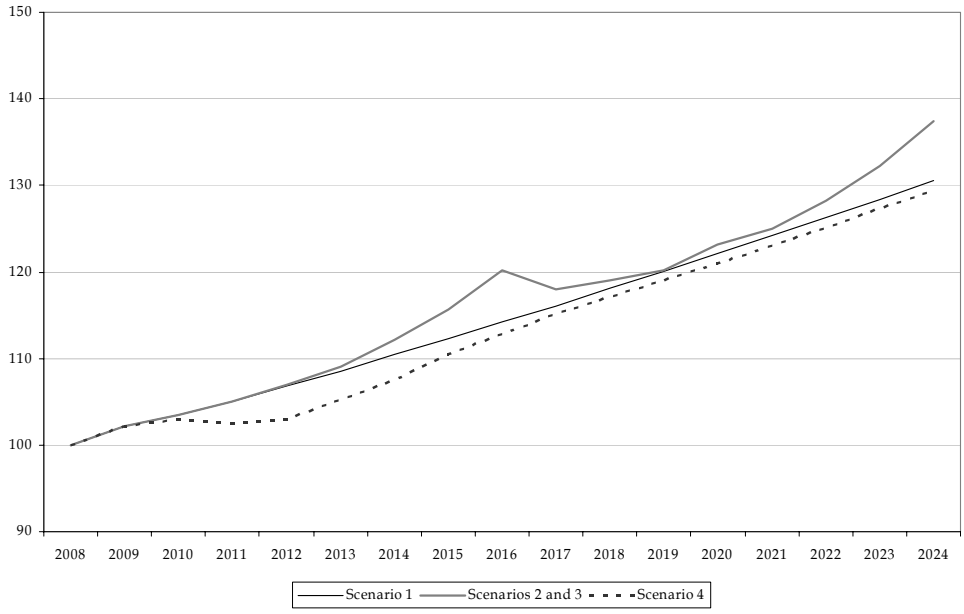
Source: London Economics projections.

[38] The weights used in the weighted average are equal to the share of each country's real GDP in the aggregate GDP of the group of countries.

5.2.2 Consumer Price Index (CPI)

The impact of CPI volatility in Scenarios 2 and 3 is illustrated in Figure 14. The CPI index in these two scenarios rises above the index in Scenario 1 in 2012 and peaks in 2016 before falling back to the economic baseline level by 2019. Figure 14 also illustrates the period of deflation in the depression scenario between 2011 and 2014.

Figure 14: CPI level (2009=100) in the four scenarios

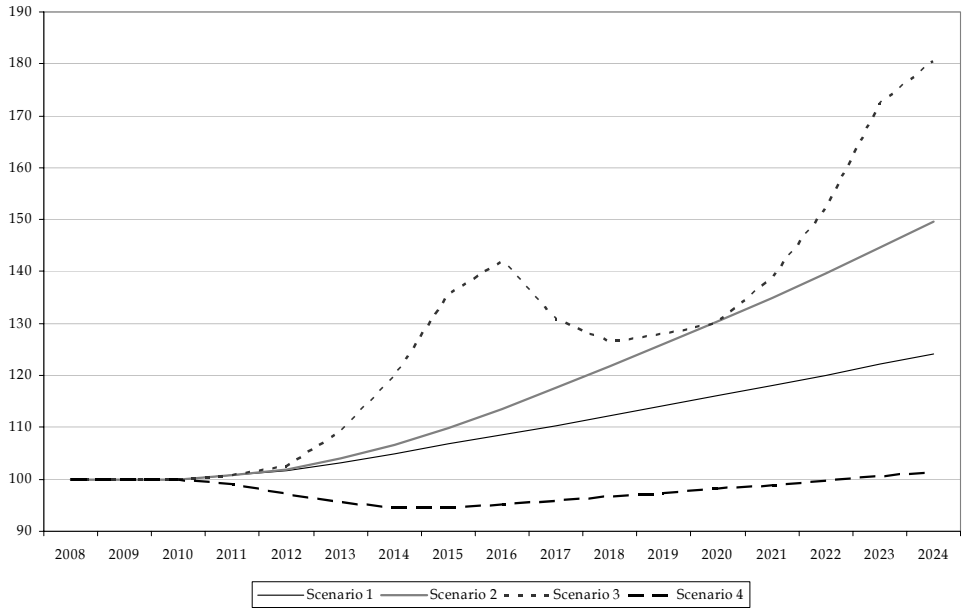


Source: London Economics projections.

5.2.3 House price index

It is solely in respect of house prices that Scenarios 2 and 3 diverge. Scenario 3 incorporates real increases in house prices, over and above general inflation. Figure 15 shows the projected nominal index of house prices and the peak in the first house price 'bubble' of Scenario 3 in 2016.

Figure 15: Projected house price index (2009=100) in the four scenarios

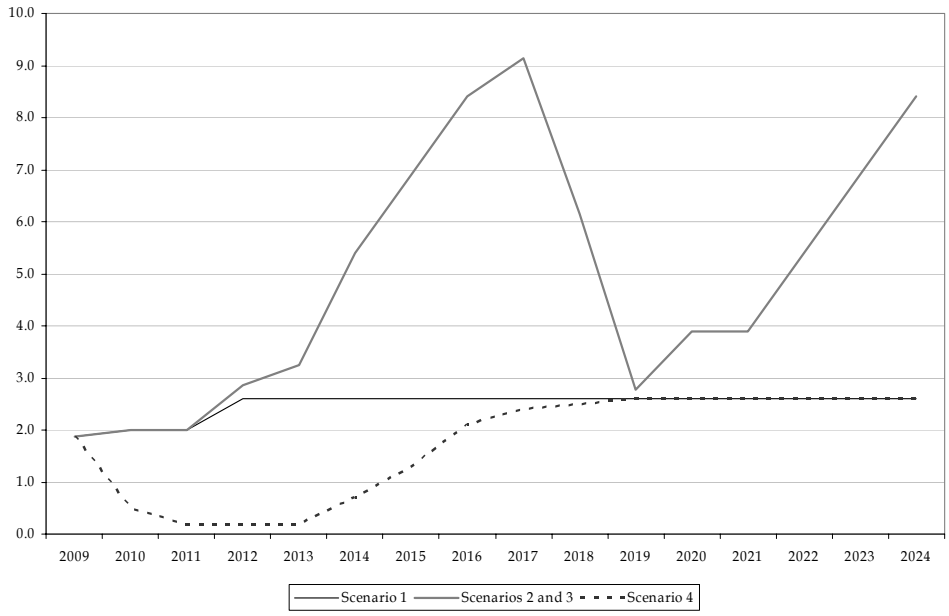


Source: London Economics projections.

5.2.4 Short-term market interest rate

The assumed paths of short-term interest rates in the different scenarios are illustrated in Figure 16. The chart shows the large increases and subsequent cuts in Scenarios 2 and 3 reflecting anti-inflationary policies, as well as the deep initial cuts in the depression scenario before this rate returns to the economic baseline level in 2019.

Figure 16: Projected short-term interest rates in the four scenarios

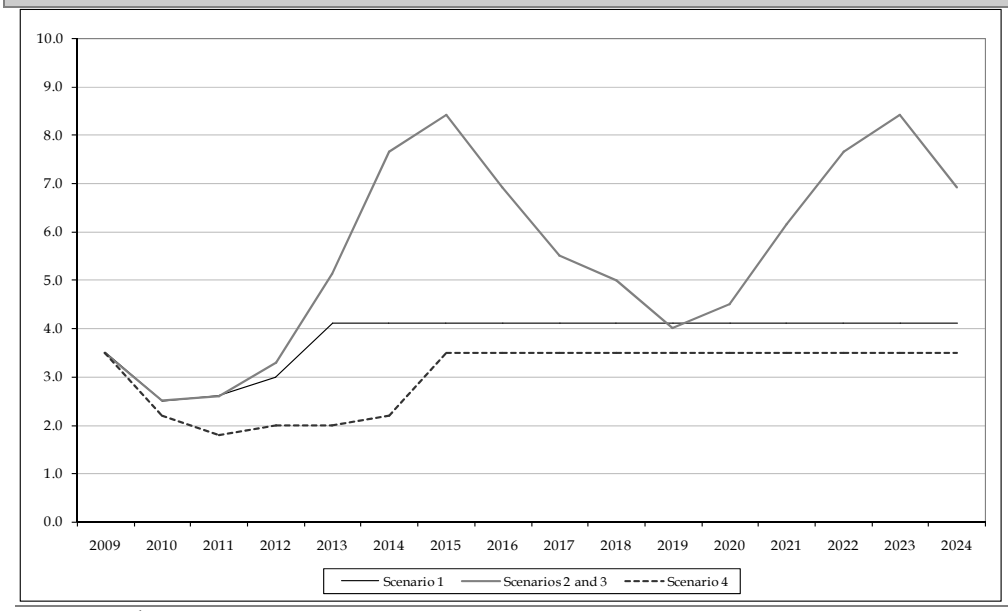


Source: London Economics projections.

5.2.5 Long-term interest rate

Figure 17 illustrates the average long-term interest rate predictions over the 15 year period. Scenarios 2 and 3 show the long-term interest rate responses to different inflation profiles, first between 2012 and 2019 and then again between 2020 and 2024. The initial long-term rate decreases in the depression scenario are also illustrated.

Figure 17: Projected long-term interest rates in the four scenarios

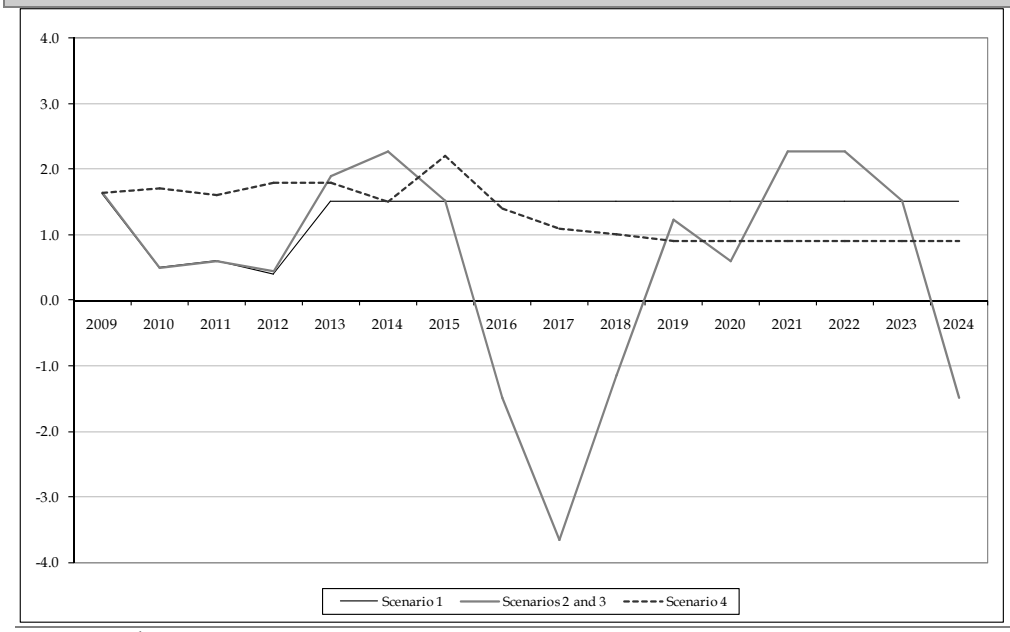


Source: London Economics projections.

5.2.6 Yield curve

The yield curve is estimated as the difference between the long-term interest rate and the short-term interest rate (see Figure 18). In Scenario 1, the yield curve falls from 1.6% in 2009 remaining at around 0.4% to 0.6% between 2010 and 2012, before rising to the long-run equilibrium of 1.5% in 2013. In Scenarios 2 and 3, the yield curve follows that of Scenario 1 from 2009 until 2012. After 2012, the Scenario 2 and 3 yield curve increases to 2.3% by 2014 before falling steeply to -3.7% in 2017, though it recovers quickly to 1.2% by 2019. Subsequently, the curve rises to 2.3% in 2021 and 2022 before falling again to -1.5% in 2024. In contrast to the other scenarios, the yield curve of Scenario 4 remains relatively stable between 2009 and 2013 in the range 1.6% to 1.8%, later fluctuating between 1.5% in 2014 and 2.2% in 2015 before falling towards a long-term equilibrium of 0.9% by 2019.

Figure 18: Projected yield curves in the four scenarios



Source: London Economics projections.

5.3 Implications of the four scenarios of the stock of outstanding residential mortgages

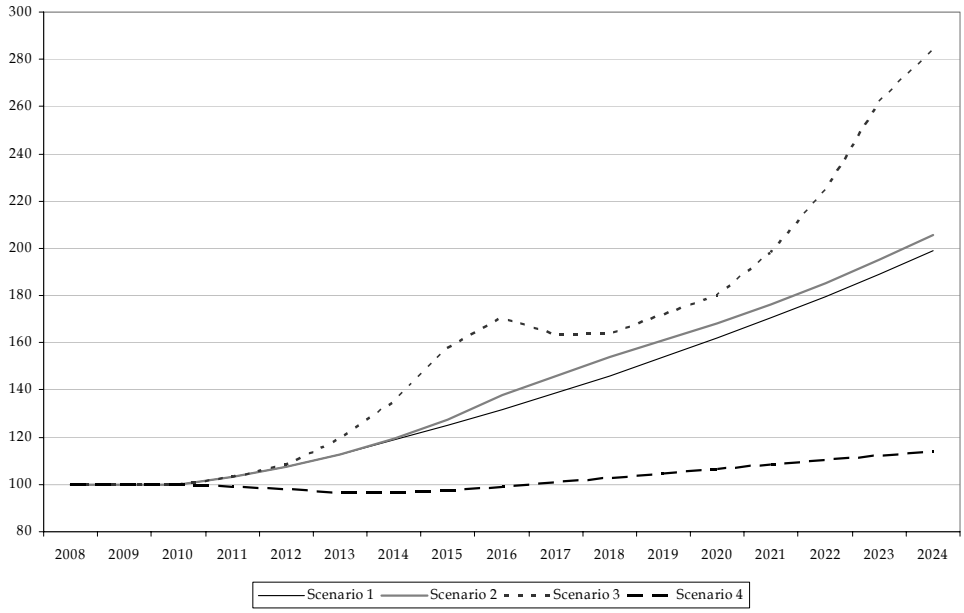
Below we illustrate the implications of the four scenarios for the stock of outstanding residential mortgages by presenting the growth in outstanding mortgages and the index of the ratio of outstanding mortgage debt to real GDP. Both of these measures are projected over the period 2009 to 2024.

5.3.1 Index of growth in outstanding mortgages

Growth in mortgage outstanding reflects the rate of growth of the real economy, house price inflation and the level of interest rates.

Outstanding mortgage debt is volatile in Scenario 3, first peaking in 2016 before falling and rising rapidly again to the end of the projection period. Conversely, in the depression scenario, mortgage debt falls between 2011 and 2013 and only rises above the 2008 (base) level by 2017.

Figure 19: Projected level of outstanding mortgage debt in the four scenarios (2009=100)

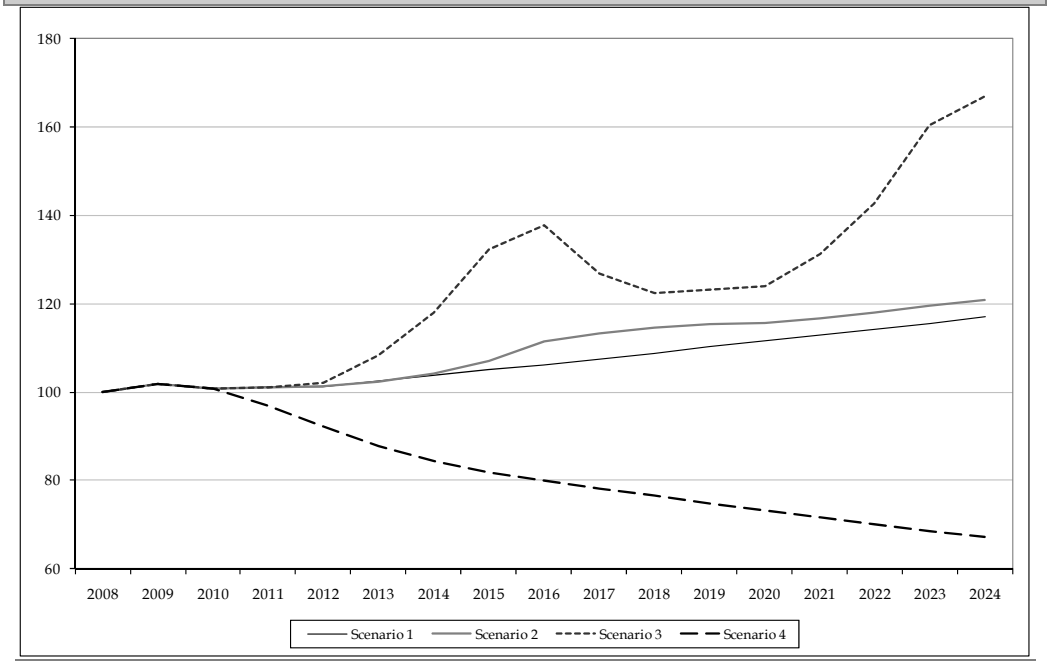


Source: London Economics projections.

5.3.2 Ratio of outstanding mortgage debt to real GDP

Figure 20 shows the index of the ratio of outstanding mortgage debt to average nominal GDP (weighted average across the 12 countries).[39] In Scenario 3, house price volatility causes the mortgage debt as a percentage of real GDP to rise rapidly after 2012 before peaking in 2016 and subsequently falling. Conversely, the ratio of mortgage debt to real GDP falls from 2011 onwards in the depression scenario.

Figure 20: Projected index of outstanding mortgage debt to nominal GDP ratio, weighted average across countries



Source: London Economics projections.

5.4 Detailed yearly assumptions for the economic baseline scenarios

This section provides more detailed information about the yearly profile of key variables in the four scenarios (Table 21), and the subsequent section provides country-specific information on growth in GDP (in real and nominal terms), the level of annual wages and the level of mortgage debt to GDP.

[39] The weights used in the weighted average are equal to the share of each country's real GDP in the aggregate GDP of the group of countries.

Table 21: Yearly assumptions for the economic baseline scenarios

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Scenario 1																
CPI	2.2	1.3	1.5	1.7	1.6	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
Long term rate	3.5	2.5	2.6	3.0	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1
Short term rate	1.9	2.0	2.0	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
House price growth	0.0	0.0	0.7	0.8	1.6	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
Organic growth	0.0	0.0	3.4	3.8	5.1	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3
Scenario 2																
CPI	2.2	1.3	1.5	1.9	2.0	3.3	4.8	7.0	3.3	2.5	1.8	2.5	2.4	3.3	4.8	7.0
Long term rate	3.5	2.5	2.6	3.3	5.1	7.7	8.4	6.9	5.5	5.0	4.0	4.5	6.2	7.7	8.4	6.9
Short term rate	1.9	2.0	2.0	2.9	3.3	5.4	6.9	8.4	9.2	6.2	2.8	3.9	3.9	5.4	6.9	8.4
House price growth	0.0	0.0	0.7	1.2	2.0	2.5	3.0	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Organic growth	0.0	0.0	3.4	3.8	5.1	5.8	6.8	8.3	5.8	5.3	4.8	4.3	4.8	5.3	5.3	5.3
Scenario 3																
CPI	2.2	1.3	1.5	1.9	2.0	3.3	4.8	7.0	3.3	2.5	1.8	2.5	2.4	3.3	4.8	7.0
Long term rate	3.5	2.5	2.6	3.3	5.1	7.7	8.4	6.9	5.5	5.0	4.0	4.5	6.2	7.7	8.4	6.9
Short term rate	1.9	2.0	2.0	2.9	3.3	5.4	6.9	8.4	9.2	6.2	2.8	3.9	3.9	5.4	6.9	8.4
House price growth	0.0	0.0	0.7	1.7	6.6	9.7	13.2	4.7	-7.8	-3.3	1.2	1.7	6.6	9.7	13.2	4.7
Organic growth	0.0	0.0	3.4	4.7	10.1	13.3	16.8	8.3	-4.2	0.3	4.8	4.7	10.1	13.3	16.8	8.3
Scenario 4																
CPI	2.2	0.7	-1.0	-2.0	-1.5	-1.0	0.0	0.5	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Long term rate	3.5	2.2	1.8	2.0	2.0	2.2	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Short	1.9	0.5	0.2	0.2	0.2	0.7	1.3	2.1	2.4	2.5	2.6	2.6	2.6	2.6	2.6	2.6

Table 21: Yearly assumptions for the economic baseline scenarios																
	2009	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**
term rate																
House price growth	0.0	0.0	-1.0	-2.0	-1.5	-1.0	0.0	0.5	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Organic growth	0.0	0.0	-1.0	-1.2	-1.2	0.0	1.0	1.5	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8

Source: London Economics projections.

5.5 Country specific variables in the four economic baselines

This section provides country-specific projections of growth in GDP (in real and nominal terms), the level of annual wages and the level of mortgage debt to GDP for the period 2009 to 2024. These projections are based on initial data for 2008 shown in Table 22 and real GDP growth rate projections presented in Table 23.

Table 22: Initial 2008 data for the country specific projections			
Country	GDP (million €)	Wage level (thousand €)	Outstanding mortgage debt (million €)
BE	344,206	47.4	132,451
CZ	148,556	15.3	23,289
DE	2,495,800	43.3	1,147,869
DK	232,499	47.7	222,403
ES	1,095,163	31.6	674,395
FR	1,950,085	44.0	710,000
HU	105,843	14.9	14,859
IE	185,721	47.5	147,904
IT	1,572,243	36.4	330,688
NL	595,883	49.1	558,815
PT	166,227	19.9	105,210
UK	1,816,086	38.6	1,458,707

Sources: Eurostat for GDP, EC DG for Economic and Financial Affairs, Ameco database for wage kevel, EMF and central banks for outstanding mortgage debt.

Table 23: Real GDP growth rate projections for the 11 countries under each scenario, 2009-2024

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
BE	-3.5	-0.2	1.8	2.0	2.3	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
CZ	-2.7	0.3	2.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
DE	-5.4	0.3	1.5	1.8	2.0	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
DK	-3.3	0.3	1.5	2.5	2.6	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
ES	-3.1	-1.0	0.9	1.3	1.6	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
FR	-3.0	-0.2	1.7	2.0	2.2	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
HU	-6.3	-0.3	2.5	3.8	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
IE	-10.3	-0.8	1.0	2.3	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
IT	-4.4	0.1	0.7	1.4	1.6	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
NL	-3.5	-0.4	1.7	2.1	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
PT	-3.7	-0.8	1.0	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
UK	-3.8	0.1	2.1	2.9	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8

Source: London Economics projections.

Table 24: Nominal GDP growth rate projections for the 12 countries under each scenario, 2009-2024

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Scenario 1																
BE	-1.3	1.1	3.3	3.7	3.9	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1
CZ	-0.5	1.6	3.5	5.7	5.6	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
DE	-3.2	1.6	3.0	3.5	3.6	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
DK	-1.1	1.6	3.0	4.2	4.2	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
ES	-0.9	0.3	2.3	3.0	3.2	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
FR	-0.8	1.1	3.2	3.6	3.8	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
HU	-4.1	1.0	4.0	5.5	6.1	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2
IE	-8.1	0.5	2.5	4.0	4.2	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3
IT	-2.2	1.4	2.2	3.0	3.2	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
NL	-1.3	0.9	3.2	3.8	4.1	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
PT	-1.5	0.5	2.5	3.2	3.1	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
UK	-1.6	1.4	3.6	4.6	4.4	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Scenario 2																
BE	-1.3	1.1	3.3	3.9	4.3	5.7	7.2	9.4	5.7	4.9	4.2	4.9	4.8	5.7	7.2	9.4
CZ	-0.5	1.6	3.5	5.9	6.0	7.3	8.8	11.0	7.3	6.5	5.8	6.5	6.4	7.3	8.8	11.0
DE	-3.2	1.6	3.0	3.7	4.0	5.5	7.0	9.2	5.5	4.7	4.0	4.7	4.6	5.5	7.0	9.2
DK	-1.1	1.6	3.0	4.3	4.6	5.5	7.0	9.2	5.5	4.7	4.0	4.7	4.6	5.5	7.0	9.2
ES	-0.9	0.3	2.3	3.2	3.6	5.3	6.8	9.0	5.3	4.5	3.8	4.5	4.4	5.3	6.8	9.0
FR	-0.8	1.1	3.2	3.8	4.2	5.6	7.1	9.4	5.6	4.9	4.1	4.9	4.7	5.6	7.1	9.4
HU	-4.1	1.0	4.0	5.7	6.5	7.8	9.3	11.5	7.8	7.0	6.3	7.0	6.9	7.8	9.3	11.5
IE	-8.1	0.5	2.5	4.2	4.6	5.9	7.4	9.6	5.9	5.1	4.4	5.1	5.0	5.9	7.4	9.6
IT	-2.2	1.4	2.2	3.2	3.6	5.2	6.7	8.9	5.2	4.4	3.7	4.4	4.3	5.2	6.7	8.9
NL	-1.3	0.9	3.2	4.0	4.5	5.8	7.3	9.5	5.8	5.0	4.3	5.0	4.9	5.8	7.3	9.5
PT	-1.5	0.5	2.5	3.4	3.5	4.8	6.3	8.5	4.8	4.0	3.3	4.0	3.9	4.8	6.3	8.5
UK	-1.6	1.4	3.6	4.8	4.8	6.1	7.6	9.8	6.1	5.3	4.6	5.3	5.2	6.1	7.6	9.8
Scenario 3																
BE	-1.3	1.1	3.3	3.9	4.3	5.7	7.2	9.4	5.7	4.9	4.2	4.9	4.8	5.7	7.2	9.4
CZ	-0.5	1.6	3.5	5.9	6.0	7.3	8.8	11.0	7.3	6.5	5.8	6.5	6.4	7.3	8.8	11.0
DE	-3.2	1.6	3.0	3.7	4.0	5.5	7.0	9.2	5.5	4.7	4.0	4.7	4.6	5.5	7.0	9.2
DK	-1.1	1.6	3.0	4.3	4.6	5.5	7.0	9.2	5.5	4.7	4.0	4.7	4.6	5.5	7.0	9.2
ES	-0.9	0.3	2.3	3.2	3.6	5.3	6.8	9.0	5.3	4.5	3.8	4.5	4.4	5.3	6.8	9.0
FR	-0.8	1.1	3.2	3.8	4.2	5.6	7.1	9.4	5.6	4.9	4.1	4.9	4.7	5.6	7.1	9.4
HU	-4.1	1.0	4.0	5.7	6.5	7.8	9.3	11.5	7.8	7.0	6.3	7.0	6.9	7.8	9.3	11.5
IE	-8.1	0.5	2.5	4.2	4.6	5.9	7.4	9.6	5.9	5.1	4.4	5.1	5.0	5.9	7.4	9.6
IT	-2.2	1.4	2.2	3.2	3.6	5.2	6.7	8.9	5.2	4.4	3.7	4.4	4.3	5.2	6.7	8.9
NL	-1.3	0.9	3.2	4.0	4.5	5.8	7.3	9.5	5.8	5.0	4.3	5.0	4.9	5.8	7.3	9.5
PT	-1.5	0.5	2.5	3.4	3.5	4.8	6.3	8.5	4.8	4.0	3.3	4.0	3.9	4.8	6.3	8.5
UK	-1.6	1.4	3.6	4.8	4.8	6.1	7.6	9.8	6.1	5.3	4.6	5.3	5.2	6.1	7.6	9.8
Scenario 4																
BE	-1.3	0.5	0.8	0.0	0.8	1.4	2.4	2.9	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
CZ	-0.5	1.0	1.0	2.0	2.5	3.0	4.0	4.5	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
DE	-3.2	1.0	0.5	-0.2	0.5	1.2	2.2	2.7	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
DK	-1.1	1.0	0.5	0.5	1.1	1.2	2.2	2.7	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
ES	-0.9	-0.3	-0.1	-0.7	0.1	1.0	2.0	2.5	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
FR	-0.8	0.5	0.7	0.0	0.7	1.3	2.3	2.8	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
HU	-4.1	0.4	1.5	1.8	3.0	3.5	4.5	5.0	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3
IE	-8.1	-0.1	0.0	0.3	1.1	1.6	2.6	3.1	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
IT	-2.2	0.8	-0.3	-0.7	0.1	0.9	1.9	2.4	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
NL	-1.3	0.3	0.7	0.1	1.0	1.5	2.5	3.0	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
PT	-1.5	-0.1	0.0	-0.5	0.0	0.5	1.5	2.0	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
UK	-1.6	0.8	1.1	0.9	1.3	1.8	2.8	3.3	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6

Source: London Economics projections.

Table 25: Nominal wage level projections for the 12 countries under each scenario (thousand €), 2009-2024

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Scenario 1																
BE	48.4	49.1	49.8	50.6	51.5	52.3	53.2	54.1	55.0	56.0	56.9	57.9	58.8	59.8	60.8	61.9
CZ	15.6	15.8	16.1	16.3	16.6	16.9	17.2	17.5	17.8	18.1	18.4	18.7	19.0	19.3	19.6	20.0
DE	44.3	44.8	45.5	46.3	47.0	47.8	48.6	49.5	50.3	51.1	52.0	52.9	53.8	54.7	55.6	56.6
DK	48.7	49.3	50.1	50.9	51.7	52.6	53.5	54.4	55.3	56.3	57.2	58.2	59.2	60.2	61.2	62.2
ES	32.3	32.8	33.2	33.8	34.3	34.9	35.5	36.1	36.7	37.4	38.0	38.6	39.3	39.9	40.6	41.3
FR	45.0	45.6	46.2	47.0	47.8	48.6	49.4	50.3	51.1	52.0	52.8	53.7	54.6	55.6	56.5	57.5
HU	15.2	15.4	15.7	15.9	16.2	16.5	16.7	17.0	17.3	17.6	17.9	18.2	18.5	18.8	19.1	19.5
IE	48.5	49.1	49.9	50.7	51.5	52.4	53.3	54.2	55.1	56.0	57.0	58.0	58.9	59.9	61.0	62.0
IT	37.2	37.7	38.3	38.9	39.6	40.2	40.9	41.6	42.3	43.0	43.7	44.5	45.2	46.0	46.8	47.6
NL	50.2	50.8	51.6	52.5	53.3	54.2	55.1	56.1	57.0	58.0	59.0	60.0	61.0	62.0	63.1	64.1
PT	20.3	20.6	20.9	21.2	21.6	21.9	22.3	22.7	23.0	23.4	23.8	24.2	24.6	25.1	25.5	25.9
UK	39.4	39.9	40.5	41.2	41.9	42.6	43.3	44.0	44.8	45.5	46.3	47.1	47.9	48.7	49.5	50.3
Scenario 2																
BE	48.4	49.1	49.8	50.7	51.7	53.4	56.0	59.9	61.9	63.5	64.6	66.3	67.9	70.1	73.4	78.6
CZ	15.6	15.8	16.1	16.4	16.7	17.3	18.1	19.4	20.0	20.5	20.9	21.4	21.9	22.6	23.7	25.4
DE	44.3	44.8	45.5	46.4	47.3	48.9	51.2	54.8	56.6	58.0	59.1	60.6	62.0	64.1	67.1	71.9
DK	48.7	49.3	50.1	51.0	52.0	53.7	56.3	60.3	62.3	63.8	65.0	66.6	68.2	70.5	73.9	79.0
ES	32.3	32.8	33.2	33.9	34.5	35.7	37.4	40.0	41.3	42.4	43.1	44.2	45.3	46.8	49.0	52.5
FR	45.0	45.6	46.2	47.1	48.1	49.6	52.0	55.7	57.5	59.0	60.0	61.5	63.0	65.1	68.2	73.0
HU	15.2	15.4	15.7	16.0	16.3	16.8	17.6	18.9	19.5	20.0	20.3	20.8	21.3	22.0	23.1	24.7
IE	48.5	49.1	49.9	50.8	51.8	53.5	56.1	60.0	62.0	63.6	64.7	66.4	68.0	70.2	73.6	78.7
IT	37.2	37.7	38.3	39.0	39.8	41.1	43.0	46.1	47.6	48.8	49.7	50.9	52.2	53.9	56.5	60.4
NL	50.2	50.8	51.6	52.6	53.6	55.4	58.0	62.1	64.2	65.8	67.0	68.7	70.3	72.6	76.1	81.5
PT	20.3	20.6	20.9	21.2	21.7	22.4	23.5	25.1	25.9	26.6	27.1	27.8	28.4	29.4	30.8	32.9
UK	39.4	39.9	40.5	41.3	42.1	43.5	45.6	48.8	50.4	51.6	52.6	53.9	55.2	57.0	59.8	64.0
Scenario 3																
BE	48.4	49.1	49.8	50.7	51.7	53.4	56.0	59.9	61.9	63.5	64.6	66.3	67.9	70.1	73.4	78.6
CZ	15.6	15.8	16.1	16.4	16.7	17.3	18.1	19.4	20.0	20.5	20.9	21.4	21.9	22.6	23.7	25.4
DE	44.3	44.8	45.5	46.4	47.3	48.9	51.2	54.8	56.6	58.0	59.1	60.6	62.0	64.1	67.1	71.9
DK	48.7	49.3	50.1	51.0	52.0	53.7	56.3	60.3	62.3	63.8	65.0	66.6	68.2	70.5	73.9	79.0
ES	32.3	32.8	33.2	33.9	34.5	35.7	37.4	40.0	41.3	42.4	43.1	44.2	45.3	46.8	49.0	52.5
FR	45.0	45.6	46.2	47.1	48.1	49.6	52.0	55.7	57.5	59.0	60.0	61.5	63.0	65.1	68.2	73.0
HU	15.2	15.4	15.7	16.0	16.3	16.8	17.6	18.9	19.5	20.0	20.3	20.8	21.3	22.0	23.1	24.7
IE	48.5	49.1	49.9	50.8	51.8	53.5	56.1	60.0	62.0	63.6	64.7	66.4	68.0	70.2	73.6	78.7
IT	37.2	37.7	38.3	39.0	39.8	41.1	43.0	46.1	47.6	48.8	49.7	50.9	52.2	53.9	56.5	60.4
NL	50.2	50.8	51.6	52.6	53.6	55.4	58.0	62.1	64.2	65.8	67.0	68.7	70.3	72.6	76.1	81.5
PT	20.3	20.6	20.9	21.2	21.7	22.4	23.5	25.1	25.9	26.6	27.1	27.8	28.4	29.4	30.8	32.9
UK	39.4	39.9	40.5	41.3	42.1	43.5	45.6	48.8	50.4	51.6	52.6	53.9	55.2	57.0	59.8	64.0
Scenario 4																
BE	48.4	48.8	48.3	47.3	46.6	46.1	46.1	46.4	46.7	47.1	47.5	47.9	48.3	48.6	49.0	49.4
CZ	15.6	15.7	15.6	15.3	15.0	14.9	14.9	15.0	15.1	15.2	15.3	15.5	15.6	15.7	15.8	16.0
DE	44.3	44.6	44.1	43.3	42.6	42.2	42.2	42.4	42.7	43.1	43.4	43.8	44.1	44.5	44.8	45.2
DK	48.7	49.0	48.6	47.6	46.9	46.4	46.4	46.6	47.0	47.4	47.8	48.1	48.5	48.9	49.3	49.7
ES	32.3	32.6	32.2	31.6	31.1	30.8	30.8	31.0	31.2	31.5	31.7	32.0	32.2	32.5	32.7	33.0
FR	45.0	45.3	44.8	43.9	43.3	42.9	42.9	43.1	43.4	43.8	44.1	44.5	44.8	45.2	45.5	45.9
HU	15.2	15.3	15.2	14.9	14.7	14.5	14.5	14.6	14.7	14.8	14.9	15.1	15.2	15.3	15.4	15.5
IE	48.5	48.9	48.4	47.4	46.7	46.2	46.2	46.5	46.8	47.2	47.6	48.0	48.3	48.7	49.1	49.5
IT	37.2	37.5	37.1	36.4	35.8	35.5	35.5	35.6	35.9	36.2	36.5	36.8	37.1	37.4	37.7	38.0
NL	50.2	50.5	50.0	49.0	48.3	47.8	47.8	48.1	48.4	48.8	49.2	49.6	50.0	50.4	50.8	51.2
PT	20.3	20.4	20.2	19.8	19.5	19.3	19.3	19.4	19.6	19.7	19.9	20.1	20.2	20.4	20.5	20.7
UK	39.4	39.7	39.3	38.5	37.9	37.5	37.5	37.7	38.0	38.3	38.6	39.0	39.3	39.6	39.9	40.2

Source: London Economics projections.

Table 26: Level of outstanding mortgages (million €), 2009-2024																
	2009	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**
Scenario 1																
BE	132,451	132,451	137,018	142,287	149,487	157,396	165,725	174,494	183,726	193,448	203,684	214,461	225,809	237,757	250,337	263,583
CZ	23,289	23,289	24,092	25,019	26,284	27,675	29,140	30,681	32,305	34,014	35,814	37,709	39,704	41,805	44,017	46,346
DE	1,147,869	1,147,869	1,187,445	1,233,115	1,295,506	1,364,054	1,436,230	1,512,225	1,592,241	1,676,490	1,765,198	1,858,599	1,956,943	2,060,490	2,169,516	2,284,311
DK	222,403	222,403	230,071	238,920	251,008	264,290	278,274	292,998	308,501	324,825	342,012	360,109	379,163	399,226	420,350	442,592
ES	674,395	674,395	697,647	724,479	761,134	801,408	843,813	888,461	935,472	984,970	1,037,088	1,091,963	1,149,741	1,210,577	1,274,632	1,342,076
FR	710,000	710,000	734,479	762,728	801,319	843,719	888,362	935,368	984,861	1,036,972	1,091,841	1,149,613	1,210,442	1,274,490	1,341,927	1,412,932
HU	14,859	14,859	15,371	15,963	16,770	17,657	18,592	19,576	20,611	21,702	22,850	24,059	25,332	26,673	28,084	29,570
IE	147,904	147,904	153,003	158,888	166,927	175,760	185,060	194,852	205,162	216,017	227,447	239,482	252,154	265,496	279,544	294,336
IT	330,688	330,688	342,089	355,246	373,220	392,969	413,762	435,655	458,706	482,978	508,533	535,441	563,773	593,604	625,013	658,084
NL	558,815	558,815	578,082	600,315	630,689	664,060	699,197	736,194	775,148	816,163	859,348	904,819	952,695	1,003,105	1,056,182	1,112,067
PT	105,210	105,210	108,837	113,023	118,742	125,025	131,640	138,606	145,940	153,662	161,792	170,353	179,367	188,858	198,851	209,373
UK	1,458,707	1,458,707	1,509,000	1,567,038	1,646,323	1,733,434	1,825,155	1,921,729	2,023,413	2,130,477	2,243,206	2,361,900	2,486,875	2,618,462	2,757,012	2,902,892

Table 26: Level of outstanding mortgages (million €), 2009-2024																
	2009	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**
Scenario 2																
BE	132,451	132,451	137,018	142,287	149,487	158,144	168,884	182,886	193,478	203,715	213,476	222,637	233,304	245,648	258,646	272,332
CZ	23,289	23,289	24,092	25,019	26,284	27,807	29,695	32,157	34,019	35,819	37,536	39,146	41,022	43,193	45,478	47,884
DE	1,147,869	1,147,869	1,187,445	1,233,115	1,295,506	1,370,532	1,463,608	1,584,960	1,676,749	1,765,471	1,850,059	1,929,450	2,021,895	2,128,879	2,241,524	2,360,129
DK	222,403	222,403	230,071	238,920	251,008	265,545	283,578	307,091	324,875	342,065	358,454	373,837	391,748	412,477	434,302	457,282
ES	674,395	674,395	697,647	724,479	761,134	805,214	859,898	931,194	985,122	1,037,248	1,086,945	1,133,589	1,187,902	1,250,757	1,316,938	1,386,621
FR	710,000	710,000	734,479	762,728	801,319	847,725	905,297	980,357	1,037,132	1,092,010	1,144,331	1,193,437	1,250,618	1,316,791	1,386,466	1,459,828
HU	14,859	14,859	15,371	15,963	16,770	17,741	18,946	20,517	21,705	22,854	23,949	24,976	26,173	27,558	29,016	30,552
IE	147,904	147,904	153,003	158,888	166,927	176,594	188,587	204,224	216,051	227,483	238,382	248,611	260,523	274,308	288,822	304,105
IT	330,688	330,688	342,089	355,246	373,220	394,835	421,649	456,609	483,052	508,612	532,981	555,853	582,485	613,306	645,757	679,926
NL	558,815	558,815	578,082	600,315	630,689	667,214	712,526	771,603	816,289	859,481	900,661	939,311	984,316	1,036,398	1,091,237	1,148,977
PT	105,210	105,210	108,837	113,023	118,742	125,619	134,150	145,272	153,685	161,817	169,570	176,847	185,320	195,126	205,451	216,322
UK	1,458,707	1,458,707	1,509,000	1,567,038	1,646,323	1,741,666	1,859,947	2,014,160	2,130,806	2,243,552	2,351,047	2,451,937	2,569,416	2,705,370	2,848,519	2,999,241
Scenario 3																

Table 26: Level of outstanding mortgages (million €), 2009-2024																
	2009	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**
BE	132,451	132,451	137,018	143,447	157,877	178,861	208,894	226,214	216,693	217,324	227,737	238,422	262,407	297,284	347,202	375,989
CZ	23,289	23,289	24,092	25,222	27,760	31,449	36,730	39,775	38,101	38,212	40,043	41,922	46,139	52,272	61,049	66,111
DE	1,147,869	1,147,869	1,187,445	1,243,162	1,368,219	1,550,073	1,810,350	1,960,451	1,877,940	1,883,410	1,973,649	2,066,257	2,274,114	2,576,372	3,008,978	3,258,460
DK	222,403	222,403	230,071	240,866	265,096	300,331	350,761	379,843	363,856	364,916	382,400	400,343	440,616	499,180	582,998	631,336
ES	674,395	674,395	697,647	730,382	803,855	910,697	1,063,615	1,151,802	1,103,326	1,106,540	1,159,557	1,213,965	1,336,085	1,513,668	1,767,832	1,914,408
FR	710,000	710,000	734,479	768,942	846,295	958,778	1,119,769	1,212,612	1,161,577	1,164,960	1,220,776	1,278,057	1,406,625	1,593,583	1,861,166	2,015,480
HU	14,859	14,859	15,371	16,093	17,711	20,065	23,435	25,378	24,310	24,380	25,549	26,747	29,438	33,351	38,951	42,180
IE	147,904	147,904	153,003	160,183	176,296	199,728	233,265	252,606	241,974	242,679	254,307	266,239	293,022	331,968	387,710	419,856
IT	330,688	330,688	342,089	358,141	394,168	446,558	521,541	564,783	541,013	542,589	568,586	595,265	655,146	742,224	866,852	938,725
NL	558,815	558,815	578,082	605,206	666,088	754,619	881,329	954,403	914,234	916,897	960,828	1,005,912	1,107,103	1,254,251	1,464,855	1,586,310
PT	105,210	105,210	108,837	113,944	125,407	142,075	165,931	179,689	172,126	172,627	180,898	189,386	208,438	236,142	275,793	298,660
UK	1,458,707	1,458,707	1,509,000	1,579,805	1,738,727	1,969,826	2,300,585	2,491,332	2,386,479	2,393,430	2,508,105	2,625,790	2,889,934	3,274,043	3,823,796	4,140,837
Scenario 4																
BE	132,451	132,451	131,126	129,553	127,998	128,000	129,280	131,219	133,581	135,985	138,433	140,925	143,461	146,044	148,672	151,349

Table 26: Level of outstanding mortgages (million €), 2009-2024																
	2009	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**
CZ	23,289	23,289	23,056	22,779	22,506	22,506	22,731	23,072	23,488	23,910	24,341	24,779	25,225	25,679	26,141	26,612
DE	1,147,869	1,147,869	1,136,390	1,122,754	1,109,281	1,109,292	1,120,385	1,137,190	1,157,660	1,178,498	1,199,711	1,221,305	1,243,289	1,265,668	1,288,450	1,311,642
DK	222,403	222,403	220,179	217,537	214,926	214,929	217,078	220,334	224,300	228,337	232,447	236,632	240,891	245,227	249,641	254,135
ES	674,395	674,395	667,651	659,639	651,724	651,730	658,247	668,121	680,147	692,390	704,853	717,540	730,456	743,604	756,989	770,615
FR	710,000	710,000	702,900	694,465	686,132	686,138	693,000	703,395	716,056	728,945	742,066	755,423	769,021	782,863	796,955	811,300
HU	14,859	14,859	14,710	14,534	14,359	14,360	14,503	14,721	14,986	15,255	15,530	15,810	16,094	16,384	16,679	16,979
IE	147,904	147,904	146,425	144,668	142,932	142,933	144,363	146,528	149,166	151,851	154,584	157,366	160,199	163,083	166,018	169,006
IT	330,688	330,688	327,381	323,453	319,571	319,574	322,770	327,612	333,509	339,512	345,623	351,844	358,177	364,625	371,188	377,869
NL	558,815	558,815	553,227	546,588	540,029	540,034	545,435	553,616	563,581	573,726	584,053	594,566	605,268	616,163	627,254	638,544
PT	105,210	105,210	104,158	102,908	101,673	101,674	102,691	104,231	106,107	108,017	109,962	111,941	113,956	116,007	118,095	120,221
UK	1,458,707	1,458,707	1,444,120	1,426,790	1,409,669	1,409,683	1,423,780	1,445,137	1,471,149	1,497,630	1,524,587	1,552,030	1,579,966	1,608,406	1,637,357	1,666,829

Source: London Economics projections.

6 Pre-contractual information

6.1 Policy options under review

This study analyses two policy options for the provision of pre-contractual information. The content of the pre-contractual information to be provided to potential borrowers is also likely to change but this change is outside the scope of the present study. In the CBA, it is simply assumed that the content will be simplified and improved. The two options to be assessed are the following:

1. Continuation of the current self-regulatory system albeit in a modified form as independent monitoring and enforcement systems will also be implemented as part of this option (Option 1).

2. Convert the Code into binding legislation (Option 2).

For both options, the individual costs and benefits will be analysed for situations where the options are applied to mortgage lenders alone as well as if applied to both mortgage lenders and mortgage/credit intermediaries.

6.2 Legal baseline

A summary of the current legal situation in regard to the European voluntary Code of Conduct on pre-contractual information for home loans (the Code) is presented in this section. The information comes from the London Economics survey of the 27 EU financial regulators and legislators, and has been combined with information from the European Banking Industry Committee 3rd Progress report on Implementation of the voluntary Code[40], and DG Internal Market and Services register of institutions adhering to the Code.[41]

The summary reports strictly on implementation of the voluntary Code of Conduct. For information on the national laws that regulate pre-contractual information in the Member States, please refer to the individual Member State summaries presented in a separate annex to this report.

In the following thirteen Member States, the mortgage industry has not explicitly decided that lenders should respect the Code[42]:

[40] Including the addendum to this report of 7 July 2009.
[41] The register can be found at http://ec.europa.eu/internal_market/finservices-retail/home-loans/code_en.htm#register.
[42] This information was collected in the legal baseline questionnaire to national regulators for mortgages and national mortgage industry associations.

- Austria;
- Bulgaria;
- Spain;
- Italy;
- Poland;
- Latvia;
- Lithuania;
- Luxembourg;
- Netherlands;
- Romania;
- Slovenia;
- Slovakia; and,
- United Kingdom.

In eleven Member States, the mortgage industry has explicitly decided that lenders should respect the Code, these are:

- Estonia;
- France;
- Finland;
- Cyprus;
- Czech Republic;
- Greece;
- Denmark (all specialised Danish mortgage credit institutions; non-credit institutions and regular banks have not);
- Portugal; and,
- Hungary.

In three Member States the industry has explicitly decided that both lenders and mortgage credit intermediaries should respect the Code. These are the following:

- Belgium;
- Ireland; and,
- Sweden.

In addition, the Association of Professional Investment and Finance Advisers (L'Associació d'Assessors d'Inversió i Finançament, AIF) in Spain has committed to encouraging the use of the Code by intermediaries in Spain.

Two Member States have either introduced the Code into national legislation in regard to mortgage credit or are in the process of doing so. These are:

- Germany (the national law will be in effect by 2010); and,
- Malta (has introduced the Code into national law).

6.3 Legal baseline distance

Figure 21 presents the distance from the policy frontiers. The frontiers are:

- Self-regulation of the Code for lenders and mortgage credit intermediaries including any independent monitoring.[43]
- Conversion of the Code into legislation for lenders and mortgage credit intermediaries.

In addition to the frontier distance, the figure also includes information on the "percentage of the national market"[44] that adheres to the voluntary Code, even if there is no formal industry agreement or legislation recommending or requiring such. As mentioned above, the information on adhesion is taken from the EBIC 3rd Implementation Report, April 2009 (including the EBIC addendum of 7 July 2009), and the European Commission's Register of institutions adhering to the Code. Where the information provided by the respondents to the study survey of national regulators and industry associations differs from that reported in the EBIC report, this is stated in the summaries following the figure.

The figure can be read as follows:

- In the first instance, the labels along the top refer to the current situation. Namely, if the mortgage lending industry has not explicitly decided to adhere to the Code then the Member State is represented in light grey, and can be considered as "far" from the two policy option frontiers.
- Similarly, if the industry has explicitly decided to adhere to the Code, then the Member State is represented in a medium grey colour. These Member States can be considered "closer" to policy option 1. Of these Member States, it is possible that only lenders have explicitly agreed to adhere to the Code, or for both lenders and intermediaries to have agreed. Additionally, if the Member State has credible and independent monitoring of both lenders and intermediaries (as described above), then it is represented as being at the frontier for policy option 1.
- Finally, if the Member State has (or is in the process of) converting the Code to legislation for lenders and intermediaries, then it is represented in dark grey, and is above the frontier for policy option 1 and closer to the frontier for policy option 2.

[43] For the purposes of this study "independent monitoring" is done by an organisation other than the national industry association(s).
[44] As defined in the EBIC 3rd implementation report.

Figure 21: Distance from the policy frontiers

Member State and the percentage of the national market adhering to the Code	Industry has not explicitly agreed to adhere to the Code	Self-regulation (industry has explicitly agreed to adhere to the Code) Policy frontier option 1 →			Conversion of the Code to legislation Policy frontier option 2 →	
		Lenders	Intermediaries	Credible and independent monitoring	Lenders	Intermediaries
AT (90%)						
BG (unknown)						
ES* (0%)						
IT** (79%)						
PL (0%)						
LV (2 lenders)						
LT (unknown)						
SI (0%)						
SK (61%)						
LU (90%)						
RO (unknown)						
NL (99%)						
UK*** Please refer below for discussion of the UK						
FR (45%)						
CY (58%)						
CZ (78%)						
EL (95%)						
DK*** (94%)						
PT (95%)						
FI (99%)						
HU (unknown)						
EE**** (96%)						
IE (86%)						
SE (90%)						
BE (90%)						
DE See below for discussion						
MT See below for discussion						

Note: * In Spain, the Association of Professional Investment and Finance Advisers (AIF) has committed to encourage the use of the Code by intermediaries. However, in the response to the legal baseline questionnaire we have been informed of no credit intermediaries implementing the Code. ** For Italy the percentage is for the number of branches. *** The UK has a Key Facts Document which is part of UK law, this is not however the same as the ESIS. **** In Denmark, the industry agreement applies only to specialised mortgage credit institutions. In Estonia, the Estonian Financial Supervision Authority monitors lenders' adherence to the Code. However, there are no enforcement or sanctioning powers.

Source: London Economics analysis of Legal Baseline survey.

Austria: The Code is not legally binding and the government has no plans to make it legally binding by introducing legislation over the next few years. Nor has the mortgage industry explicitly decided that lenders or mortgage credit intermediaries should respect the Code. The EBIC 3rd Implementation Report, states that almost all members of the national associations have adhered to the Code, representing 90% of the national market.[45]

Belgium: The mortgage lending industry decided that mortgage lenders should respect the Code immediately after the publication of the recommendation in the Official Journal of the EU. Lenders representing more than 90% of the Belgian mortgage credit market are applying the Code. Intermediaries also adhere to the Code. The intermediary hands over the "mortgage credit prospectus" of the mortgage institution(s) and the ESIS prepared by the mortgage institution(s).

Bulgaria: The Code is not legally binding and the government has no plans to make it legally binding by introducing legislation over the next few years. Further, the industry has not explicitly decided that lenders or credit intermediaries should respect the Code.[46]

Cyprus: The Code is not legally binding and the government has no plans to make it legally binding by introducing legislation over the next few years. However, on the 15th of April 2004, the industry explicitly decided that lenders should respect the Code. Seven commercial banks have signed up to this agreement.[47] The Code does not cover intermediaries. The EBIC 3rd Implementation Report, states that 10 lenders have adhered to the Code and 9 have implemented it representing 58% (in terms of loans) of the national market.

Czech Republic: The Code is not legally binding and the government has no plans to make it legally binding by introducing legislation over the next few years. However, the Czech Banking Association has explicitly decided that lenders should respect the Code. In 2005, the Czech Banking Association endorsed the Code on the basis of a report by the "Working Group for Consumer Affairs". The Czech Banking Association invited member banks to agree to respect the CBA Standard No. 18 implementing the Code. The survey responses indicate that thirteen mortgage lenders have signed up to the Code. This is in line with findings of the EBIC 3rd Implementation Report findings, which also states that this (13 lenders) represents 78% of the national market. The Code does not cover mortgage credit intermediaries.

[45] The Austrian Ministry of Finance reported that no explicit agreement exists. As such, we report this. However, the latest EBIC report (2009) shows a high level of voluntary adherence in terms of the number of lenders but less so in terms of market coverage.
[46] The EBIC 3rd Implementation Report does not provide any information on Bulgaria. There is no register of Bulgarian lenders that adhere to the Code on the DG Internal Market and Services website. Further, the Association of Bulgarian Banks was unable to participate in the study.
[47] This figure was reported by the Cyprus Mortgage Association in the legal baseline questionnaire.

Denmark: The Voluntary Code of Conduct on Home Loans is not legally binding and there are no plans to make it legally binding in the future. The Danish Mortgage Bank Association has, however, taken a decision that Mortgage Banks in Denmark should adhere to the Code. Six Mortgage Banks adhere to the Code, and this represents 94% of the national market. The industry agreement does not cover mortgage credit intermediaries, nor does it include non-credit institutions or regular banks.

Estonia: The Estonian Financial Supervision Authority (FSA) introduced guidelines in January 2009 for pre-contractual information that are based on the Code. The FSA monitors lenders' adherence to the Code but does not have any enforcement or sanctioning powers. 96% of the national market (7 lenders) adheres to the voluntary Code.

Finland: The Code is not legally binding and the government has no plans to make it legally binding by introducing legislation over the next few years. The industry has, however, explicitly decided that lenders should respect the Code. 337 mortgage lenders in Finland adhere to the Code, which is 99% of the national market. This is the same as that reported by the EBIC 3rd implementation report. The Code does not apply to mortgage credit intermediaries.

France: The Code of Conduct is not legally binding in France and there are no plans to make it legally binding in the future. The mortgage lending industry has agreed to adhere to the Code, and 42 mortgage lenders in the national market adhere to the Code, representing 45% of the national market. The Code does not, however, cover mortgage credit intermediaries.

Greece: The Code is not legally binding and the government has no plans to make it legally binding by introducing legislation over the next few years. The industry has explicitly decided that lenders should respect the Code, and 21 credit institutions in Greece adhere to the Code. This represents approximately 95% of the national market.[48] The Code does not apply to mortgage credit intermediaries.

Germany: The Code of Conduct will be transposed to German Civil Law (referred to as BGB in Germany) and the law for the introduction of the German Civil Code (EG-BGB). This will be in effect by June 2010. Currently, a large proportion of lenders in Germany have signed up to the Code. These include the members of the following industry organisations Verband Deutscher Pfandbriefbanken (vdp), Bundesverband deutscher Banken (BdB), Bundesverband Öffentlicher Banken Deutschlands (VÖB), Deutscher Sparkassen- und Giroverband (DSGV), Bundesverband der Deutschen Volksbanken und Raiffeisenbanken (BVR), Verband der Privaten

[48] The EBIC 3rd implementation report finds that 20 lenders in Greece have implemented and adhered to the Code. The Register of adhering institutions has 21 institutions on it for Greece.

Bausparkassen (VdpB) and Landesbausparkassen (LBS). The legislation will also apply to mortgage credit intermediaries.

Hungary: The Hungarian Banking Association recommended in 2007 that its members sign-up to the European voluntary Code of Conduct on Pre-contractual information. Three lenders in Hungary have signed up to the Code. The voluntary Code does not cover credit intermediaries. There are also no known plans to make the Code legally binding in the future. While the respondents to the survey did not identify this, the EBIC report states that the Hungarian Financial Supervisory Authority introduced a Recommendation in 2006 (9/2006) which integrates elements of the voluntary Code.[49]

Ireland: The Code of Conduct is not legally binding and the government has no plans to make it legally binding by introducing legislation over the next few years. However, the industry has explicitly decided that lenders should respect the Code. The Irish Banking Federation (IBF) also reports that intermediaries respect the Code. The Irish Mortgage Council (IMC), which is affiliated to the IBF, recommended to members that the Code should be implemented and respected when it was first introduced, and the IMC continues to raise awareness of the Code. Twelve of fourteen members implement the Code fully. The exceptions are one lender (subsidiary of a UK bank) which entered the market a few years after the introduction of the Code and decided to postpone implementation in order to include any European Commission changes arising from current process and one new member that has entered the market in recent months.

Italy: The voluntary Code is not legally binding and the government has no plans to make it legally binding by introducing legislation over the next few years. Further, the industry has made no explicit decision that lenders should respect the Code. The decision over whether to respect the Code is left to the individual lender and intermediary, who will make it public by posting notices on their website and at branches. The EBIC 3rd implementation report states that 425 lenders in Italy have adhered to the Code, covering more than 79% of the market share (in terms of branches).

Latvia: The Code is not legally binding and the government is not planning to make the Code legally binding by introducing legislation over the next few years. Further, the industry has not explicitly decided that lenders should respect the Code. According to the Ministry of Economics, just one mortgage lender in Latvia has signed up to the Code.[50] However, there are two lenders included in the DG Internal Market and Services register, and the EBIC 3rd

[49] The Recommendation can be found at http://www.pszaf.hu/en/left_menu/regulation/pszafen_recommendations/pszafen_recommendations_20061204_1.html

[50] The number of mortgage lenders reported by the Ministry of Economics has also been verified by the Ministry of Economics. This is why we report both numbers.

implementation report addendum reports that two lenders in Latvia will implement the Code by May 2010. The Code does not cover mortgage intermediaries.

Lithuania: The Code is not legally binding in Lithuania and there are no plans to introduce legislation or regulations to make it legally binding in the future. Further, the mortgage lending industry has not agreed to adhere to the Code.[51] Nor, does it cover credit intermediaries.

Luxembourg: The Code is not legally binding in Luxembourg, and there are no plans to make it legally binding in the future. Further, there is no explicit agreement by industry to adhere to the Code. However, 14 credit institutions voluntarily adhere to the Code, which is approximately 90% of the national market.

Malta: The Code of Conduct was annexed to the national Consumer Credit Regulations of 2005 and thus it is binding for all providers of mortgage credit in Malta. The ESIS included in the Code has also been integrated into the national Consumer Credit Regulations of 2005**.** The Code applies to creditors and mortgage credit intermediaries.[52]

Netherlands: The European Code of Conduct is not legally binding and there are no plans to make it legally binding. There is a national Mortgage Code of Conduct for creditors, which includes credit intermediaries. The national Code is not the same as the European Code or the ESIS.[53] However, the EBIC 3rd implementation report states that 131 lenders in the national market adhere to the European Code representing 99% of the market.

Poland: The Code is not legally binding and there is no industry agreement to adhere to the Code. Currently, no Polish lenders or credit intermediaries adhere to the Code.

Portugal: The Code of Conduct has not been implemented in Portugal by any law. The Bank of Portugal issued a Circular-letter stating that the Code of Conduct had been published in the Official Journal and that the addressees should comply with such recommendation. The document in question was the Circular-letter no. 20/2001/DSB, dated the 2nd of August 2001, and made a clear reference to the addressees to observe the Commission's recommendations as exactly stated by the Commission. Two years later, the

[51] The responses to the baseline questionnaire report that the industry has not explicitly agreed to adhere to the Code. However, the Lithuanian Ministry of Finance reports the following "According to the Law on prohibition of unfair business-to-consumer commercial practices SCRPA (the State Consumer Rights Protection Authority) shall promote the development of the codes of conduct and shall cooperate with the code owners and other commercial operators who have assumed or are planning to assume the obligations stipulated in the codes of conduct".

[52] The Regulation can be found at http://docs.justice.gov.mt/lom/Legislation/English/SubLeg/378/10.pdf.

[53] The Netherlands' industry agreement on pre-contractual information is reproduced in Netherlands summary presented in a separate annex.

Bank of Portugal issued Instruction no. 27/2003, regarding home loans. This second Instruction reinforced the implementation of the Code of Conduct. Twenty one mortgage lenders in Portugal adhere to the Code, and this represents 94.5% of the Portuguese national market. The Code does not apply to credit intermediaries.

Romania: The Code is not legally binding in Romania and no decision has yet been taken over whether the Code will be made legally binding over the next few years. The industry has not explicitly decided that lenders should respect the Code. The National Authority for Consumer Protection and the National Bank of Romania report that none of the mortgage lenders in Romania adhere to the Code. These organisations report that a large percentage of the Romanian financial market is held by foreign banks that do not adhere to the Code in Romania, even though (in some cases) they do adhere to the Code in their countries of origin.

Spain: No Spanish lenders or credit intermediaries have signed-up to the Code. Spanish lenders that have branches abroad do however use the voluntary Code. The Spanish Mortgage Association reports that if lenders sign-up to the Code, given current Spanish consumer protection law, then lenders will need to provide borrowers with two separate information sheets which increases the burden on the consumer with little or no expected benefit to either the lender or the borrower. Lenders via their national association have expressed a willingness to sign the Code once national law has been modified. As previously stated, the Association of Professional Investment and Finance Advisers (L'Associació d'Assessors d'Inversió i Finançament, AIF) in Spain has committed to encouraging the use of the Code by intermediaries in Spain. The Spanish Government has stated an intention to modify the consumer protection law, and included such intent in the pre-amble to the new law 41/2007 regulating mortgage credit.[54]

Slovenia: The Code of Conduct is not legally binding in Slovenia and there are no known plans to make it legally binding in the near future. The industry has no formal agreement to adhere to the Code, and we believe that no mortgage lenders or mortgage credit intermediaries in Slovenia adhere to Code.

Slovakia: The Code is not legally binding and the government has no plans to make it legally binding by introducing legislation over the next few years. However, in January 2006, four banks which account for 61% of the "housing credits market" (mortgage and other consumer credit) voluntarily decided to adhere to the Code. This is a different figure from that reported in the EBIC 3rd progress report, which states that 25 lenders in Slovakia adhere to the Code representing 100% of mortgage lenders in the national market. The EC

[54] We have not received a response from the Spanish Regulator/Legislator.

register of adhering institutions has four lenders listed on the register. We believe that no credit intermediaries adhere to the Code.

Sweden: The Code is not legally binding and the government has no plans to make it legally binding by introducing legislation over the next few years. However, the Swedish Bankers' Association, in 2001, explicitly made the decision that mortgage lenders should respect the Code. A recommendation to apply the Code was issued by the Board of the Swedish Bankers' Association and sent to its members. 89 mortgage lenders have signed up to respect the Code, representing 90% of the national market. The voluntary Code does apply to mortgage credit intermediaries in the Swedish market, but the number adhering to the Code is not reported.

United Kingdom: The Council for Mortgage Lenders (CML) signed the European Voluntary Code of Conduct on Pre-Contractual Information on behalf of its members in 2002. When the new Mortgage Conduct of Business regulation (MCOB) was introduced in the UK in 2004, the MCOB included requirements on pre-contractual information which are contained within the Key Facts Information (KFI) sheet. 100% of lenders and credit intermediaries adhere to the MCOB legal requirements. The KFI is not, however, the same as the ESIS. The Financial Services Authority does however argue that the KFI goes beyond the ESIS, for example, the KFI includes the provision of important information about repayment risks. The consumer association "Which?" also pointed out that the KFI goes beyond the requirements of the ESIS, as did the CML. The UK is reported here as having no industry agreement to adhere to the Code. This is because the KFI is not the same as the ESIS, and as such there would be costs to the legislator and regulator of changing the current pre-contractual information, by unravelling the existing rules, and costs to the individual lenders and credit intermediaries of changing their own systems.[55]

6.4 Selection of case countries for detailed study

Eight Member States have been included as case studies for the pre-contractual information cost benefit analysis. These eight are the following:

- Spain;

[55] In discussions with UK Financial Services Authority, the FSA believed that the UK should be reported as being above the policy frontier. This representation would indicate that there would be costs if the Code was converted to legislation because the current information sheet, while viewed as more exhaustive than the ESIS, would have to be modified if the ESIS is to be adopted. However, in order to ensure consistent reporting across the 27 member States, the UK is reported as "no explicit industry agreement". This is because other Member States may also have national regulations and legislation which are in the spirit of, or go beyond, the Code of Conduct and the ESIS. The objective of the study is not to assess domestic legislation, but to determine if the Code of Conduct as negotiated and adopted by European associations of consumers and the European Credit Sector Associations offering home loans, is either legislated or formally agreed in each Member State.

- Netherlands;
- United Kingdom;
- France;
- Denmark;
- Hungary;
- Belgium; and,
- Germany.

The legal baseline assessment for pre-contractual information shows that these Member States represent a balance in regard to the distance from the policy frontiers under consideration in this study. Namely, Spain, the Netherlands and the United Kingdom can be considered as far from the policy frontiers. France, Denmark, and Hungary can be considered a medium distance from the frontier. Belgium, while closer to the policy frontier than Hungary and Denmark (because lenders and credit intermediaries adhere to the voluntary Code of Conduct), can be considered a medium distance. Germany can be considered close to the policy frontier because the voluntary Code of Conduct is being transposed into national laws and will be in effect by 2010.[56]

6.5 Conceptual and empirical basis for the cost-benefit analysis

Background

This section provides background information on the policy issues surrounding the pre-contractual information and outlines the approach adopted in the quantitative CBA modelling.

Pre-contractual information is a crucial element of the mortgage lending process as it enables consumers to better understand the features and risks related to a certain mortgage product, and to make informed choices between various products.

[56] Member States which are close to the policy frontier are likely to incur implementation costs if the current national legislation specifies the content of the ESIS provided to borrowers and the latter is modified as part of the EC mortgage policy package. These costs are also taken into account in the CBA discussed later in this chapter.

However, there are large variations across Member States both in the content of pre-contractual information supplied to consumers by mortgage lenders as well as the practice of lenders in providing such information.

These differences have been recognised by the Commission and a process of improving the access to relevant information of consumers has been launched some time ago.

One of the first steps in this process was the creation of the 'Voluntary Code of Conduct on Pre-contractual Information for Home Loans' (the Code), which was negotiated between European consumer associations and the mortgage lending industry in 2001.[57]

The objective of the Code was to offer consumers transparent and comparable information. In particular, consumers became entitled to receive general information about the mortgage products of interest to them as well as a personalised European Standardised Information Sheet (ESIS) before the conclusion of the contract.

While in principle this Code could be of large benefit to consumers, mortgage lenders have not been obliged by law to sign up to it and accordingly, there has been a large variation in the level of its implementation. In addition, the lack of legal requirement to adhere to the Code has raised concerns regarding its monitoring and enforcement.[58]

By acknowledging these issues, the Commission as well as other European associations from both sides (consumers and lenders) have engaged in various types of evaluations and assessments of the implementation of the Code over the past years.

The latest review of the implementation of the Code undertaken by the European Banking Industry Committee and published in 2009 shows that, while the rate of adherence to the Code has increased in recent years, there is still considerable variability across the EU-27.[59]

A further evaluation of pre-contractual information and related issues has taken place within the framework of the 'Green Paper on Mortgage Credit in the EU' and the associated 'White Paper on the Integration of EU Mortgage Credit Markets'. In particular, the White Paper has been accompanied by an Impact Assessment that provided further insights into the efficiency of the

[57] The code of conduct is available on the EC's website at http://ec.europa.eu/internal_market/finservices-retail/home-loans/code_en.htm.

[58] In our discussion with stakeholders, consumer representatives expressed reservations about the efficiency of the Code in its current form. These reservations are related to the incomplete adherence to and implementation of the Code across Member States as well as the absence of credible enforcement mechanisms. Consumer representatives think that these weaknesses can only be handled if the Code, improved by some of the suggestions presented above, would become legally binding.

[59] See EBIC (2009) available at http://ec.europa.eu/internal_market/finservices-retail/home-loans/code_en.htm.

Code in helping consumers receive suitable information for their mortgage product decisions.[60]

These reviews have been extremely useful in identifying the main controversial issues related to pre-contract information. In particular, there is an ongoing debate, among others, on the following issues:

- Can consumers understand well enough the pre-contractual information provided to them by mortgage lenders?
- Should these elements be harmonised across Europe?
- What should be included in the pre-contractual information package given to consumers?
- Should there be made any changes to the ESIS or should it be kept in its current form?
- Should the Code be made legally binding or not?
- When should it be given to the consumers?
- Should financial intermediaries use it or not?

Another important issue to be considered is do consumers use the information provided in order to make their choice of lender and mortgage product? And, related, do consumers switch between lender and / or mortgage product using the pre-contractual information as a part of this decision process.

The timing of when information is provided to consumers is also important. The implications of timing can be considered in the following way, if consumers receive information at multiple points in the mortgage search and selection process, then this may generate a benefit as they have more opportunity to consider and use the information, but also a burden because more information does not always assist the consumer. This has been observed by the Federal Trade Commission in the United States in an empirical study of mortgage broker compensation disclosures on consumers.[61] The timing of the provision of the pre-contractual information is a critical factor and, for the provision of the ESIS to have a real impact, it must be provided in good time so that a potential borrower can actual use such information in her/his decision process.

We next briefly review the current state of the debate related to these issues.

[60] Both the Green Paper and the White Paper are available at http://ec.europa.eu/internal_market/finservices-retail/credit/mortgage_en.htm.
[61] Lacko and Pappalardo (2004).

Analysis of issues related to pre-contractual information

The role of pre-contractual information is to enable consumer to understand the features and risks connected with a certain mortgage product and to make informed choices among various products.

Clearly, the lack of good information has many detrimental effects as it makes it difficult to compare prices and choose between banks, thereby distorting competition, reducing price transparency and subsequent competition and creating uncertainties for consumers.

Note that pre-contractual information can only be efficient in achieving this objective if the information is presented in such a clear way that consumers can understand it.

A survey by Eurobarometer in 2004[62] found that this is not fully the case. In particular, 59% of EU citizens surveyed thought that it was difficult to understand the information given by financial institutions about the way mortgages work and the risks involved. Obviously, a greater use of the ESIS since 2004 may have familiarised consumers with the information provided by the ESIS.

This confusion may further potentially aggravated by the consumers' misunderstanding of certain technical terms involved in this information.

This suggests that the information provided to European consumers is insufficient as consumer (i) often do not have the necessary information to make informed decisions and (ii) even if they have all the information they need they do not necessarily understand it.

While obtaining and understanding all the relevant information related to mortgage loans is essential for consumers' ability to make informed choices, potentially including cross-border products, some other factors, such as the differences across countries in definition of some pre-contractual information may hamper consumers' ability to make efficient decision. The most striking example for this latter concern is the APRC that is calculated using different methodologies in different countries.[63]

A next step in assessing the usefulness of pre-contractual information is to determine which type of information should be included in such a package. This is closely related to whether the ESIS should be modified or should it be kept unchanged in its current form.

The Green Paper Consultation offered a number of suggestions related to this question. In particular, more information on foreign currency loans would

[62] See Eurobarometer (2004).
[63] The issue of the APRC will be discussed in a separate chapter of this report.

help consumers to better understand the risks posed by changes in future exchange rates on the monthly repayments.

The results of the Mortgage Industry and Consumer Dialogue[64] suggest that there is consensus that the "Description of the Product" and the "Amount of currency" items of the ESIS should be improved, and more generally, the idea of "risk warnings" has gained gain substantial support. Contrasting this, divergences remained on "Nominal rate" and "Additional non-recurring costs" and on proposed new items such as "Total cost of credit", "Right of withdrawal" and "Consequences in case of non-compliance".

An even hotter debate is in relation to whether the Code should be made legally binding or not. It is this question where consumer representatives and the mortgage lending industry have the most diverging views.

In our discussion with stakeholders, consumer representatives expressed reservations about the efficiency of the Code in its current form. These reservations are related to the incomplete adherence to and implementation of the Code across Member States as well as the absence of credible enforcement mechanisms. Consumer representatives think that these weaknesses can only be handled if the Code, improved by some of the suggestions presented above, would become legally binding. On the other side, in our consultations with mortgage lenders, the latter expressed the view that the industry had made considerable progress in ensuring that the ESIS is provided to potential borrowers and that there was no need to make it legally binding

Another key issue related to the Code is related to the timing of the ESIS being given to consumers.[65] This is a key issue because if this information is not received sufficiently in advance of the signing of the mortgage loan, consumers do not really have the chance to evaluate the various mortgage products and to compare them.

To improve their positions in making informed choices consumer representatives believe that the ESIS should be given to consumers without undue delay after he/she has given all the necessary personal information. The majority of consumers think that they should receive the ESIS at least 14 calendar days before signing the contract, with them having the option to sign the contract at any given time without having to wait for the 14 days period to elapse.[66] Mortgage lenders also support the idea of giving the ESIS

[64] The full report of the Mortgage Industry and Consumer Dialogue is available at http://ec.europa.eu/internal_market/finservices-retail/archive/mortgage_en.htm.
[65] Note that in some Member States, such as Belgium, Denmark, France, Ireland, the Netherlands and Austria, the European Standardised Information Sheet is generally handed over together with a binding offer while in other Member States, such as Cyprus, Finland, Luxembourg and Sweden, the European Standardised Information Sheet is provided in advance of a binding offer.
[66] See report of the Mortgage Industry and Consumer Dialogue is available at http://ec.europa.eu/internal_market/finservices-retail/archive/mortgage_en.htm.

without undue delay to consumers. However, they do not favour the introduction of a 14-day period as suggested by consumers.[67]

Last but not least, as many mortgage loans are sold through intermediaries, it also needs to be clarified whether and to what extent credit intermediaries should be subject to the legal framework. The main reason for this is that these intermediaries are not obliged to comply with the Code and such a status is a further source of confusion for the consumers.

6.6 Qualitative evaluation of the policy options

6.6.1 Introduction

As already noted, the two policy options to be tested in the area of pre-contractual information relate to the provision of the ESIS sheet to potential borrowers in good time so that the latter can make an informed decision about mortgage product selection after having reviewed, compared and contrasted different offers from various mortgage lenders.[68]

Under policy option 1, the current system of a voluntary industry Code of Conduct to provide an ESIS to potential borrowers would continue. However, the current content and format of the ESIS may change.[69] The cost of this change is also taken into account in the CBA. While the Code of Conduct would remain voluntary, credible and independent monitoring and enforcement mechanisms would need to be established.

Under policy option 2, the Code would be converted into binding legislation and there would be a legal requirement to provide a revamped ESIS.

The provision of good and understandable pre-contractual information is a necessary but not sufficient condition for consumers to be able to make informed choices. Indeed, poor financial literacy, unwillingness to spend a fair amount of time reviewing and comparing long and complex documents may limit the benefits under either of the options.[70]

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[67] See report of the Mortgage Industry and Consumer Dialogue is available at http://ec.europa.eu/internal_market/finservices-retail/archive/mortgage_en.htm.

[68] A key assumption underlining the analysis is that, under self-regulation, most banks have accepted to apply and do apply these rules. However, the model takes into account that some lenders will be non-compliant lenders. Another assumption relates to the timing of the provision of the ESIS in the new regime. It was agreed with the EC that, as working assumption, it could be assumed in the CBA that the ESIS would be required to be provided sufficiently in advance of the signing of the mortgage loan so that consumers could actually use the ESIS to compare mortgage offers.

[69] The content of the ESIS form is currently the subject of another study for the EC by OPTEM (Study on consumer testing of possible new format and content for the European Standardised Information Sheet (ESIS) on home loans).

[70] See, for example, Miles (2004).

Moreover, the whole product information approach is potentially not conducive to lower default risk, if e.g. house prices are inflated.

At the present time, according to the results of the consumer survey, very few consumers know what the ESIS is, even in countries where such information is provided by all or almost all lenders, and even fewer use the ESIS for comparing offers from different lenders.

According to the household survey undertaken by iff for the present study, only 6% of consumers in the surveyed countries had ever heard of the ESIS sheet and only 5% used the ESIS to compare offers.

Final observations from the household survey, undertaken as part of this study, indicate that consumers on average seek information from between 1 and 3 lenders (specifically 2.4 sources on average). Upon discussions with the consumer associations that conducted the survey on behalf of iff and London Economics, in their opinion consumers while seeking information from more than one lender do not in fact compare many individual offers before signing a mortgage contract.

In the UK, where Key Facts Illustration (KFI) sheet (broadly comparable but not identical to the ESIS) has to be given to a potential mortgage borrower[71], the FSA (2006) found that only 32% of those consumers surveyed who recalled being given a Key Facts Illustration (KFI) sheet (broadly comparable but not identical to the ESIS) before choosing a mortgage used the KFI to compare mortgages.

The fact that, in a number of countries, the ESIS is provided to the potential borrower at about the time a binding offer is made does not enable its use for comparative shopping.

Encouragingly, however, according to the iff household survey[72], about 70% of households indicated that they would use a simplified and more user-friendly ESIS to compare different offers.

6.6.2 Qualitative discussion

The provision of a revamped and more focused ESIS by all lenders will provide potential borrowers with valuable information allowing them to better compare offers from different lenders.

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[71] A KFI has to be given (se FSA 2006) to a borrower when:
A firm makes a personal recommendation to a potential borrower to take out a particular mortgage;
Where a firm provides written information specific to the amount that a consumer wants to borrow on a particular mortgage; or
Where the consumer requests written information specific to the amount they want to borrow on a particular mortgage.

[72] See *Household Surveys and Consumer Focus Groups, Annex A to Study on the costs and benefits of the different policy options for mortgage credit* prepared by iff.

As a result, under both policy options 1 and 2, in theory and provided they are financially literate, consumers should be able to improve their product selection and choose a product that is most suitable to them with regards to the different terms of a mortgage product. The provision of a revised and more focused ESIS should also enhance consumer confidence in the mortgage market as it will make it easier for consumers to understand mortgage products and their riskiness.[73]

As a result, they would be less likely to select a product that would not be suitable for their financial circumstances which reduces the risk of defaulting later on, although it cannot be eliminated completely as unexpected events outside the control of the borrower may result in a dramatically changed financial position.

A reduced likelihood of default will also contribute to improve the financial performance of lenders, and as a result, overall financial stability.

Implementing these policy options will entail some costs for lenders. Those lenders that are already providing an ESIS or broadly equivalent information will have to bear the costs of revising the ESIS sheet and those lenders that do not provide an ESIS sheet will have to incur the one-off and on-going operational and capital costs of providing the new ESIS.

The provision of an ESIS sheet by all lenders will also facilitate customer mobility or switching of mortgage provider as mortgage product offers will be easier to compare. This is important as a recent Barometer survey showed that 31% of mortgage holders who had not switched mortgage providers over the previous 2 years would be consider doing so if comparable information was provided by all lenders.[74]

The provision by all lenders of an ESIS may also stimulate cross-border mortgage provision as such provision of a standard ESIS that is used by potential borrowers would create a level playing field between domestic and foreign lenders.

The impact of product diversity is less clear-cut. While the provision of an ESIS by all lenders may encourage potential borrowers to consider a wider range of products in their initial review of market offerings, it is not clear that lenders will increase their product offering as a result. This is likely to depend on how competitive pressures and foreign entry evolve following the entry of force of either options.

[73] As was already noted earlier in this chapter, a survey by Eurobarometer in 2004 that 59% of EU citizens surveyed thought that it was difficult to understand the information given by financial institutions about the way mortgages work and the risks involved (see Eurobarometer 2004).
[74] See Eurobarometer (2009a).

While the two options under consideration have similar effects in terms of the sign of the impact, the intensity of these impacts varies as under option 1, the voluntary option, there may be some non-compliant lenders and therefore the benefits of the policy intervention may not be achieved to same degree as in option 2 (the legal requirement).

Table 27: Qualitative assessment of policy options in the dimensions of product diversity consumer confidence, customer mobility, and cross-border lending

Area	Option 1 – voluntary regime	Option 2 – legal requirement
Product diversity	?depends on competitive response	?depends on competitive response
Consumer confidence	+ (but less intense than under option 2)	+
Customer mobility	+ (but less intense than under option 2)	+
Cross-border lending	+ (probable, but less intense than under option 2)	+ (probable)

Note: no negative signs used for stability contribution, consumer confidence – see text for greater differentiation of assessment.
Source: London Economics analysis.

6.6.3 High level overview of modelling the cost and benefits of the policy intervention

Based on the discussion in the previous sections of the chapter, in the cost-benefit analysis of the two options we assume that:

a) A revamped ESIS that meets consumers' needs will be implemented. This assumption is important because our survey of consumers showed that, otherwise, very few consumers use the ESIS in their mortgage product selection process.

b) The ESIS will be provided in good time to allow the potential borrower to use the information for comparing offers. This is a key assumption because if potential borrowers are not given the information in good time they will not be able to compare mortgage offers and thus will not benefit from the voluntary or legal requirement to provide an ESIS.

c) Potential borrowers will actually use this information to compare different offers. If borrowers do not use the information then no benefits will accrue to them of implementing either of the policy options.

As a result, potential borrowers will be more likely to find an offer that is best value in terms of the rate for a given mortgage product type such as a fixed rate mortgage of a given duration, an adjustable rate mortgage, etc.

It is also assumed that provision of the ESIS will lead to a change in the selection of mortgage product type as were informed that the new ESIS will include a risk warning.

In addition, potential borrower will face lower search costs as the provision of an ESIS in due time will reduce the need to search for, review and compare information and literature of the different providers.

These benefits will accrue to potential borrowers in all Member States as, at the present time, low borrower usage of the ESIS is widespread throughout the EU.

The key differences between option 1 and option 2 are that, under a voluntary system a potential borrower, when assembling ESISs from different lenders, a potential borrower may not get an ESIS from a lender who is not adhering to the Code and thus will have to spend more time assembling the number of ESISs she/he wishes to compare. Moreover, a potential borrower may not find the best mortgage deal available if the ESIS is not provided by all borrowers.

As under either option, lenders and credit intermediaries will have to provide an ESIS in due time, those who do so at the present time only close to the provision of a binding offer are likely to have to provide many more ESIS forms then do at the present time and will also incur higher operating costs. The model also assumes that, if the cost to the mortgage industry, part of this additional cost will be passed on to borrowers in terms of higher interest rates. Essentially, in the simple supply and demand framework, a change in costs faced by the mortgage lending industry involves a shift in the supply curve and the new equilibrium rate depends on the interest rate elasticity of the demand for mortgages and the slope of the supply curve.

In the case of option 1, the cost of setting up and running a credible and independent monitoring system and enforcement mechanism is taken into account while under option 2 the cost to the government of developing and passing new legislation and the regulator of monitoring and enforcing the new laws is taken into account.

The set of countries for which the cost-benefit analysis undertaken includes the following: Belgium, Denmark, France, Germany, Hungary, Netherlands, Spain and the United Kingdom.

Germany and the United Kingdom are special cases. In both countries, the changes to the ESIS will entail one-off costs. However, there are no further costs as Germany is already at the policy frontier and in the UK the ESIS replaces the KFI.

Lenders in these two countries and in all other Member States will face additional one-off costs when the ESIS sheet will be revised. However, as we have already noted earlier, the precise scope of these changes was unclear at the time we undertook the stakeholder consultations and surveys and, therefore, we did not obtain any views and information from stakeholders on the likely costs of such changes. Therefore, these are not included in CBA results reported below.

6.7 Quantitative evaluation of the policy options

6.7.1 General discussion and key inputs

As already noted, the consumers gain from having to spend less time from searching for information provided in an ESIS and from obtaining a better rate as a result of having more information.

A key variable driving both these benefits is the number of ESIS sheets that potential borrowers desire to collect for their decision process. On the basis of the results of the household survey, we assume that this desired number of ESIS sheets is 4.

Another important driver is the time spent by consumers in obtaining an ESIS. Based on discussions with a number of persons having recently been in the market for a mortgage, this acquisition cost is assumed to be 30 minutes per lender. Finally, the value of this time is set at the average industrial wage of the country (expressed in units of local currency per minute of work). While the number of ESIS sought and the time required to deal with a lender is invariant across the different Member States, the monetary cost of doing so will vary in line with the differences in average industrial wages.

For the purpose of the analysis, we distinguish between consumers who were already seeking the 4 ESIS (or similar information) before the policy intervention and those who were seeking less information. Less information is assumed to be 2 ESIS (or equivalent) in the pre-policy intervention environment in all Member States. The split between the groups of borrowers is assumed to be 50-50. These assumptions are invariant across all Member States in the cost-benefit analysis.

Other common key inputs to the assessment are the following:

- The number of mortgage loans which flows from the baseline economic scenarios.
    - In order to derive the number of loans in a given year, it is necessary to estimate first the value of gross mortgage lending in that year. This is done by taking the change in mortgage outstanding from the baseline and applying a gross up factor which is set at the ratio of gross to net mortgage loans over the 2006, 2007 and first half of 2008 as shown by the EMF data.
    - Next, this gross mortgage lending figure is divided by the product of the typical loan to value of a country and the nominal house price. The nominal house price is from the economic baseline and the typical loan to value figure was either provided by national mortgage associations or sources from official national publications.

6.7.2 Detailed discussion of costs and benefits by stakeholders

Direct benefits and costs to consumers

Benefits and costs to consumers who were already seeking 4 ESIS (or the equivalent pre-policy intervention)

1. The value of time savings to this category of borrowers depends on the likelihood of obtaining an ESIS (or equivalent) when contacting a lender in the pre-policy environment versus the likelihood of obtaining the same information in the post-policy intervention environment. This likelihood depends on the proportion of lenders actually providing such information.

2. For example, if there are 20 lenders in a country, and only 10 (i.e., 50%) provide such information, in order to obtain 4 ESIS, a borrower would need to contact 8 lenders (i.e. 4 * ½) to obtain the desired 4 ESISs (or equivalent). If all lenders provide this information, only 4 lenders will need to be contacted.

3. The data on the proportion of lenders providing ESISs at the present time in each Member State is taken from the latest EBIC report.[75] Unfortunately, the EBIC report does not give the proportion of lenders providing such information but the proportion of the market

[75] EBIC (2009).

covered by the lenders providing ESISs. In the absence of more detailed information, we assume that the two proportions are identical.

4. It is assumed that in post policy intervention environment, under a Directive, all lenders will provide such information whereas under a Recommendation, the proportion of those not providing the ESIS will be halved. This assumption holds across Member States.

5. Thus, on the basis of all the data it is possible to estimate the value of reduced search costs borne by those borrowers who were seeking to obtain the desired 4 ESISs before the intervention. Search costs fall because the probability of receiving an ESIS when contacting a mortgage lender rises under both policy options. Thus it will take less time to obtain the 4 ESIS. Under a Directive, it is assumed that all lenders will provide an ESIS whereas under a self-regulation regime, it is assumed that the share of lenders not providing an ESIS is reduced by 50% from the current level of this share.[76]

6. As these consumers actually do save on search time, they do not incur additional costs.

Benefits and costs to consumers who were seeking less information before the policy intervention

These borrowers will benefit from lower search costs, and, also, better deals if, as assumed, they search more following the policy change. It is assumed that they search more because their search efforts are likely to be more fruitful in terms of a higher likelihood of obtaining an ESIS when contacting a lender and receiving better information as a result of a streamlined and more focused ESIS. In addition, they may also benefit from obtaining better information about the product range.

1. These borrowers will benefit from lower search costs for the number of ESIS (or equivalent information) they were seeking before the policy intervention. The calculation of these savings follows exactly the same approach as the one set out above.

2. Offsetting these savings, this group of borrowers will also spend more time obtaining the additional two ESIS they require to achieve their target figure of 4. The computation of these costs mirrors exactly the approach used to compute the value of time savings.

[76] This is a working assumption as there exists no evidence on this point. It is one of the assumptions which are subjected to sensitivity tests to assess the extent to which the CBA results depend on this particular assumption.

3. Finally, as a result of searching more, in market characterised by interest rate dispersion, on average, these borrowers are also more likely to find a better deal (i.e., a lower rate for a product that is otherwise identical). For simplicity and tractability, we assume that the distribution of interest rates in the market place is a uniform distribution and that the upper and lower bound of the distribution is 30 basis points.[77] Under these assumptions, the savings in interest rates are given by the formula below:

   Interest saving (in basis points) = [L + (U-L)/(1+N1)] – [L+(U-L)/(1+N2)]

   Where L = lower bound of interest dispersion, U = upper bound of interest rate dispersion, N1= number of ESISs (or equivalent) sought pre-intervention, N2 = number of ESIS sought post-intervention.

   Total savings in interest rates is equal to the number of mortgage loans taken out by such borrowers (which is equal to the proportion of borrowers seeking less than 4 ESISs in the pre-policy intervention times the overall number of mortgage loans) times the typical value of a mortgage loan (which is equal to the typical loan-to-value times the average house price).

   It is important to note that these interest savings involve simply a redistribution from lenders to borrowers. For the society as a whole, there are no savings arising from this redistribution. However, other benefits are likely to arise.

   For example, in cases where a) the increased availability of the ESIS and its information content is streamlined and b) sharpened lead consumers to shift towards more suitable products will reduce future default rates. Costs and benefits to lenders:

Lenders will incur a number of costs.

1. First, lenders who did not provide ESISs pre-policy intervention will occur one-off costs to develop, adopt new systems and processes and train their staff which will allow them do to so in the post policy intervention. We have received no precise data for lenders on this cost, but based on discussions with stakeholders, we believe that it is reasonable to assume that a lender will have to dedicate about 30 person-days to do so. The monetary value of this cost is equal to the number of person-days time the average wage in the financial sector. The latter is equal to the average industrial wage times a gross up

[77] This assumption is based on a review of information provided on a number of mortgage comparator websites.

factor reflecting the Eurostat data on the actual mark-up average annual compensation in the financial sector relative to the average annual economy-wide compensation. Finally, in the absence of the precise information on the capital expenditures that would need to be incurred by lenders, based on various discussions with stakeholders, these one-off capital expenditures are set at 2 times the one-off labour expenditures. The assumed figures of 30 and 2 are invariant across Member States while the labour costs do vary.

2. Lenders will also incur additional costs as result of having to provide more ESISs in the post-policy intervention environment. The number of additional ESISs that will be provided is equal to the total number of loans times the desired number of ESISs (4) minus the number of ESIS that were provided before. Each ESIS is assumed to take only 5 minutes to prepare as the process is largely automated and the cost of these five minutes is equal to per minute average wage in the financial sector times five. It has to be noted that, in cases, where information similar to ESIS but not the ESIS was provided before, the cost estimate are derived in a similar manner as it is assumed, in the absence of any hard information on this point, that the per unit cost of providing the ESIS or similar information is broadly identical.

3. In addition, those lenders who already provide an ESIS will incur one-off costs due to the change in the ESIS.

4. It is also assumed that lenders will incur additional costs to monitor internally the compliance with the Code (under a voluntary regime) or law/regulation. Based on the discussions with stakeholders, it is assumed that one additional staff at the average financial sector salary will need to be recruited per lender to undertake this internal compliance monitoring. It is important to note that in a voluntary approach this cost applies only to lenders who comply with the Code while in cases where the provision of an ESIS is a legal requirement this cost applies to all lenders.

5. Finally, lenders are also assumed to have to bear the cost of the external compliance monitoring and enforcement (either by an independent body or the regulator depending on the approach chosen) as such costs will be charged back through fees or special levies. The assumptions underlying these costs are provided below.

6. To the extent that some consumers move to more suitable products this may reduce lenders losses in the future if the change in product selection affects future defaults.

Cost to mortgage intermediaries

The only cost for intermediaries is the time they will have to spend obtaining the additional ESISs for their clients. They will not earn more fee income as the number of mortgage loans and their market share remains the same. It is possible that in the longer run intermediaries will seek to obtain higher-per loan fees from lenders to offset the higher cost they incur. This depends on the mortgage market structure and relative negotiating power of lenders and borrowers in each market. We do not have sufficient information to undertake a rigorous assessment of this and therefore, for the purpose of the analysis, simply assume that intermediaries absorb the additional cost.

To derive an estimate of this cost, based on discussions with some intermediaries, we assume that, on average, an intermediary will spend 5 minutes on requesting an ESIS for a client from a lender. The cost per ESIS request for a credit intermediary is defined as the time spent on requesting an ESIS times the average compensation in the financial sector (per minute).

The total cost to the intermediary sector is equal to the cost per ESIS request times the number of such request that the intermediary sector will have to process, and the latter is equal to the share of the mortgage intermediary sector into total mortgage loan origination times the number of loans multiplied by 4.

Cost of an independent monitoring body

Under a voluntary approach, an independent monitoring and enforcement body will be set up. For the purpose of the analysis, it is assumed that such a body will require four person-staff which is assumed to be remunerated at the average financial sector wage. No special capital expenditures are assumed for such a body as, in practice, the achievement of full staffing is assumed to occur over a few years while the full costs are counted for year 1 onwards. This leaves scope for some capital expenditures. The full cost of such a body is charged back to lenders.

Cost to the government

The government will lose tax revenues because the mortgage intermediaries and lenders incur somewhat higher costs. The negative impact on tax revenue is equal to the effective tax rates faced by financial institutions (taken from Eurostat Structural Business Statistics) times the increase in costs faced by lenders and intermediaries.

In the case where the requirement to provide the ESIS is a legal requirement, the regulator will also face higher costs because of the assumed monitoring and enforcement of this legal requirement. Because we assume that these costs are fully passed on to lenders, the net impact of these additional regulatory activity is nil for the government.

Originally, we had planned to also take account of the costs incurred by governments in developing and passing a new law but all, but one, of the responses received from government officials and regulators were qualitative in nature and simply indicate that such costs are moderate. Moreover, the cost to the government is subject to significant economies of scale as the cost of developing and passing a new law does not vary linearly with the number of changes brought about by the law. Therefore, we believe that it would be somewhat misleading to compute separately the cost to government of implementing through legislation each policy option and add this cost to the other costs described above. In the chapter reporting on the CBA of the responsible lending policy options, we present cost estimates provided by national authorities for a package of measures.

The additional impacts in terms of consumer mobility, product choice, cross-border lending and stability are discussed later in the chapter.

6.7.3 Recap of the data sources

A summary overview of the sources of the various data used in the cost-benefit assessment is presented in Table 28.

Table 28: Sources of the data used in the cost-benefit model

Variable	**Source**
Mortgage outstanding at the end of the year (million)	*Assumption (economic baseline scenarios)*
Grossing up factor (gross lending to net lending)	EMF statistics
House price (units)	*Assumption (economic baseline scenarios)*
Average LTV	Special survey/FSA
Number of ESIS sheets collected by consumers	Consumer survey
Time it takes to obtain an ESIS (in minutes)	*Assumption – team judgement based on discussions with stakeholders*
Annual average wage (000s)	Economic baseline scenarios
Number of hours per working week (units)	*Assumption based on typical working week*
Number lenders (units)	Special survey/FSA
Number of mortgage intermediaries	Special survey/FSA
Share of mortgage intermediated by mortgage intermediaries.(unit)	Special survey/FSA
Share of lenders providing ESIS (unit)	EBIC survey
Share of non-compliant lender under voluntary regime (unit)	*Assumption based on team's assessment of EBIC (2009) report*
Share of lenders not providing ESIS in good time (unit)	Consumer survey
Desired number of ESIS sheets	*Assumption based on the team's interpretation of the results of the consumer survey*
Proportion of borrowers who did not seek all the desired ESIS	*Assumption based on the team's interpretation of the consumer survey*
Number of ESIS sought by those who did not seek all the information pre-intervention (units)	*Assumption based on team's interpretation of the consumer survey*
Short-term market rate %	*Assumption (economic baseline scenarios)*
Long-term market rate %	*Assumption (economic baseline scenarios)*
Mortgage premium short-term %	Market data
Mortgage premium long-term %	Market data
Share of long-term mortgage %	Special survey/FSA
Upper bound adjustment of interest distribution %	*Assumption based on review of dispersion of mortgage rates on a number of comparator web sites*
Lower bound adjustment of interest distribution %	*Assumption based on review of dispersion of mortgage rates on a number of comparator web sites*
Average duration of average mortgage (years)	Special survey/FSA
Number of person-days required to set up a new system	*Assumption based on discussion with some stakeholders*
Gross-up factor for average wage in the financial sector	Eurostat
Ratio of capital costs to labour costs in one-time set-up	*Assumption based on the team's judgement*
Time required to prepare and give an ESIS (in minutes)	*Assumption*
Ratio of cost of adjusting ESIS provision system to cost of implementing a new system	*Assumption – team judgement*
Time spent by an intermediary to request an ESIS sheet from a lender for a potential borrower (minutes)	*Assumption – team judgement*
Number of person-days spend monitoring and verifying lender behaviour, unit per lender	*Assumption – team judgement*

Number of person-years for running control body	*Assumption – team judgement*
Efficiency of public/private sector monitoring (ratio)	*Assumption*
Effective tax rate financial sector	Eurostat - Structural Business Statistics
Discount rate for calculation of NPV	*Assumption*

Source: London Economics analysis.

6.7.4 Key results

The tables overleaf provide the results of the cost-benefit analysis using the model described in the previous section.

- Table 29 sets out the benefits and costs (in millions of local currency) accruing to consumers, lenders, mortgage intermediaries, the independent control body, and the government) for selected years of the simulation horizon for the first economic baseline scenario (return to steady growth with no inflation) presented in Chapter 5.

- The same table also provides estimates of the total benefit/cost to society of the policy option being assessed. It is important to note that the net cost to society does not include the cost to the government in terms of lost tax revenues as these are simply transfers between stakeholders nor the cost of the monitoring by either an independent party or the regulator as these costs are shifted back to the lenders and are already captured in the bottom-line reported for the lenders. In essence, the benefit/cost to society boils down on the value of search time savings made by consumers and the costs incurred by lenders and intermediaries for generating these savings. The savings in interest costs achieved by a deeper search do not impact on the benefit/cost to society as these are transfers between stakeholders.

- Table 31 presents the net benefit/cost in net present value (NPV) terms for the four economic scenarios for the 15 years of the simulation horizon, using a nominal discount rate of 5.5% (4% in real terms + 1.5% underlying long-run inflation trend).

- Finally, Table 32 presents the administrative cost in NPV for the four economic scenarios for the 15 years of the simulation horizon using again a discount rate of 5.5%.

Table 29: Annual impacts by country, stakeholder group and policy option, 2009-2013 and 2024 (€ million of local currency) (a "+" represents a positive NPV while a "-" represents a negative NPV), Scenario 1

Country, Stakeholder group		Policy option	2009	2010	2011	2012	2013	...2024
Belgium	Consumers	Voluntary Code	1.9	2.2	3.5	4.1	5.5	10.1
		Law/regulation	2	2.4	3.7	4.3	5.9	10.8
	Lenders	Voluntary Code	-21.8	-17.5	-19.2	-20	-22.2	-32.2
		Law/regulation	-22.7	-18.2	-19.9	-20.8	-23	-33.1
	Intermediaries	Voluntary Code	-0.2	-0.2	-0.3	-0.4	-0.5	-1
		Law/regulation	-0.2	-0.2	-0.3	-0.4	-0.5	-1
	Independent control body	Voluntary Code	-1.4	-1.4	-1.4	-1.4	-1.5	-1.9
		Law/regulation	-1.4	-1.4	-1.4	-1.4	-1.5	-1.9
	Government	Voluntary Code	-4.4	-3.5	-3.9	-4.1	-4.5	-6.6
		Law/regulation	-4.6	-3.7	-4.1	-4.2	-4.7	-6.8
	Total, society	Voluntary Code	-20	-15.5	-16	-16.3	-17.2	-23
		Law/regulation	-20.8	-16.1	-16.5	-16.8	-17.6	-23.3
Denmark	Consumers	Voluntary Code	4	4.6	6.4	7.4	10.1	18.2
		Law/regulation	4.3	4.9	6.8	7.9	10.8	19.6
	Lenders	Voluntary Code	-6.3	-7	-9.4	-10.8	-14.5	-26.5
		Law/regulation	-6.3	-7	-9.4	-10.8	-14.6	-26.5
	Intermediaries	Voluntary Code	-0.4	-0.5	-0.6	-0.7	-1	-1.9
		Law/regulation	-0.4	-0.5	-0.6	-0.7	-1	-1.9
	Independent control body	Voluntary Code	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
		Law/regulation	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
	Government	Voluntary Code	-1.9	-2.1	-2.8	-3.2	-4.3	-8
		Law/regulation	-1.9	-2.1	-2.8	-3.2	-4.4	-8
	Total, society	Voluntary Code	-2.6	-2.8	-3.6	-4.1	-5.5	-10.2
		Law/regulation	-2.4	-2.5	-3.2	-3.6	-4.8	-8.9
Spain	Consumers	Voluntary Code	23	26.7	52.1	60.1	82.5	157.5
		Law/regulation	28	32.5	63.4	73.2	100.5	192.3
	Lenders	Voluntary Code	-35.4	-31	-41.4	-44.9	-54.2	-88.5
		Law/regulation	-50.8	-42.6	-53.1	-56.6	-66.3	-103.8
	Intermediaries	Voluntary Code	-1.9	-2.2	-4.3	-4.9	-6.8	-13.2
		Law/regulation	-1.9	-2.2	-4.3	-4.9	-6.8	-13.2
	Independent control body	Voluntary Code	-2.9	-2.9	-2.9	-2.9	-3	-3.8
		Law/regulation	-2.9	-2.9	-2.9	-2.9	-3	-3.8
	Government	Voluntary Code	-6.3	-5.6	-7.8	-8.5	-10.4	-17.3
		Law/regulation	-9	-7.6	-9.7	-10.5	-12.4	-19.9
	Total, society	Voluntary Code	-14.2	-6.5	6.4	10.4	21.5	55.8
		Law/regulation	-24.7	-12.3	6	11.6	27.4	75.3
France	Consumers	Voluntary Code	16.8	19.4	31.3	36.1	49.4	92.6
		Law/regulation	21.1	24.4	39.4	45.5	62.3	117.6
	Lenders	Voluntary Code	-19.4	-20	-29.4	-33.2	-43.8	-78.3
		Law/regulation	-21.5	-21.6	-31	-34.9	-45.4	-80.4
	Intermediaries	Voluntary Code	-1.8	-2.1	-3.4	-4	-5.5	-10.6
		Law/regulation	-1.8	-2.1	-3.4	-4	-5.5	-10.6
	Independent control body	Voluntary Code	-0.6	-0.6	-0.6	-0.6	-0.6	-0.8
		Law/regulation	-0.6	-0.6	-0.6	-0.6	-0.6	-0.8

Table 29: Annual impacts by country, stakeholder group and policy option, 2009-2013 and 2024 (€ million of local currency) (a "+" represents a positive NPV while a "-" represents a negative NPV), Scenario 1

Country, Stakeholder group		Policy option	2009	2010	2011	2012	2013	...2024
	Government	Voluntary Code	-2.5	-2.7	-3.9	-4.5	-5.9	-10.7
		Law/regulation	-2.8	-2.9	-4.1	-4.7	-6.1	-10.9
	Total, society	Voluntary Code	-4.5	-2.8	-1.6	-1.1	0.2	3.6
		Law/regulation	-2.3	0.7	5	6.7	11.4	26.6
Germany	Consumers	Voluntary Code	0	0	0	0	0	0
		Law/regulation	0	0	0	0	0	0
	Lenders	Voluntary Code	-5.6	0	0	0	0	0
		Law/regulation	-5.6	0	0	0	0	0
	Intermediaries	Voluntary Code	0	0	0	0	0	0
		Law/regulation	0	0	0	0	0	0
	Independent control body	Voluntary Code	0	0	0	0	0	0
		Law/regulation	0	0	0	0	0	0
	Government	Voluntary Code	0	0	0	0	0	0
		Law/regulation	0	0	0	0	0	0
	Total, society	Voluntary Code	-5.6	0	0	0	0	0
		Law/regulation	-5.6	0	0	0	0	0
Netherlands	Consumers	Law/regulation	8.3	9.6	14.7	17	23.2	42.2
		Law/regulation	8.3	9.6	14.8	17.1	23.3	42.4
	Lenders	Voluntary Code	-19.1	-18.7	-25.4	-28.3	-36.4	-63.3
		Law/regulation	-19.2	-18.8	-25.4	-28.3	-36.5	-63.4
	Intermediaries	Voluntary Code	-0.6	-0.7	-1.2	-1.3	-1.8	-3.6
		Law/regulation	-0.6	-0.7	-1.2	-1.3	-1.8	-3.6
	Independent control body	Voluntary Code	-0.6	-0.6	-0.6	-0.6	-0.6	-0.8
		Law/regulation	-0.6	-0.6	-0.6	-0.6	-0.6	-0.8
	Government	Voluntary Code	-1.8	-1.8	-2.4	-2.7	-3.4	-6
		Law/regulation	-1.8	-1.8	-2.4	-2.7	-3.4	-6
	Total, society	Voluntary Code	-11.5	-9.9	-11.8	-12.7	-15.1	-24.7
		Law/regulation	-11.5	-9.9	-11.7	-12.6	-15	-24.5
Hungary	Consumers	Voluntary Code	1.1	1.2	1.9	2.2	2.9	4.9
		Law/regulation	1.3	1.4	2.3	2.6	3.4	5.8
	Lenders	Voluntary Code	-0.9	-0.8	-1.1	-1.2	-1.5	-2.3
		Law/regulation	-1.2	-1	-1.3	-1.4	-1.7	-2.6
	Intermediaries	Voluntary Code	-0.1	-0.1	-0.2	-0.2	-0.3	-0.5
		Law/regulation	-0.1	-0.1	-0.2	-0.2	-0.3	-0.5
	Independent control body	Voluntary Code	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
		Law/regulation	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
	Government	Voluntary Code	-0.2	-0.2	-0.3	-0.3	-0.4	-0.6
		Law/regulation	-0.3	-0.2	-0.3	-0.3	-0.4	-0.6
	Total, society	Voluntary Code	0.1	0.2	0.6	0.7	1.1	2.1
		Law/regulation	0	0.3	0.8	0.9	1.4	2.7
United Kingdom	Consumers	Voluntary Code	0	0	0	0	0	0
		Law/regulation	0	0	0	0	0	0
	Lenders	Voluntary Code	-2.3	0	0	0	0	0
		Law/regulation	-2.3	0	0	0	0	0
	Intermediaries	Voluntary Code	0	0	0	0	0	0

Table 29: Annual impacts by country, stakeholder group and policy option, 2009-2013 and 2024 (€ million of local currency) (a "+" represents a positive NPV while a "-" represents a negative NPV), Scenario 1

Country, Stakeholder group		Policy option	2009	2010	2011	2012	2013	...2024
		Law/regulation	0	0	0	0	0	0
	Independent control body	Voluntary Code	0	0	0	0	0	0
		Law/regulation	0	0	0	0	0	0
	Government	Voluntary Code	0	0	0	0	0	0
		Law/regulation	0	0	0	0	0	0
	Total, society	Voluntary Code	-2.3	0	0	0	0	0
		Law/regulation	-2.3	0	0	0	0	0

Source: London Economics analysis.

Winners and losers

If one focuses only the direct impacts reported in Table 29, the clear winners of the adoption of either of the policy options are the consumers.

In contrast, the other stakeholder groups such as lenders, intermediaries and government will incur higher costs.

However, in the countries where there is already a relatively high level of ESIS provision (or similar information) the costs and benefits are relative small.

It is only in the cases where the provision of ESIS is low to non-existent (France and Spain) that the costs are somewhat higher.

Of note is the fact that the net outcome depends on a subtle interplay between the proportion of potential borrowers who were not seeking the additional information before the policy intervention, the number of desired ESIS after the policy intervention, cost of obtaining an ESIS, the cost of producing an ESIS, and the share of lenders which were already providing the ESIS before the policy intervention.

The sensitivity of the results to various combinations of assumptions is documented in Table 30 below which shows the society NPV for France under the option 2 (law/regulation) with different assumptions. A number of points are worth noting from the sensitivity analysis reported in Table 30.

1. Increasing the share of lenders already providing an ESIS by 15 percentage points from 45% to 60% turns the society NPV into a negative figure. It falls from €140 million to -€30 million.

2. If furthermore the time required to prepare an ESIS is doubled from 5 minutes to 10 minutes, the NPV becomes even more negative, falling to -€85 million as lenders costs increase.

3. If in addition, only a small number of potential borrowers seek the desired number of ESIS after the policy intervention, the NPV falls further sharply to -€ 203 million as consumer benefits are smaller.

4. If furthermore the desired number of ESIS is increased by 50%, from 4 to 6, the NPV more than doubles in absolute terms, falling from -€203 million to -€404 million.

5. This net cost rise even more to -€464 million potential borrowers require more time to seek an ESIS (45 minutes instead of 30 minutes).

6. The net cost becomes a large benefit €328 million, however, if the share of lenders providing an ESIS is only 30% instead of 60% is however reversed.

7. Finally, the benefit is further increased by about 50% to €623 million if the desired number of ESIS is 4 instead of 6.

Table 30: Assumptions used to assess interaction between different variables – France law/regulation option

	Base scenario	Alt.1	Alt. 2	Alt. 3	Alt. 4	Alt 5	Alt.6	Alt. 7
Share of lenders who already provide an ESIS (%)	45	60	60	60	60	60	30	30
Time required to prepare an ESIS (minutes)	5	5	10	10	10	10	10	10
Proportion of borrowers who will not seek further information (absolute number)	0.5	0.5	0.5	0.75	0.75	0.75	0.75	0.25
Number of ESIS desired (absolute number)	4	4	4	4	6	6	6	4
Time required to obtain an ESIS (minutes)	30	30	30	30	30	45	45	30
NPV (€ million), society (borrowers + lenders + intermediaries)	138.9	-29.6	-84.6	-202.6	-440.8	-463.7	328.2	623.1

Source: London Economics analysis.

A key point to note from the analysis above is that the NPV of economy-wide benefits are greater in cases where the ESIS is not widely or not all made available to borrowers nor is any similar information.

Typically and paradoxically, in cases, where the ESIS is widely available, the NPV is typically negative because as a result of the more user friendly format more consumers will ask an ESIS from more lenders but they save relatively little in time because prior to the policy intervention the probability of obtaining an ESIS was already very high. Thus time savings are limited for consumers but lenders will have to supply many more ESISs. Consumers will benefit from this deeper search by finding better deals but, from an overall point of view, this is just a transfer between stakeholders and does not affect the economy-wide benefit.

This point is clearly illustrated by the negative economy-wide NPV shown for Belgium, Denmark and Netherlands and the large and positive NPV shown by France and Spain. The UK is a special case as the replacement of the KFI with the ESIS results only in one-off adjustment cost but there is no change in the search behaviour of UK consumers.

Table 31: NPV: Borrowers + lenders + intermediaries (€ million)

Country	Policy option	Scenario 1	Scenario 2	Scenario 3	Scenario 4
Belgium	Voluntary code	-207.3	-210.1	-220.1	-202.1
	Law/regulation	-212.0	-214.8	-223.0	-211.1
Denmark	Voluntary code	-66.8	-67.6	-94.8	-15.6
	Law/regulation	-58.6	-59.3	-82.6	-14.8
Spain	Voluntary code	257.1	260.5	496.0	-199.3
	Law/regulation	327.1	331.4	666.3	-324.7
France	Voluntary code	2.5	2.5	31.1	-55.8
	Law/regulation	138.9	140.8	241.0	-55.6
Germany	Voluntary code	-5.6	-5.6	-5.6	-5.6
	Law/regulation	-5.6	-5.6	-5.6	-5.6
Netherlands	Voluntary code	-182.7	-185.1	-231.2	-101.8
	Law/regulation	-181.3	-183.7	-229.0	-101.9
Hungary	Voluntary code	12.1	12.2	19.6	-2.1
	Law/regulation	15.5	15.7	25.7	-3.9
United Kingdom	Voluntary code	-2.3	-2.3	-2.3	-2.3
	Law/regulation	-2.3	-2.3	-2.3	-2.3

Source: London Economics analysis.

As already mentioned, the model also allows one to assess administrative costs that will be incurred by the private sector, namely the cost of the internal compliance and the external monitoring and enforcement activity.[78] The NPV of the administrative cost is presented in Table 32 below.

[78] The definition of administrative costs used in the present analysis is broader than that set out in the EC's Impact Assessment Guidelines as they include also the cost of the internal compliance and the external monitoring and enforcement activity and not just the reporting costs.

Typically, the costs under the voluntary system are somewhat lower because a certain proportion of lenders does not adhere to the ESIS Code and therefore does not incur compliance cost. The assumption in the model is that the proportion of not complying entities falls by half following the policy intervention. This implies that the proportion of non-compliers will be the highest in countries with low provision of the ESIS before the policy intervention. This explains why, in the case of countries with low compliance with the Code before the intervention (Spain and France), the differences between the costs of the voluntary and legal approaches are larger than in the case of countries with a high pre-policy-intervention compliance rate.

Lenders in the United Kingdom and Germany will incur one-off costs related to the change in the ESIS but these are not costs related to compliance or external monitoring and enforcement activity, and therefore are not included in the administrative cost.

Table 32: NPV: Administrative cost (€ million)

Country	Policy option	Scenario 1	Scenario 2	Scenario 3	Scenario 4
Belgium	Voluntary code	180.6	183.1	183.1	194.4
	Law/regulation	189.2	191.8	191.8	203.6
Denmark	Voluntary code	6.8	6.9	6.9	7.3
	Law/regulation	7.1	7.2	7.2	7.7
Spain	Voluntary code	247.6	251.1	251.1	266.5
	Law/regulation	389.2	394.6	394.6	418.8
France	Voluntary code	58.5	59.3	59.3	63.0
	Law/regulation	78.0	79.1	79.1	84.0
Germany	Voluntary code	0.0	0.0	0.0	0.0
	Law/regulation	0.0	0.0	0.0	0.0
Netherlands	Voluntary code	79.7	80.8	80.8	85.8
	Law/regulation	80.1	81.2	81.2	86.2
Hungary	Voluntary code	4.6	4.7	4.7	4.9
	Law/regulation	7.2	7.3	7.3	7.8
United Kingdom	Voluntary code	0.0	0.0	0.0	0.0
	Law/regulation	0.0	0.0	0.0	0.0

Source: London Economics analysis.

In order to assess the sensitivity of the results of the figures reported above, the CBA using the first economic scenario was rerun using somewhat different assumptions.

In particular,

- The desired number of ESIS sought by borrowers is increased from 4 to 5. The aggregate NPV across all the countries covered by the case studies. The NPV falls from -€193 million in the CBA results reported above to -€326 million in the self-regulatory case and from €22 million to -€13 million in the case where the provision of the ESIS becomes a legal requirement.

- In contrast, if borrowers spend more time seeking each ESIS (i.e. 60 minutes instead of 30 minutes) there is a significant increase in the value of time saved by borrowers as the probability of obtaining an ESIS (when contacting a lender) increases as a result of the implementation of the policy. The NPV increases from -€193 million to €597 million under a voluntary regime and from €22 million to €1,204 million under a legal requirement.

- However, if the time required by lenders to prepare an ESIS is doubled from 5 to 10 minutes per ESIS, the NPV falls from -€193 million to -€384 million in the case of the voluntary regime and €22 million to -€169 million under a legal requirement.

- If the proportion of borrowers not seeking the desired number of ESIS (i.e. four) is reduced from 50% of potential borrowers to 25%, the NPV increases substantially as the time savings accruing to potential borrowers are significantly larger than the increased costs faced by lenders as they have to provide more ESIS. The NPV increases from -€193 million to €276 million under a voluntary regime and from €22 million to €491 million under a legal requirement.

Table 33: Sensitivity analysis (aggregate NPV, € million)					
	Results reported previously	Desired number of ESIS is increased from 4 to 5 ESIS	Time to collect an ESIS is increased from 30 to 60 minutes	Time to prepare an ESIS is increased From 5 to 10 minutes	Proportion of borrowers not seeking desired number of ESIS is decreased from, 50% to 25%
Voluntary	-193	-326	597	-384	276
Law / Regulation	22	-13	1204	-169	491

Source: London Economics analysis.

6.7.5 Extrapolating to the EU as a whole

As was already mentioned in the section describing the general approach to the cost-benefit analysis, the results from the detailed case studies are used to generate EU-27 results. To do so, we would typically use each country's distance from the policy frontier to generate an estimate of the NPV of the policy intervention for that particular country. However, in the present case, we can regroup countries into different categories, depending on their pre-policy intervention compliance rate. We use the following categories[79]:

1. Group 1 - High compliance rate (85% and above): Austria, Belgium, Denmark, Finland, Estonia, Germany, Greece, Ireland, Luxembourg, Malta, Netherlands, Portugal, Sweden;

2. Group 2 - Average compliance (from 40% to 85%): Cyprus, Czech Republic, France, Italy, Slovakia;

3. Group 3 - Low to inexistent compliance (from 0% to 39%): Bulgaria, Hungary, Latvia, Lithuania, Poland, Romania, Slovenia, Spain;

4. Group - Special case: United Kingdom.

The results of the extrapolation of the NPV by group of countries and type of policy intervention is provided in Table 34 below.

Overall, for the EU-27 as a whole, there are benefits of moving to a system whereby a more user-friendly ESIS is provided by lenders and used by potential borrowers to compare mortgage offers from different suppliers.

[79] This section is based in the results of the latest EBIC survey of compliance with the voluntary code.

Table 34: Economy-wide NPV of benefits / costs of policy intervention in the area of pre-contractual information (€ million)		
Country group	**NPV – voluntary approach**	**NPV – law/regulation**
Group 1	-42.3	-41.7
Group 2	3.81	211.7
Group 3	31.9	40.6
Group 4	-1.6	-1.6
Total	-8.8	219

Note: The aggregate for each group of country is obtained by summing the NPVs of scenario 1 of the countries in this group reported in Table 31 and multiplying this figure by 1 plus the ratio of total 2008 mortgage outstanding of the other countries in this group to 2008 mortgage outstanding of the first group of countries.
Source: London Economics analysis.

It is worth noting that, even in the countries with negative economy-wide NPV, consumers still benefit from the policy action but these gains are more than offset by higher costs incurred by lenders and intermediaries.

6.7.6 Dynamic dimensions

Consumer confidence

In Chapter 1, we have reported the results of the estimation of a small model aiming to explain differences in consumer confidence across the EU due to differences in the provision of the ESIS. Consumer confidence was proxied by the percentage of respondents to a Eurobarometer survey who stated that that is fairly and very difficult to understanding mortgage products and their riskiness.

The estimated model showed that an increase of 1 percentage point in the share of the mortgage market providing an ESIS was associated with a reduction of 0.163 percentage point in the percentage of respondents who indicated that they had problems in understanding mortgage products and their riskiness.

This estimated impact is used to compute the increase in consumer confidence that would result under either option 1 or 2. In line with the assumptions used in the detailed quantification of costs and benefits presented earlier in this chapter, it is assumed that the share of the mortgage market not providing an ESIS would be halved under option 1, the voluntary regime. Under a legal requirement to provide an ESIS, it is assumed that the share of the market providing an ESIS is 100%.

The estimated impact on consumer confidence for each EU-27 Member State is reported in Table 35 below. This impact is substantial in Member States with a very low provision of the ESIs (for example, Lithuania, Spain and Romania).

In contrast, the impact is very low in Member States with a very high provision of ESIS (for example, Austria, Belgium, etc).

Obviously, in the two Member States (Germany and United Kingdom) judged to be at the policy frontier, the impact is nil.

Table 35: Impact of option 1 and 2 on consumer confidence

Member State	Share of mortgage market providing an ESIS in the baseline	Change in the share of mortgage market providing an ESIS under		Reduction (in percentage point) of the share of consumers who do have difficulties in understanding mortgage products and their risks	
		Option 1	Option 2	Option 1	Option 2
Austria	0.9	0.05	0.1	-0.81	-1.63
Belgium	0.9	0.05	0.1	-0.81	-1.63
Bulgaria	*0*	0.5	1	-8.15	-16.30
Cyprus	0.58	0.21	0.42	-3.42	-6.85
Czech Republic	0.78	0.11	0.22	-1.79	-3.59
Denmark	0.94	0.03	0.06	-0.49	-0.98
Estonia	0.96	0.02	0.04	-0.33	-0.65
Finland	0.95	0.025	0.05	-0.41	-0.82
France	0.45	0.275	0.55	-4.48	-8.97
Germany	1	0	0	0.00	0.00
Greece	0.95	0.025	0.05	-0.41	-0.82
Hungary	0.7	0.15	0.3	-2.45	-4.89
Ireland	0.06	0.47	0.94	-7.66	-15.32
Italy	0.79	0.105	0.21	-1.71	-3.42
Latvia	*0.7*	0.15	0.3	-2.45	-4.89
Lithuania	*0*	0.5	1	-8.15	-16.30
Luxembourg	0.9	0.05	0.1	-0.81	-1.63
Netherlands	0.99	0.005	0.01	-0.08	-0.16
Poland	0	0.5	1	-8.15	-16.30
Portugal	0.95	0.025	0.05	-0.41	-0.82
Romania	0	0.5	1	-8.15	-16.30
Slovenia	0	0.5	1	-8.15	-16.30
Slovakia	0.61	0.195	0.39	-3.18	-6.36
Spain	0	0.5	1	-8.15	-16.30
Sweden	0.9	0.05	0.1	-0.81	-1.63
United Kingdom	1	0	0	0.00	0.00

Note: No information is available for Malta. Figures in italics in the second column are assumptions based on the project team's interpretation of the qualitative information provided. All the figures in the second column are taken from the legal baseline discussion in the present chapter.
Source: London Economics calculations.

Consumer mobility

In Chapter 1, we also reported the estimation results of different models investigating the determinants of the observed lack of customer mobility.

Of particular interest for the present discussion are the estimation results of model 4 which showed that the provision of an ESIS reduces the percentage of survey respondents who stated that they did not consider switching mortgage provider because they were not aware that they could do so.

The estimated impact is much smaller in absolute terms than the one on consumer confidence as an increase in the mortgage market share providing an ESIS is estimated to reduce the percentage of respondents who were not aware that they could switch by 0.04 percentage point. This reflects the lack of provision of an ESIS sheet is not the only factor affecting switching intentions.

Overall, the estimated impact ranges from nil for the two Member States estimated to be already at the policy frontier to almost four percentage points for the Member States with no provision of the ESIS at the present time (see Table 36).

In other words, in the latter Member States, the percentage of people who do not know that they can switch mortgage providers could fall by almost 4 percentage point if an ESIS is provided by the whole mortgage market. To put these figures in perspective, it is important to recall that the share respondents who did not know they could switch was slightly above 8% (Slovenia).

Table 36: Impact of option 1 and 2 on consumer switching

Member State	Share of mortgage market providing an ESIS in the baseline	Change in the share of mortgage market providing an ESIS under		Reduction (in percentage point) of the share of consumers who do not know that they can switch mortgage provider	
		Option 1	Option 2	Option 1	Option 2
Austria	0.9	0.05	0.1	-0.20	-0.39
Belgium	0.9	0.05	0.1	-0.20	-0.39
Bulgaria	*0*	0.5	1	-1.95	-3.90
Cyprus	0.58	0.21	0.42	-0.82	-1.64
Czech Republic	0.78	0.11	0.22	-0.43	-0.86
Denmark	0.94	0.03	0.06	-0.12	-0.23
Estonia	0.96	0.02	0.04	-0.08	-0.16
Finland	0.95	0.025	0.05	-0.10	-0.20
France	0.45	0.275	0.55	-1.07	-2.15
Germany	1	0	0	0.00	0.00
Greece	0.95	0.025	0.05	-0.10	-0.20
Hungary	0.7	0.15	0.3	-0.59	-1.17
Ireland	0.06	0.47	0.94	-1.83	-3.67
Italy	0.79	0.105	0.21	-0.41	-0.82
Latvia	*0.7*	0.15	0.3	-0.59	-1.17
Lithuania	*0*	0.5	1	-1.95	-3.90
Luxembourg	0.9	0.05	0.1	-0.20	-0.39
Netherlands	0.99	0.005	0.01	-0.02	-0.04
Poland	0	0.5	1	-1.95	-3.90
Portugal	0.95	0.025	0.05	-0.10	-0.20
Romania	0	0.5	1	-1.95	-3.90
Slovenia	0	0.5	1	-1.95	-3.90
Slovakia	0.61	0.195	0.39	-0.76	-1.52
Spain	0	0.5	1	-1.95	-3.90
Sweden	0.9	0.05	0.1	-0.20	-0.39
United Kingdom	1	0	0	0.00	0.00

Note: No information is available for Malta. Figures in italics in the second column are assumptions based on the project team's interpretation of the qualitative information provided. All the figures in the second column are taken from the legal baseline discussion in the present chapter.
Source: London Economics calculations.

Product choice and mortgage market completeness

In Chapter 1, we also reported that there is some statistical evidence that the provision of ESIS contributes to marker completeness as proxied by the Mortgage Market Index (see Table 9 in Chapter 1) which ranges from 0 to 1.

The estimation results show that, on average, an increase of 1 percentage point in the share of the mortgage market providing an ESIS raises the index by 0.001.

Because of the relatively small effect, the changes in the index are only notable in the cases of the Member States with no or a very low provision of the ESIS (see Table 37).

This does not mean that the provision an ESIS is not important for mortgage market development. But, it simply reflects the fact that other factors are also important in explaining cross-country differences in mortgage market development.

Table 37: Impact of option 1 and 2 on product choice and market completeness

Member State	Share of mortgage market providing an ESIS in the baseline	Change in the share of mortgage market providing an ESIS under		Increase in the value of the Mortgage Market Index which ranges from 0 o 1	
		Option 1	Option 2	Option 1	Option 2
Austria	0.9	0.05	0.1	0.00	0.01
Belgium	0.9	0.05	0.1	0.00	0.01
Bulgaria	*0*	0.5	1	0.05	0.10
Cyprus	0.58	0.21	0.42	0.02	0.04
Czech Republic	0.78	0.11	0.22	0.01	0.02
Denmark	0.94	0.03	0.06	0.00	0.01
Estonia	0.96	0.02	0.04	0.00	0.00
Finland	0.95	0.025	0.05	0.00	0.01
France	0.45	0.275	0.55	0.03	0.06
Germany	1	0	0	0.00	0.00
Greece	0.95	0.025	0.05	0.00	0.01
Hungary	0.7	0.15	0.3	0.02	0.03
Ireland	0.06	0.47	0.94	0.05	0.09
Italy	0.79	0.105	0.21	0.01	0.02
Latvia	*0.7*	0.15	0.3	0.02	0.03
Lithuania	*0*	0.5	1	0.05	0.10
Luxembourg	0.9	0.05	0.1	0.00	0.01
Netherlands	0.99	0.005	0.01	0.00	0.00
Poland	0	0.5	1	0.05	0.10
Portugal	0.95	0.025	0.05	0.00	0.01
Romania	0	0.5	1	0.05	0.10
Slovenia	0	0.5	1	0.05	0.10
Slovakia	0.61	0.195	0.39	0.02	0.04
Spain	0	0.5	1	0.05	0.10
Sweden	0.9	0.05	0.1	0.00	0.01
United Kingdom	1	0	0	0.00	0.00

Note: No information is available for Malta. Figures in italics in the second column are assumptions based on the project team's interpretation of the qualitative information provided. All the figures in the second column are taken from the legal baseline discussion in the present chapter.
Source: London Economics calculations.

Cross border lending

In the absence of reliable and comprehensive data on cross-border lending through the various channels listed in Chapter 1, the survey of lenders undertaken as part of this project sought to obtain evidence on the likely impact of either options 1 and 2 on cross-border mortgage provision.

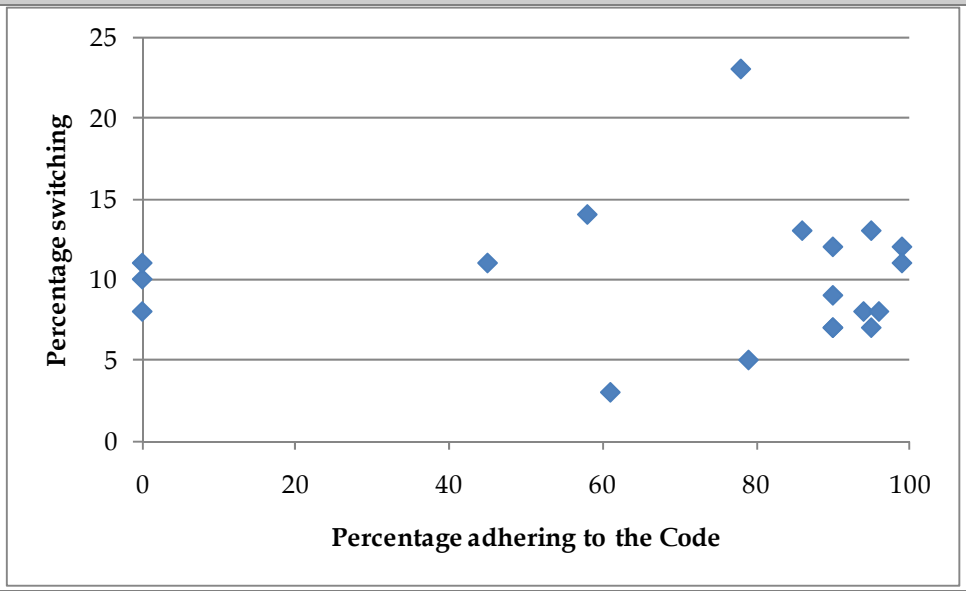
The survey results, which are discussed in greater detail in Annex 3 show a split among lenders.

Some lenders responded that the policy options discussed in the present chapter would have no impact at all on cross-border mortgage provision. These were mainly lenders who are not involved at the present time in cross-border mortgage lending.

In contrast, some of the lenders who are already involved in such cross-border activity through one of the several channels indicated, on average, that a requirement that an ESIS has be provided could contribute to increase cross-border lending by 3%, with one lender even judging that the effect could be as large as 6% to 10%. It is important to note that, typically, survey respondents did not provide separate answers for option 1 and 2 and focused mainly on option 1.

These latter survey results lead us to believe that, overall, a relatively conservative estimate of the potential expansion of cross-border mortgage provision resulting from the policy options considered in the present chapter could be of the order of 3% if ESIS provision covers the whole market.

Figure 22: Percentage of respondents who switched vs. Percentage of the market adhering to the Code



Source: London Economics analysis based on data on borrower switching of mortgage provider reported in Eurobarometer Flash of January 2009 and data on share of mortgage lenders providing an ESIS reported in EBIC (2009).

6.8 Conclusions

The quantitative analysis reported in this section shows that overall the proposed policy of either a continuation of the voluntary approach with a strengthened monitoring and enforcement mechanisms or a legal requirement to provide a revamped, more informative and simplified ESIS would have beneficial effects for consumers across the EU except Germany, a country at the policy frontier, and the UK where consumers would neither gain nor loose as a result of replacing the KFI with an ESIS.

At the level of the economy as whole, the situation is more varied.

Countries with a high compliance rate in the provision of an ESIS would face higher net cost[80] as the main effect would be consumers seeking to obtain an ESIS from more lenders in the post policy intervention environment. As noted above, this is a benefit for consumer but also entails costs for lenders and the overall impact is small and negative.

[80] I.e., cost would increase by more than benefits.

In sharp contrast, low compliance countries, consumers would also benefit from significant saving in searching for information as, in the post policy intervention period, the likelihood of obtaining an ESIS when contacting a lender increases sharply.

For the EU-27 as a whole, costs exceed benefits in the case of a self-regulatory system. However, it has to be noted that the estimated net costs are very small, both in absolute terms and relative to the size of the European mortgage market. In the case of a legal requirement to provide an ESIS the costs and benefits are practically in balance at the EU-27 level.

Moreover, the results reported in the chapter also show that a comprehensive ESIS provision will boost consumer confidence in mortgage products, stimulate consumer mobility, encourage mortgage market development, and stimulate cross-border lending.

7 Annual percentage rate of charge

7.1 Policy options under review

This study considers the impacts of three APRC definitions. These are the following:

- **Option 1:** Narrow APRC covering only those costs levied by the lender for the loan for his own benefit.[81]
- **Option 2:** Broad APRC: covering all costs that the consumer has to pay in connection with the credit. Only those costs which are truly optional for the consumer could be excluded. For example, insurances which are compulsory to obtain a certain interest rate, or "strongly recommended", or concluded at the same time [82]as the loan contract would have to be.
- **Option 3:** An APRC along the lines of the provisions in the revised Directive on credit agreements for consumers. More details about this option are provided below.

Two important implications for the mortgage markets of the application of the APRC as defined by the Consumer Credit Directive are:

1. The fact that, if the credit contract provides for a variable interest rate and variable charges which are unquantifiable when the contract is drawn up, then it is to be assumed that the "*borrowing rate and other charges will remain fixed in relation to the initial level and will remain applicable until the end of the credit agreement*".[83]

   The specification set out above of how the APRC is to be computed concerns consumer credit only. However, in the case of a straight application to mortgage contracts of this clause to hybrid mortgages combining a fixed rate for an initial and limited period with a variable rate over the remainder of the life of the mortgage, the APRC for the whole mortgage would have to be computed using the initial fixed rate as the variable rate to be applied later on will not be known at the time when the contract is drawn up.

[81] This was the option favoured by the industry in the Mortgage Industry and Consumers Expert Group which was set up by EC DG Internal Market and services and DG Health and Consumer Protection to explore to what extent common principles on APRC and information, advice and early repayment could be agreed on.
[82] This was the option favoured by consumer representatives in the Mortgage Industry and Consumers Expert Group.
[83] Article 19.4 of Directive 2008/48/EC of the European Parliament and of the Council of 23 April 2008 on credit agreements for consumers and repealing Council Directive 87/102/EEC.

2. The loan duration may differ by product (prepayment option) hence an APRC is only comparable across identical mortgage products as different assumptions underlie the estimation of the APRC for a fixed rate and a variable rate mortgage. The fact that "*if a credit agreement provides different ways of drawdown with different charges or borrowing rates, the total amount of credit shall be deemed to be drawn down at the highest charge and borrowing rate applied to the most common drawdown mechanism for this type of credit agreement*"[84] Applying such a clause to mortgage contracts may imply that, in the case of a mortgage loan consisting of two different tranches with different rates or combined mortgage/savings products, the highest charge would be used to compute the APRC.[85]

7.2 Legal baseline

The legal baseline in regard to the APRC is presented in this section.

First, whether the APRC calculation is specified in the Member States' national laws is presented. This is followed by a summary of the products and services that are typically required as part of the mortgage loan establishment, and those which are included in the APRC. The section then presents the approach to computing the APRC in each Member State and then provides an assessment of how far each Member State is from the proposed policy frontier.

7.2.1 Legal specification for calculation of APRC

Fifteen Member States have a legal specification for the calculation of the APRC. These are:

- Austria;
- Denmark;
- Estonia;
- Germany;
- France;
- Finland;

[84] Article II(b) of Annex I of Directive 2008/48/EC of the European Parliament and of the Council of 23 April 2008 on credit agreements for consumers and repealing Council Directive 87/102/EEC.
[85] At the present time this is largely a hypothetical issue as the information gathered from Member States for the present study shows that no Member States does or plans to apply Article 19 Calculation of the annual percentage rate of charge of the Consumer Credit Directive to mortgage lending.

- Hungary;
- Ireland;
- Italy;
- Portugal;
- Spain;
- Sweden;
- Slovakia;
- Slovenia;
- United Kingdom.

Member States which do not have a legal specification for calculation of the APRC for mortgage loans are the following:

- Belgium, although the law specifies what the rate charged on mortgage loans has to include;
- Bulgaria, legal specification only for consumer credit other than mortgages. However, most lenders will also provide an APRC for mortgage loans;
- Cyprus, in cases where the loan is less than €85,430 the formula for the APRC is specified by law. For loans greater than this amount there is no formula specified by law;
- Czech Republic has no legal specification; however, the Czech Banking Association has developed a standard that should be followed by lenders. The Standard is No.18/2005;
- Greece, no legal specification or industry agreement;
- Lithuania, the APRC is not used for mortgages;
- Luxembourg, no legal specification or industry agreement. However, the respondents note that if a lender has signed up to the European Code of Conduct they have an obligation to provide the APRC as stated in the Code of Conduct, which is the "equivalent effective rate". From the assessment of the Code of Conduct on pre-contractual information for Home Loans, there is an industry agreement to adhere to the Code, and 90% of lenders in the Luxembourg market adhere to it;

- Latvia, the APRC is never used for mortgages;
- Netherlands, the APRC is agreed in the Dutch Industry Code of Conduct on Mortgage Credit;
- Poland, the Polish Financial Services Authority has issued a Recommendation that the APRC should be given to mortgage borrowers but no details as to how it should be calculated is contained in the Recommendation. Only those loans (including mortgages) below €20,000 (or 80,000 Zloty) are required to have an APRC, and for these loans the CCD calculation applies;
- Romania, the APRC is not required to be given to borrowers, and there is no specification of how it should be calculated.

Unfortunately, it is not possible to provide any information on the APRC for Malta.[86]

7.2.2 Cost factors included in the APRC

Table 39 below presents the cost factors included in the APRC calculation in each of the 27 Member States. The cost factors are separated into those that are attributable to lender products and services and those attributable to third party products and services.

This is used to assess whether a Member State has a narrow or broad APRC, or whether the APRC is along the lines of the APRC set out in CCD. The assessment is then presented in Table 40 in which it is used to determine the distance from the APRC policy options.

In addition to the information used to assess the APRC definition and, in turn, the distance from the policy options, Annex 6 presents background information collected from national regulators and industry associations. While this background information is not used to assess the APRC, it is included as additional information in regard to the products and services usually associated with the establishment of the mortgage loan and the approach to calculating the APRC. The latter includes the term over which the APRC is calculated, how the APRC is calculated for variable rate mortgages and hybrid mortgages, and the approach in the case of multiple contracts or products.

The information has been provided by the national regulators and industry associations in each Member State.[87] Where there was inconsistency between

[86] The Malta Financial Services Authority has informed the project team that the Consumer Competition Division in Malta is the responsible for consumer credit and therefore is the organisation that can answer these questions. The Consumer Competition Division has not responded to any requests to participate.

the answers provided by these two groups, the information provided by the regulator is reported.

[87] It is possible that, in some cases, the survey responses were incomplete and that some costs are missing from the table.

Table 38: Cost factors to be included in the APRC attributable to lender products and services					
Cost factor	**Inclusion is a legal requirement**	**Yes –always but is not a legal requirement**	**Yes – in most cases**	**Yes – only occasionally**	**No- never included**
Borrowing costs (*Note: this is the "borrowing rate" as defined in the Consumer Credit Directive 2008/48/EC)*	AT, BE*, CZ, DK, DE, ES, FR, IE, HU, FI, SE, UK, PT, EE, IT, SI, SK	BG**, EL, LU			
Discount origination	CZ, DK, ES, HU, SE, DE ("Disagio"), PT			FI	BE, BG, EE, E, SIL
Premium origination	CZ, DK, HU, SE, DE ("Agio"), PT, IT			FI	BE, BG, EE, EL, SI
General loan closing costs charged by the lender	AT, BE, CZ, DK, DE, ES, SE, UK, BG, IT, SI, FI	LU			PT, EE, EL, HU
Lender property appraisal fees	DK, BG, UK (but not normally charged), PT, HU, IT	CZ, EE	AT,	LU	BE, ES, FI, SE, EL, SI
Lender credit assessment fees	AT, BE, DK,PT, HU, IT, SI	CZ, BG			SE, DE (internal costs), EE, EL, LU
Account maintenance fees *Note: As used in the Consumer Credit Directive Articles 5, 10 and 19.*	AT, BE,CZ, PT, IT	DK	BG		DE, ES, HU, SE, EE, EL, SI
Discounts given by the lender	AT, BE, DK, DE, ES, HU, EL		SE	FI, SI	BG, EE

* Belgium does not have an APRC for mortgage credit. However, we have been informed that they have a similar concept and we have been informed that the above cost factors are included in its calculation. ** In Bulgaria the APRC is not legally specified for mortgage credit. The APRC is only specified in law for consumer credit. However, we have been informed that the APRC is used in practice by mortgage providers and the above listed cost factors are included (Bulgarian National Bank).

Table 39: Cost factors to be included in APRC or similar concept and attributable to third party products and services

Cost factor	Inclusion is a legal requirement	Yes –always but is not a legal requirement	Yes – in most cases	Yes – only occasionally	No- never included
Life/casualty insurance	FR, IE, PT, IT	BG		AT, EE, SI	BE, DK, DE, ES, HU, FI, SE, EL
Property insurance premiums	PT	BG, EE	SI		AT, BE, DK, DE, ES, HU, FI, SE, EL, IT
Mortgage interest payment insurance	FR	EL	BG, LU	PT, EE, SI	BE, DK, DE, ES, HU, FI, SE, IT
Mortgage principal insurance premiums	FR	BG, EL	LU	AT, PT, EE, SI	BE, DK, DE, ES, HU, FI, SE, IT
Other insurance premiums: please specify below	IT (unemployment), DE (residual mortgage debt if required in loan agreement)	EL			BE, DK, ES, HU, FI, SE
Notary fees (establishment of the surety, loan contract)	FR, BG, LU		AT (if the fees are included in the loan amount)	SI	BE, DK, DE, ES, IE, HU, FI, SE, PT, EE, EL, IT
Legal advisory fees	IT	BG		SI	AT, BE, DK, DE, ES, HU, FI, SE, PT, EE, EL, LU
Title insurance fees		BG		SI	AT, BE, DK, DE, ES, FI, SE, PT, EE, EL, IT, LU
Credit bureau fees	IT	BG	SI	HU	AT, BE, DK, DE, ES, FI, SE, PT, EE, EL, LU
Third party appraisal fees	IT	BG		EE, HU, SI	AT, BE, DK, DE, ES, FI, SE, PT, EL
Brokerage fees if mortgage obtained through a broker	BE, FR, DE, PT, IT			BG, HU, SI	AT, DK, ES, FI, SE, EL, FI
Taxes due on transfer of title to the property	BG			SI	AT, BE, DK, DE, ES, HU, SE, PT, EE, EL, FI
Notary fees (transfer of title to the property)	BG, EE		AT	SI	BE, DK, DE, ES, HU, SE, PT, EL, FI

7.3 Legal baseline distance

On the basis of the information available and summarised in the tables above, the distance from the narrow and broad APRC option, and the APRC in the Consumer Credit Directive (articles 3g and 19) are mapped in the table below.

The APRC options are:

Policy Option 1

Narrow APRC: covering only those costs levied by the lender for the loan for his own benefit are taken into account.[88] These costs are listed in Table 38 and include the following:

- borrowing costs;
- discount origination;
- premium origination;
- loan closing costs;
- lender property appraisal fees (this refers only to appraisal fees that accrue to the lender);
- lender credit assessment fees;
- account maintenance fees; and,
- discounts given by the lender.

Policy Option 2

Broad APRC: covering all costs that the consumer has to pay in connection with the credit. Only those costs which are truly optional for the consumer are be excluded. For example, insurances which are compulsory to obtain a certain interest rate, or "strongly recommended", or concluded at the same time as the loan contract would have to be included.[89] Costs included in policy option 2 are those presented in Table 38 (and listed in policy option above) plus the third party costs in Table 39. These third party costs are the following:

- life/causality insurance;
- property insurance premiums;

[88] Definition taken from the Final Report of the Mortgage Industry and Consumer Dialogue.
[89] Definition taken from the Final Report of the Mortgage Industry and Consumer Dialogue.

- mortgage interest payments;
- mortgage principle insurance;
- any other insurance;
- notary fees (for establishment of the mortgage);
- legal advisory fees;
- title insurance fees;
- credit bureau fees;
- third party appraisal fees (this refers to appraisal fees that accrue to a third party even if the third party is contracted by the lender in order to undertake the appraisal on the lender's behalf);
- brokerage fees;
- taxes on title transfer; and,
- notary fees on title transfer.

Policy Option 3

An APRC along the lines of the provisions in the revised Directive on credit agreements for consumers.[90] This includes all the costs a borrower has to incur to obtain the loan and which are known to the lender, except notarial costs. It also includes costs for ancillary services. The CCD does not specify that only the costs to the lender's benefit are to be included.[91]

[90] See Articles 3g and 19 of the Consumer Credit Directive as adopted by the European Parliament on 16 January 2008.

[91] The CCD specifies in article 3g that "the total cost of the credit to the consumer means all the costs, including interest, commissions, taxes and any other kind of fees which the consumer is required to pay in connection with the credit agreement and which are known to the creditor, except for notarial costs; costs in respect of ancillary services relating to the credit agreement, in particular insurance premiums, are also included if, in addition, the conclusion of a service contract is compulsory in order to obtain the credit or to obtain it on the terms and conditions marketed". The complete text of the CCD is provided at Annex 1.

Mapping the distance from the policy options

The mapping takes the following approach:

- Member States that that have a legal requirement to include cost factors attributable to lender products and services only, are mapped as being close to the frontier for policy option 1.
- Member States that have a legal requirement to include cost factors attributable to third party products and services (in addition to lender products and services) are mapped as being close to the frontier for policy option 2.
- Member States that that have a legal requirement to include the cost factors for the cost of funds and the cost of holding an account with the lender (only) are mapped as being close to policy option 3.

Table 40: Distance from policy option

	Option 1: narrow APRC	Option 2: broad APRC	Option 3: Along the lines of the CCD
Close to the option	AT BE BG (has elements of broad.) DE DK EE (has elements of broad) EL ES FI HU IE (has elements of broad) IT (has elements of broad) LU (has elements of broad) NL (effective rate of interest which should specify costs charged by the lender) PL (only for mortgages up to €20,000) PT (has elements of broad) SE SL UK	FR	
Distant from the option	FR, (current regime exceeds narrow APRC requirements) LT (no legal specification of APRC) LV (APRC not used for mortgages) PL (for mortgages greater the €20,000) RO (no legal specification of APRC) SK (only borrowing costs are legally required all other costs included at discretion of lender)	AT LT BE LU BG LV DE NL DK PL EE PT EL RO ES SE FI SK HU SI IE UK IT	All Member States *All Member States include cost factors beyond those included in Option 3.* *Hungary plan to implement CCD as whole to mortgage credit as well as consumer credit However, information provided in the legal baseline questionnaires, and which has been verified, shows that costs factors beyond those required by the CCD are also included. We also believe that Slovakia will transpose article 19 of the CCD to mortgage credit. However, again the cost factors can be broader then the CCD definition.** *Note: Germany, Bulgaria and Poland, which reported that some articles of the CCD will be applied to mortgage credit do not plan to implement article 19. (See chapter2)*

Note: * In Slovakia, Act No 258/2001 Coll. defines what cannot be included in the APRC computation. With the exception of the borrowing costs, which by law must be included, all the cost factors listed in the survey can be included in the calculation of the APRC at the discretion of the lender.
Source: London Economics legal baseline survey.

Member States for which no information has been found are:

Cyprus: The APRC is only required for mortgage loans under €83,430. There is no common approach as to what cost factors should be included in the APRC. Therefore, the regulators were unable to respond to this part of the questionnaire.

Czech Republic: It has not been possible to collect information on what costs factors are included in the APRC. As mentioned above, the Czech Banking Association has developed a standard that should be followed by lenders. Annex 5 of Standard No.18/2005 contains a list of cost factors which should be included in the calculation of the APRC, as well as those that should not be included. The text of the Standard is not published on either the Czech Banking Association or the Czech National Bank websites, and our Czech legal specialist was only able to acquire the document from a commercial bank without the annexes. Czech authorities did not provide any information.

Malta: The Malta Financial Services Authority could not answer this part of the questionnaire. The Department for Consumer Affairs, the responsible authority, was invited to participate. There has been no response to the requests.

7.4 Selection of case countries for detailed study

Seven Member States have been included as case studies for the Annual Percentage Rate of Charge cost benefit analysis. These seven are the following:

- Spain;
- France;
- Germany;
- United Kingdom;
- Belgium;
- Hungary; and,
- Italy.

The legal baseline assessment for annual percentage rate of charge shows that these Member States represent a balance in regard to the distance from the policy frontiers under consideration in this study. Namely, Spain, Hungary, Germany and the United Kingdom[92] are closest to a narrow APRC

[92] Note, the response provided in the stakeholder cost benefit analysis questionnaire for the mortgage

specification, and from the assessment conducted for this study, do not have some elements included in the broad APRC option. Belgium and Italy are also closest the narrow APRC, as assessed in this study, however they do include some elements of a broad APRC. France has a current APRC specification that is closest to the broad APRC option. This reflects the fact that many quasi-statutory costs have to be incurred by a borrower in the cost of a mortgage loan.

7.5 Conceptual and empirical basis for the cost-benefit analysis

While in principle the computation of clearly understandable APRC would make mortgage markets more transparent and mortgage products more comparable, the computation of such an APRC raises many questions which are not always addressable but which make it more difficult to compare across mortgage products.

In this chapter, we present some of the issues and we conclude with a broader discussion of consumer understanding of interest rates and other charges and fees incurred as part of securing mortgage or a housing loan.

7.5.1 Information value of APRC for consumers

As background information for the CBA and to clearly set out the limits of the potential impact of the provision of an APRC, we review briefly some of the issues that may arise in specific circumstances. While these issues have a direct impact on consumer behaviour and potential use of inadequate information by consumers in the mortgage product selection, none of them can be addressed through the computation of an APRC. This is important because the mere provision of an APRC does not provide information to consumers about the price/risk ratio of different mortgage products facilitates. It only facilitates the comparison of identical products. This point is discussed further in the CBA analysis of the policy options.

Additional charges and fees

Obviously one of the issues to be addressed in the computation of an APRC is the range of charges and fees over and above the direct cost of the funds borrowed which a borrower will incur when obtaining a loan.

Some of these charges are unavoidable because they have either to be incurred as part of the process of establishing the surety for the loan (for

industry association in the UK indicated that the UK APRC is close to the CCD definition. However, the UK is included in the legal baseline, for this study, as being a narrow APRC because it includes costs such as general loan closing costs, lender property appraisal costs (when charged by the lender) which go beyond those costs strictly included in the CCD definition.

example the cost of a survey) or, when these charges and fees are not related to the establishment of the surety (i.e., the mortgage over the property), the lender imposes these additional fees and charges (for example, file opening fees, etc) to cover his administration costs.

It is important to note that, even though the charges are unavoidable when dealing with a specific lender, they may be avoidable by a borrower if other lenders assume part of or the full cost of establishing the surety and if the practice of levying additional fees and charges, and their size, vary across lenders. For example, before the financial crisis, lenders in the UK often offered "special mortgage deals" whereby they would assume the costs of appraisals or waive some administrative fees. It is possible that in the latter case, the costs incurred by the lender are built-in into a slightly higher mortgage rate. Alternatively, a lender may decide to absorb the additional costs if mortgage lending is viewed as a mean of attracting additional clients for other financial products.

As market practices and conditions vary across the EU, a requirement that all the unavoidable costs and charges that a borrower would incur are included in addition to the cost of the funds lent by the mortgage provider is likely to increase comparability within a domestic mortgage market and across national borders if these costs are not location dependent.

However, it is important to distinguish unavoidable fees and charges that are related to a property transaction from unavoidable fees and charges related to the granting of a mortgage loan. For example, in countries where special taxes and duties are charged on the value of the property in property transactions, the unavoidable charge is related to the property transaction per se and not to the granting of the mortgage loan as the charge would have been incurred even in the absence of a mortgage loan.

In the survey seeking to establish the legal baseline in each country, we distinguished between products and services which are related to the establishment of the mortgage loan contract and disbursement from products and services related to the transfer of the property ownership.

The group of products and services which are related to the establishment of the mortgage loan contract and disbursement are described in Annex 6.

In contrast, the group of products and service related to the transfer of property ownership include taxes due on the transfer of the title to a property, legal and notary services related to the transfer of the title to a property, land register services, etc. Information on whether or not in some Member States some of these costs elements are included in the APRC is provided in section 7.2.2.

Based on an analysis of the current situation in Member States (see section 7.2), we define for the purpose of the present analysis the narrow APRC as including the costs of the funds lent to borrower and all the additional costs

charged by lender which are related to establishing a surety over the property or the guarantee in the case of a home loan.

In contrast, a broad APRC includes all the additional charges and fees that a borrower will incur in order to obtain the mortgage loan. These additional charges and fees may be levied by the lender himself or a third party, but are only related to the granting of the mortgage or home loan. For example, a frequent mortgage loan granting or disbursement condition is that the property has to be insured against fire, etc. This is an unavoidable charge as the owner of mortgage-free property does not have to buy insurance against the risk of fire even though it is highly advisable.

Period over which the APRC is to be computed

At issue is the length of the period to include in the calculation of APRC in the case of an APRC when the mortgage loan has a long term to maturity. Many mortgage loans are repaid early. This raises the question of whether the term to maturity or the typical average life of a mortgage loan are to be used in such cases in the calculation of the APRC. Theoretically, in order for consumers to be able assess the "real cost" of a mortgage product it is important to take into account whether or not she/he intends to repay the loan early.

Below, we review the current practice in the different national mortgage markets.

Rate to be used in the case of a hybrid mortgage loan

Such a hybrid mortgage loan product combine an initial fixed rate over a limited period followed by a variable rate, the level of which is uncertain at the time the mortgage loan is granted.

Various practices are possible. The fixed rate could be used over the whole life of the mortgage. Alternatively, the current level of the variable rate could be used in the calculation of the APRC for the post-fixed rate period or a projected variable rate.

Using the current variable rate as the interest cost of the mortgage loan over the term of the loan during which the rate can vary may appear a more objective measure for comparing at a point of time the all-inclusive cost of a hybrid mortgage loan. However, it suffers in fact from the fundamental deficiency that future variable interest rates are likely to be very different from current variable interest rates. Moreover, different lenders may adjust their variable rates differently when market circumstances change.

Therefore, an APRC using the current variable rate does not provide information about the possible interest cost of the mortgage loan nor can it be compared to an APRC on a similar product from a different lender whose variable rate adjustment may be different in the future.

To summarise, it is important to note that the APRC is not a risk-adjusted rate and therefore can send a misleading signal if it is used to compare mortgage products with different risk characteristics.

Rate to be used in the case of an ARM and foreign currency loans

Similar considerations apply to the computation of an APRC in the case of an ARM. The current rate is a highly imperfect predictor of future rates and does not capture the interest rate risk that a borrower faces. Moreover, if variable rates of the ARMs are adjusted differently by different lenders, the current ranking of lenders on the basis of the APRC is a poor predictor of the ranking of the lenders over the whole term of the mortgage loan.

The same considerations apply in the case of foreign currency loans where a comparison of the cost of foreign and domestic mortgage loans whose terms, except the currency, are strictly identical should ideally be undertaken using a price adjusted for the foreign currency risk. .

Rate to be used in case of combined mortgage product

Examples of such combined mortgage products are the savings plus mortgage loan product where the future borrower saves at a below market rate and obtains a mortgage loan at lower rate than the one charged on conventional mortgage loans. Obviously, using in the APRC only the rate charged on the mortgage loan would give a misleading picture of the true cost of the mortgage loan as the borrower is earning (or has earned) a below market rate on the savings accumulated to obtain the mortgage loan.

7.5.2 APRC definitions and competition distortions

It is possible that in the environment where a narrow APRC is used that some mortgage lenders (domestic or foreign) may aim to undercut established lenders banks to gain market share. This can be achieved by various means such as, for example, tying insurance which is not priced in the APRC or, in case of distribution through an intermediary channel, not quoting broker fees in APRC until the closing day.

7.5.3 General considerations about borrowers understanding of interest rates

Studies of consumers' knowledge and understanding of interest rates and the annual percentage rate of charge have typically focused on individual consumer's knowledge of the interest rate they are incurring on their own sources of debt. This is slightly different to consumers' understanding of what the interest rate and APR means.

Here we focus on research that has investigated consumers' understanding of what an interest rate is, and what an annual percentage rate of charge means. Below we discuss some of the recent international literature.

The Centre for Human Resource Research at Ohio State University in the US, in their monthly consumer finance survey, 2nd quarter of 2009, found that amongst surveyed consumers who had applied for a mortgage or refinanced in the past five years, 40% did not understand the APR-interest rate relationship. Further, they observed that factors such as income and education had no impact on understanding.[93] Similarly, in a survey of 1,000 US consumers, only one-third could comprehend interest compounding (National Bureau of Economic Research, March 2009).[94]

An Ipsos Mori poll on UK consumers' financial literacy found that nearly four out of five people do not know that the APR refers to the interest rate and other costs of the loan.[95]

A 2008 Australian survey of vulnerable consumers (defined on the basis of income level), found that consumers usually knew how much they were paying in total in interest and fees, but very few understood how interest worked or what the interest rate meant.[96]

These studies indicate that consumers' understanding of interest rates and APRs is low in general.

Such findings were confirmed in the results of the household surveys and consumer focus groups undertaken as part of the present project. In the household survey, only 41% of survey respondents identified the APRC as the most relevant price for comparing mortgage offers.[97]

In the case of the focus groups, only the participants in the German and Italian groups knew that the APRC can be used to compare the global cost of different mortgage offer. A significant majority of focus group participants in the other Member States (Czech Republic, Denmark, France, Hungary, the Netherlands, Poland, Spain, and the United Kingdom) did not know what the APRC stood for.[98]

7.6 Qualitative evaluation of the policy options

On the demand side, one needs to distinguish within-border from cross-border effects.

[93] Centre for Human research, Ohio State University, http://www.chrr.ohio-state.edu/surveys.html .
[94] Lisardi.A and Tufano.P. (2009).
[95] Reported in Financial Services Authority (2008b) "Financial Capability: A behavioural economics perspective".
[96] Sheehan. G., Wilson. T. and Howell. N. (2008).
[97] See stand-alone Annex B of this report, p. 42.
[98] See stand-alone Annex B of this report, p. 70.

In the Member States, where there is no legal requirement or voluntary industry code or agreement or agreement to provide an APRC calculated according to a pre-specified formula, it is possible that different lenders provide APRCs or similar measures which differ in terms of the underlying mathematical formula and/or the scope of application of the formula. This will cause consumer detriment as borrowers are unable to compare the real price of the different offers and may be enticed by a superficially attractive offer which, however, may turn out to be more expensive than competing offers with more inclusive APRCs.

In the EU, this situation appears to prevail only in eight Member States accounting for 2.4% of EU-27 mortgages outstanding at the end of 2007.

In sixteen countries, accounting for 88.2% of EU-27 mortgage outstanding at the end of 2008, the law either specifies the APRC or, in the case of Belgium, the mortgage loan rate (which includes some costs in addition to the cost of funds). Moreover, in the remaining two Member States, accounting for 9.9% of total EU-27 mortgages outstanding, the APRC has been defined by an industry association and is to be used by lenders.

While the provision of a narrow APRC makes it easier for consumers to compare mortgage offers from different lenders, it is not yet a perfect solution as a consumer would still have spend a fair amount of own time and resources in undertaking an all-cost inclusive comparison of offers from different lenders. The provision of a broad APRC which includes all the cost while the provision of a CCD-type APRC would be a close second best as the difference in the cost factors included in either is relatively small (mainly notarial costs).

In the case of cross-border mortgage lending, the use of different APRC definitions may give rise to misleading information about the relative competitiveness of product offers in different countries as in one country a narrow APRC may be used and in another a broader version. As a result, consumers may not select the best offer when comparing offers form lenders in different countries. Harmonisation across the EU will eliminate this source of consumer detriment in the case of the adoption of a narrow APRC or a CCD-type APRC but not necessarily in the case of a broad APRC.

In the case of a broad APRC, the legal requirements for certain activities related to establishing the surety on the property (but not under the lender's control) and/or their costs may vary across countries. Therefore, it is possible that the APRC across the border could appear to be lower than in a borrower's home country if legal costs vary. Yet, when the borrower wants to prevail herself/himself of the cheaper cross-border offer, the apparent cost advantage may vanish because the foreign lender will have to pay the domestic legal cost to establish the surety on the domestic property.

On the supply, side, harmonisation of the APRC within a country will establish a level playing field and fairer competition. Cross-border harmonisation will create fairer competition among lenders in different

countries provided that a sufficiently narrow definition of the APRC is used so as to guarantee that domestic specificities will not "pollute" the comparison of APRCs.

Lenders will also incur some cost in updating their marketing material and their processes if an APRC definition is adopted which differs from the one they currently use.

In this regard, it is interesting to note that, in one of the stakeholder meetings, lenders pointed out that gathering information about costs which are not under their control is an expensive activity. Such a comment applies to both the both the concept of a broad APRC and a CCD-type APRC. The stakeholders also noted the adoption of a broad or CCD-type APRC may result in the production of the APRC only late in the mortgage-loan-granting process, or possible even after closure, once all the additional costs not controlled by the lender are known.

Overall, the provision of an APRC relative to a situation where there is no APRC has benefits for consumers and these benefits increase as with a move towards more comprehensive APRCs such as a CCD-type APRC and even more in the case of a broad APRC.

In parallel, the cost to lenders arise when moving from a situation of no APRC to a narrow APRC, and these costs grow with a move towards broader APRCs with a higher cost for a broad APRC then for a CCD-type APRC.

The better the price information provided to potential borrowers, the more likely they are to feel confident in the mortgage market. Thus consumer confidence is likely to rise in tandem with the broadness of the APRC.

The same is likely to be true of customer mobility as better price information typically is also expected to facilitate customer mobility.

The impact on product diversity is less clear. On one hand, better price information facilitates the comparison of product offers and may incite some potential borrowers to consider products that they would not have in the absence of such information. On the other hand, clearer price information may discourage some borrowers from considering certain products that they would have otherwise.

Table 41: Qualitative assessment of policy options in the dimensions of product diversity consumer confidence, customer mobility, and cross-border lending			
Area	**Narrow APRC**	**CCD-type APRC**	**Broad APRC**
Product diversity	?	?	?
Consumer confidence	+	++	+++
Customer mobility	+	++	+++
Cross-border lending	+	?	?

Source: London Economics.

7.7 Quantitative evaluation of the policy options

7.7.1 The current situation

On the demand side, two important points are to be noted:

1. First, the survey results and previous studies such as those mentioned in section 7.5.3 shows that a number of borrowers have a very poor understanding of the APRC and do not seem to focus much on this cost indicator for comparing different offers;

2. Second, in general, consumers are not engaging in substantive cross-border mortgage borrowing and show no particular appetite for such activity.

On the supply side, the cost to lenders of changing the definition is reported by most lenders to be low to moderate.

Moreover, none envisage undertaking more cross-border activity than at the present time following a change in a definition.

Finally, the few public authorities, who responded to our question about the cost impact of having to change the law in order to adopt a new definition, generally responded that the cost would be low or moderate.

The analysis of the distance from the policy frontier shows clearly that practically all Member States, which currently have an APRC defined in law or in industry agreement/code, would have to modify their current approach

if a broad definition is adopted. Depending on the range of cost elements that are included in the broad APRC, France may not have to modify its legal definition of the APRC.

As well, all Member States would have to pass a law if a CCD-type APRC definition is adopted.

In contrast, a smaller number of Member States would have to pass a law to implement a narrow definition of the APRC.

7.7.2 The structure of the model used in the CBA

The CBA model used to assess the impact of the three options under considerations follows broadly the same structure as the one used for analysis of the options assessed in the area of the pre-contractual information.

Consumers

The core assumption with regard to consumers is that each recipient of an ESIS will know that a) the APRC is the appropriate price indictor to use for comparing mortgage offers and b) it is necessary to add all ancillary costs to a narrow APRC to obtain an all-cost inclusive APRC which allows for a proper comparison of mortgage offers for similar products.

Taking into consideration all the ancillary costs requires time and the value of time saved by consumers not having to undertake such analysis as a result of adopting a broad APRC is one of the main benefit of moving to a broad APRC.

The assumption that, for each ESIS that has been collected, a consumer invest in spending the necessary time to ensure that all ancillary costs are taken into account when comparing mortgage offers using narrow APRCs is a strong assumption. However, as the savings of moving to a broad APRC under such a hypothesis are likely to be upward biased, the resulting saving estimates should be viewed as an upper bound.

The baseline assumption in the model is that each ESIS based on a narrow APRC will require 60 minutes of the potential borrower's time to develop a price which takes account of all the ancillary costs. If the ESIS is based on a broad APRC which includes all cost, then no additional action is required by the consumer. Conversely, a move from a broad to a narrow APRC will generate costs for borrowers living in countries where a broad APRC is applied.

The other key assumption is that the benefits in time saved by a potential borrower as a result of a move from a narrow to a CCD-type APRC are equal to 50% of the savings of a move to a broad APRC. The somewhat smaller savings are due to the fact that the CCD-type APRC does not include notarial

costs whereas a broad APRC along the lines of the French APRC includes such costs.

In the absence of data for such analysis, both the 60 minutes and 50% assumptions are based loosely on discussions with some stakeholders.

The time saved by consumers is valued at the average industrial wage.

Lenders

The starting point of our assessment of each option for lenders in a given Member State is determination of whether they would have to use an APRC which differs from the one currently being used. This assessment is provided in the table below. A "yes" in that table means that the APRC will change with the adoption of the APRC specified by the policy option.

We present only the quantitative estimates for the case where a Directive specifying the APRC is adopted as no information was obtained on how likely it is that the APRC definition in use in a certain country will change with the adoption of a Recommendation. In any case, the estimate of the costs provided below represent an upper bound cost estimate as the implementation of any change in the definition is compulsory under a Directive approach.

We also illustrate in the table below whether there would be any consumer benefits in terms of implementing a specific type of APRC. It should be noted that none is required (legally and by industry agreement) at the present time in Lithuania, Latvia, Romania and Slovakia.

The modelling of the costs to the lenders is based on the following assumptions:

- A move to a narrow APRC definition will entail one-off cost to lenders in all Member States where either a broad APRC is being used and or narrow APRC with some elements of a broad APRC (i.e. a narrow+ APRC) is being used. In addition, lenders who move from a broad APRC to a narrow APRC will also benefit from some on-going savings as they will need to collect less information. The savings are the mirror image of the costs that lenders would incur if they have to move from a narrow to a CCD-type or broad APRC.

- A move to a CCD-type or broad APRC will entail one-off costs to lenders in all Member States with a narrow APRC is being used. In addition, they will incur some on-going costs to collect the additional information that is required to populate a broad APRC measure.

Table 42: Action required by lenders under each APRC policy option

	Narrow APRC option		Broad APRC option		CCD APRC option	
Member State	**Action required by lenders**	**Benefit to consumers**	**Action required by lenders**	**Benefit to consumers**	**Action required by lenders**	**Benefit to consumers**
Case study countries						
SP	No	No	Yes	Yes	Yes	Yes
FR	Yes	No	No	No	Yes	No
DE	No	No	Yes	Yes	Yes	Yes
UK	No	No	Yes	Yes	Yes	Yes
BE	Yes	No	Yes	Yes	Yes	Yes
HU	No	No	Yes	Yes	Yes	Yes
IT	Yes	No	Yes	Yes	Yes	Yes
Non-case study countries with APRC in use at the present time						
AT	No	No	Yes	Yes	Yes	Yes
BG	No	No	Yes	Yes	Yes	Yes
DK	No	No	Yes	Yes	Yes	Yes
EE	No	No	Yes	Yes	Yes	Yes
EL	No	No	Yes	Yes	Yes	Yes
FI	No	No	Yes	Yes	Yes	Yes
IE	No	No	Yes	Yes	Yes	Yes
LU	No	No	Yes	Yes	Yes	Yes
NL	No	No	Yes	Yes	Yes	Yes
PL	No	No	Yes	Yes	Yes	Yes
PT	No	No	Yes	Yes	Yes	Yes
SE	No	No	Yes	Yes	Yes	Yes
SL	No	No	Yes	Yes	Yes	Yes
Non-case studies countries with no APRC at present time						
LT	Yes	Yes	Yes	Yes	Yes	Yes
LV	Yes	Yes	Yes	Yes	Yes	Yes
RO	Yes	Yes	Yes	Yes	Yes	Yes
SK	Yes	Yes	Yes	Yes	Yes	Yes

Source: London Economics analysis of Legal Baseline survey.

The detailed lender assumptions used in the modelling are shown below. They are based on our interpretation of the information qualitative information provided by lenders in stakeholder meetings and the responses to the survey of lenders.

The following assumptions apply for all the countries analysed in the CBA:

- Number of working hours per year: 1950
- Number of person-days required to set up a new system: 2

- Ratio of capital costs to labour costs in a one-time set-up: 2
- Person-year required for ongoing information gathering under a new system: 0.5 per year
- Time necessary to collect the ancillary information required for the production of an APRC specific to an ESIS: 30 minutes

As in the CBA for pre-contractual information, the average annual wage grows at the rate of CPI inflation and varies by economic scenario (see Chapter 4 for details).

In addition, the CBA uses information on the number of lenders in each Member State and the ratio of average wages in the financial sector to economy-wide average wages (see Chapter 4).

A discount rate of 5.5% is used to compute the NPV for the lenders in the various Member States.

In the case of the adoption of a narrow APRC, lenders in Belgium, Germany, Spain, Italy, Hungary and the United Kingdom do not have to make any changes to their systems.[99] In contrast, lenders in France will incur one-off costs and long-term savings as they will no longer have to collect external information.

In contrast, in the case where a broad APRC is adopted, then lenders in all countries except France will incur one-time adjustment costs and on-going costs due to the fact that they will have to collect external information to compute the APRC. This policy option is costly because many lenders will have to adjust their system and incur on-going costs.

Finally, the adoption of a CCD-type definition is somewhat less costly as all but French lenders will incur one-off costs and all but the French lenders will incur part of the on-going costs they would face under a broad APRC.

7.7.3 Recap of assumptions

Table 43provides a summary overview of the assumptions underpinning the ESIS and APRC CBAs. The ESIS CBA assumptions are left in the table because the APRC CBA model is built on the ESIS CBA model and requires many inputs from the ESIS CBA.

[99] It is possible that lenders in some of the countries may have to incur some-off system costs if the narrow APRC definition differs somewhat from the one that they are using at the present time. However, in the absence of a precise definition of the narrow APRC, it is not possible to determine whether this is the case. Therefore these costs are not taken into account in the CBA.

Table 43: Sources of the data used in the cost-benefit model

Variable	Source
ESIS CBA	
Mortgage outstanding at the end of the year (million)	*Assumption (economic baseline scenarios)*
Grossing up factor (gross lending to net lending)	EMF statistics
House price (units)	*Assumption (economic baseline scenarios)*
Average LTV	Special survey/FSA
Number of ESIS sheets collected by consumers	Consumer survey
Time it takes to obtain an ESIS (in minutes)	*Assumption – team judgement based on discussions with stakeholders*
Annual average wage (000s)	Economic baseline scenarios
Number of hours per working week (units)	*Assumption based on typical working week*
Number lenders (units)	Special survey/FSA
Number of mortgage intermediaries	Special survey/FSA
Share of mortgage intermediated by mortgage intermediaries.(unit)	Special survey/FSA
Share of lenders providing ESIS (unit)	EBIC survey
Share of non-compliant lender under voluntary regime (unit)	*Assumption based on team's assessment of EBIC (2009) report*
Share of lenders not providing ESIS in good time (unit)	Consumer survey
Desired number of ESIS sheets	*Assumption based on the team's interpretation of the results of the consumer survey*
Proportion of borrowers who did not seek all the desired ESIS	*Assumption based on the team's interpretation of the consumer survey*
Number of ESIS sought by those who did not seek all the information pre-intervention (units)	*Assumption based on team's interpretation of the consumer survey*
Short-term market rate %	*Assumption (economic baseline scenarios)*
Long-term market rate %	*Assumption (economic baseline scenarios)*
Mortgage premium short-term %	Market data
Mortgage premium long-term %	Market data
Share of long-term mortgage %	Special survey/FSA
Upper bound adjustment of interest distribution %	*Assumption based on review of dispersion of mortgage rates on a number of comparator web sites*
Lower bound adjustment of interest distribution %	*Assumption based on review of dispersion of mortgage rates on a number of comparator web sites*
Average duration of average mortgage (years)	Special survey/FSA
Number of person-days required to set up a new system	*Assumption based on discussion with some stakeholders*
Gross-up factor for average wage in the financial sector	Eurostat
Ratio of capital costs to labour costs in one-time set-up	*Assumption based on the team's judgement*
Time required to prepare and give an ESIS (in minutes)	*Assumption based on some consultations with stakeholders*
Ratio of cost of adjusting ESIS provision system to cost of implementing a new system	*Assumption – team judgement*
Time spent by an intermediary to request an ESIS sheet from a lender for a potential borrower (minutes)	*Assumption – team judgement*
Number of person-days spend monitoring and verifying lender behaviour, unit per lender	*Assumption – team judgement*
Number of person-years for running control body	*Assumption – team judgement*
Efficiency of public/private sector monitoring (ratio)	*Assumption*
Effective tax rate financial sector	Eurostat – Structural Business Statistics
Discount rate for calculation of NPV	*Assumption*
APRC CBA	
Time spent by potential borrower understanding full cost in case of narrow APRC	*Assumption based on discussion with some stakeholders*
Ratio of time savings of moving from narrow APRC to CCD-type APRC relative to move to broad APRC	*Assumption based on discussion with some stakeholders*
Number of person-days required to set up a new system	*Assumption based on discussion with some*

	stakeholders
Ratio of capital costs to labour costs in a one-time set-up	*Assumption based on discussion with some stakeholders*
Person-year FTE required for ongoing information gathering under a new system	*Assumption based on discussion with some stakeholders*
Time necessary to collect the ancillary information required for the production of an APRC specific to an ESIS: 30 minutes	*Assumption based on discussion with some stakeholders*

Source: London Economics analysis.

7.7.4 The quantitative results of the CBA

The estimates of the costs and benefits to potential borrowers and lenders are presented in Table 44. They clearly show that benefits are increasing function of the broadness of the definition of the APRC.

The same is true for lenders' costs.

The results also show that for French borrowers, a move to a narrow APRC through the EU-27 will entail costs as they would now suddenly have to spend time comparing and analysing the different price information to obtain an overall picture of the cost of mortgage offers. French lenders' cost would fall in such case although the decline is offset by a one-time system change costs at the beginning of the new regime.

Table 44: Annual impacts by country, stakeholder group and policy option, 2009-2013 and 2024 (€ million) (a "+" represents a benefit while a "-" represents a cost), Scenario 1

			2009	2010	2011	2012	2013	...2024
Belgium	Consumers	Narrow	0.0	0.0	0.0	0.0	0.0	0.0
		CCD	1.7	2.0	3.1	3.6	4.9	9.6
		Broad	3.4	3.9	6.2	7.2	9.8	19.1
	Lenders	Narrow	0.0	0.0	0.0	0.0	0.0	0.0
		CCD	-4.8	-4.9	-5.7	-6.1	-7.1	-11.3
		Broad	-9.6	-9.8	-11.4	-12.1	-14.2	-22.6
Germany	Consumers	Narrow	0.0	0.0	0.0	0.0	0.0	0.0
		CCD	1.2	1.4	13.3	15.4	21.2	41.2
		Broad	2.4	2.8	26.7	30.8	42.4	82.5
	Lenders	Narrow	0.0	0.0	0.0	0.0	0.0	0.0
		CCD	-5.0	-4.9	-12.3	-13.6	-17.3	-5.0
		Broad	-9.9	-9.9	-24.6	-27.2	-34.5	-9.9
Spain	Consumers	Narrow	0.0	0.0	0.0	0.0	0.0	0.0
		CCD	5.7	6.6	12.8	14.8	20.4	39.6
		Broad	11.3	13.2	25.7	29.7	40.8	79.3
	Lenders	Narrow	0.0	0.0	0.0	0.0	0.0	0.0
		CCD	-12.5	-13.0	-18.6	-20.4	-25.5	-44.4
		Broad	-25.0	-26.1	-37.2	-40.8	-50.9	-88.9
France	Consumers	Narrow	-17.3	-20.1	-32.4	-37.5	-51.5	-100.2
		CCD	-8.6	-10.1	-16.2	-18.7	-25.8	-50.1
		Broad	0.0	0.0	0.0	0.0	0.0	0.0
	Lenders	Narrow	7.6	8.7	13.1	15.0	20.1	38.0
		CCD	15.2	17.4	26.3	29.9	40.1	75.9
		Broad	0.0	0.0	0.0	0.0	0.0	0.0
Hungary	Consumers	Narrow	0.0	0.0	0.0	0.0	0.0	0.0
		CCD	0.2	0.3	0.4	0.5	0.6	1.1
		Broad	0.5	0.5	0.8	0.9	1.2	2.1
	Lenders	Narrow	0.0	0.0	0.0	0.0	0.0	0.0
		CCD	-0.4	-0.4	-0.6	-0.7	-0.9	-1.4
		Broad	-0.8	-0.9	-1.3	-1.4	-1.7	-2.9
Italy	Consumers	Narrow	0.0	0.0	0.0	0.0	0.0	0.0
		CCD	0.7	0.8	4.2	4.8	6.7	13.0
		Broad	1.4	1.6	8.4	9.7	13.3	25.9
	Lenders	Narrow	0.0	0.0	0.0	0.0	0.0	0.0
		CCD	-6.2	-6.1	-9.1	-9.7	-11.4	-18.5
		Broad	-12.4	-12.2	-18.2	-19.5	-22.9	-36.9
United Kingdom	Consumers	Narrow	0.0	0.0	0.0	0.0	0.0	0.0
		CCD	33.7	39.2	49.3	57.0	78.4	152.4
		Broad	67.3	78.3	98.7	114.0	156.8	304.8
	Lenders	Narrow	0.0	0.0	0.0	0.0	0.0	0.0
		CCD	-23.8	-27.3	-34.0	-39.1	-53.1	-102.1
		Broad	-47.6	-54.7	-68.1	-78.1	-106.2	-204.1

Note: Economic scenario 1 was used for the analysis above
Source: London Economics.

The data reported in the table overleaf how that, under the assumptions used in the CBA so far, the aggregate net impact on borrowers and lenders varies across countries and economic scenarios.

Table 45: NPV: Borrowers + lenders (€ million)					
		Scenario 1	**Scenario 2**	**Scenario 3**	**Scenario 4**
Belgium	Narrow	0.0	0.0	0.0	0.0
	CCD	-24.9	-25.3	-17.0	-43.9
	Broad	-49.9	-50.6	-34.0	-87.8
Germany	Narrow	0.0	0.0	0.0	0.0
	CCD	44.4	45.0	89.8	-38.5
	Broad	88.8	90.0	179.5	-77.0
Spain	Narrow	0.0	0.0	0.0	0.0
	CCD	-59.4	-60.2	-46.7	-91.3
	Broad	-118.8	-120.5	-93.4	-182.6
France	Narrow	-139.6	-141.4	-221.5	13.7
	CCD	-69.8	-70.7	-110.8	6.9
	Broad	0.0	0.0	0.0	0.0
Hungary	Narrow	0.0	0.0	0.0	0.0
	CCD	-2.9	-2.9	-3.5	-2.0
	Broad	-5.8	-5.9	-7.0	-4.0
Italy	Narrow	0.0	0.0	0.0	0.0
	CCD	-56.5	-57.3	-52.7	-69.7
	Broad	-113.1	-114.6	-105.5	-139.5
United Kingdom	Narrow	0.0	0.0	0.0	0.0
	CCD	312.6	316.6	467.4	21.6
	Broad	625.3	633.3	934.8	43.2

Note: Economic scenario 1 was used for the analysis above
Source: London Economics.

To highlight the sensitivity of the results to some of the assumptions, we run a number of sensitivity scenarios whose results are reported in Table 9.

In particular, we examine to what extent the CBA estimates reported in Table 45 are sensitive to the assumptions about:

- The time spent by a borrower assessing the cost of a particular mortgage offer. For the purpose of the analysis the assumed time spent on such an activity was raised from 60 minutes to 75 minutes in a narrow environment.

- The benefit of a move from a narrow APRC to a CCD-type APRC relative to a move to a broad APRC. The relative benefit factor was increased from 50% to 75%.

- The time spent by lenders preparing an ESIS. The time spent was increased from 30 minutes to 1 hour.

The sensitivity analysis was done for the case of Belgium.

Table 46: Sensitivity analysis (NPV, Belgium, borrowers + lenders, € million)				
	Results reported previously	**Minutes required to understand a narrow APRC** **Increase from 60 to 75**	**Ratio of impact of CCD to a broad APRC** **Increase from 50% to 75%**	**Time required per ESIS for lenders** **Increase from 30 minutes to 1 hour**
Narrow	0.0	0	0	0
CCD	-24.9	-10.0	-37.4	-66.4
Broad	-49.9	-20.0	-49.9	-132.9

Note: Economic scenario 1 was used for the analysis above
Source: London Economics.

The main points to note from this sensitivity analysis are that:

- Everything else being equal, the longer the time spend by potential borrowers on assessing the overall cost of a mortgage offer in a narrow APRC environment, the greater the benefits to consumers of a mover to a broader APRC and the more positive the overall impact.

- An increase in the relative benefit of a move to a CCD-type APRC relative to a broad APRC increases borrower benefits but, in this particular case, the increased cost faced by lenders outweigh the higher consumer benefits. As a result, in aggregate, the net cost increases.

- Finally, an increase in the time required by lenders to prepare an APRC specifically for a mortgage offer increases lenders' cost significantly and results in a tripling of the overall cost.

7.7.5 Extrapolation to the EU-27

Next, the results obtained for the seven countries above are extrapolated to the EU-27 using the same approach as in the case of the CBAs undertaken for the pre-contractual policy options.

Based on the analysis reported in the tables above, a broad APRC appears to generate the largest benefits at the EU-27 level. However, it is important to recall that the results are very sensitive to various assumptions, in particular

the cost faced by lenders in preparing an estimate of a broad APRC for a mortgage offer.

Table 47: EU-27 NPV: Borrowers + lenders under narrow, CCD-type and broad APRC (€ million)	
	EU-27
Narrow	-136.0
CCD	5.0
Broad	176.0

Note: Economic scenario 1 was used for the analysis above
Source: London Economics.

7.7.6 Impact on confidence, customer mobility, product choice and market development, and cross-border mortgage provision

Consumer confidence

The empirical analysis reported in Chapter 3 did not identify any relationship between the broadness of the APRC and consumer confidence in mortgage products or in housing markets more generally.

While, from a theoretical point of view, one would expect the introduction of an APRC to instil greater confidence in mortgage products as their price becomes more easily comparable.

One would also expect consumer confidence in mortgage markets to increase with the broadness of the APRC as the APRC becomes a better and more useful price for comparing different mortgage offers.

However, our statistical analysis has not identified such a confidence boosting factor reflecting most probably the inadequacy of the data used to test such a hypothesis. Unfortunately, we were not able to identify any other analysis, studies, reports, etc which could shed some light on this issue.

Therefore, for the purposes of the present study, we can only state from a theoretical point of view, the adoption of an APRC, especially a broader APRC, is likely to boost consumer confidence in mortgage markets.

Customer mobility

In contrast, the empirical analysis reported in Chapter 3 showed that the adoption of an APRC contributes to stimulate customer mobility and that this effect is larger when a broad APRC is adopted.

The analysis aimed to explain the share of survey participants who reported in recent in a Eurobarometer survey that they did not switch either because they perceive the costs and effort required to be too high, or they are unaware of the possibility to switch provider or they find it difficult to identify the cheapest provider. These reasons can all be seen as informational switching barriers.

The empirical results show that, on average across EU-27 Member States, the existence of a narrow APRC reduces the share of non-switchers by 17 percentage points relative to the share of non-switchers in an market with no APRC.

Moreover, if a broad APRC is adopted, the reduction in the share of non-switchers relative to an environment with no APRC reaches 23 percentage points, 6 percentage points more than under a narrow APRC.

While the model used to estimate such effects does not specify how the presence of an APRC impacts on customer mobility, theory suggests that it is likely to be caused by greater price transparency and completeness.

Product choice and market completeness

The empirical analysis that we undertook did not identify any discernable effect of the adoption of an APRC and the range of mortgage products on offer in a given market or the overall level of development of the mortgage market.

Obviously many factors will influence these two variables, but the APRC does not appear to be one them. It is possible that the empirical analysis did not use the right data.

But, the stakeholder consultations and the surveys of stakeholders confirm our general conclusion. Therefore, we believe that if the presence of an APRC is having any impact at all o product choice and market development, the effect is likely to be small.

Cross-border mortgage lending

The vast majority of respondents to the survey of lenders noted that the adoption of an APRC is likely o have no effect on the level of cross-border lending (see Annex 3 for details of the survey responses).

However two lenders, who are active in cross-border mortgage lending indicated in their survey responses that they estimated that such lending could increase by about 3 %.

As the latter lenders are likely to have a better perspective on cross-border mortgage activity then the predominantly domestically-orientated survey participants making up the first group, we believe that an increase in cross-border mortgage lending of 3 % is possible.

7.8 Conclusions

The qualitative and quantitative CBA analysis of the three policy options regarding the definition of the APRC suggests that the adoption of an APRC will benefit consumers while imposing some costs on lenders.

The benefits, and the costs, grow with the broadness of the APRC and the aggregate combined impact on consumers and lenders cannot be predicted a priori as it depends on a wide range of factors.

At the present time, of the 24 Member States for which information is available, all but four (Latvia, Lithuania, Luxembourg and Slovakia) use a specified APRC. Moreover, in all but one of the 19 Member States a narrow APRC has been adopted. The exception is France where a broad APRC has been adopted.

The implementation of an APRC is also likely to boost consumer confidence in mortgage products and stimulate consumer mobility. Moreover, the broader the APRC, the larger the likely impact on confidence and mobility.

However, the impact on product choice and market development is likely to be small or nil.

In contrast, cross-border mortgage lending may grow somewhat as a result of the adoption of an APRC.

8 Early repayment

8.1 Policy options under review

8.1.1 Terminology conventions and definitions[100]

Legal vs. economic early repayment concepts – non-callable vs. callable Fixed Rate Mortgages

A legal early repayment right given to the borrower either contractually or by law can be translated in economic terminology into an 'option' for the borrower.

Options are financial derivatives whose pricing can be determined with standard financial mathematics techniques based on assumptions made about underlying financial variables.[101]

There are two main variants of the price at which the early repayment option can be exercised: the outstanding loan volume ('par') or the market price, which can be determined e.g. when loans are traded. Legal terminology usually does not make such a distinction, as a default prepayment at par is assumed in basically all laws. We will thus generally refer to prepayment at par throughout this chapter, unless otherwise indicated (e.g. in the Danish case).

A legal compensation arrangement for costs incurred by lenders through an early repayment in economic terminology is often called 'call protection', i.e. it reduces the value of the call option for the borrower and costs for the lender. The term 'call protection' may also denote covenants beyond legal features that tend to slow down exercise behaviour or reduce the value otherwise, for example if the loan is originated below par. We will generally use the term 'call protection' and add a prefix 'legal' when referring to contractual or statutory measures used.

The combination of both a legal right and a compensation or contractual fee arrangement may lead to a situation where the option value for the typical borrower in the typical situation is zero or close to zero. In that case, finance terminology uses the term 'non-callable' loan even if legally the loan can be prepaid and in some situations or for some borrowers it may be even be

[100] The terminology is defined in the glossary to this report.
[101] The early repayment option is technically an American call option which gives the borrower the right at any time ('American') to prepay ('call') the loan at either the outstanding balance (par) or, if loans are traded, at the market value.

economically advantageous to prepay. In contrast, legal non-callability usually refers solely to an exclusion of the right to prepay. We will use the term 'non-callable' in the finance terminology, i.e. where the option value economically is zero or close to zero, and refer to 'legally non-callable' where the early repayment right is not a contractual or statutory feature.

For didactical and material analytical purposes it is important to differentiate between 'callable' and 'non-callable' mortgage loans, denoting essentially loans without and with economic 'call protection' features that leave the option value intact, reduce it gradually or eliminate it.

Since usually in the discussion fixed rate mortgages (FRM) are associated with call protection features, we use the terminology 'callable FRM' and 'non-callable FRM' to distinguish the two main classes. We note that also some adjustable rate mortgages (ARM) products come with call protection features, especially hybrid ARM during the initial fixed-rate period or discount ARM products which over some time of their life carry pricing characteristics similar to FRM.

Partial vs. full fair value compensation

We will discuss in detail the concept of and benchmarks for fair value compensation reflecting lender costs. We will use the terminology full fair value if for a given fair value concept, for example yield maintenance, the fair value is observed under all economic scenarios (especially interest rate changes). A symmetric early repayment compensation based on yield maintenance comes close to this ideal.

For circumstances where a fair value concept is only applied for some economic scenarios, we will use the terminology partial fair value, especially for asymmetric early repayment compensation (fair value only when interest rates decline) and conditional compensation (fair value only under certain conditions), or combinations thereof.

Compensation vs. fee

We use the term 'compensation' in the economic sense as a price to be paid in proportion to the costs incurred by the service provider. A fee for a service in contrast does not necessarily bear a direct relation to the costs of the provider.

In some cases, ambiguity is not avoidable as the policy options speak of compensation in a broader sense, including fees.

Synonyms

The terms "early repayment" and "prepayment" are used as synonyms throughout the text.

8.1.2 Policy options under review and basic analytical approach

We can sort the five policy options formulated in the Terms of Reference for the field of early repayment into three main evaluation areas with sub-cases:

1. Harmonisation of the scope of the early repayment right:

- Unconditional contractual option (i.e. including the lender right to exclude early repayment) (Option 1);
- Conditional contractual option / conditional right (i.e. universal right in certain circumstances, e.g. personal hardship cases such as divorce, death of spouse, professional move) (Option 2);
- Universal right (Option 3).

2. In combination with any option under 1., harmonisation of the ceilings imposed on the compensation payable to lenders (i.e. the exercise price of early repayment) :

- Harmonisation through fair and objective value reference ('actual costs') (Option 1-3 a).
- Harmonisation through specific caps (formula) limits (%, years) (Option 1-3 b).
- As a sub-case of the latter and of Option 3, harmonisation through the caps formulated in the revised CCD (Option 5).

We also observe two additional empirical dimensions of compensation that are not covered by the policy options and will play a role in our evaluations:

- Conditional compensation, e.g. as practiced in Netherlands or France in certain cases or in Germany for certain products.
- Symmetry of compensation, with special regard to the Danish practice enabling borrowers in cases of loans trading on the capital market to prepay below par ('delivery option').

Moreover, we interpret the fees practiced in many jurisdictions as 'compensation' within the terminology of the policy options.

3. Mutual recognition (Option 4) of early repayment right and compensation legal regimes.

This approach allows us to clearly separate legal and empirical cost-benefit questions to be addressed between the scope of the right of early repayment and the harmonisation of the ceilings or limits for compensation.

In the analysis, the following will be measured:

- the distance of each legal system from the option (or combination of options, as e.g. in policy option 1-3b);
- the changes in costs and benefits for the stakeholders and the economy as a whole involved when their legal regime is in transition to a new configuration.

After reducing the number of interventions and countries to be analysed to a manageable and economically meaningful set as well as an extensive review of the empirical evidence available for model calibrations, we will proceed to first qualitatively and then quantitatively evaluate the costs and benefits of the policy options.

8.2 Legal baseline

8.2.1 Summary of findings

Table 48 summarises our assessment based on the reviewed questionnaires and earlier official material with regard to general rules governing the early repayment rights and principles of compensation. The table uses a wide definition of legal sources, including (Roman) law, case law and codes of conduct where universally applied. The table does *not* refer to common market practice, however; deviations of practice from law are mentioned in the text. Where conflicting information was received, the table provides the feedback from official bodies; such cases are commented in the text.

The table already gives an intuition of the distances of individual jurisdictions from the proposed policy options.

Table 48: Early repayment legal baseline and policy options[ab] – summary -				
	No specific legal rules	**Unconditional contractual option (Policy Option 1)**	**Conditional contractual option (Policy Option 2)**	**Universal right (Policy Option 3)**
Harmonisation of the scope of the early repayment right	CY	AT[1], EE[1], LU[1], GR[1] PL/CZ/LT/LV/HU[3] RO, SK[9]	DE[1] SI	ALL OTHERS AT[4], DE[4], DK[5], EE[4], GR[4] , CZ, HU[6]
	No specific legal rules[c]	**Fair and objective value reference[d] (Policy Option 1-3a)**	**Cap on compensation volume[d] (Policy Option 1-3b)**	**CCD transposition (Policy Option 5)[f]**
Harmonisation of limits imposed on compensation payable to lenders	LT, LU, PL, CY, GR[1]	AT, BE[7], BG, CZ, DE[1], DK, EE, ES[1], FI, HU, IE, LV, NL, SE, SI, UK.	BE, DE[4], FR, ES[4], IT, GR[4], PT, NL, SK	None[8]

	Implied[e]	**Excluded by national rules**
Mutual recognition (Policy Option 4)	CY	ALL OTHERS

Country notes: 1) for FRM, in the case of DE < or = 10 yrs, 2) for non-callable FRM, < or =10 yrs, 3) for loans financed by mortgage banks / bonds under special law, 4) for ARM 5) bonds financing loans can always be delivered to the investor, 6) all other situations except those mentioned under 3), 7) deviates from market practice, 8) excluding plans to transpose CCD, which were communicated by Bulgaria, Hungary and Slovenia, 9) conflicting statements by regulators, see text.

Source: Finpolconsult. Context notes: a) analysis assumes € 100,000 outstanding loan amount. b) based on LE questionnaires, government and stakeholder responses, referring to Roman Law, Case Law, Codes of Conduct, where universally applied. c) The Impact Assessment used the term 'No legal limits', suggesting potentially unlimited compensation. We find that most cases either have no specific law, or do have law that implies legal limits. d) Policy Options 1-3a and 1-3b/5 are non-exclusive. The entry of a jurisdiction's name in all three columns of this row is possible. e) Neither scope of early repayment right nor compensation is codified. An alternative would be a combination of unconditional contractual early repayment option and absence of legal limits on or codification of compensation (empty set). f) see above for general transposition planning and text for comment.

8.2.2 Early repayment right - detail

Contractual option or universal right (Policy Options 1-3)

We find that a large majority of Member States apply a universal early repayment right (Policy Option 3).

The countries that allow for a conditional or universal contractual option (Policy Options 1 and 2) all feature historic or recent mortgage bond

legislation and / or are transition countries with legislation under development.

However, not all countries with a historic mortgage bond tradition do permit early repayment as a contractual option (e.g. France, Spain). Moreover, even among most countries that do permit a contractual option for FRM, the universal early repayment right for ARM contracts is granted (Austria, Germany, Greece, implicitly Denmark[102]).The jurisdictions where the early repayment right (and also compensation rules) are not specifically codified or where conflicting interpretations based on unspecific law exist are identifiable as emerging European mortgage markets in Eastern Europe as well as Cyprus. The nature of emerging markets is that legislation is only developing over time, as usually law develops from a growing body of case law which in these countries does not yet exist.

Observations:

- Unconditional contractual option: Austria, Greece and Luxemburg are cases for which we can unambiguously identify an unconditional contractual option for FRM. However, ARM in Austria and Greece carry a universal early repayment right.

  A contractual early repayment option has been created as a standard in mortgage bank or mortgage bond legislation (Hungary/Poland/Czech Republic/Lithuania/Latvia), during the early years of transition influenced by advisors from the German Pfandbrief system that were worried about inability of lenders to charge sufficient compensation. At the time these countries had no general consumer protection legislation in financial services; the subsequent CCD transposition has generally been made only for consumer loans (subject to loan volume ceilings).

  - For example, Article 21(1) of the Polish Mortgage Bank Act of 1997 stipulates that the lender may exclude early repayment for loans backing mortgage bonds for up to 5 years.

  Of the above list, Hungary[103] and Latvia today apply a universal option for non-mortgage banks.
  Other delimitations exist, too: Polish regulators also report a universal early repayment right for all loans greater than 1 year maturity. In Estonia, differentiation is made between FRM and ARM.

[102] ARMs in Denmark are fixed for 1 year. The product is part of the non-callable FRM product set and interest rates are adjusted via an auction that takes place once a year (usually in December). As the new interest rate is determined, borrowers have the early repayment option; however, not so within the 1-year period.
[103] OTP Bank (dominant Hungarian lender) states in European Commission (2006b): "According to the Hungarian civil code borrowers are allowed to repay earlier. Only mortgage banks are authorised to reject early repayment by law, but they prefer using indemnity fines to rejection."

- Conditional contractual option: Germany keeps a contractual option governing FRM prepayments for circumstances other than move or house sale, for which a universal right exists. The Slovenian regulator quotes a conditional contractual option as legal regime, without specifying the circumstances.

- Universal right: Non-callable FRM in Denmark cannot be, technically, prepaid to the lender, but through the delivery option – a universal right of the borrower – they can be delivered to the investor. This establishes a universal prepayment right.

- Conflicting information[104]: the authors received in some cases conflicting official information:

    - Lithuanian consumer agency (affirmative) and bank regulator (negative) gave conflicting information about the existence of a universal early repayment right.

    - Romanian regulators report an "unconditional right in accordance with the terms established by the parties of the mortgage contract".

    - Slovakia states "early repayment is a legal right in specific circumstances, which are specified individually in each contract".

- In Cyprus, there is no specific consumer protection legislation concerning the right of early repayment.

[104] See Legal Baseline Annex B.

Deviations from earlier Commission analysis:

We note deviations from earlier Commission analysis[105]:

- Czech Republic/Hungary/Lithuania/Latvia/Poland: there is considerable doubt that outside mortgage bank or mortgage bond legislation early repayment as a contractual option is permitted, see discussion above.
- Netherlands: the universally applied Code of Conduct establishes a universal early repayment option.
- United Kingdom: the Council of Mortgage Lenders states in her survey reply that the courts will take the view that early repayment is always possible. Also Köndgen (2000) finds that case law will support a universal option.
- In Denmark, non-callable FRM and ARM loans can be 'delivered' to the capital market investor at the market price. This can be seen to create a de-facto universal early repayment right (see also Köndgen (2000) even as the contracts technically do not carry the prepayment option.

Differences between law and universal market practice:

- In Greece, the banking association reports that invariably FRM contracts carry the early repayment option.

Mutual recognition (policy option 4)

Based on the available legal documentation we are unable to (definitively) answer the question whether there is any jurisdiction that practices full mutual recognition (acceptance of all other consumer protection regimes).

However, given the breadth of European legal regimes shown in Table 48, a logical argument suggests that only those jurisdictions that have established both no codification of or an unconditional contractual option and no or undefined legal compensation limits can qualify for being presumed to apply mutual recognition. The only country that we find that fulfils these conditions is Cyprus. All other jurisdictions have restrictions in place that pre-empt full mutual recognition.

CCD transposition (policy option 5)

Concerning Policy Option 5 (transposition of CCD rules), we note the intention of Cyprus to transpose the new CCD to mortgage lending including

[105] Reference is made to Table 14 in Annex 3 (page 57) of the Impact Assessment of 18.12.2007 (European Commission, 2007c).

Article 16. In addition, several transition countries can be seen as intending to transpose the CCD as a whole. As with the old CCD, most Member States will only selectively transpose the CCD - absent of further regulations, and, as in the past, a large number of countries may not transpose Article 16.

8.2.3 Early repayment compensation or fee computation and limits - detail

For the cost-benefit analysis, especially the identification of suitable case countries for detailed analysis, it will be necessary to further specify the operability of 'fair and objective value' in terms of the type of prepayment exercise price – compensation or fee - , the computation formulae applied, as well as the scale and the nature of caps (e.g. volume vs. fixed-rate time limits).

Table 49 summarises our more detailed findings in this area for countries for which sufficiently differentiated information is available. We hasten to add that not all surveyed law and questionnaire responses yield sufficient information to fill all brackets in the table. This means, for example, that a country that communicated a fair value principle or similar formulation ('reasonable costs' 'actual costs'), but gave no further computation detail, may nevertheless practice a formula-based standardised computation.

While we found fairly uniform approaches regarding the scope of the early repayment right among EU members, concerning limits placed on compensation the picture arising from Table 48 and Table 49 is greater nuanced. Of 22 countries, for which information is sufficiently detailed:

- 5 countries – Czech Republic, Hungary, Lithuania, Poland, Luxembourg and Cyprus - have no specific legislation concerning compensations for either ARM or FRM.

- A fair and objective value reference (Policy Option 1-3a) is the guiding legal principle in 12 countries.

  Here the number of countries applying specific formulae by law seems to broadly equal those just establishing the principle.

  In terms of components of a fair value computation all countries applying the fair value reference do allow for lender reinvestment loss, however only Denmark practices a fully symmetrical compensation regime allowing for a further reduction of early repayment costs (repayment below par) for the consumer in case of reinvestment profit. All other systems therefore can be seen to apply only a partial fair value concept. We will come henceforth use the terms 'partial' and 'full' fair value to denote both cases.

  Administrative costs of the exercise of the option can be charged by a majority of countries.

  Some legislation makes specific reference to foregone lender profit (Germany, Sweden) or equivalently recapture of loan closing cost discounts (Spain) while other specifically excludes such cost items (Netherlands, Denmark).

- A cap on the compensation or fee volume (Policy Option 1-3b) is applied in 9 countries.

  In 3 of these countries (Spain, Greece, Netherlands) the cap and fair and objective value reference do simultaneously apply, which establishes a dual constraint on compensation.

- In Belgium, France, Italy, Portugal and Slovakia, the cap appears to be the exclusive limit (i.e. no fair value reference in law), which enables de-facto a fee model. As will be shown below, fees can be above or below fair value, depending on the interest rate and other cost scenarios.

  - It is interesting to note in this regard that in Portugal, while the previously high fee level has been reduced, with the 2007 reforms, the fair value principle has not been established (in contrast to parallel reforms in Spain that introduced such a reference).

  - There remains ambiguity about Belgium, where we find a fair value reference in law but the market nevertheless practices the statutory cap in the form of a fee model, which e.g. applies also when interest rates have risen and lenders make a reinvestment profit.

- We presume that countries without specific legislation (e.g. most transition countries) or no mathematical caps in place nevertheless have general civil code or other law provisions that implicitly limit the levels of compensation that banks can charge, such as general fairness rules between contract parties.
    - For example, the Czech banking association suggests that a fair value principle is imposed on compensation, citing that 'any party to the contract cannot get disproportional benefit from the fact of an early repayment'. The association also refers explicitly to reimbursement of reinvestment loss as a compensation principle. However, the Czech regulator does not mention any such principle and independent Czech mortgage experts interviewed say that prepayment penalties are high and also very similar among mortgage lenders, despite different refinancing practices and cost levels.
    - In the UK we find similar references to fair value in FSA regulation while there is no clearly established mathematical limit.
- Full clarification of such legal status questions in countries with developing law requires detailed law and case law review is beyond the scope of this report.

After identifying the countries without specific law it is fair to conclude that a majority of EU countries give preference to the fair value principle over a fee principle where fees may exceed the fair value (12 countries over 22, i.e. 54% of country cases under review). Caps on compensation are widespread, and where no volume caps are applied often implicit caps through constraints placed on formulae (such as limiting the applicable fixed-rate period) are used. However, seven countries do not use any mathematical constraints.

Table 49: Early repayment compensation or fee legal baseline

	..fair and objective value reference, standardised cost formula (ex-post)	**..fair and objective value reference, other (ex-post)**	**..contractual option (ex-ante, fee model)[c]**
Compensation is set as	DE[2], DK, ES, FI, GR, NL, SE	BG, EE, IE[2], LV, UK	BE, CZ, FR, HU, IE[1], IT, LT, PT, RO, SK
	Volume limits[a]	**Fixed-rate period limits[b]**	**No mathematical limits**
Type of formula or cap constraints	BE, ES[1], FR, IE[1], IT, NL, PT, GR, SK	DE, DK, IE	CZ, ES[2], FI, HU, IE, RO, UK

Table 49: Early repayment compensation or fee legal baseline

		..fair and objective value reference, standardised cost formula (ex-post)	..fair and objective value reference, other (ex-post)		..contractual option (ex-ante, fee model)[c]
	Lender reinvestment loss	**Lender reinvestment profit** (symmetric compensation)	**Foregone lender intermediation profit**	**Loan closing cost discounts and other discounts given to the borrower**	**Administration costs incurred due to the act of early repayment**
Types of costs included in fair and objective value reference (formula or otherwise specified)	AT, DE, DK, EE, ES, FI, GR, IE, NL, SE	DK	DE, EE, ES, SE	ES, GR	BG, CY, DE, DK, EE, ES, FI, GR, LV, SE, SI
		In certain cases		**Never**	
Compensation waivers[e]		**BY MOTIVE** **Move and house sale:** EE, FR, NL **Other financial management purposes (e.g. life insurance payment, inheritance):** BE, NL **Financial difficulties of the borrower:** FR, PT **BY CHARACTER OF LOAN** **Exceptionally high interest rate level of the loan:** **ARM loans:** DE, IE, GR **Seasoned loans:** ES **BY LENDER IDENTITY** **Lenders other than mortgage banks:** **Loan assignment to another creditor:** EE		**FOR FRM** DE , DK, FI, SE **FOR ARM[d]** UK	

Notes: a) % of outstanding or number of instalments, b) for FRM or hybrid ARM, implying variable compensation levels, amplitudes depend on the length of the fixed-rate period (see below). c) i.e. potentially above fair and objective value, including if zero value, d) including hybrid ARM. For other notes see Table 48. e) or reductions. 'Fair value' may include partial fair value. Country notes: 1) ARM, 2) FRM.
Source: Finpolconsult.

Going further into detail, the existing statutory computation formulae for reinvestment loss approximating fair value appear quite diverse. We discuss

the subject in some detail in the microeconomic empirical section below: for example we find asset-asset (e.g. Netherlands[106]) or an asset-liability (e.g. Germany, Sweden, since 2007 also Spain) interest rate differentials as the basis for compensation. Moreover, the scale and type of deductibles for saved lender costs in the case of asset-liability comparisons vary significantly. For instance, Germany leaves some room for lenders to determine their saved costs for administration and credit loss; however, consumers have contested such determinations in the courts. Sweden solves this problem by decreeing a lump-sum deductible. Spain after her 2007 reforms so far has still not determined any deductibles.

With regard to case differentiations for compensation waivers, the picture is more diverse. Concerning borrower motives ('hardship cases') those countries using tight compensation caps have unsurprisingly further reduced them for certain cases. A newcomer here is Estonia for the case of move and house sale.[107] Concerning specific loan features, several countries continue to interdict compensation on ARMs. [108] Germany should be mentioned here as a country that at the same time practices one of the strictest regime on FRM. We record one country establishing a compensation waiver for early repayment in the case of a loan assignment. Interestingly and in stark contrast to the U.S. where during the sub-prime crisis early repayment compensations have been de-facto eliminated for sub-prime lending, we find no European jurisdiction that has limited compensation for high-interest rate loans. Spain and Portugal now differentiate admissible ARM compensation levels by prepayment date between the first 5 years of loan life and later dates.

Deviations from earlier Commission assessments[109]

- Cyprus: No reference was found by the team to an existing early repayment compensation cap.

- Denmark's negative experiences with very long-term non-callable FDM loans in the 1980s (20 years and longer) has led to de-facto legislation limiting the maximum applicable fixed-rate term for non-callable FRM (contractual option, implicit yield maintenance compensation) to 10 years. The enabling legislation for ARM of 1994, which in the Danish context also refers to non-callable FRM, only defines such loans for up to 10 years of interest fixing. In practice, non-callable FRM are not issued for fixed-rate terms over 5 years.

- Finland: the Finnish Consumer Protection Act does not establish a cap, it rather establishes a fair value formula. The components of the formula do not appear to be limited in their values.

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[106] This is also the market practice in Luxemburg, which has no formal compensation / fee regulation.
[107] See Annex B Legal Baseline.
[108] Arguably the German prohibition of early repayment compensation for ARM, as other elements of German banking legislation (e.g. prohibition of indexing), is a relict of the country's hyperinflation history in the early 20th century.
[109] Reference is made to Table 14 in the Impact Assessment undertaken by the European Commission (European Commission (2007c) page 57).

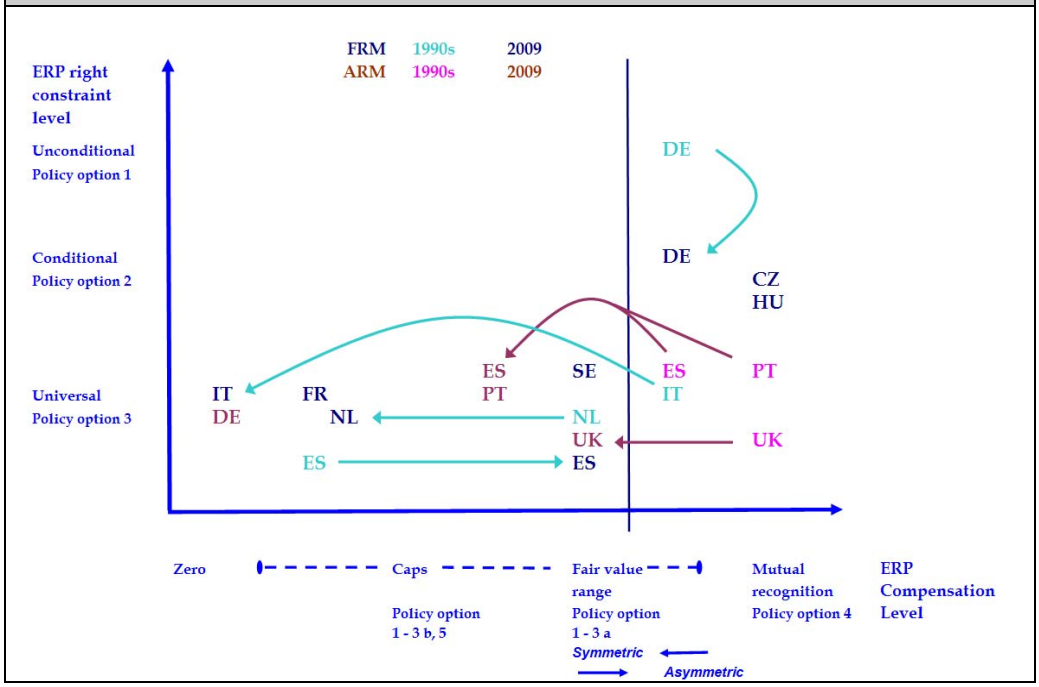
- Netherlands: the universally applied Code of Conduct determines a specific cap for compensation (4 months interest).

8.3 Legal baseline distance

Table 48 already provides a visualisation of the current distances of the legal baseline to the policy options, for both areas scope of the early repayment right and ceilings imposed on compensation. We proceeded by detailing our findings on compensation in Table 49.

Figure 23 puts these findings for a sample of markets into the historical context, comparing the 2009 legal situation with the legal situation as of the mid-1990s. This context is important since it gives an idea about the trajectories of law-making in the area without EU intervention (baseline).

Figure 23: Early repayment legal rules right and compensation rules in selected Member States by loan type (ARM, FRM): long-term trajectories and policy options



Note: in the case of FRM assumes falling interest rates and a reinvestment loss and foregone intermediation profit for lenders. Points to the right of 'fair value level' indicate compensation in excess of fair value, to the left correspondingly below fair value. Picture may change if rising interest rates are assumed.
Source: Finpolconsult.

In the area of the scope of the early repayment right during the time, Germany has moved from an unconditional contractual option situation (policy option 1) to a conditional contractual option situation (policy option

2). This shift was forced by a Supreme Civil Court judgement in the mid-1990s ruling in favour of an early repayment right in the case of a house sale and/or move. Czech Republic (and other transition countries, see above) started in the 1990s with legislation placing themselves into a conditional contractual option context.

Note for the interpretation of the compensation dimension that Figure 23 assumes falling interest rates (vis-à-vis the closing coupon interest rate) and foregone intermediation profit. The picture would look different in case of an early repayment exercised after interest rates have risen.

For compensation limits, the general trend has been a tightening, in some cases to levels that are severely below fair value (assuming moderate interest rate declines).

- In the FRM world this was related to the high starting interest rate levels (especially in Southern Europe and France) and strong interest rate decompression trend under the Maastricht process. The starting point was France, which in the Scrivener Law of 1979 limited early repayment compensation to 3% or 6 months interest payments. France was followed by Belgium, Spain (early 1990s) and Netherlands. The culmination point of this trend is 2007 Italian legislation that sets the compensation levels to zero (and significantly reducing administration costs).

  Also, in transition countries such as Hungary and Czech Republic with earlier unspecified law, there is an active legal debate over limits to compensation, which so far has produced the establishment of a fair value reference.

  We note finally that in the more advanced countries the fair value reference is increasingly specified by computation formulae, and within formulae by specific limits (such as on the time of the fixed-rate period, or applicable types of interest rates).

- Compensation applicable to ARMs and hybrid ARMs (here usually affecting the short fixed-rate teaser periods) have also been curtailed over time.

  - United Kingdom practiced de-facto unlimited early repayment compensation for teaser periods in the 1990s (see Dübel/Lea (2000)), which since through case law and a 2004 FSA regulation has been reduced to fair value (or slightly below fair value).

- Portugal and Spain only in 2007 limited compensation payments for ARM to 0.5% – in the Portuguese case from market practices partly far above fair values (according to MFEG findings 5% were not unusual), in the Spanish case compensation were halved from 1%. In both cases, such amounts can be considered slightly below fair value, as the loss of a client (and thus foregone lender profit and loan closing discounts) usually means higher cost levels than 0.5% for lenders.

Contrasting with the trend to tighter limits, we note also an important reverse movement in Spain in the 2007 reform, which for FRM moves back from a cap to fair value levels.

- Spain: The new compensation regime promulgated into law in December 2007 splits the early repayment compensation into two components. We interpret the compensation for "withdrawal" (Article 8) as aggregated compensation for foregone lender intermediation profit, loan closing costs and administrative costs. This component amounts to 0.5% of the prepaid capital within the first five years of the credit and to 0.25% thereafter.

  The second component – the compensation for "interest rate risk" (Article 9) – corresponds to the compensation for the lender's reinvestment loss. It applies to FRM exclusively and requires proof of a capital loss incurred by the lender, where capital loss is defined as the difference between the outstanding loan amount and the market value of the loan. The capital loss must be positive in order to entail compensation (partial fair value). This compensation can be agreed in the loan contract as either fixed percentage of the outstanding loan amount or the lender's total or partial capital loss.

When interpreting the Spanish movement into and out of caps for FRM early repayment compensation (as well as similar movements to cap compensation), it is important to bear the interest rate and credit risk context in mind. When FRM early repayment compensation caps were introduced in the early 1990s, FRM interest rates stood at 15%, threatening high default rates as rates declined without a financially viable option to prepay. 2007 FRM rates instead were in the range of 5-6%, and the vast use of ARM, result of the factual disappearance of FRM from the market, had been increasingly regarded as contributing to rising default rates.

An aspect of compensation that was highlighted by a recent national competition authority ruling against Hungarian bank OTP is that early repayment fees fixed ex-ante under the contractual option cannot be changed

ex-post during contract terms.[110] Such rulings may further expedite a transition to a formula-based compensation regime.

It is unclear finally whether there is an independent trend towards greater case differentiation for compensation waivers since the patterns here resemble the general cap policies on compensation that a country adopts.

Table 50 and Table 51 repeat our findings concerning distance from the proposed policy frontier for all EU Member States except Malta, which did not supply information.

Table 50: Distance from proposed policy frontier – early repayment right

	Unconditional legal right (policy option 1)	Conditional legal right (policy option 2)	Universal right (policy option 3)
AT	FRM		ARM
BE			ARM, FRM
BG			ARM, FRM
CY	ARM, FRM		
CZ		ARM, FRM	ARM, FRM
DE		FRM	ARM
DK		ARM, FRM	ARM, FRM
EE		FRM	ARM
ES			FRM, ARM
FI			FRM, ARM
FR			FRM
GR	FRM		ARM
HU		FRM, ARM	FRM, ARM
IE			FRM, ARM
IT			FRM
LT		FRM, ARM	
LU	FRM		
LV		FRM, ARM	
MT			
NL			FRM
PL		FRM, ARM	
PT			ARM
RO	FRM, ARM		
SE			FRM
SI		FRM, ARM	
SK	FRM, ARM		
UK			ARM

Note: no information supplied by Malta
Source: Finpolconsult.

[110] See GVH decision Vj-12/2006, http://www.gvh.hu/gvh/alpha?do=2&pg=11&st=1&m5_doc=5595.

Table 51: Distance from proposed policy frontier – early repayment compensation rules

	Capped compensation or fee (policy option 1 – 3b, 5)	Fair value compensation (policy option 1 -3a)[1]	No specific rules (~policy option 4)
AT		ARM, FRM	
BE	ARM, FRM		
BG		ARM, FRM	
CY			FRM, ARM
CZ			ARM, FRM
DE	ARM	FRM	
DK		ARM, FRM	
EE		ARM, FRM	
ES	ARM	FRM	
FI		ARM, FRM	
FR	ARM, FRM		
GR	FRM	ARM	
HU			ARM, FRM
IE		ARM, FRM	
IT	ARM, FRM		
LT			FRM, ARM
LU			FRM, ARM
LV		ARM, FRM	
MT			
NL	ARM, FRM		
PL			FRM, ARM
PT	ARM, FRM		
RO			
SE		ARM, FRM	
SI		ARM, FRM	
SK	ARM, FRM		
UK		ARM, FRM	

Notes: 1) including full (symmetric) and partial (asymmetric) fair value compensation. No information supplied by Malta.
Source: Finpolconsult.

8.4 Selection of case countries for detailed study

After reviewing the legal baseline and stakeholder positions, and understanding the scope and reasons for recent reforms in the early repayment area, we are establishing a list of countries to be covered in detail by the cost-benefit analysis.

Our selection criteria are:

- Legal model character of the case for the policy options, and distance from policy options. Because of greater variance of both policy options and legal baseline this implies more cases than in other policy areas.

- Important economic events such as recent reforms or risk realisations that shed light on the costs and benefits of the proposed policy options for stakeholders.

- Market indicators such as size, geography, system maturity (emerging, mature), risk levels, structural factors (homeownership rate, role of intermediaries).

- Data availability and accessibility. Accessibility of consumer associations, lender groups and individual financial institutions for interview.

We have selected the following cases selected by those criteria:

- Denmark (classical mortgage bond jurisdiction with de-facto universal right, prepayment at the market price for non-callable and at par for callable loans, delivery option – full fair value compensation, complete market). Denmark is also of interest due to her experiences in the 1980s and early 1990s when the long-term non-callable mortgage market ran into difficulties (since then lenders apply time limits to the non-callable market [implicit]).

- Germany (classical mortgage bond jurisdiction with conditional contractual option, early repayment at partial fair value compensation/asymmetric, time limits in the compensation formula).

- Belgium (fixed-rate mortgage products similar to Germany, but universal early repayment right, compensation cap / fee model and numerous case differentiations for waiver). Belgium has similarly tight restrictions on early repayment compensation, transaction cost issues (notary system), and a similar level of market completeness (material co-existence of ARM and FRM) as France.

- Italy (FRM product as France, but stronger relevance of ARM; universal early repayment right and recent compensation reform with cap zero). Italy is particularly relevant due to the radical compensation cap approach for FRM.

- Spain (universal early repayment right, compensation caps for FRM were lifted after recent reform to re-establish the FRM product vs. the ARM dominance, example of ARM compensation).

- Portugal (universal early repayment right, keeps compensation caps for FRM but has reduced ARM compensation from above fair value levels; an evaluation of 2007 reforms by the Central Bank has been announced).

- United Kingdom (teaser rate ARM with varying compensation practices, at or below, historically also above fair value). United Kingdom has the only European sub-prime market which may allow insights into compensation practices of high interest rate loans.

- Czech Republic (emerging market with dominant non-callable FRM and conditional contractual option, unregulated/above fair value early repayment compensation).

With regard to the cases mentioned in the proposal we have dropped the Netherlands and France due to increasing similarity of model with Belgium, and given greater emphasis to Portugal and Spain with their recent reform programs. It would have been an option to analyse Austria or Greece (cases with unconditional contractual option) in greater detail, but the detail analysis for Germany and Czech Republic (conditional contractual option) will cover very similar situations.

8.5 Conceptual and empirical basis for the cost-benefit analysis

8.5.1 Introduction

In this section we review what existing theoretical concepts and empirical evidence - mainly from Europe and occasionally from the US - tell us about the relation between the legal (and other transactions costs) regime of early repayment and important inputs for the cost-benefit analysis such as consumer early repayment behaviour, loan (interest rate risk protection) pricing and loan (interest rate risk protection) demand and supply both in quantitative terms and between different loan products. We also present evidence pointing to expected cost-benefit analysis outputs such as lender costs/losses and redistributions of costs and benefits between consumer groups.

We focus on microeconomic aspects of the mortgage and labour markets. There is insufficient research on the interaction between prepayment and macroeconomic issues, such as consumption, the pension system and the financial sector and its stability. We also do not integrate these aspects into the quantitative cost-benefit analysis below.

Earlier studies

The cost-benefit impact of early repayment on lenders and consumers has been a subject for study in the U.S. ever since callable 20-year FRM were introduced under the 1934 National Housing Act as a government-guaranteed product. Before 1934, U.S. mortgage loans were short-term FRM (5 years) and non-callable, a highly risky combination for consumers. The reform meant a major increase in consumer benefit; consumers were relieved both of interest rate risk and liquidity risk (a new financing had to be sought

after 5 years). Until today, due to its benefits the social goal of widely offering the product as such is not subject to serious debate in the U.S., so research mainly focused on adequately calibrating its costs.

Intensive research sponsored by investment banks, housing finance agencies (especially Fannie Mae and Freddie Mac), rating agencies and academia on early repayment started in the 1980s when the Savings and Loan institutions were forced to sell large portfolios to investors via investment banks, creating the secondary mortgage market. At the time, individual investment banks made large profits through such transactions.

The huge initial economic success of the U.S. secondary mortgage market stimulated intensive research interest in mortgage credit and early repayment risk studies. Early analytical papers trying to understand the options-theoretic nature of mortgage contracts (e.g. O'Keefe and van Order (1990) and Chinloy (1991)) during the 1990s became mainstream analysis reprinted in standard bond market textbooks such as Fabozzi (1999). With an estimated high double-digit number of PhDs working on Wall Street on early repayment-related issues, and continued strong academic interest, progress continues to be made, e.g. in innovative modelling techniques (Kalotay et. al. (2004)) and empirical research supporting the joint mortgage termination (default, early repayment) literature initiated by Deng, Quigley and van Order (1999).

In Europe, as to be expected, Denmark has been the source of early early repayment related research, e.g. Graven Lasen (1993) or Jakobson (1994). In contrast to the U.S., research capacity became concentrated at institutional investors that hold most of the country's mortgage bonds. Researchers in France had also started to assess early repayment costs as a result of the strict caps imposed by Scrivener Law, e.g. Mouillart (1995).

Dübel and Lea (2000) and Köndgen (2000) prepared the first empirical and legal international comparison of early repayment conditions in four EU Member States (France, United Kingdom, Denmark, Germany) with the United States. They found that the transactions costs of early repayment including compensation regimes significantly reduced credit costs in situations where fair value compensation were applied, and that the caps of compensation in France were indirectly circumvented through keeping legal transactions costs high. They also calibrated the option values for the countries in question. Subsequent European comparative research includes Mercer Oliver Wyman work for the EMF quantifying the options-adjusted price of mortgage loans across borders (and indirectly valuing the early repayment option), and an update by Dübel (2007b) on early repayment option cost and prepayment speeds.

Structure of the analysis

This study presents microeconomic conceptual analysis together with available empirical evidence from the case countries in four steps:

1. A basic conceptual analysis of interest rate risk protection, product choice and pricing. The focus here is on identifying the risk-price trade-offs associated with the early repayment right and compensation constellations between the three main products ARM, non-callable FRM and callable FRM.

2. Early repayment compensation analysis, i.e. loan pricing analysis under capped and uncapped compensation formulae for lender loss, and a fee model as the fundamental alternative to a compensation. In terms of applicable costs we analyse both reinvestment loss / gain and foregone lender intermediation profit. The latter includes implicitly loan closing costs, discounts given etc. We also deal with the compensation symmetry issue.

3. Scope of the early repayment right analysis. In this third step we focus on the microeconomic impact of absolute (quantitative) constraints being placed on the ability of consumers to prepay when prepayment requires the consent of the lender (contractual option). The section is placed after the compensation analysis, since we can interpret a quantitative restriction economically as a special case of price (fee) setting.

4. Transactions costs analysis, i.e. the scope of interaction of compensation with (especially legal/notary) transactions costs, which in practice are often an alternative form of reducing prepayment speeds. The aspect is often overlooked in the consumer protection discussion.

5. Analysis of other issues, including the relation between the early repayment regime and consumer confidence, customer mobility, product diversity and cross-border lending.

8.5.2 Conceptual analysis: interest rate risk protection, product diversity and pricing

Basic costs and benefits of the prepayment option for consumers

Technically, the early repayment option is an American[111] call option whose value in simple terms is determined by five factors:

- the strike price (which may differ whether a prepayment can be made at face value of debt [par] or at the market price of debt),

- the exercise price (legal/notary costs, fees charged by the new lender, compensation or fees payable to the old lender),

[111] An American option can be exercised at any time, a European option can be exercised only at maturity.

- the term of the fixed-rate period (in ARM lending equivalently the term of the spread fixed over an index),
- the volatility of (mortgage) interest rates and spreads, and
- opportunity costs of the supply and demand side (especially interest rates paid by the lender on debt financing the mortgage, and the deposit rate to be received by the borrower for investing cash on hand, e.g. derived from an inheritance, and not prepaying, but also preference and other factors).

At typical combinations of those factors, a call option is not cost-free to supply by a lender or investor. This translates into the consumer having to to pay an additional option cost premium as an interest rate mark-up.[112]

In the context of analysing the proposed policy options, we are interested particularly in the option cost pricing impact of varying exercise prices, everything else being equal. As a rule, the lower the exercise price, the higher the option cost to be priced as an interest mark-up.

Low exercise prices render the option more frequently 'in the money', i.e. worth exercising by the consumer. The key value of the early repayment option in this constellation for the consumer is lowering her debt service burden and protecting against a possibly rising risk of default if a high debt service burden persists.

By exercising early repayment rights when the option is 'in the money' (i.e. rates have declined sufficiently), consumers may not only systematically reduce their housing costs over time (as e.g. U.S. consumers have done in the past two decades) but also generate more disposable income for other purposes, alternatively borrow more from the lender for other purposes.

For a wide range of values of the exercise price, the option also provides the consumer with additional financial flexibility, e.g. easing moving and financial management decisions (depending on the constellation of opportunity costs). These benefits are not available if the lender can contractually exclude a prepayment.

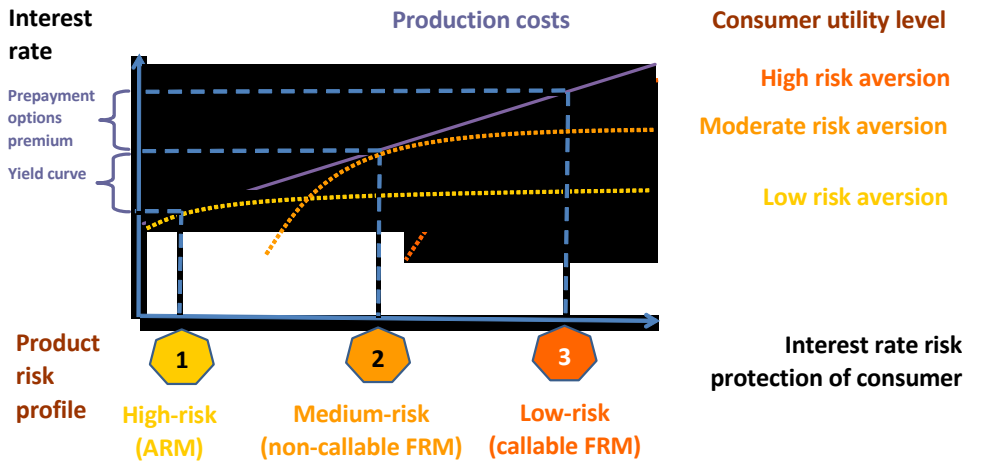
Application of the Capital Asset Pricing Model

The key issues surrounding the legal regime of early repayment can be generalised as those affecting the choice between contracts with high and low risk protection levels, which is the theme of the Capital Asset Pricing Model (CAPM) popularised by Sharpe (1964). While the CAPM is usually applied to the investment context, it can be as easily be interpreted in the mortgage

[112] An exception is when consumers prepay in situations in which the lender makes a profit from reinvesting the cash, in which case interest rate discounts are possible.

finance context. The key mechanics of the model is the matching of consumer risk-price preferences with the supply costs of risk protection options by the financial industry. Figure 1 visualises a version applicable to the three main mortgage products, ARM, non-callable FRM and callable FRM.

Figure 24: Analytical framework for the three main mortgage product types in the interest rate risk dimension leaning on the Capital Asset Pricing Model



Note: see product definitions in terminology section (Annex 2).
Source: Finpolconsult.

Consumers can be broadly classified as risk-averse (say, free lancers who might face a sudden income drop tomorrow) or risk-neutral (say, civil servants with a guaranteed stable income stream), with the former showing additional willingness to pay for greater risk protection while the latter are basically indifferent to varying protection levels.

No two consumers' preferences are the same. However, lenders cannot offer very large numbers of different contracts that match all consumer's individual tastes (for example combinations of prepayment compensations and interest rate mark-ups). With a standard argument of insurance theory, lenders in this situation will either pool or separate consumers depending on their cost structure and the degree to which sufficiently large consumer groups are distinguishable by similar preferences. Figure 24 shows a typical result.

Interest rate risk in mortgage finance can be very high, as a result of the long interest rate fixing periods or equivalently duration. Lenders will be highly exposed to this risk unless they find proper funding instruments to pass it through to savers:

- Lenders lacking such funding instruments will by default pass on prevailing market conditions, including all (interest rate) risk, without protection to consumers. This explains why historically many mortgage finance systems have produced only ARM, for example in the US until the 1930s and in Britain until the 1990s.

- FRM products historically become available where long-term savings and capital (bond) market development were too, in Denmark and Germany since the 18th century and in France since the 19th century.

Today, lenders in most markets will offer several interest rate risk protection products. Figure 24 visualises this through a production function for risk protection with a slope that determines the interest rate mark-up coming with a greater risk protection level.[113]

In the case of a fixed-rate loan (FRM) compared to an adjustable rate loan (ARM) that mark-up will be proportional to the yield curve (long minus short rates of government bonds), in the case of a callable FRM minus a non-callable, or call protected, FRM the prepayment option price.

Note here that the mark-up may also be less than the additional costs due to reduced default costs resulting from higher risk protection levels. We use these relations between pricing and risk protection below for the cost-benefit analysis.

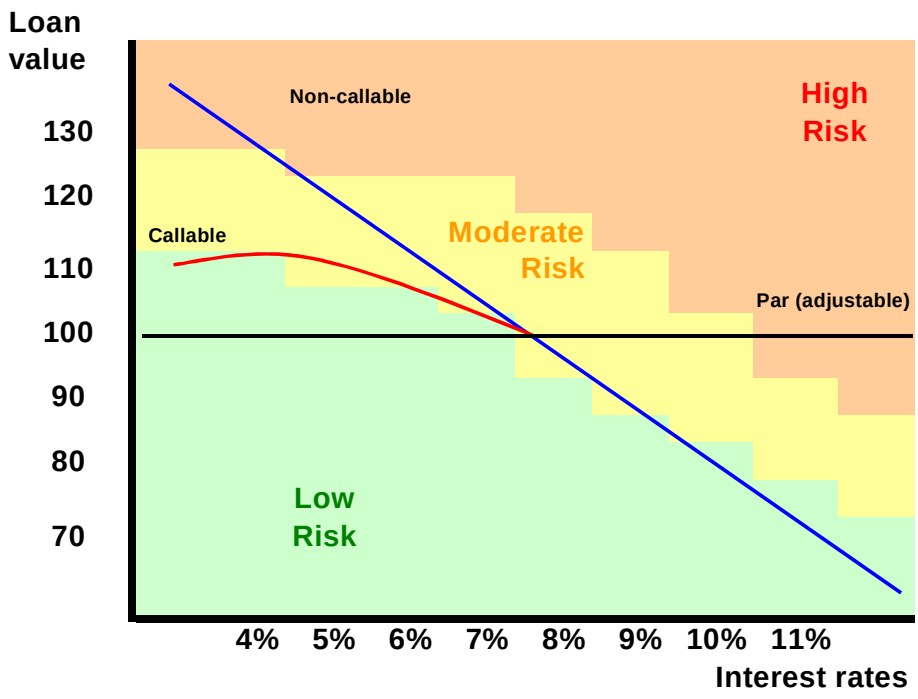
Duality of interest rate risk and credit risk in mortgage finance

From a lender's perspective, the key long-term cost factor behind contract choice next to risk protection production costs (narrowly defined as the costs of taking interest rate risk plus administration costs) is credit risk. For consumers, credit risk may mean insolvency, loss of capital in the house and possibly residual debts and reduced net incomes for an extended time during life.

Credit risk correlates strongly with payment shock risk and thus the amount of interest rate risk passed on by lenders to consumers. Hence, at least partially, lower credit risk will be bought by a lender through higher interest rate risk, and vice versa. Total lender insolvency risk then depends on striking the right balance, or finding capital market investors that shoulder some of the risk (e.g. in the presence of bond instruments).

[113] The relation does is not necessarily linear, as risk protection costs for lenders may increase more than proportionally with risk levels. For example, many high inflation countries do not have fixed-rate markets with fixing periods exceeding a few years as investors shy the price risk for loan and bond instruments carrying long fixed rates.

Figure 25: Stylised default risk profile of the three main mortgage products used in the EU



Note: a non-callable FRM loan rises (falls) in value with market rates falling (rising) vs. the coupon. An ARM loan remains broadly constant in value as coupon equals market rates. A callable FRM combines features of a non-callable FRM (if rates rise) with those of an ARM (if rates fall). Lines represent large pools of loans. In the case of callable FRM (red line) in such pools some consumers will fail to prepay with falling rates even if it is in their best interest, which keeps the loan pool value above par (100). Figures are illustrative only. We consider 'value' here as an opportunity cost concept rather than indicating a sales price.
Source: Finpolconsult.

All three main mortgage products used in the EU carry certain credit risk drivers, however to vastly differing extents.

- ARM may experience strong upward interest rate increases and thus payment shocks, especially if combined with low initial teaser rates (hybrid ARM). Default problems historically occurred in the United Kingdom (1990s), during the U.S. sub-prime crisis (since 2007) or during recent Western European downturns in Spain, Ireland and the United Kingdom (since 2008). Another default contributor is that predominant ARM systems tend to feature considerably higher house price risk (see literature review).

- Non-callable FRM may become very expensive for consumers, if market rates decline and income growth slows, especially if fixed-rate periods are very long. Problems existed here in particular in the 1980s, when Denmark and Norway still used 20-year non-callable FRM and, as market rates declined swiftly, experienced high levels of defaults.[114] From a present value perspective, a long-term non-callable FRM has a high value to the lender in this circumstance, but the high default likelihood reduces the value of a portfolio of such loans.

- Callable FRM finally, the product with the highest degree of interest rate risk protection, warrant an option premium. Such an interest rate mark-up will raise debt service burdens. However, once the borrower can afford to pay the premium, the product is the safest of the three discussed here.

Figure 25 summarises these points in a graphical presentation that compares the market value of the loan and the risk scenarios discussed. Clearly, the greatest default risk for the ARM borrower arises when interest rates rise, along with debt service (cash flow risk). Conversely, the greatest default risk for a non-callable FRM borrower occurs when interest rates fall and the market value of the loan (i.e. the opportunity costs of paying high interest rates when market rates are low) becomes large, possibly higher than the house price (negative equity risk). Yet, still the non-callable FRM borrower is protected against rising interest rates (against a premium paid over ARM).

The safest product insuring against both cash flow risk and at least partially negative equity risk is the callable FRM, albeit only against an additional option premium to be paid over the non-callable FRM, which may possibly bring higher initial loan defaults.

8.5.3 : Empirical analysis: loan pricing under different forms of early repayment compensations or fees

A loan (pool) pricing framework

Influenced by U.S. and Danish research, the mortgage capital markets today use a standardised risk-cost assessment framework for mortgage loan pool pricing, in which the options (credit, prepayment costs) and options-adjusted (administration, funding costs) elements of the price are separately quantified.

Despite these advances, everything else being equal the estimates of the costs of prepayment option vary considerably, depending on the specific

[114] The reasons for default on the cash-flow side were high interest rate levels locked in by the non-callable loan that were ultimately not affordable for many borrowers. Moreover, there was an option-theoretic default motive for Danish borrowers as the market value of the loan exceeded in many cases the house price. House prices in Denmark fell between the mid-1980s and 1994.

prepayment model that the investment bank or investor uses to price the loan pool. These proprietary models combine interest rate estimates, data about borrower responsiveness to interest rate signals and exercise costs (early repayment compensation or fee, legal transactions costs) to arrive at prepayment speed estimates for mortgage pools (also called conditional prepayment rates or CPR). Once prepayment speeds are identified, the pool's expected maturity (or duration) can be computed, and a benchmark for the pricing of the pool can be derived.

In the cost-benefit analysis context, the compensation or fee element of the exercise costs is of particular interest as their largest element. Within early repayment compensations we differentiate between:

- Lender reinvestment loss or profit, as a result of changes in the interest rate level of mortgages in which he can reinvest cash received from a prepaying borrower.

- Foregone lender intermediation profit and opportunity to claw back loan closing cost discounts, as a result of truncation of the margin received from a loan through an early repayment.

- Administration costs incurred by the lender through the act of an early repayment.

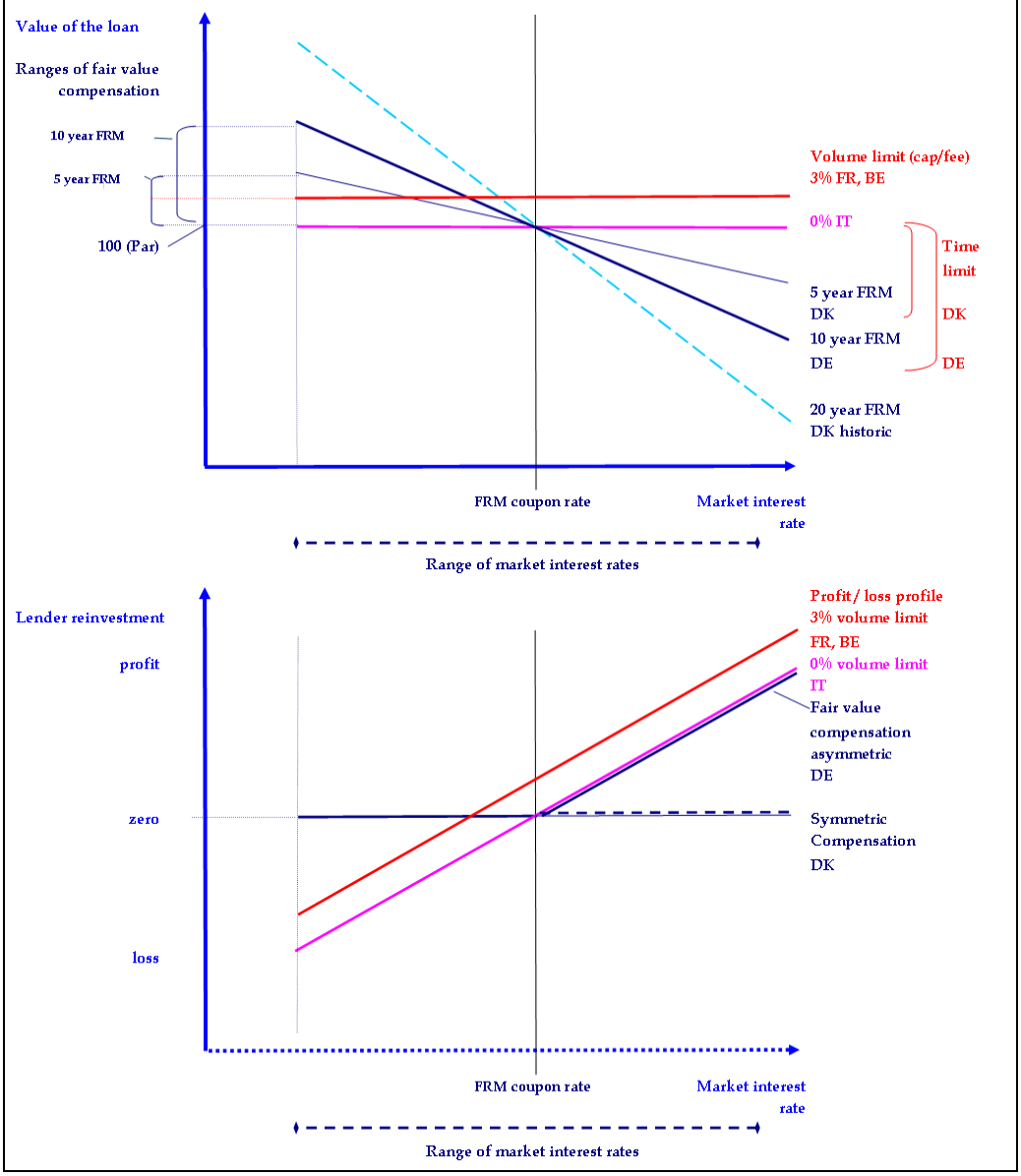
We will devote the rest of this section to evaluate the pricing impact of different formulations of compensation for the first two of the three elements in the list, via their impact on lender profit and losses given an early repayment and borrower prepayment speeds. The administration costs of the act of early repayment can be empirically neglected.

A particular important question of interest is under which constellations and to what extent caps imposed on fair value compensation give rise to an option price charged by the lender. This is of interest in particular since in singular contract environments, the option cost will be charged to all borrowers while the benefits of exercise at below fair value costs will only accrue to the prepaying borrowers.

Analytical framework option cost

We concentrate on non-callable FRM with fixed-rate terms between 5 and 20 years. Figure 26 develops the basic concepts of their pricing as well as provides an indication of the impact of volume limit (fee) and fair value compensation models based on time limits for FRM as we can identify them for the EU.

Figure 26: Pricing of non-callable FRM: impact of different legal regimes for compensation or fee limits on lender profit/loss distribution



Notes: figures denote loss given an early repayment only. To arrive at loss estimate, multiply with likelihood of borrower making an early repayment. The likelihood depends on the interaction of the financial incentive (interest rate decline) with the compensation regime. A fair value compensation will lead to a flat early repayment distribution, a capped compensation or fee model to an early repayment distribution that has a fat tail when interest rates fall.
Source: Finpolconsult.

Start with assuming a fixed coupon rate (say, 5%) and then consider the pricing of loans carrying different remaining fixed-rate periods (5, 10 and 20 years) as displayed in Figure 26. When market rates drop below the coupon, the market (present) value of such non-callable loans rises; the longer the fixed-rate period, the steeper is the increase in value. Similarly, if market rates rise, the value of such non-callable loans drops. The slope in bond market

jargon is called 'duration', and describes the price risk that investors/lenders hold on their books in response to changes in interest rates.

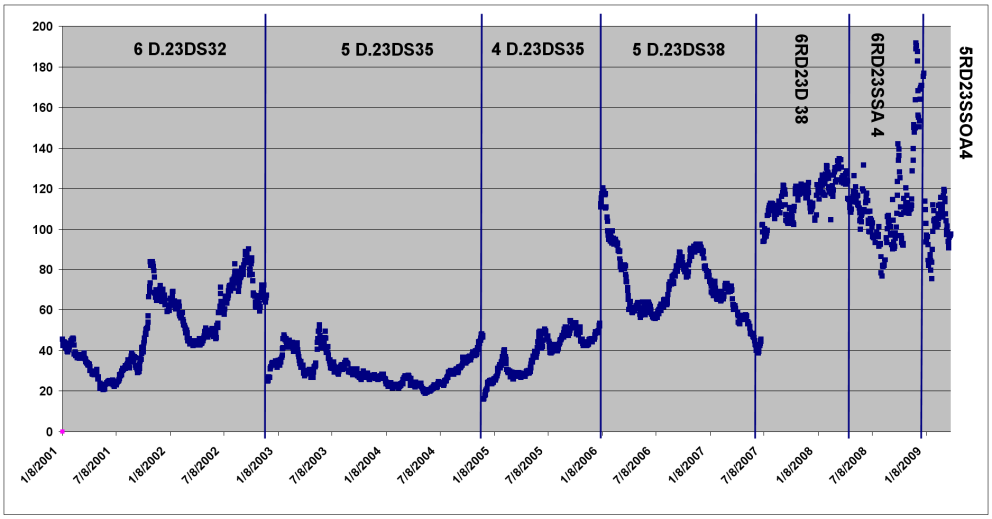
Now we determine the lender profit and loss profile: if a prepayment is made at market interest rates below the coupon (loan) rate (e.g. 4%), a reinvestment loss for the lender occurs that is higher, the higher the length of the remaining fixed-rate period (the steeper the slope of the dark curves in the upper graphs). The loss of a lender receiving cash from a borrower is equal to the difference between the value of the loan and 100 (par), the value of the cash. The maximum amount of loss that a lender expects depends on the range (volatility) of interest rates expected.

No compensation vs. (uncapped) fair value compensation

We start the empirical discussion with Danish data on callable FRM option pricing. Denmark prices the option in the capital market, and options-adjusted spread models for the most liquid bond series can be used to derive the option cost with very limited potential for distortions. Figure 27 shows these data – over the time period of 2001 to 2009, the option cost on 30-year FRM have varied between 0.20% or 20 basis points, and almost 2% or 200 basis points reached during the recent financial crisis. If we discount the extremes as anomalies, we still see very elevated option cost levels of 80 to 120 basis points during the financial crisis[115], and 20-80 basis points during normal times. The mean option cost for the 8-year period under review is 61.4 basis points.

[115] The options-exercise behaviour of the Danish borrower population has not shown anomalies during the financial crisis. Rather, the high levels of option premia is likely triggered by capital supply constraints with regard to the available investor base and other liquidity issues, such as availability and pricing of hedging instruments.

Figure 27 Empirical prepayment option cost (interest rate mark-up) in Denmark, 30-year callable FRM, 2001 - 2009



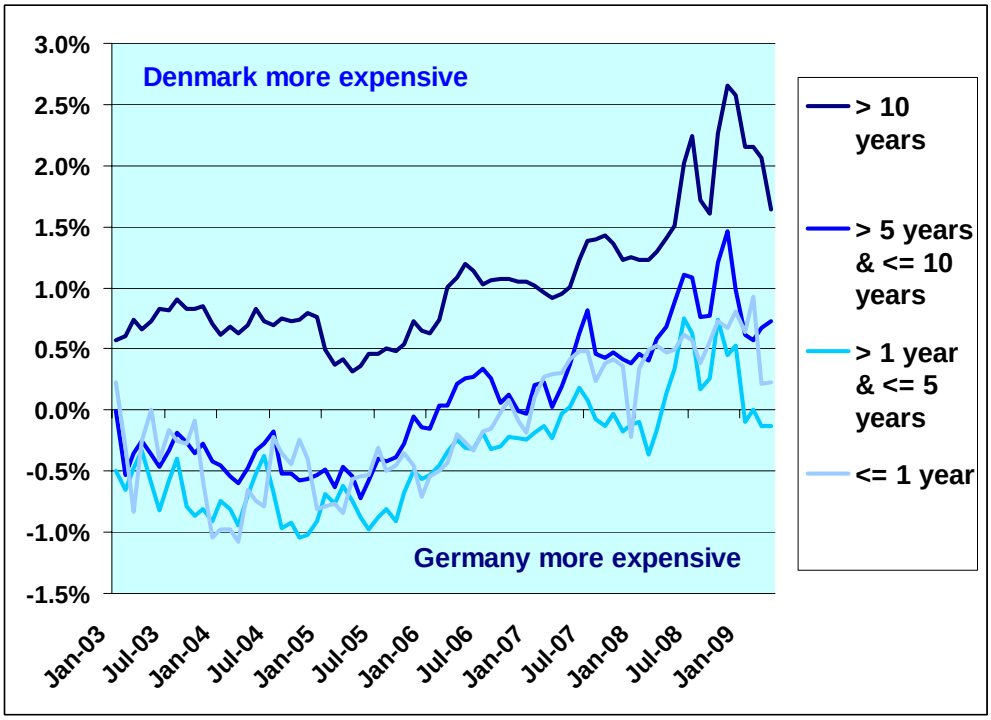
Notes: Option cost are derived from options-adjusted spread models underlying each bond. Bond series have varying bond coupons – series are named in the chart.
Source: Realkredit Danmark.

In Figure 28 we compare Denmark and Germany for an approximation of the pricing differences between callable and non-callable (fair value compensation) FRM, the latter being characteristic for the German market.

A direct comparison of the Danish callable and non-callable products is not useful, as the Danish non-callable market is very short-term (5 years, usually lower). In contrast, the typical interest-rate binding period of German mortgage loans has considerably risen in recent years and now is somewhere between 11 and 14 years. Such loans in Germany carry the call option from the 11th year on, which tends to reduce price differences slightly.

While using different funding structures (exclusively bonds in the Danish case and to a large extent – probably 80% - deposits in the German case), both countries have very liquid FRM markets. De-facto German FRM loans, although carrying nominally shorter fixed-rate period than Danish 30-year FRMs, have a longer 'duration' or expected life because they are usually non-callable for the first 10 years. Again, under normal yield curve conditions this should reduce price differences slightly. Yet, the historical German tradition of pricing loans over comparable capital market benchmark curves – especially the Pfandbrief curve - has recently suffered with the increasing dominance of deposit funding, and there is the possibility of inflated price differences.

Figure 28 Denmark and Germany mortgage interest rates by fixing period compared



Source: ECB, Danish central bank.

Despite all these caveats, it would seem as if the option costs measured in Figure 27 are also reflected in the international comparison. It is fair to conclude that non-callable FRM, i.e. those FRM that are call protected by fair value compensation or early repayment exclusion as in the German case, carry considerably lower interest rates.

The option cost will decrease with shorter fixed-rate periods than the Danish. During recent bank and insurance initiatives to introduce callable FRM in Germany, within some limits (e.g. exclusion of early repayment for the first year), options prices between 20 basis points and 40 basis points were quoted for German 10-year FRM (rendered thus partially callable).[116] It should also be noted that the non-callable benchmark is moving in Germany as a partial early repayment option offering 5% of the loan amount per annum without a compensation payment as of 2009 has become a market standard.

[116] Source: Survey undertaken by Planethome, a credit broker, published in Berliner Morgenpost on October 24, 2009.

Analytical framework compensation limits

Figure 26 shows immediately that most consumer credit as short-term fixed-rate credit (usually fixed-rate periods between 3 months and 3 years) is not as much affected by limits imposed on compensation as FRM mortgage loans - such loans have a very small slope (duration) only.

We now analyse two basic options for regulating compensation for non-callable FRM with longer-term fixed-rate periods (for ARM and hybrid ARM loans, see discussion further below):

1. Volume limit (cap or fee): in France, Belgium or Portugal the lender can charge a fixed prepayment fee which reduces the loss of the lender (red line in the lower chart).

   Since there is no fair value constraint in these jurisdictions, we see immediately from the lower chart in Figure 26 that this approach produces lender revenue departing from fair value: if a prepayment is made when market interest rates have fallen it does not cover the lender loss - unless interest rates show very low volatility, and if a prepayment is made by the consumer when interest rates have risen it actually delivers the lender an additional reinvestment profit.

   We note at this point that the Italian solution of capping compensation at zero level does still not pre-empt lender profits in case of rising market interest rates (see magenta diagonal line in the lower chart).

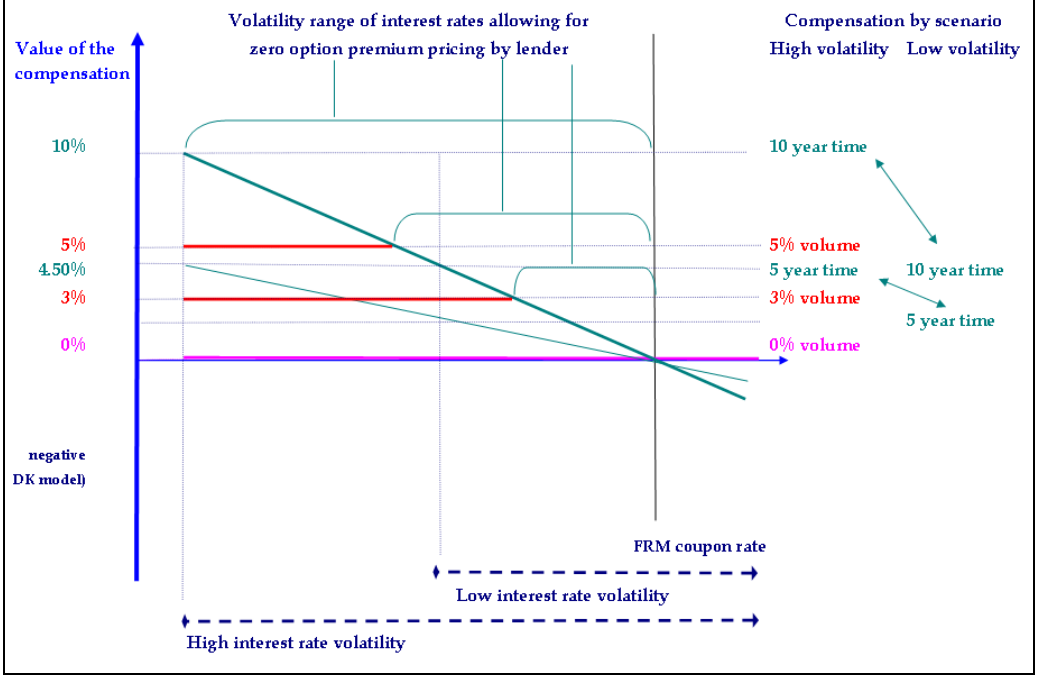
2. Time limits imposed on fair value (yield maintenance compensation). Fair value compensation are computed in a way that eliminates losses or profits when interest rates drop or rise (horizontal solid then dotted blue line in the lower chart, which is *identical* for both 5-year and 10-year loans). This is the Danish compensation model.

   Outside Denmark, e.g. Germany, all yield maintenance compensation models are asymmetric, however, in not letting the borrower participate in a reinvestment gain of the lender (see kinked first horizontal then diagonal blue line in the lower chart) if he prepays in a context of rising interest rates.

   Time limits imposed on the formulae determining fair value compensation will implicitly limit the volume of compensation paid, by putting a limit on the maximum value that a non-callable FRM can obtain (compare thin and thick dark blue lines in upper chart). Historically, when no limits on the time of the fixed-rate period over which fair value compensation could be charged were in place, e.g. in Denmark in the 1980s, the result were very high implicit prepayment compensation and high default levels. As a result, Denmark moved to introduce limits, as Germany has operated with limits since the non-

callable FRM was created (in the early 1970s). In both countries, the legal time limit is 10 years.

Figure 29: Pricing of non-callable FRM: impact of interaction of volume and time limits on compensation levels and incidence of early repayment option pricing



Notes: see Figure 26
Source: Finpolconsult.

Given our findings from the legal baseline it is important to consider the impact of combinations of both volume and time limits as simultaneous constraints. As Figure 29 shows, time limits will control the scale of the increase of compensation with declining market rates (interest differential) while volume limits will control the total compensation volume. A mix of both will thus lead to mixed pricing structure (kinked green and red lines):

- If interest rate volatility is high, even a moderately high compensation cap may render the early repayment option to come 'into the money' as the statutory cap may soon be lower than the fair value compensation (e.g. upper red line in Figure 29, at 5% compensation cap). This means that the lender needs to price the option partially as an interest rate mark-up.

- The same holds true if interest rate volatility is low and when the cap is also low (e.g. France, 3%). In the Italian model of a zero cap, the option will always have to be priced.

A mixed pricing structure makes it typically more expensive for lenders to refinance a loan, since the capital markets and banks alike prefers clean pricing structures for loan pools (either callable, or non-callable). Lenders will thus prefer fair value compensation. If caps must be put in place in order to reduce default risk preference usually goes to relatively high cap values. Consumers in turn will want safety from very high compensation levels which they no longer may be able to finance with the new lender, e.g. due to loan-to-value constraints, and which puts a burden on their affordability.

Clearly, a pure fair value compensation model will become more digestible if interest rate volatility is sufficiently low (which historically was the case in Germany and Denmark) – but this cannot be guaranteed, so the question of optimum policy response in terms of setting volume or time limits is to be solved.

In order to arrive at expected lender loss estimates from a particular legal configuration and contract type (5, 10 non-callable FRM) as described here, we need in addition to consider:

- the distribution of interest rates, which we can assume as symmetric (e.g. distributed under a Gaussian [normal] distribution); and

- the prepayment exercise behaviour of borrowers, which will be asymmetric, i.e. higher when market rates fall than when market rates rise. A complication is that the asymmetry of exercise behaviour depends on the type of compensation limit:

    1. under a volume limit (here: fee model), the likelihood of consumers prepaying when market rates drop will increase substantially as they stand to make a financial gain from the early repayment. This higher likelihood then multiplies with the gain of the transaction which is the lenders loss to a higher expected lender loss. The lender partly compensates by making a profit when consumers prepay as interest rates have increased through the higher than fair value level of the fee.

    2. under a time limit imposed on the fixed-rate period to be applied in a fair value compensation formula, such multiplicative effects do not occur. Also, the fair value character of the compensation will dampen the prepayment incentives of the borrower and reduce prepayment speeds to so-called non-financial prepayments. As a result, the lender will have to price only for the minor impact of non-financial prepayments, and since a fair value compensation is charged and no loss occurs on these there is no need to adjust loan pricing.

       Clearly, the fact that standard fair value compensation approaches are partial and do not consider a payout from the lender to the consumer in case of a reinvestment profit of the

lender (symmetry, only in Denmark) will introduce some distortion.

Even under perfect competition assumptions, any aggregate lender loss potentially incurred through a particular legal regime will result in loan pricing changes through interest rate mark-up (option cost). In other words, a departure from fair value compensation will increase loan spreads for all borrowers, including non-prepaying, i.e. partially socialise the loss (see also Figure 29). The values can be significant as we will discuss further below.

Pricing impact: compensation / fee limits

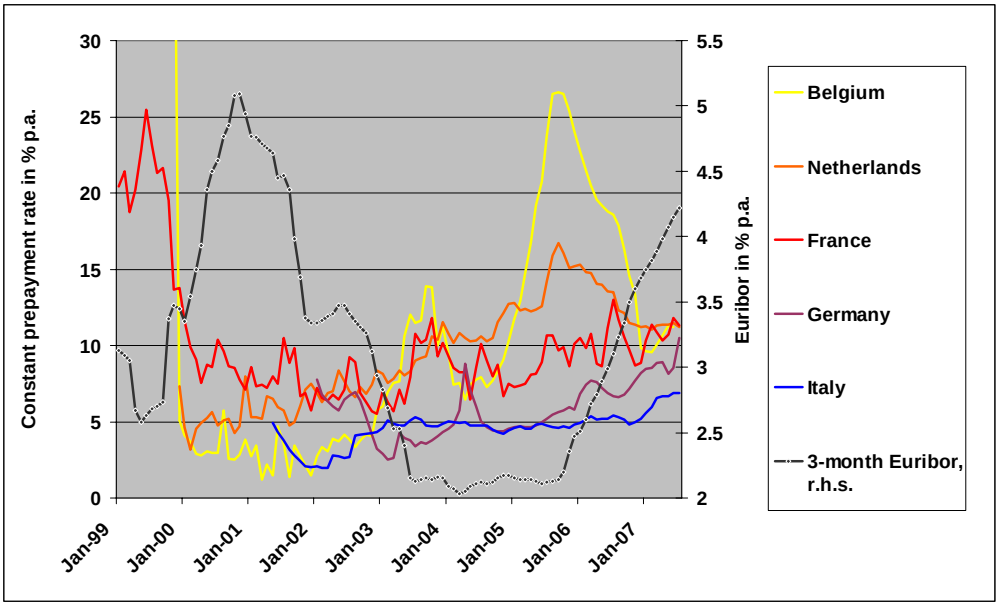
With limits imposed on compensation or fees, we are moving into territory where early repayment pricing is partially via an exercise price and partially via an interest rate mark-up. This suggests that ceteris paribus we should be able to measure lower option cost, the higher the exercise price is. We discuss three countries ranked by their compensation or fee ceilings permissible, France, Belgium and Italy.

- France: In the middle of the 1990s, when interest rates were falling drastically in France, the banking association Association française des banques estimated the margin costs due to the prepayment option to be about 38 basis points, 19 basis points thereof were covered by the admissible levels of indemnity payments.[117] Empirical comparisons of French and German mortgage rates are impossible due to data problems (interest rate brackets reported by France are limited to under and including 1 year, and over 1 year). Several studies also suggested that French mortgages are extremely aggressively priced and possibly more strongly cross-subsidised as entry product than elsewhere, which may render a comparison difficult.[118] Deposits, which carry tax subsidies, are a greater funding source in France than in Germany.

  Yet, while French prepayment speeds are higher than Germany's, they are substantially lower than in other fixed-rate markets – most notably Belgium, see Figure 30. At comparable legal transactions costs levels for external refinancing due to similar legal systems (notary-managed land registers),[119] the likely answer are differences in compensation levels and less elevated internal refinancing.

[117] See Dübel and Lea (2000, p. 226).
[118] See Low, Dübel and Sebag-Montefiori (2003) and follow-up study Mercer Oliver Wyman (2007).
[119] A French expert interviewed speaks of a minimum of 2% interest decline necessary to amortise transactions costs of an external refinancing.

Figure 30: Selected Euro area prepayment speeds compared, Fitch loan pool data January 1999 – July 2007



Notes: pools may contain both ARM and FRM, pool characteristics may differ from economy-wide loan portfolio. Prepayment speeds are measured as Conditional prepayment Rates (CPR), i.e. the annualised rate at which a given mortgage pool's outstanding balance has declined through prepayments.
Source: Finpolconsult computations based on data provided by FitchRatings.

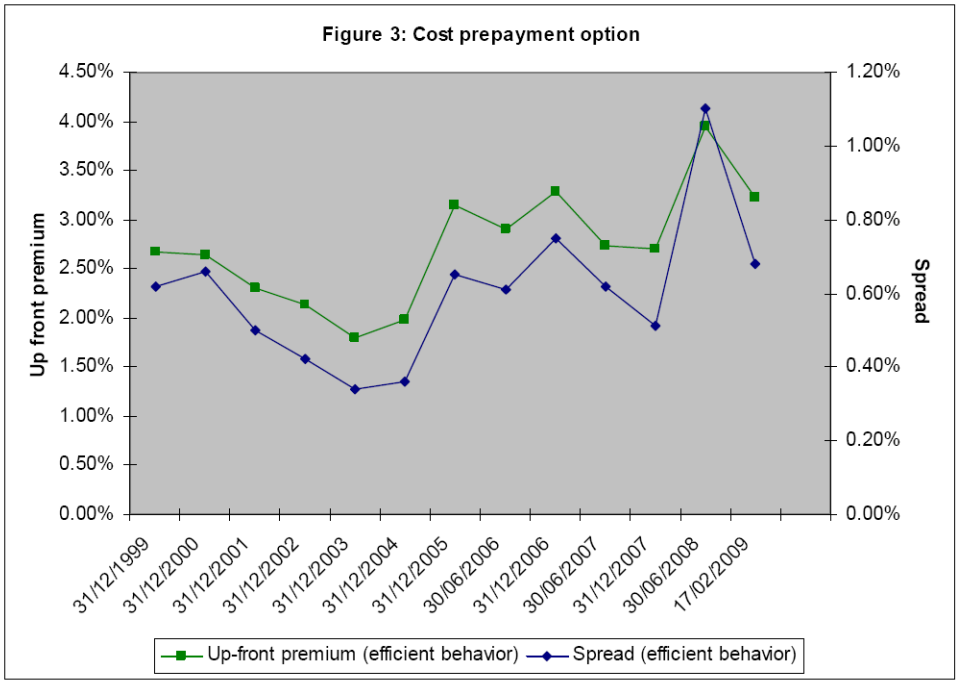
- In Belgium, the admissible early repayment compensation since 1994 is half the French level, 3 months interest. Internal refinancing transactions costs are also considerably lower than in France – such re-financings including simple interest rate adjustments make up for the bulk of prepayments. This combination substantially increases the reaction of demand for prepayments to a given interest rate signal. As Figure 30 shows the Belgian market has consequently been hit by large prepayment waves and showed also strong cyclicality of ARM vs. FRM demand – see Figure 41.

  Pricing data on Belgian prepayment costs is somewhat inconclusive. KBC bank, the Belgian commercial bank, in a memo distributed for the current policy debate containing proposals to further cut back fees (to one month interest)[120] has computed the hedging costs of a universal lender for Belgian FRM prepayment risk. The bank assumes the use of so-called swaptions for hedging, swaps that float-fixed swaps that lenders can partially or fully cancel as prepayment cash proceeds come in, under assumptions reflecting past Belgian consumer prepayment behaviour. The result is a synthetically

[120] See Delbrouck (2009).

obtained options price estimate in the range of 40 – 60 basis points, or 0.4-0.6% interest rate mark-up, for the time period of 1999-2009. Still, probably for the same reasons that we discussed for France, it is hard to find evidence of higher credit costs in Belgium for FRM compared to the German market that are evident in the Danish case. On average, between July 2003 and March 2009 – the available data window - Belgian long-term fixed-rate mortgages (>5 years) have been 0.25% cheaper than German, which has contributed to their ongoing popularity in Belgium.

Figure 31 KBC analysis of swaption costs for 20-year FRM, 1999 – 2009



Note: a swaption is a swap that can be cancelled, including partially, by the counterparty buying protection.
Source: Delbrouck (2009).

Nevertheless, the conclusion that the prepayment option is free of charge to Belgian consumers must be rejected. One explanation for the low price of the product is a possible greater shift of the funding benchmark from fixed to float, i.e. deposits and floating-rate bonds. Lenders faced with highly cyclical prepayment behaviour are forced to 'open' up the balance sheet by funding long-term loans with short-term debt. Otherwise they would run into the risk of negative

maturity transformation.[121] A second explanation is that, as will be demonstrated in the quantifications below, the fee model practiced in Belgium gives lenders some extra revenues from early repayments in the case of ARM (significant market share) and in the case of FRM when interest rates have risen and the lender not only enjoys a reinvestment profit but also can still charge a fee. In Germany or Denmark where the fair value concept is practiced prepayment revenues for lenders in such cases are zero or close to zero.

[121] French lenders were hit by this risk in the 1980s when loans after Scrivener Law were prepayable with only a small compensation while those loans were still funded with mortgage bonds. As a result of near bankruptcies of lenders, the French mortgage bond market collapsed in the mid-1990s, and French lenders changed their main funding instrument to deposits.

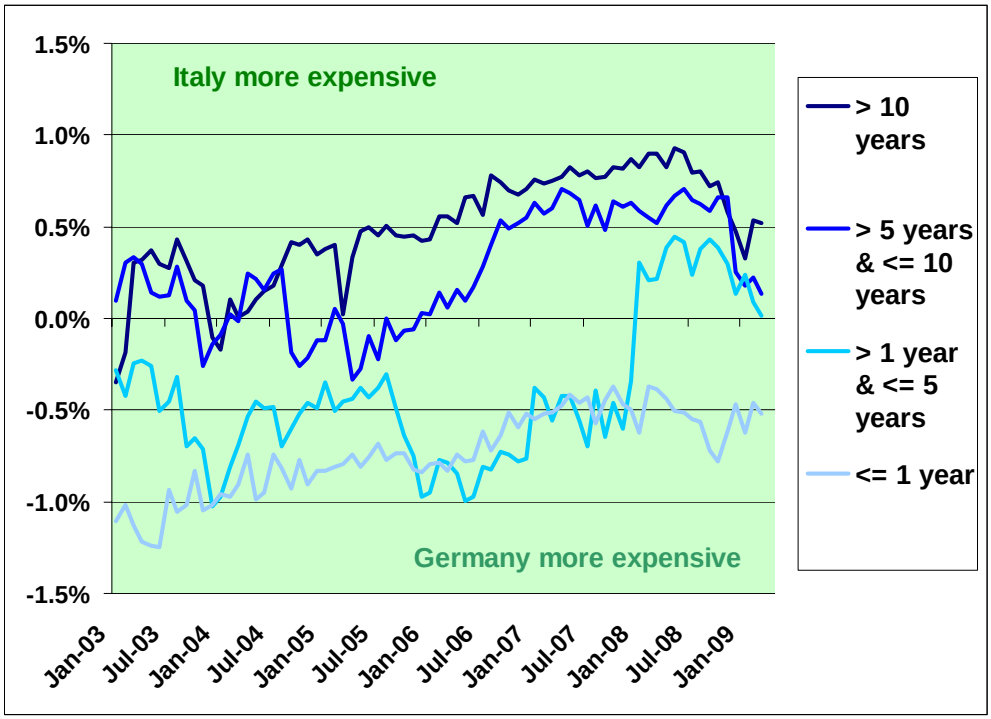
Funding prepayable loans through deposits alone is risky, however, if loans start to extend (low prepayments) and deposit rates increase. This creates the reverse risk associated with positive maturity transformation. In mortgage finance the most famous case of such risk materialising and destroying a lending system is the US savings and loan crisis in the early 1980s.

- Italy has gone through two major mortgage market reforms in 2007 and 2008. Faced with interest rate increases, the government in 2008 decreed that for all ARM contracts interest rates had to be frozen at the average level of 2006; earlier, a long-standing dispute about FRM early repayment compensation was solved in April 2007 by a radical solution which banned such compensation for new lending, significantly reduced them for existing loans retroactively, and also almost eliminated legal transactions costs (Bersani decree).[122] Fitch Ratings reports during an interview that the conditional prepayment rates a result of these measures have increased from 5-8% posted in the 2007 study (see Figure 30) to 12-15% as of early 2009. According to FitchRatings (2009b) Italian prepayment rates in RMBS transactions, after having peaked at 20% in the first half of 2008, have stabililised during the financial crisis as a result of lower availability of credit, but are still above 15%.This would be higher than Belgian and French figures (considering the stage of the interest rate cycle). Unicredit confirms an increase in conditional prepayment rates from 3.13% in 2004 via 5.97% in 2007 to 8.9% in 2008 for their portfolio, ascribing the acceleration to the legal changes. Going forward, however, Italy must be expected to experience prepayment speeds in the range or higher than Belgium, depending on how much fixed-rate lending portfolio remains.

  We have no direct options price indications from Italy. However, we note eye-catching developments in the spreads of Italian mortgage products to Germany, as reported in Figure 32. In particular, interest rates on loans with interest-rate fixing periods under or equal to 5 years jumped by almost a full percentage point around early repayment compensation reform date in December 2007. This loan class, which represents most of today's early repayment market is hardest hit by the elimination of early repayment indemnities. It should expected that the spread increase will decline somewhat since the fair value costs of the prepayment option for a 5-year fixing period should be in the range of 20-30 basis points only.

[122] Law decree No. 40/2007. An agreement between Italian Banking Association ABI and consumers associations complemented the decree and set early repayment compensation thresholds. For details (in Italian)
http://www.abi.it/doc//doc/home/attivitaOpinioniABI/comunicatiNoteStampa/doc/tmp1178124441748_10MutuiAccordo_2_5_2007.pdf.

Figure 32 Italy and Germany mortgage interest rates by fixing period compared



Source: Banca d'Italia, Bundesbank.

Analytical framework foregone intermediation profit / closing subsidies

A numerical example[123] can illustrate the lender loss and loan pricing impact if compensation for foregone intermediation profit and loan closing costs (analogous for administration costs of early repayment exercise) is prohibited, as appears to be the case in a fairly large number of EU jurisdictions (see Table 49 and Annex B Legal Baseline).

- A lender is assumed to spend 1% on loan (customer) acquisition, leaving it with a loss of 0.5% after deduction of a loan origination fee charged to the consumer of 0.5%. This subsidy is planned to be recovered via the profit margin (interest rate mark-up) over time. For a 30-year loan a targeted return on equity of 15% (assuming 4% capital level) is achieved after 10 years, the resulting additional profit margin is 0.13%. If the consumer makes an early repayment after 6 years, the return on equity, however, is only 9% below the lender's willingness to make the loan.

[123] The example is taken from Dübel (2007b).

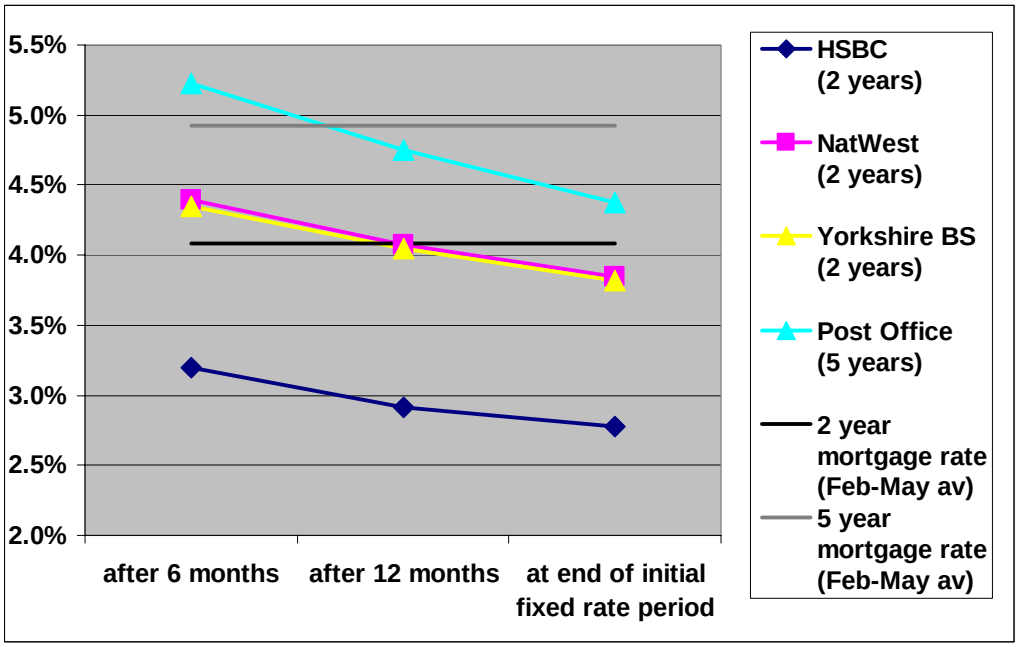
- How would the lender have to change his pricing policy if the loss of four years of additional profit (10 minus 6 years) could not be recovered by compensation? In order to obtain the same capital return of 15%, initially planned after 10 years, already after just 6 years, the lender would have to change the relation between loan origination price and the profit margin (interest rate mark-up); in the example, the margin will be reduced from 0.13% to 0.05%, and the loan origination price rises drastically from 0.5% to 0.85%. This results in the initial loan acquisition loss for the bank being reduced to only 0.15%.

The example implies that inability to reclaim loan origination subsidies or foregone intermediation profit via compensation will lead to higher loan closing costs for the consumer. More generally, shorter expected loan durations will lead to larger front-loading of the loan pricing. This increase in the initial debt service burden has the undesirable effect of reducing consumer affordability.

If the market is unable, for competition reasons, to increase upfront pricing, the result will be generally higher interest rates (and possibly also an increase in prepayment speeds with another feedback effect on rates via option cost).

Finally, without compensation for loan origination costs, mortgage brokers in many countries tend to 'churn', i.e. maximise turnover of consumers by approaching them more frequently for a loan refinancing with a new lender (see also chapter on responsible lending). In jurisdictions greatly affected by the phenomenon, such as the U.K., prepayment fees tend try to reduce churn by clawing back the discounts given upon loan origination or during the initial phase of the loan in order to eliminate the prepayment advantage for the consumer.

Figure 33 Early repayment compensation clawing back loan closing and initial fixed-rate discounts in the UK - internal rate of return when consumer prepays a loan closed in May 2009



Notes: includes all relevant early repayment indemnities and other charges. Note: benchmark mortgage rates are nominal, effective mortgage rates for 1-5 years fixing during Feb-May 2009 averaged 4.83%.
Source: individual bank websites, Finpolconsult computations.

At the same time, if consumers are forced to pay a compensation for such foregone intermediation profit this can be unfair in individual cases, e.g. if the consumer is refinancing with the same lender, or if only his contract conditions are changed, and he pays intermediation profit twice. Internal refinancing and contract adjustments seem to dominate early repayment in particular in smaller European jurisdictions, or where transactions costs differences are large (see below).

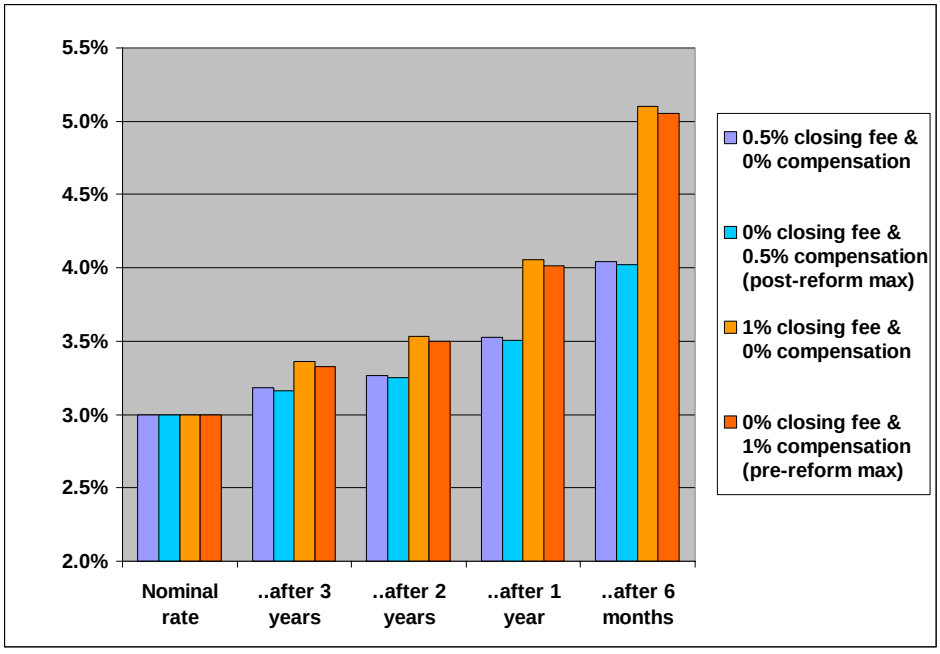
Moreover, fair value compensation levels for foregone intermediation profit are hard to establish and even harder to verify unless a mortgage profit centre accounting exists within the bank, lender micro cost data are properly collected and made available. Some jurisdictions react to this challenge by defining de-facto lump-sum limits to compensation (e.g. Spain on ARM).

Pricing impact of compensation for foregone intermediation profit / subsidy claw-backs

- Figure 33 shows the case of typical compensations charged today in the UK. The market features the largest broker distribution share in Europe and already since the 1990s has practiced aggressive loan closing and initial interest rate discounting policies by lenders hunting new clients. This resulted in high de-facto subsidies for the 'front book' of new borrowers through zero closing fees and initial fixed rate periods below market levels.

  British lenders, however, do charge compensations for prepayment during the initial fixed-rate period in order to keep borrowers from switching, i.e. claw back the closing subsidies. Our observation from the data snapshot taken in May 2009 is that the costs for consumers to prepay during the initial fixed-rate period are broadly in line with market interest rate levels for a comparable alternative market financing. Only when prepaying after a very short period of time, the internal rates of return do slightly exceed market rates. This should reflect closing costs, which take time to amortise. Overall, fee policies – while complicated to evaluate - can be deemed to be approximately at fair value.

Figure 34 Impact of Spanish 2003 early repayment compensation reform on closing cost subsidy policies, internal rate of return when consumer prepays



Note: 3% nominal interest rate assumption.
Source: Finpolconsult simulation.

- In Portugal and Spain early repayment compensation charged on ARM effectively only cover foregone intermediation profit / closing subsidies.[124] Prior to the reforms in 2007, in Portugal such compensation was legally unlimited, and lenders routinely charged compensation in the range of 3-5%, after Decree-Law 51/2007 those became legally limited to 0.5%. In Spain, compensation had been reduced from 1% to 0.5%in a 2003 change of the 1994 enabling law for ARM already. In 2007, the 0.5% became restricted to the first 5 years of the loan, followed by a 0.25% admissible charge if a prepayment occurs later.

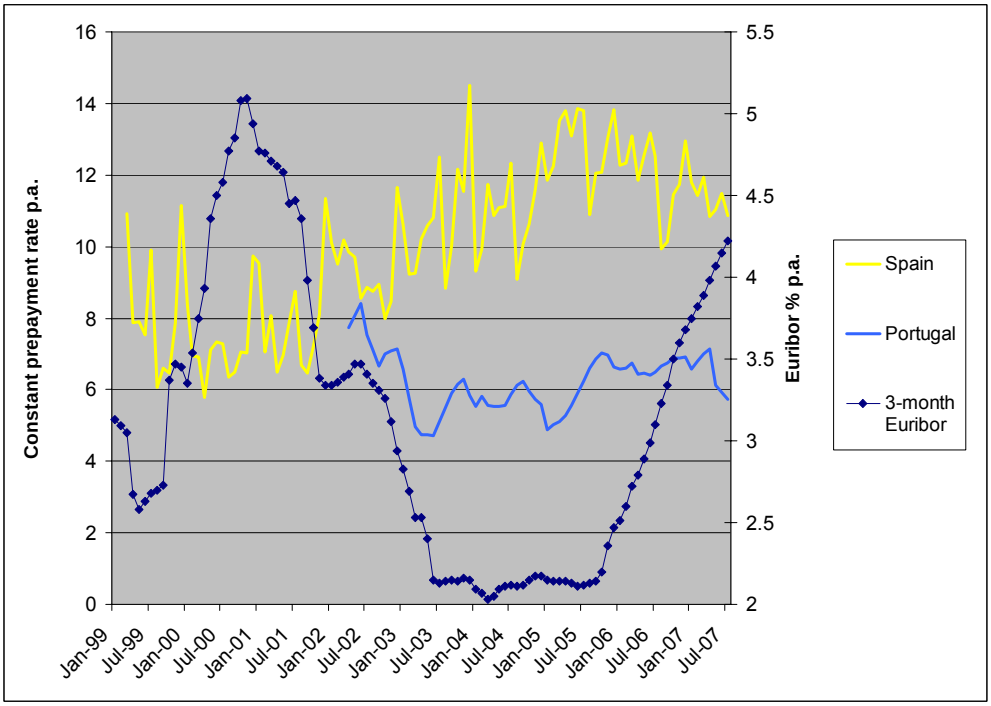
  Figure 34 demonstrates the effect that this policy change had in the Spanish case. In the first year of the financing compensation levels of 1%/0.5% of the outstanding loan amount are broadly sufficient to claw back a loan closing subsidy of the same amount. Assuming that 1% are the true costs of attracting a new client and that the margin does not change, the new reduced compensation regime hence implies an increase in closing costs for the borrower by ~0.5%, i.e. he either finances 100.5 or receives a payout of 99.5. However, with the numerical examples discussed before, it is likely that the lender cannot keep the same margin, in order to compensate for the increased likelihood of prepayment by lowering the prepayment incentive, and that therefore the increase in loan origination costs will be beyond 0.5%. For the Spanish case, this effect seems to be confirmed by the noticeable increase in prepayment speeds – see Figure 30 – and strong spread decline after 2003.

  We can only make inferences about the corresponding effects on the Portuguese ARM market – a central bank study evaluating the 2007 law has been announced, but it has not yet been published. The effects are likely further inflated vis-à-vis Spain since a) the pre-reform compensation levels were much higher, and b) correspondingly prepayment speeds were much lower. Considering the Fitch data in Figure 35 between 2003 and 2007 when Portuguese compensation were legally unlimited and Spanish limited to 0.5% after the 2003 legal change prepayment speeds in Spain ran at almost double the Portuguese levels. FitchRatings (2009) reports a jump in conditional prepayment rates in the second half of 2007 in Portugal from 10% to 20% - the previous long-term average (2003-7/2007) had been 6% only. Also, spread analysis between APRC and nominal ARM rates as well as in comparison between Portugal and Spain that there was at least a temporary effect of the 2007 reduction of the compensation to 0.5%, in the form of higher loan closing costs, also

[124] There is an element of reinvestment loss in those countries stemming from mismatches between funding and lending benchmarks (so-called basis risk). For example Spain is using 1 year Euribor as lending benchmark and 3 to 6 months Euribor as funding benchmark. During 2006 and 2007 Spanish lenders suffered from mismatches between the rates on both indices.

initially an increase in spreads. All effects are overlaid later by those induced by the financial crisis (i.e. lower prepayment speeds and higher and more volatile spreads).

Figure 35: Spanish and Portuguese prepayment speeds compared, January 1999 – July 2007



Notes: see Figure 30. Prepayment speeds = conditional prepayment rates.
Source: FitchRatings(2009a). Finpolconsult computations.

- In Germany, ARM foregone intermediation profit / closing subsidy compensation are prohibited by law. In combination with other factors (see discussion on market completeness) this may help to explain why German ARM are both significantly more expensive than in neighbouring countries (see charts above), and in relation to FRM see Figure 41. See also Coco (2006), for a comparison of ARM spreads in Spain and Germany.

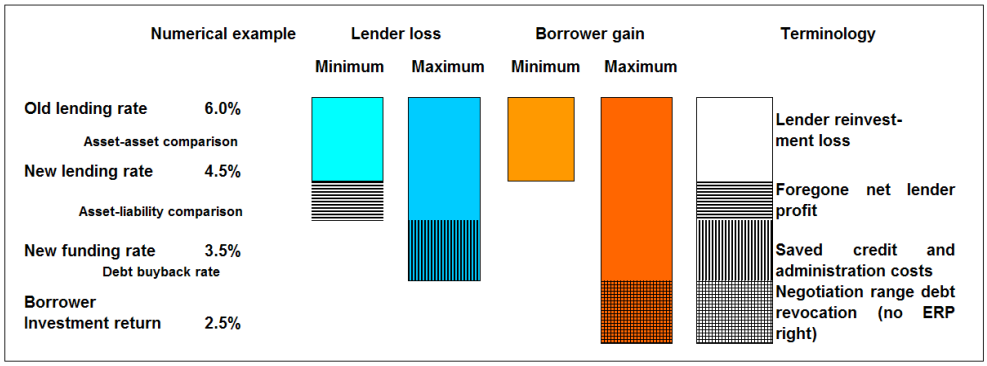
Feasibility of implementing a fair value compensation policy option

Fair value for whom? Opportunity costs of lenders vs. opportunity costs of borrowers

The fair value definition used so far focused on lenders reinvesting into new mortgage assets (reinvestment loss/profit) and losing the customer to another lender (foregone intermediation profit).

It is not a digression to raise the awareness of the fact that each early repayment scenario carries a different constellation and hence such definitions are first approximations only. Figure 36 may be helpful to understand the principal issues.

Figure 36: Different early repayment compensation perspectives, terminologies



Note: data for illustration only
Source: adapted from Dübel and Lea (2000) and further enhanced.

- As discussed before, lenders arranging an internal refinancing (or just adjusting contract rates) may have reduced costs as they keep receiving the intermediation profit. This situation is highlighted by the light blue bar in Figure 36. In this case, a fair value compensation would consist of a simple asset-asset comparison without further adjustment.

- However, a lender faced with a switching borrower faces lost additional foregone intermediation profit:

    - There are two routes that arrive at a fair value compensation level in this situation: either via asset-asset comparison plus mark-up for the foregone intermediation profit, or via asset-liability comparison minus saved costs from the lender no longer having to service and take the credit risk of the loan.

The latter method is used for example in computing the German compensation. Also, the Swedish computation standard uses this approach, for simplicity it fixes the minimum administration and credit costs to be deducted (from a government bond benchmark) at 1%. In the 2007 Spanish law, the pendulum swings in the other direction by just assuming the government bond benchmark without any further deductions, which creates a high potential compensation level (see dark blue bar in Figure 36). All of the above methods are contested between lenders and consumers.

A similar situation is given when a lender does not have the opportunity to invest in new mortgage loans, but rather buys back his own debt or invests in comparable securities.

- Similarly, borrower situations differ. Borrowers that simply switch financing or even increase their debt tend to have smaller benefits from early repayment than borrowers that refinance with cash which usually has lower investment returns, especially in countries where the investment universe of borrowers is restricted. The argument plays a role in case differentiations of the legislation concerning the scope of the early repayment right.

Compensation benchmarks – synthetic vs. market pricing

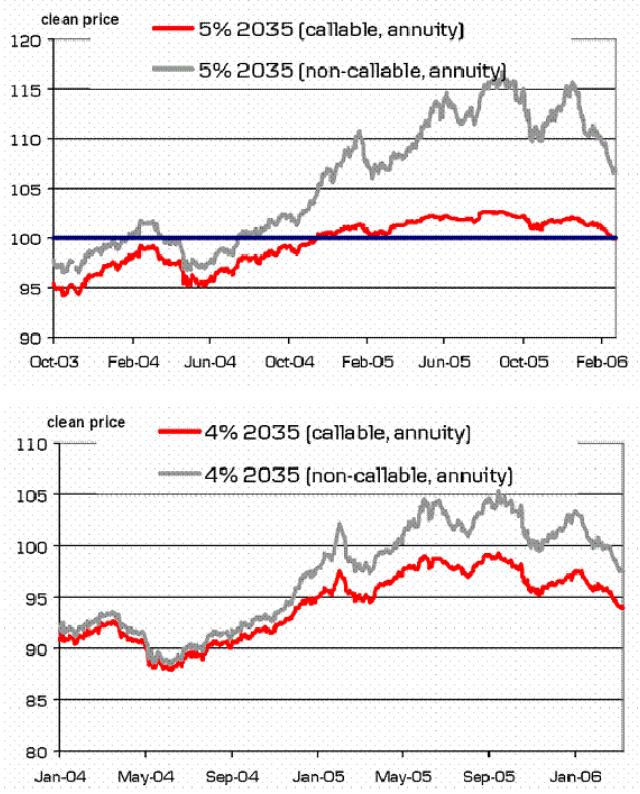
Synthetic asset-liability comparisons, despite allowing lesser arbitrariness when determining foregone lender profit compensation by explicitly calibrating deductible lender costs, have been suffering from dispute about which funding (or debt buyback) cost levels to reasonably assume. Depending on the funding strategy of the lender, his true opportunity costs may vary substantially from the typically used benchmark indices, such as government bonds or Pfandbriefe. Synthetic asset-asset comparisons have met less criticism, but are vulnerable to lending spread changes and may still have to synthetically calibrate the foregone lender profit. Hence all compensation formulae used in practice are one-size-fits-all solutions that do not exactly match 'fair value'.

A compromise line, at least as far as reinvestment loss/profit is concerned, might lie in the Danish system of market loan pool/bond pricing. Essentially every Danish loan is part of a loan pool that is daily traded on the Copenhagen stock exchange. This allows banks to always quote a market price, which in the case of non-callable loans may exceed par and thus establishes an implicit prepayment compensation. Figure 37 compares the pricing of callable and non-callable bonds for a phase of strong interest rate decreases in 2004 and 2005.[125] Quoting market prices has the advantage of

[125] Danish loans are issued in fixed-coupon classes, lower coupons are used to implicitly call-protect the portfolio, compensating for the fact that Danish lenders do not charge for foregone intermediation profit.

implicitly assuming the market's average refinancing costs, rather than fishing for a specific lender's cost structure.

Figure 37 Price dynamics of callable and non-callable FRM loan pools in Denmark as interest rates decline



Note: 2035 is the year of the legal maturity of the bond series, 4% is the coupon of the loans issued into the bond series.
Source: Realkredit Danmark.

However, there are also pitfalls of the approach: a pricing inefficiency in the Danish non-callable bond market led to Danish government intervention in 1995 and a temporary switch from market pricing to synthetic pricing. The inefficiency was due to tax issues and the fact that non-callable bond series were small and tightly held by a few institutional investors, of which some refused to sell to the banks or borrowers.

As a result, the prices for some series of non-callable bonds were considerably higher than what the market interest-rate level indicated, and it became therefore very expensive for the borrower to prepay.[126] In 1995, the Danish

[126] These loans had been issued during a short spell during 1986/87 for tax reasons, which explains the small size of the bond series used to finance them. Even without the buyback problem, prepayment was

Parliament - Folketinget - passed a law in order to facilitate prepayment for borrowers with mortgage loans whose non-callable bonds were listed at excessive prices.[127] The borrowers became entitled to ask the public Mortgage Bank of Denmark - Hypotekbanken – to step in as a substitute debtor of the bonds. In return, Hypotekbanken charged the borrower a bond price on a synthetic basis by taking comparable government bond yields plus an extra charge of 1.5 percentage points to cover risk and administration fees. Hypotekbanken then kept paying the remaining instalments to the bond investors, which resulted in no losses for government as of maturity date of the bonds.

Symmetric (full fair value) vs. asymmetric (partial fair value) compensation

We have seen that Denmark is the only EU country practicing implicit payments from lenders/investors to consumers in case of rising interest rates. For example, a Danish borrower whose loan is part of the two 4% coupon pools displayed in Figure 37 could have bought it back from the market during the high-interest phase of the summer of 2004 for just 88, instead of the 100 he would have had to pay in France, Britain or Germany. With the arguments presented in Figure 36, his personal benefit could have been even substantially higher than the savings of 12% of the loan amount, depending on his own opportunity cost scenario.

The borrower will indeed through this so-called 'delivery option' – named after delivering the bond documentation to the investor – be able to operate just like a corporation or fund and optimise his financial portfolio according to market circumstance. Aided by suitable advisory capacity, also less financially astute consumers would benefit from the symmetry. Market inefficiencies due to investor concentration as discussed above in the benchmark discussion could be reduced through appropriate bond market making arrangements.

Compared to the current asymmetric situations in the rest of Europe, the Danish market solution also generates a natural hedge between house prices and market values of debt: both vary in the same direction with changing interest rates. For example, if house prices fall 10% when interest rates rise, bond prices are likely to fall proportionally.[128][129] By keeping thus the market loan-to-value ratio, the ratio between market value of loan and market value

already quite expensive as bond prices after strong interest rate declines stood at very high levels (ca 140). This led to the de-facto legal limitation of non-callable loans to 10 years, in market practice to 5 years.

[127] "Act on Measures to Prevent Lock-in Effects related to Non-callable Mortgage Loans" (Act No. 354 of 6 June 1995), in Danish: "Lov om imødegåelse af indlåsningseffekter på inkonverterbare realkreditlån m.v." (Lov nr. 354 af 6. juni 1995).

[128] This is of course a stylised description of empirical reality. In the US, two mortgage market segments coexist: in the government-sponsored segment (Fannie/Freddie), mortgage interest rates have not risen substantially during the current crisis, while in the private/Jumbo market they have done so quite substantially. Yet, most European markets do not possess such heavy government intervention mechanisms.

[129] In ARM systems such as the UK or Spain, the delivery option is of limited value as prices for loans are always close to par.

of house, less volatile through this arrangement, a key trigger for default is kept low – which creates an automatic credit risk stabiliser.

The bill for this arrangement is paid by investors or lenders, which tend to benefit from the asymmetry in the standard arrangements, where prepayment is only possible at par/100. The most likely group to lose are lenders with a mismatched funding strategy (e.g. funded by short-term debt that is priced at par while borrowers of their long-term loans would be able to prepay below par). Yet, as mentioned before, the likelihood of exercising the early repayment option is asymmetric with low or no call protection, and hence the impact on the interest rate level of a callable loan will be limited. It will be somewhat greater on a non-callable loan, where margins do not carry the prepayment option cost. However, the reduction in credit risk costs should be deducted from this spread increase. We will calibrate these effects in the quantitative analysis below.

Beyond broader cost-benefit considerations, opponents of a mandatory symmetry arrangement for compensation have a number of practical arguments on their side, some with greater and some with lesser validity. Most can be seen as additions to lender costs:

- Loans are usually not traded in Europe - outside MBS markets and the Danish mortgage bond market, so a symmetric compensation formula would have to be constructed synthetically with lender opportunity cost benchmarks. There is risk that a benchmark does not match true lender opportunity costs (see example of mismatched lender above). Yet such benchmarks need to be chosen anyway for implementing an asymmetric fair value compensation concept, and they will typically co-vary closely with loan pool market prices.

- Lenders in the rest of Europe typically do not practice the issuance of loans below par as Danish lenders often do (see the 4% coupon bond in Figure 37) in order to slow down prepayment speeds and protect their intermediation profit against erosion. In order to do so, Danish lenders exploit the fact that Danish bonds (and thus loans) are issued at constant coupons and offer consumers lower margins if they chose higher coupons for their loans. Yet this arbitrage reaction speaks rather in favour of strictly combining a symmetric reinvestment loss/profit compensation concept with a foregone lender intermediation profit compensation concept, in cases of external refinancings (lender switching) where such loss of profit margin actually occurs.

- Other large, de-facto fixed-rate markets (such as renting, where rents in existing contracts tend to diverge from market conditions over time) exist in which contract covenants do not foresee symmetric payouts when the contract is terminated prematurely. However, typically the termination periods that would be subject to compensations in those markets are very limited, 3 months or 6

months, and the absence of a symmetric model does not matter in practice.

- From a legal perspective, a negative compensation concept does not exist. This might increase the administration costs of transition.

It should be realised that going forward – with the historic interest rate decompression trend of past 30 years likely having come to an end, or at least future interest rate scenarios showing more evenly distributed phases of increases and declines - the symmetry question may become more relevant than in the past.[130] The quantitative analysis below will shed further light on this issue.

8.5.4 Empirical analysis: pricing impact of the scope of the early repayment right

The economics of the scope of early repayment right can now be developed as a subcase of the general compensation analysis. The case of early repayment right exclusion can be seen as a situation in which a price is negotiated for a second (revocation) contract. The range of feasible prices can be derived with the help of Figure 36 which shows the different economic perspectives of lenders and consumers.[131]

[130] See the findings in Dübel (2005). The study is based on a compensation simulation model. It compares the levels of compensation realised under historical German mortgage rate data (1982 bis) with a trendless interest rate forecast (2005 bis). Using three different residual maturities it is shown that, in the changing interest rate environment, average compensation decline substantially, and especially so if a symmetric compensation model is assumed.

[131] Technically, we discuss here the core of a bilateral trade economy in which the lender sells his right of keeping the loan contract intact against the borrower's willingness to pay for revoking the contract.

- Lenders may be ready to accept a cash prepayment against an ex-post negotiated (as opposed to contractual [ex-ante] or legislated) fee for the revocation of the existing loan contract. The level of this fee should be at or above the lender's fair value loss to win the lender's acceptance. In this case, a contract will be closed as long as the consumer continues to have a financial advantage (including financial equivalents of non-financial motives) from the early repayment due to sufficiently low opportunity costs.

  For example, in the case of receiving a cash inheritance the consumer may have only a low-interest alternative for investment as displayed in the dark orange bar in Figure 36. In this case, a fee that is somewhat larger than yield maintenance (asset-asset comparison) might still make him better off than simultaneously paying down a high-yield mortgage loan and receiving from a low-yield investment.

  The situation is comparable to any market negotiation scenario[132], however it is likely that the negotiation power and information sets are asymmetrically distributed to the detriment of consumers, leading to systematic excess profits for lenders.

[132] Technically, the two parties explore fee options along the 'core' of the economy generated by the lender and the consumer.

- However, the case of early repayment exclusion includes situations in which lenders may refuse to accept an early repayment at fee levels that match the borrower's willingness to pay.

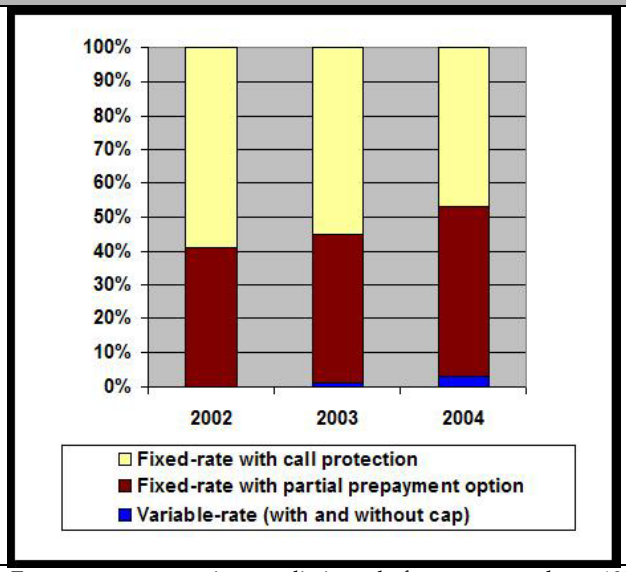
  A typical circumstance driving the lender to this decision will be legal constraints to replace the loan in a mortgage pool by an equivalent cash amount (e.g. in an RMBS or covered bond transaction[133]). In most practical cases this would simply raise the lender reservation (minimum required) compensation to a somewhat higher level (i.e. increase the blue bars in Figure 36). Yet the increase will be limited: if a legal limit is really hit, the lender usually can purchase a loan on the market with the cash received to substitute for the loan removed from the pool. Investors tend to prefer safe cash to unsafe mortgages in such pools, even if high cash levels may alter their character.

  An outright refusal to accept an early repayment at a level close to lender costs will reduce consumer utility substantially - an exclusion of the right imposes a potentially extreme opportunity cost level on the consumer, e.g. if a financing is failing and insolvency and long-term financial decline is looming. Therefore, courts have regularly intervened in countries practicing contractual early repayment rights to ensure a minimum of financial flexibility of the consumer.

  In the German case, two Supreme Court rulings in the 1990s, enshrined later in law by civil code reform of 2002, has ruled that borrowers intending to sell a house or move are allowed to always prepay (at a fair value compensation level, whose rules were defined by additional court orders). Yet no such option is available to borrowers managing an inheritance or severance payment, or borrowers with variable incomes wishing to invest a larger windfall into a prepayment. Until the very recent appearance of callable FRM offered currently by some insurers, routinely German consumers with preference for the early repayment right were forced to take out riskier ARMs, where law establishes the universal right (see Table 48). The broader mortgage market is slow to fill the gap – a recent trend has been the appearance of partially pre-payable loans, allowing typically for some 5% non-scheduled repayments per annum (see Figure 38).

[133] Such maximum cash limits are wide in practice, however. Note that Denmark solves this problem through the delivery option, i.e. investors/lenders commit themselves to always accept cash.

Figure 38: Germany – introduction of partially callable FRM products during the early 2000s



Notes: data source is Europace mortgage intermediation platform, covers about 10% of the German mortgage market. 'Call protection' means fully non-callable FRM.
Source: Hypoport AG, Finpolconsult.

The empirical evaluation of these scenarios requires empirical calibrations of the opportunity costs of consumers (which differ, e.g. by motive of early repayment – inheritance [low investment interest rate] vs. move [gain in salary level, avoidance of unemployment]) and of lenders (tightness of legal constraints to accept cash as a substitute to mortgages, costs of the alternative). Also, deadweight loss in the form of increased court and other litigation case load matters.

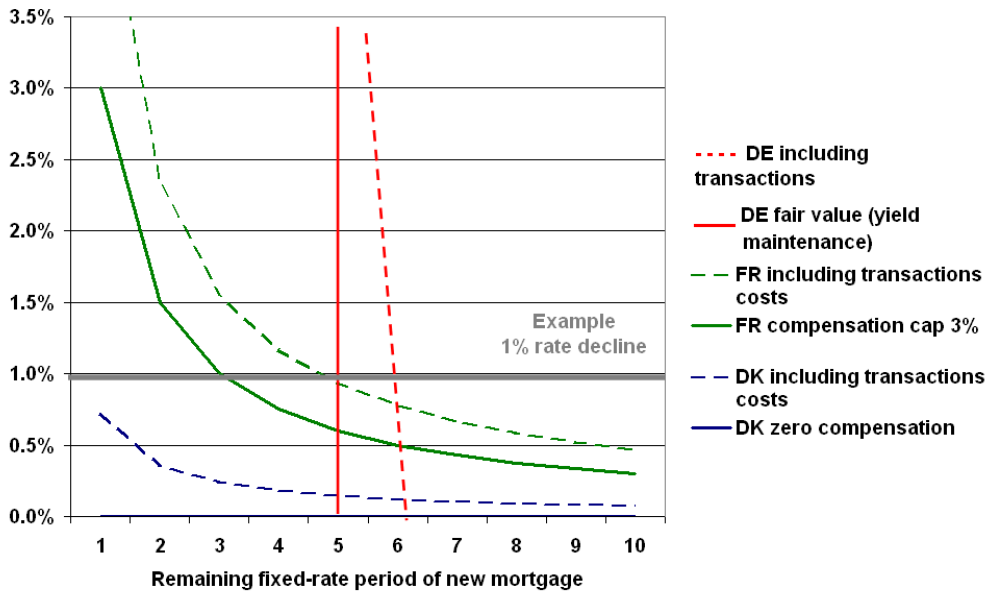
8.5.5 Empirical analysis: The role of transactions costs[134]

early repayment compensation interacts with transactions costs (especially legal/notary, also new lender origination costs) to dampen prepayment speeds. Historically, there has been a correlation between countries that severely capped early repayment compensation and high levels of legal/notary transactions costs in these countries.

For example, Spain, Belgium and France, which have capped compensation historically to low levels, are among the countries with the highest mortgage transactions costs in the EU. Figure 39 shows the implication of elevated transactions costs in comparison of France with Germany and Denmark with the help of a simulation.

[134] See EMF (2007) for numbers used in this subsection.

Figure 39 Compensation regime and break-even interest rate decline and fixed-rate periods for a new loan rendering early repayment advantageous for the consumer, impact of different transactions cost levels (external refinancing)



Note: Assumes 5 year of remaining fixed-rate period. Fair value (yield maintenance) renders break-even maturity of new loan inelastic to interest rate change
Source: Finpolconsult.

In the simulation, the loan to be prepaid is assumed to be an FRM loan with 5 year remaining fixed-rate period. The borrower takes up a new loan after interest rates have declined. The question answered in Figure 39 is what minimum length of the new fixed-rate period or equivalently what level of interest rate decline is needed in order to generate a financial advantage from the prepayment for the borrower.

Consider for example that interest rates have fallen by 1% (see grey horizontal line in Figure 39):

- In our constellation, a fair-value compensation will invariably result in a threshold fixed-rate period of the new loan of 5 years. Low transactions costs in the German case (0.8% on a € 100, 000 loan) will extend the break even to some 5.8 years.

- The French 3% compensation cap per se would result in borrowers being able to benefit from the 1% rate decline already after 3 years. However, French transactions costs are roughly double the German scale (1.7% on a € 100,000 loan), so the break even is pushed well into year 5.

  The French transactions costs situation may help to explain why European comparative studies have been unable to identify significant option cost interest rate mark-up in the French case, despite the severe cap imposed on early repayment compensation. [135]

- Only the Danish callable FRM product will deliver profitable early repayment already by year 1, against payment of an option premium though.

It is a matter of historical debate whether high transactions costs have motivated governments to act on curtailing compensation to reduce at least one exercise price component, or vice versa lenders retaliated to low compensation levels by blockading reductions of legal transactions costs through legal and notary system reforms. The French and Spanish cases – where until today resistance in the industry against relaxing the strict accessoriness of the mortgage is high - seem to point to the latter hypothesis. French lenders were so pressed by early repayments in the 1990s that a large group of them even colluded against accepting borrowers; they were fined by the French antitrust authorities in 1999 for doing so. In contrast, German and British lenders partly resist giving up compensation because legal transaction costs are extremely low in those countries.

- It is interesting to note in this context that the 2007 Italian Bersani decree appears to be the only case so far in which a dual attack on both early repayment compensation and transactions costs was launched. Banks in Italy now have to inform land register authorities directly about an early repayment (change of creditor identity), which significantly reduces notary fees for consumers.

Non-legal or notary transaction costs may also affect the break-even point of an early repayment, such as e.g. the Danish practice of discount originations. Here, the loan is issued below par carrying rates below market level. Moreover, borrowers pay all closing costs directly to the lender and do not finance them. As a result, everything else equal, the break even interest rate decline must be higher than if loans are issued at par. Danish callable FRM as a result have considerably lower prepayment speeds as the broadly identical U.S. callable FRM, which is usually issued at a premium (in order to get the bond market to finance transactions costs).

[135] See Low, Dübel and Sebag-Montefiori (2003).

8.5.6 Empirical analysis: other areas

Consumer confidence

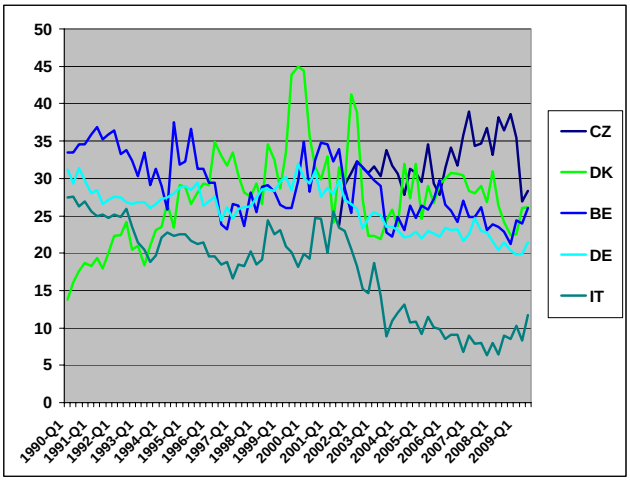
Absent clear indications from the surveys undertaken we have only very limited almost no data that could create a link between early repayment legal regimes and practices and consumer confidence. We can use time series data from the European Commission / DG ECFIN to see whether inferences can be made about the impact of the early repayment regime on the latent demand for housing investment as approximated by an index we constructed in Chapter 2 (see Figure 40).

Two types of hypotheses are worth further exploration:

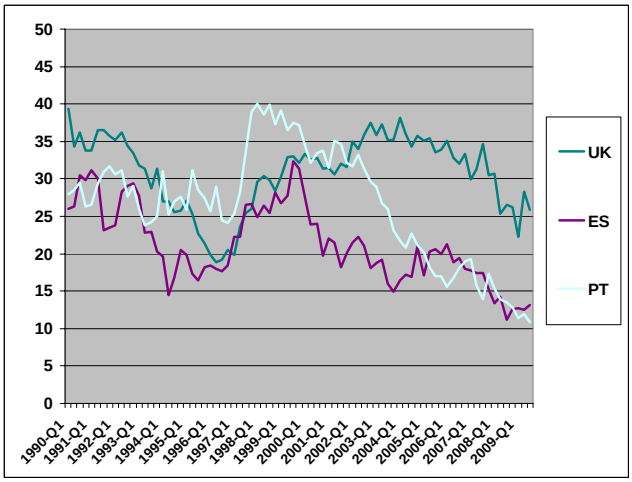
- From a macro perspective, consumer confidence can be assumed to correlate - especially where homeownership rates are high - with the debt service burden level of mortgage borrowings. The latter is the product of interest rate levels and house price levels. An inference could be made that the more stable both factors are, the greater (and more stable) confidence levels are, and also that such stability is influenced by the early repayment regime.

Figure 40 Housing investment consumer confidence index for FRM and ARM case countries

FRM case countries



ARM case countries



Note: for information the index construction, see Chapter 1

Source: European Commission / DG ECFIN, Finpolconsult computations.

With the help of some reverse engineering one might argue that interest burden stability is safeguarded most where a low-cost mortgage products with limited autonomous house price impact ('pass-through') prevails. Longer-term non-callable FRM have the

lowest pass-through of interest rate signals, such as monetary policy rates, of all mortgage products. Figure 40 shows that indeed Germany in our case sample features the most stable - although, in line with EU average slightly negative - housing investment consumer confidence trend. However, Belgian confidence levels are quite comparable despite the different early repayment regime - as we have shown above interest rates do not differ much from Germany and house price volatility is comparatively low. A closer look at the Belgian chart yields a confidence spike coinciding with the 2005/6 prepayment wave in the market. Danish confidence levels, after having been depressed due to a housing market crisis until the prepayment wave of 1994, are now consistently higher than in Belgium and Germany, but also more volatile. An important depressing factor here has been the strong house price inflation of the past years.[136]

Concerning ARM countries or countries with recent strong recent FRM-ARM product menu shifts, such as Italy, clearly the strong sensitivity of confidence with regard to house price levels comes out – in all ARM countries confidence has declined as house prices have increased. It is interesting to note in that regard that the change in the Italian early repayment regime in 2007 coincides with a strong change in trend, probably due to the greater competition levels unleashed by the measure while the pricing impact is still not fully passed through to consumers increasingly borrowing in ARMs.

- From a micro perspective, consumer confidence is sensitive to publicised realisations of consumer detriment, in particular where financial mobility of consumers is seen as arbitrarily constrained by lender behaviour. An example of this is Hungary where when competition and prepayments accelerated in the mid-2000s at least one tried to increase apparently too low contractually agreed prepayment fees ex-post. This widely publicised practice was ruled unlawful by the national competition authority. [137] With regard to the still widespread contractual exclusion, German media frequently publicise cases in which financial mobility seems arbitrarily constrained by lenders refusing to offer a second contract. It is unclear to what extent those cases affect consumer confidence permanently, or at all if aggregate measures of confidence are considered.

Customer mobility

There are two aspects of early repayment regimes that specifically determine customer mobility: the impact of the regime on early repayment levels (or prepayment speeds) – i.e. the ability to exit from an existing contract, and within early repayments the ability to switch the lender.

[136] See Dübel and Lea (2000) for a discussion of how changes in Danish prepayment-related tax legislation helped turn around housing market and the economy in 1995.
[137] See footnote 103.

We have shown above that broadly prepayment speeds are higher, the larger the financial incentive after deducting prepayment compensation and transactions costs is. Average prepayment speeds broadly correlate by country with indications made in consumer surveys about the ease of lender switching.

Table 52: Average conditional prepayment rates 2003-7/2007 and Eurobarometer results concerning mortgage lender switching

	Conditional prepayment rates		Eurobarometer survey results	
FRM countries 2003 - July 2007	Average 2005 (peak early repayments)		Average Jan Failed and difficult switching attempts in the past two years*	Current mortgage contract makes switching difficult
Italy	4.68%	5.05%	*83.3%*	*6.8%*
Germany	5.19%	5.79%	44.4%	16.5%
France	8.90%	9.23%	50.0%	4.3%
Netherlands	13.98%	11.71%	40.0%	8.7%
Belgium	20.74%	13.77%	41.7%	6.2%
Denmark**	37.00%	23.16%	53.3%	2.6%
ARM countries				
Portugal	6.01%	6.05%	23.1%	3.1%
Spain	12.84%	11.61%	15.0%	6.4%
Ireland	16.57%	14.42%	63.0%	5.7%
UK hybrid ARM	17.47%	23.31%	28.6%	14.5%

Notes: *households indicating difficulties to switch, failed attempt to switch, and non-attempt to switch because of difficulties divided by all households minus households who did not try to switch because they were either not interest or did not switch for other, unspecified reasons. **Conditional prepayment rates for Denmark reflect callable FRM.

Source: Eurobarometer (2009a, Q3 on p.48 – l.h.s.) and (2009b, table 19a – r.h.s.). Finpolconsult computations of conditional prepayment rate averages based on data provided by FitchRatings and Danish central bank.

The survey fieldwork of Eurobarometer presented in Table 52 was undertaken in June-July 2008 and covers consumers who attempted to switch mortgage lenders during the past two years. The questions whose results are summarised on the right side of the table asked about the generic main reasons that caused consumers to remain with the mortgage providers and in addition the incidence of difficulties related to the current mortgage contract forcing the consumer to stay with the mortgage credit provider.

We note that both countries with the lowest prepayment speeds feature significant upward deviations with regard to consumers indicating difficulty in switching. Such difficulty, related to contract features, is also seen in the UK where during the teaser rate phase of the hybrid ARM product prepayment compensation is levied. Some lag effects of recent reforms appear to be present, e.g. in Italy and Portugal where the question asking for the past two years include pre- and post-reform phase.

Considering both cost elements of an early repayment jointly – early repayment compensation and legal transactions costs – it also appears that in many jurisdictions switching to another lender tends to be systematically more expensive than internal refinancing – staying with the same lender.[138]

As a result, customer retention rates when making an early repayment tend to be high. We have no systematic data on this point, but note some interview results:

- In Belgium, due to high notary costs, an external refinancing is considerably more expensive than an internal re-financing cost. Since January 2005, between 50% and 75% of re-financings are internal, with the peaks reached during early repayment waves.

- With Danish lender Nykredit, in normal years (i.e. years with low prepayment and refinancing activity) 60-70% of all refinancing are internal, while in high early repayment years 80% of all re-financing were internal. While transactions costs of early repayment are very low in Denmark, relative transactions costs between external and internal refinancing are high as switching borrowers need a new appraisal of the property and lose time.

The degree to which transactions cost differences lead to greater retention may also affect the competition environment, and vice versa highly concentrated systems show higher levels of retention.

Product diversity

We look at the question of correlation between the early repayment regime and product diversity from two angles:

- Incomplete markets or markets with dominant product bias may be the as a result of market effects as well as regulatory intervention. The question to address is to what extent the early repayment regime contributes to incompleteness or bias.

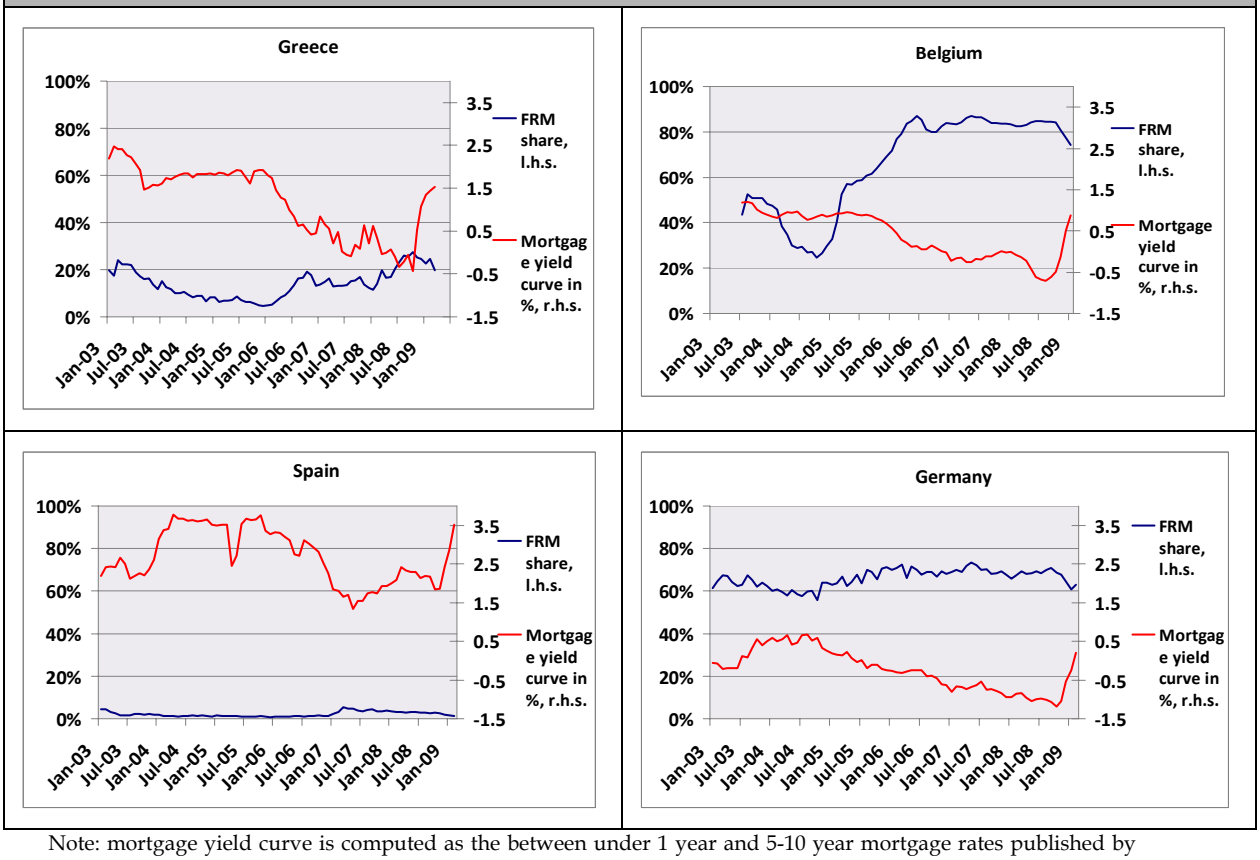
- The early repayment legal regime may interact indirectly with product diversity via an impact on competition levels.

Legal vs. market incompleteness

We have shown in Chapter 2 that incompleteness and product bias are a common feature of European mortgage markets. Moreover, secular factors have produced a trend towards greater use of ARMs, and a great degree of inertia of single-product-dominated markets is observed against a change the product menu.

[138] See Dübel and Lea (2000) for a comparison of five countries differentiating between internal and external re-financings.

Figure 41 Mortgage product choice in selected European markets in the interest rate risk dimension – FRM market share and mortgage yield curve incentive



Note: mortgage yield curve is computed as the between under 1 year and 5-10 year mortgage rates published by the ECB. FRM market share is approximated as the share of all loans over 5 year fixed-rate period. FRMs in jurisdictions shown are almost exclusively non-callable.
Source: Finpolconsult based on ECB data.

Figure 41 points to the strong relevance of pricing differences in explaining incompleteness and bias in the sense of the capital asset pricing model presented in Figure 24. It compares the relative price of fixed- vs. adjustable-rate mortgages ('mortgage yield curve") and their market shares for four countries, two of which feature bias (Spain, Germany) and two of which not or less so (Belgium, Greece).

An inspection of Figure 41 by comparing the country charts reveals that the higher the ARM market share is the more expensive FRM are relative to ARM, and vice versa. Spanish ARMs are consistently cheaper than FRM by 2-3.5% points, while German FRM are broadly priced equally to ARM and at times even considerably cheaper. In the smaller markets, Belgium and Greece, the same relative price-market share hierarchy holds. However, there is considerably greater fluctuation in market shares as a result of prices not being tilted to one or the other product.

Strong bias in favour of single products, such as seen in Spain and Germany, may be caused by market forces (e.g. liquidity effects which play out more strongly in large markets, consumer preferences) or government intervention such as the early repayment regime. A deeper analysis goes beyond the scope of this study.[139] However, it is noteworthy to point to certain interaction effects through lobbyism by interest groups for legal protection of a predominant product. The clearest example for that is offered by a comparison of predominant product and legal solution for early repayment compensation in Spain and Germany (see also Table 49):

- Spain prices mortgages over Euribor as adjustable-rate and allows for prepayment indemnities on these ARM loans, which are strictly forbidden in Germany.

- Germany prices mortgages over the swap or Pfandbriefe curve and practices yield maintenance compensation, which until the 2007 reforms were capped in Spain to very small levels.

Since price hierarchies for interest rate risk protection – whether caused by market factors or regulation - do so strongly influence FRM demand in what are usually non-callable loans, we expect the same to happen with regard to the relation between the pricing difference of callable vs. and non-callable FRM and their relative demand. Unfortunately – as discussed above – we have no jurisdictions in which we observe both benchmarks, 30-year callable FRM and 10-year non-callable FRM, simultaneously as liquid submarkets to make an exact inference – neither in Denmark nor even in the US where the 10-year non-callable is missing. Recent evidence from Germany suggests that demand for early repayment features in FRM is a function of not only yield curve but also interest rate levels – if the latter are low, consumer preference for greater flexibility has a greater chance to be financed.[140] We explore below in a box why fully callable FRM are so rare in Europe, and basically limited to Denmark.

Beyond tipping the relative price balance between products, early repayment regulation can be used directly to influence the product set, as e.g. is the case in Italy after the 2007 reforms. A more subtle, but similarly effective approach is applied in the US where the large refinancing companies Fannie Mae and Freddie Mac with mid-2009 market shares of 80% refuse to purchase non-callable FRM from originators.

The question is whether this forced change in the product menu towards a more protective product – callable FRM - is successful, or whether it does not enforce the trend of the use of the even less protective product ARM.

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[139] See Low, Dübel and Sebag-Montefiori (2003) for a more extensive discussion of market vs. regulatory causes of incompleteness.

[140] According to a Planethome (credit broker) consumer survey quoted in Berliner Morgenpost of October 24, 2009, 87% of German respondents see the interest rate level as the decisive closing argument followed by early repayment options with 68%.

- For the US case, with strong quasi-government intervention in the form of implicit guarantees behind Fannie Mae and Freddie Mac (enhanced since the 2008 collapse of both firms also by government equity capital), the question of success of the callable FRM can be answered to the affirmative. However, clearly, the even larger relative price difference between callable FRM and ARM as compared to between non-callable FRM and ARM has contributed in the US to the large cyclical product swing in the uprun to the sub-prime crisis. ARM products were in particular bought by those groups with high vulnerability – sub-prime borrowers, and near-prime borrowers who could no longer afford yield curve and option cost premium that make up for the price difference, given high house price levels.

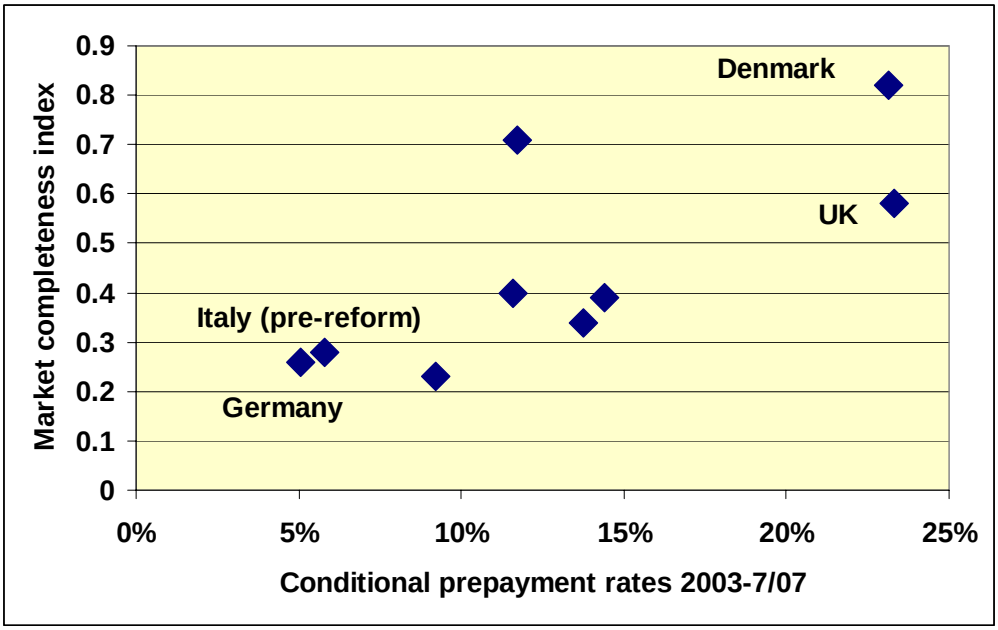
- We confirm this story with data for Denmark below (see Figure 44), which during the latest house price increase has seen a secular increase in the ARM share when house prices increased. Denmark produces non-callable FRM, however, the reset periods are quite short only and there is not really a mezzanine product (such as, e.g. with reset periods of 5, 10 or 15 years).

- In the Italian case, the non-callable product was removed by legal fiat in 2007. The Italian central bank does not publish data allowing to analyse market share changes by reset period. Moreover, we have a signal extraction problem as already before the reforms the ARM share had started to increase substantially, also on the back of increasing house prices and credit supply. Italian lenders have expressed concern that the callable FRM product now enforced will be too expensive for consumers relative to ARM.

Early repayment and competition

An important indirect channel of product diversity is a higher likelihood of new product creation as a result of a higher share of early repayments in loan originations. We have some indication of this effect from the correlation of prepayment speeds and our market completeness indicator presented in Chapter 3 that Figure 42 presents.

Figure 42: Correlation between conditional prepayment rates 2003-7/2007 and market completeness indicator



Notes: market completeness indicator indicative of mid-2000s. ARM and FRM-dominated jurisdictions pooled. Denmark: callable FRM prepayment rates.
Source: LondonEconomics market completeness indicator indicator (see Chapter 3), FitchRatings for conditional prepayment rates, Finpolconsult computations.

We caution against over-interpretation of these data by pointing out that the front-runners, Denmark and the UK, have strong product incompletenesses in their own way – Denmark in the credit risk dimension, and the UK in the interest rate dimension. However, taken together with the customer mobility results a consistent picture of relative impact of the likelihood of a prepayment and the dynamism of a market arises.

Cross-border lending

The question to what degree early repayment legal rules contribute to the pre-emption of cross-border lending cannot be properly answered empirically. Our lender survey yields responses suggesting greater activity - should mutual recognition or a contractual option be enforced - by the few lenders that are already in the cross-border business. Moreover, we know that lenders widely use product innovation, by implication also in the area of early repayment, to contest foreign markets – the most prominent example being the market in foreign currency lending promoted by foreign entrants e.g. in Poland and Hungary (see also discussion in the Responsible Lending chapter).

In terms of concrete cases, much of the historical legal debate on the failure of the internal market in financial services in mortgages since the 1980s was generated by failed attempts of lenders from non-callable FRM product environments, most notably Germany, to penetrate neighbouring markets, in the German case prominently Belgium and France.[141] There are other legal dimensions than early repayment in which core products, in which entrants may be suspected to have a competitive advantage, pre-empted trades across borders: for example the British standard variable-rate product that is unilaterally reviewable is not permitted under Spanish legislation. We lack an empirical review, or at least systematic case collection, of such frustrated attempts at the EU level.

In terms of *potential* as opposed to actual pre-emption of cross-border trades, an inspection of Table 48 suggests a deep market segmentation in the dimension of early repayments. The non-callable FRM product (with universal prepayment option), for example, can broadly only be traded across borders in Central Europe, Scandinavia, Britain, and via some special rules put into mortgage bank legislation also in a number of transition countries. Even in this range of countries varying prepayment compensation rules create an uneven playing field, and the tradability of products excluding prepayment outside Germany is close to zero. Where a level playing field existed, e.g. between the United Kingdom and Germany, this still was not a sufficient condition in the sense of producing cross-border activity. Other factors, such as relative price distortions between ARM and FRM or low profitability of mortgages in combination with need to adjust production processes (servicing) deter trading. Tradability of ARM in the early repayment dimension is greater than in the case of FRM, although a number of countries limit compensation to zero. It would seem that the few successful entry attempts – e.g. the French-Spanish joint venture's UCI's activities across borders in Southern Europe – have been facilitated by the use of easier to trade and pool (e.g. in RMBS) ARM.

8.6 Qualitative evaluation of the policy options

After having established a conceptual framework and reviewed the European microeconomic evidence available concerning early repayment right and compensation policies, we are now proceeding to evaluate the proposed policy options qualitatively.

It is useful at this stage to return to our main conceptual framework charts in Figure 24 and summarise our findings by element of the European mortgage market product menu, consisting of ARM, non-callable FRM and callable FRM:

[141] Dübel, Lea and Welter (1998) in their first comprehensive review of mortgage consumer protection regulation for DG Sanco of the European Commission discuss some of these cases.

- ARM carry the highest credit risk of the three products, but have nevertheless gained market share supported by the Maastricht process and relative price distortions that discouraged FRM (see Figure 41).

- Non-callable FRM defined within suitable fixed-rate period limits carry moderate credit risk and are surviving, if not as an exclusive product as in the 1980s, but as an important anchor product for many markets in Europe. These products suffer from a combination of pricing and other (e.g. bank regulatory) disadvantages. They have been in a number of jurisdictions altered in their character by regulatory interventions into early repayment compensation levels that force lenders to charge partially an options premium and partially an early repayment exercise price.

- The lowest credit risk product - callable FRM – in Europe is basically only offered in Denmark and fetches a substantial and volatile options premium. The question is unsolved how this product could reach greater relevance for the European market, as it has, for instance, in the United States (see Box 1 for a discussion).

We have thus three products sorted by their degree of interest rate risk protection and protection production costs (see Figure 24): ARM (low-protection-low-costs), non-callable FRM (mezzanine-protection-mezzanine-costs), and callable FRM (high-protection-high-costs). An analogy would be the car market consisting of economy, middle-class and luxury cars.

All these assessments stand under the caveat that a clean pricing of the three products cannot be observed in Europe outside Denmark. The main reason for this fact are funding costs and funding strategy differences of lenders and regulatory negligence in the banking sector in general, most notably the implicit acceptance of open balance sheet positions of banks by the Basel capital rules that allow banks to take considerable interest rate risk when doing long-term lending. However, the evidence presented before leaves no doubt that a price-risk hierarchy exists for the European mortgage market.

8.6.1 Evaluation by proposed policy option

Policy options 1-3: Harmonisation of the scope of the early repayment right

- An unconditional contractual option – policy option 1 - could potentially – if contracts carrying the early repayment right are not offered as lenders routinely do exclude the right – leave consumers with considerably too low levels of risk protection, in particular the mobile and those willing to flexibly manage their financial situation. It could also seriously limit competition by slowing down prepayment speeds.

It is unclear in that regard how the policy option would be made operational. It is possibly intended to cover only non-callable FRM or hybrid ARM during the initial fixed-rate periods, but in the way specified the proposal seems to also cover ARM or hybrid ARM during their adjustable-rate period. Also, no time limits have been suggested for rendering the policy option operational, which means for example that a contract could exclude an early repayment for 30 years. Moreover, no EU Member State practices a fully unconditional concept of the contractual option as the possible appearance of the extreme situations described is evident.

Even if we assume that the contractual option solution remained limited to a narrower definition of non-callable FRM (including possibly hybrid ARMs), our perspective from the above review is that a scenario of predominance of contractually excluded prepayment will be more likely than a complete market scenario where the early repayment right is made available contractually in parallel (allowing consumers to self-select). The main source evidence here is Germany, where almost the totality of FRM feature exclusions of early repayment up to 10 years, and consumers that prefer to take out the option were routinely forced in the past to to take out riskier ARMs which carry the universal early repayment right. While Germany is starting to complete the product set currently through contracts containing the option, smaller jurisdictions are likely to struggle to do so. Also other EU markets with more diverse product menus could move back to a pooling situation, if individual lender incentives - especially avoiding lender switching in the case of universal banks; opportunity costs of asset substitution in the case of covered bond issuers - are taken into consideration. In almost all situations (by countries and FRM product), consumers would face a changed legal regime. Litigation – especially with regard to pre-contractual information and responsible lending rules – would likely balloon.

- The problem of lenders converging to offer only contracts that exclude an early repayment could in theory be addressed by forcing lenders through another piece of law to offer both types of contracts, those that exclude the early repayment right and those that provide the early repayment right, simultaneously. Still, other restrictions as those discussed above – e.g. will there be an exclusion of early repayment also for ARM or time limits - would likely have to be imposed in such a case.

Box 1 Why are callable FRM so rarely offered in Europe and what can be done to introduce the product?

At key motive for the intervention desire from consumer representatives into early repayment right and compensation levels is the absence of a callable FRM in the relevant local jurisdiction that would allow self-selection of consumers. As we have shown, many markets show inertia in producing new classes of products, for a variety of reasons: absence of funding instruments; inability of lenders and refinancing institutions to take the risk; and lack of demand from consumers. Introducing a more costly product offering greater protection is particularly difficult when there is risk amnesia with consumers, but also occasionally bank regulators.

Providing the universal right and eliminating the compensation, as in the Italian case can be seen as one possible government strategy. However, assuming that the fixed-rate supply is kept upright, it comes at a high costs: the non-callable or call-protected product disappears by regulatory fiat. This, however, is a product that is inexpensive to produce and sufficiently suitable for many borrower classes (e.g. salaried employees).

The alternative would be the American and Danish route of creating a market in callable FRM through material, rather than legal, government intervention. In the US, the main executors of that policy are the semi-public specialised refinancing institutions Fannie Mae and Freddie Mac which simply refuse to purchase and refinance non-callable FRM. In Denmark, the prepayment option was publicly supported for decades by a requirement for Danish institutional investors to buy Danish bonds. Absent a meaningful government bond market, those investors had to buy mortgage bonds and as a result drove down their prices. Other types of loans appeared only in the early 1990s. Yet, since the liberalisation of the European pension fund market in the 1990s, Danish institutions increasingly invest abroad and the prepayment option subsidy has disappeared.

During the current crisis, considerable differences can be identified between the US and Denmark. While in both countries the price of the prepayment option has increased substantially, in the US Fannie Mae and Freddie Mac have decided to partly internalize the risk and provide an implicit subsidy to the price. This institutional option is no longer available in Denmark (although a government pension fund has intervened into the ARM market recently). As a consequence, the Danish market is shifting quickly to ARM. This raises the general question whether a stabilizer is needed for a product whose funding conditions tend to be volatile, as investors need to be familiar and comfortable with managing the options risks and those special investors themselves may be confronted with challenges during crisis. Funding is easier in the case of the non-callable FRM, which essentially attracts government bond investors.

It is noteworthy that despite these issues, structural demand changes in Europe are supportive of introducing callable FRM, most importantly the change of income profiles towards greater volatility, but also greater mobility, which both raise the value of the option. In Germany, insurance companies such as Hannover Leben and Allianz, as well as mortgage banks, such as Muenchener Hypothekenbank and DG Hyp, offer a callable FRM product with minimal restrictions.

A less rigid third support strategy would therefore be to support market initiative by acknowledging from the bank regulatory side the clear credit risk advantages of a callable FRM product that became again apparent during the US sub-prime crisis. Lower capital requirements by product will not completely level cost differences, however, they may reduce the current unequal playing field between risky and less risky products at least to some extent. Also, existing public-private partnership institutions – such as guaranty funds or public credit agencies - could support the introduction of the product through liquidity facilities, swap (swaption) or (highly rated) securitization programs.

- A conditional contractual option giving the early repayment right under certain circumstances – policy option 2 - could potentially release some risk averse or vulnerable consumers groups from the threat of a uniform offering of contracts excluding prepayment. The greatest beneficiaries of such a statutory regime split would be consumers with high income or mobility risk. In this case, the question of contract choice is transferred from the legal to the economic level, i.e. to the level of prepayment compensation or fee for the subset given the universal early repayment right.

    - If the level of such compensation is close to fair value (including asymmetric, if cost differences to symmetric are minimal), i.e. commensurate with costs, consumers economically will still remain exposed to interest rate risk – especially if they have fixed interest rates for a long time. However, depending on their own opportunity cost level, which may be far lower than lender's (e.g. alternative deposit rates for investing an inheritance, opportunity costs of moving and accepting a higher paid job – see Figure 36), their utility levels should be generally enhanced.

    - To the degree that the early repayment compensation level charged is below fair value or even at zero levels, consumers that fall under the conditionality will be forced as a group to move towards the higher-protection-higher-cost contract (callable FRM).

    - A general problem in practice with conditionality is that borrower or product characteristics that may arise as the most likely candidates for conceding an early repayment right are often not covered by them. For instance, German legislation provides the early repayment right to a household moving and/or selling the house, but not to a self-employed with volatile income or to somebody in need of restructuring his finances. As a result, conditionality tends to create undesirable corner solutions, and as a result of political pressure building up is unlikely to stay.

    - Conditionality also implies that lenders who are unable to distinguish ex-ante between the consumer types or preferences they underwrite – e.g. with regard to the likelihood of moving - will have to offer a certain mix of pricing of contractual and statutory early repayment right, as well as have to adjust their funding strategies. Since almost all EU Member States at least apply a conditional contractual option (e.g. there is an almost universal EU-wide right to prepay if the borrower moves house), this means that almost all EU lenders already are bearing some of the additional early repayment right costs. The cost impact itself then is almost entirely a function of the compensation regime.

- Conditionality finally means that if lenders are unable to identify risk clearly some consumers will cross-subsidise others, i.e. those who do not exercise the prepayment option subsidise those who do exercise the option. However, again, the amount of cross-subsidisation is a function of the compensation regime – under fair value it is lowest, under a zero cap it is highest.

- A universal right – policy option 3

  - If coming with a fair value compensation even a universal prepayment option will leave FRM borrowers economically with interest rate risk; however, with the additional benefits of greater economic flexibility and potential individual gains from differing opportunity cost. The changes for ARM borrowers will be rather marginal (claw-back of loan closing subsidies).

  - However, if combined with statutory capped or zero compensations or fees a universal right will move the *entire* FRM borrower population towards and up to the high protection high cost contract. Note that in the conditional contractual option scenario only those parts of the borrower population are moved to the high protection contract that are subject to the conditionality (see Figure 24).

  - The extreme form or protection is represented by the U.S. and Danish callable FRM products with de-facto zero prepayment compensation. Yet, even in those countries, low-protection-low-cost ARM are the readily available alternative, and hence borrowers will start to switch between the high protection high cost and very low protection low cost contract (see Figure 24) with no mezzanine product in between. This, in short, has been the key US sub-prime problem, and it is becoming an increasing problem in Denmark (see Figure 44 below).[142]

[142] As US coastal house prices became inflated during the mid-2000s and prepayment option cost remained at high levels, callable FRM became unaffordable for lower-income (and many middle-income) households. This was the only product, however, that the public guarantors and securitisation firms for low-income housing finance FHA and Ginnie Mae would support. As a result, the private sector took over the securitisation of these loans and started supplied low-income groups with ARMs. Since non-callable FRM are de-facto not offered in the US, low-income borrowers self-selected from the highest protection to the lowest protection contract.

- The key difference to the conditional contractual option obviously is that a legal regime with a universal right does not discriminate between specific consumer or product characteristics, i.e. the likelihood of the lender charging an interest-rate mark-up increases versus the conditional contractual option to the degree that additional consumers now receive the prepayment option. The key filter, however, is again the level of prepayment compensation or fee.

- For the case of compensations or fees capped or set to zero, the conditional prepayment option still offers implicitly several contracts (although in a predetermined fashion). In case of an unconditional prepayment option now the entire borrower population would now be pooled into a single contract. This could mean a potentially large cross-subsidisation between consumers of different prepayment characteristics.

The discussion leads to the observation that many of the discussed legal options force lenders to apply mixed pricing – especially of an FRM portfolio, i.e. charge some percentage, but not the full, option cost.

The pricing mix depends on the likelihood of presence of consumers with a universal early repayment right multiplied by a measure reflecting lender loss incurred from a gap between prepayment compensation or fee levels and fair value.

A fundamental, and significantly more efficient, alternative could be to realise all product types – low, mezzanine, and high protection – simultaneously in a clearly defined fashion, and avoid mixed pricing altogether. This is currently the case only in the Danish mortgage market (although somewhat imperfectly, as non-callable fixed rate periods are very short).

Policy options 1-3 a), b) and 5: harmonisation of prepayment compensation limits

- If prepayment compensation or fee is charged above fair value levels compensating for lender losses, this will lead to a reverse cross-subsidisation of non-prepaying by prepaying borrowers, i.e. lower interest costs for the ARM and non-callable FRM, but higher exercise costs. The resulting systematic lender profit will lead to an interest rate discount compared to a fair value situation (zero option cost).

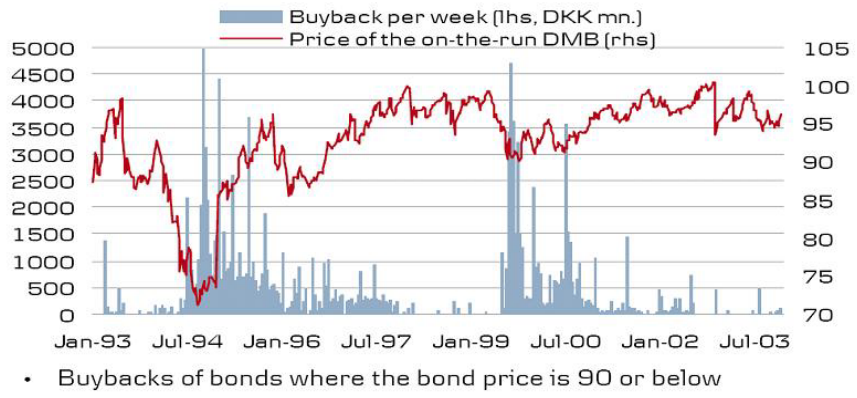
- The frequently applied asymmetric prepayment compensation (partial fair value) as well as the prepayment fee model (Belgium, France) are sub-cases generating exercise costs above fair value when interest rates have risen. This leads to cross-subsidisation not only in the above described form but also between prepaying borrowers.

  Under the Belgian and French fee model, for example, borrowers prepaying when interest rates have risen cross-subsidise those prepaying when interest rates have fallen as well as non-prepaying borrowers whose option cost fall somewhat. ARM borrowers in Belgium subsidise FRM borrowers, since in the ARM case the fee is particularly high above fair value. As discussed before, interest costs for non-callable FRM ceteris paribus are lowered by fee arrangements while the exercise costs are increased for some prepaying borrowers.

- If prepayment compensation is generally capped at below fair value levels, the result will be mixed pricing and cross-subsidisation of prepaying borrowers by non-prepaying borrowers. Interest costs for ARM and non-callable FRM will increase while exercise costs will decrease. Non-callable FRM will gradually move to the callable FRM product features.

- The argumentation line with regard to conditional compensations (e.g. limitation of compensation to zero upon moving such as in France or Netherlands) is parallel to the one on the conditional early repayment option when compensation is limited or set to zero. Pricing distortions in the ARM and non-callable FRM portfolio are the necessary result, even as these are limited to a predetermined subset of the borrower population. Non-exercising borrowers cross-subsidise the option exercisers and some exercisers subsidise others – in the Dutch and French case movers, in a second jurisdiction those receiving an inheritance, in a third jurisdiction (potentially financially well-to-do) widows, in the next jurisdictions permutations of the before list. Increased political pressure by lobby groups to receive similar redistributions is a likely outcome and it is hard to see how social policy and financial stability goals can be met by such an approach.

Figure 43 Debt buyback behaviour of consumers in Denmark through the delivery option – establishing an implicit symmetric early repayment compensation



Note: bond prices below par / 100 imply that interest rates have risen relative to the coupon rate.
Source: Realkredit Danmark.

- If prepayment compensation or fee is limited to zero (and the early repayment right is universal), the non-callable FRM product disappears. Only the low-protection-low-cost ARM (with a somewhat higher price) and the high-protection-high-cost callable FRM survive (see again our introductory CAPM chart in Figure 24 above for reference). However, there is a risk that the production costs of callable FRM will be too high and volatile - see Figure 27 above showing large swings in Danish option cost - and with the disappearance of the mezzanine-cost-mezzanine-protection product non-callable FRM a new pooling solution of an exclusive offer of ARM appears.

If prepayment compensation are defined product-specifically either at the (full) fair value level or at zero with no intermediate solutions, all products along the entire price-protection hierarchy can be obtained. There is still some risk that callable FRM will not be produced (see Box 1).

Policy option 4: mutual recognition

We interpret mutual recognition as a set of policy measures being adopted to enforce the Second Banking Directive, which already enshrines the principle.

- Mutual recognition (as opposed to a maximum harmonisation strategy of the above evaluated proposals) unleashes strong redistribution forces and arbitrage behaviour between jurisdictions. Lenders in tightly regulated jurisdictions would face greater supply of less regulated or unregulated products and lenders and would likely considerably lose market share if consumers reacted mainly to interest rate signals, and not to additional risk.

  It is likely that in a first step the characteristics of products in jurisdictions with legal room for manoeuvre would shift to the characteristics of the least regulated jurisdiction, and in a second step that legal change would be enforced upon the remaining jurisdictions standing to lose products or lenders in order to avoid negative discrimination (i.e. of domestic lenders).

- The most likely outcome would be an EU-wide large market share of unconditional contractual option contracts, as long as this is practiced in a single Member State (e.g. Cyprus). The scale of the market share depends on whether Member States with tighter regulation continue to have options to deter market entry.

- A variant could be to regulate a universal early repayment right and allow compensation or fee arrangements to be subjected to mutual recognition. The likely outcome here would be a a high EU-27 market share of products with ex-ante determined fees above fair values.

8.6.2 Evaluation by impact on other areas

Impact on consumer confidence

While we have potentially conflicting signs concerning the macro effects - as both boom-bust and less volatile housing and credit cycles may boost confidence at least temporarily – we can assume with the Eurobarometer data presented above that extreme forms of boom-bust markets systematically lower confidence levels. This speaks in favor of products that limit pass-through of shocks, especially volatile monetary policy signals, such as non-callable FRM.

Consumer confidence in the early repayment dimension is maximised by a combination of financial flexibility and low credit costs as well as safety. Absent a 'golden' product fulfilling all conditions simultaneously this speaks in favor of a complete market in the early repayment dimension with some protective safeguards such as payment shock protection (discussed in greater detail in the Responsible Lending chapter) and protection against excessive levels of early repayment compensation or fees.

The policy options individually determine the future product world in which consumer cost-benefit optimisation will occur. We see the following net impacts:

- negative on financial flexibility and positive on stability and cost determinants of consumer confidence for the contractual option – policy options 1 (full) and 2 (partial) - and likely also after some iterations, as discussed in the preceding section, policy option 4 (mutual recognition). We see the net effect as slightly negative for full contractual option and mutual recognition, and neutral for the partial contractual option, provided those groups receive the universal early repayment option that are most in need of financial flexibility. We consider this as difficult to realise in practice, however.

- positive on financial flexibility and negative on cost and stability with a neutral net effect for the universal option with low or no prepayment compensation (policy options 5, and 3 with tightly capped compensations or fees).

- neutral to slightly negative on financial flexibility and positive on stability and costs for universal option under a fair value compensation concept (neutral for symmetric fair value, slightly negative for asymmetric fair value), i.e. policy option 3 without or considerably wider compensation caps. This results in the only unambiguously positive mark concerning consumer confidence going to the universal option with symmetric fair value compensation.

Impact on customer mobility

In terms of lender switching ability we found a strong constraining impact in countries where an early repayment can be denied contractually and relative neutrality with regard to the compensation regime within the range from zero to fair value compensation level.

We therefore see the following impacts:

- Policy options 1, 2 and 4 – full and partial contractual option as well as mutual recognition – if implemented might substantially weaken customer mobility in markets using the universal option. Again, the degree of impact of policy option 2 depends on which groups are targeted as subject to universal option how the matching to their likelihood of switching lenders is.

- Since within a reasonable range of compensation or fee there is broadly indifference of consumers between levels, which moreover trade against credit costs, once the universal right is established we see policy options 3 and 5 as broadly equivalent. There are some subtle differences, though:

- Technically, as long as cap levels for policy option 3-related compensations or fees are not specified, policy option 5 – transposition of the CCD - will lead to the highest prepayment speeds and thus lender switching behaviour.

- A fee model will make early repayment switching asymmetrically more difficult when interest rates have risen compared to a compensation model. We therefore assume lower switching rates for different specifications, as discussed in the quantitative analysis below.

- Potentially higher fair value compensations can be subject to an absolute refinancing constraint if higher outstandings need to be financed and e.g. loan-to-value constraints of new lenders are violated. However, especially the transparent symmetric fair value compensation seems to be highly accepted from a mobility perspective in Denmark. The open question is the level of mobility if interest-rate fixing periods become long and thus potential compensation levels high. This supports the notion of imposing a time limit (e.g. 5 or 10 years, depending on the interest rate volatility assumption going forward).

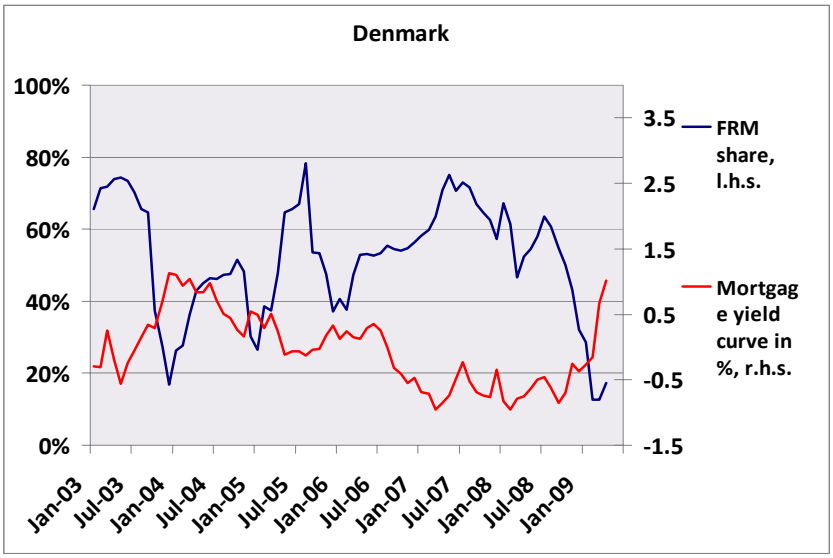
Impact on product diversity

Broadly we find empirically a positive impact of an early repayment regime enforcing greater prepayment speeds (e.g. by severely limiting compensation or fee) on competitiveness and product innovation and a negative impact on product choice.

An additional overlooked dimension in a dynamic perspective may be credit risk. The key problem of an excessively tight legal early repayment regime will be that if the mezzanine product non-callable FRM disappears – either de-jure or de-facto - the result will be a market with two main products in the interest rate risk dimension: ARM and callable FRM. Those products are far apart in terms of their relative price difference – yield curve plus option cost.

If the mezzanine product non-callable FRM disappears or is weak, as in the Danish case, the results are drastic cyclical market share changes between ARM and FRM. We report this for Denmark in Figure 44, which has been constructed with the same methodology as Figure 41 and thus in the Danish context in the FRM definition contains only callable loans. The Danish non-callable FRM product has fixing periods of typically 1-3 years and almost qualifies as an ARM. The changes in market shares shown in the figure by far exceed the variation seen in the other analysed markets, including the volatile Belgian market where FRM are close to callable, and mirrors similarly large swings seen in the US market with similarly missing mezzanine non-callable fixed-rate product.

Figure 44 Mortgage product choice in Denmark in the interest rate risk dimension – fixed-rate mortgage market share and mortgage yield curve incentive



Note: see Figure 41.
Source: Finpolconsult based on ECB data.

This raises the point that de-facto or de-jure disappearance of non-callable FRM might lead to lower, and not higher, interest rate risk protection for consumers - unless that is also ARM are further constrained, e.g. by the use of mandatory interest rate caps. In fact, this risk already has materialised for many EU markets which have imposed legal constraints on non-callable FRM, and has prompted Spain to reverse the trend in the 2007 reforms.

What assess be the impacts of the proposed policy options as follows:

- Highly negative for the case of CCD implementation – policy option 5 – which would de-facto eliminate the non-callable FRM. Product diversity would also be cut back extremely under tight compensation or fee caps considering policy option 3.

- Neutral for policy options 1, 2 and 4. The contractual option comes with the risk of a high lender bias in favour of customer retention and lower competition, which is lowering product diversity via the competition channel and trading against the positive impact on diversity via greater freedom to design products.

- Positive for policy option 3 universal option if combined with a fair value compensation concept which will allow for the non-callable

product to continue to exist (e.g. within time to reset limits) while allowing for sufficient competitive dynamics via the universal option.

Impact on cross-border activity

Any maximum harmonization of the early repayment regime can be assumed have a positive impact for cross-border activity. Contractual option and mutual recognition could in theory have the strongest impact on cross-border trade. Theoretically a 'Delaware' effect is possible where all product supply is undertaken from one location (e.g. where other fringe conditions are most suitable, such as taxation) and the market operates almost exclusively across borders. However, outside extreme constellations, the contractual option may also be used in individual jurisdictions as a customer retention instrument, which will limit cross-border entry. We do only slightly differentiate our assessment of policy options in this dimension in the competition dimension, i.e. see a greater positive impact for solutions that increase prepayment speeds (policy options 3 and 5).

Table 53: Qualitative assessment of policy options in the dimensions of stability, product diversity consumer confidence, customer mobility, and cross-border lending								
Area	**1 contractual option**	**2 partial contractual option**	**3a), asymmetric (partial) fair value compensation**	**3a), symmetric (full) fair value compensation**	**3b), asymmetric (partial) fair value compensation cap 3%**	**3b), fee cap 3%**	**4 mutual recognition**	**5), asymmetric (partial) fair value compensation cap 1%**
Stability	-	o	o	+	o	o	-	o
Product diversity	- -	-	o	+	+	o	- -	+ +
Consumer confidence	o	o	+	+	-	-	o	- -
Customer mobility	+	+	+	+ +	+ +	+ +	+	+ +

Notes: no negative signs used for stability contribution, consumer confidence – see text for greater differentiation of assessment. We add the impact dimension stability only for the responsible lending discussion, reflecting the fact that the explicit goal of responsible lending is stability.
Source: Finpolconsult analysis.

Evaluation by implementation form: Recommendation or law

A recommendation will lead to a very similar outcome compared to the status quo since it will unlikely achieve political arbitration in countries where stakeholders are far apart, e.g. on compensation (Italy, Belgium, Spain, Germany) while cases with greater stakeholder consensus will remain unaffected. A recommendation might provide direction to jurisdictions where legislation is under development, i.e. transition countries and Cyprus, but the impact for the European market as a whole will be minor.

A law will in contrast alter the status quo substantially in both new and established markets, as we will further explore in the quantitative analysis below. We note from our survey that even where stakeholders, especially lenders, are wary of such changes they prefer a law over a recommendation, given the material relevance of the subject for mortgage lending.

8.7 Quantitative evaluation of the policy options

8.7.1 Introduction

We have developed a detailed mortgage sector model that allows us to simulate the quantitative impacts of the policy options on the stakeholders, with inputs and assumptions being motivated by the empirical and conceptual review presented above.

The discussion of modelling approach and results in this section is organised as follows:

- In order to render a quantification feasible, the legal regime transitions to be analysed need to be rendered operational and simplified, the early repayment compensation/fee - option pricing structure to be used for the model be calibrated, and stakeholder economics and cost-benefit indicators be identified. This is the subject of the first three subsections.

- We then pause to demonstrate the dynamics of the model for two country case examples – Belgium and Germany - in some detail in the fourth subsection.

- The fifth and sixth subsections present the full results of the cost-benefit analysis based on concentrated indicators: the fifth subsection delivers these values for all case countries for all economic scenarios and policy options, the sixth extrapolates these results to EU-27 by using the policy distance discussion above and provides a quantitative ranking of the policy options.

8.7.2 Further specification of the policy options for the analysis

We start with a few additional specifications of the policy options that are needed in order to render cost-benefit computations operational.

- Policy option 1 is translated into an early repayment fee model specification. While in theory the contractual option may lead to an indefinite fee, in practice lenders will negotiate with the borrower a fee that may be assumed to lie somewhat above fair value levels on average.

- Policy option 3a) is split into a symmetric and an asymmetric compensation specification, reflecting basically the legal situations in Denmark and Germany.

- Policy option 2 is not explicitly calibrated, but assumed to represent a portfolio mix of policy option 1 and 3a), asymmetric.

- Policy option 3b) is split into a fair value compensation cap and a fee model specification. In the former, compensations drop to zero when interest rates fall while in the latter – as is the case in Belgium, Portugal and France – lenders universally charge the fee in all interest rate scenarios. For policy option 3b) we do not assume symmetry, i.e. the floor for compensations is zero.

- Policy option 5, CCD transposition, can be seen as a special case of policy option 3b) fair value cap when the cap is 1% for non-callable FRM and 0.5% for ARM.

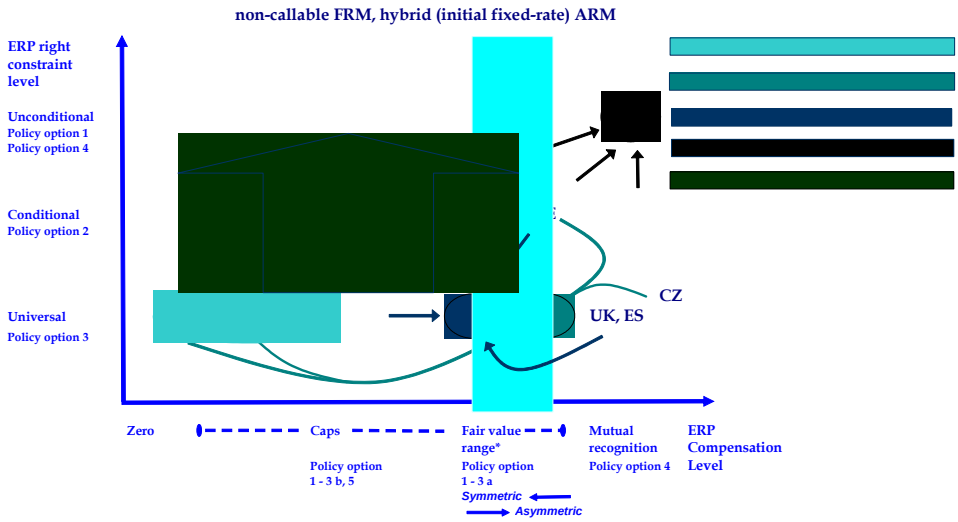
- Policy option 4 - mutual recognition - degenerates with the arguments made above to all other countries accepting the regime of the case country with the regime that is 'most favourable' to lenders. In our case study sample this is the Czech Republic.

We hence extend the options to be calibrated empirically thus from 5 to 8 (including the status quo). With this range we represent a fairly large subset of the theoretically possible under the proposed wordings of the policy options. Obviously, since the policy options are not specific on certain points – e.g. the level of a cap - arbitrary assumptions are required and the potential number of sets to be calibrated could be several multiples of 8. We do not think however that this would lead to significantly greater precision of the analysis.

Importantly, however, we need to make separate computations for non-callable FRM on the one hand and ARM on the other hand. For the latter we do not assume reinvestment risk while for the former we do, also legal regimes tend to differentiate between the cases (and possibly, down the road, policy options) between the two.

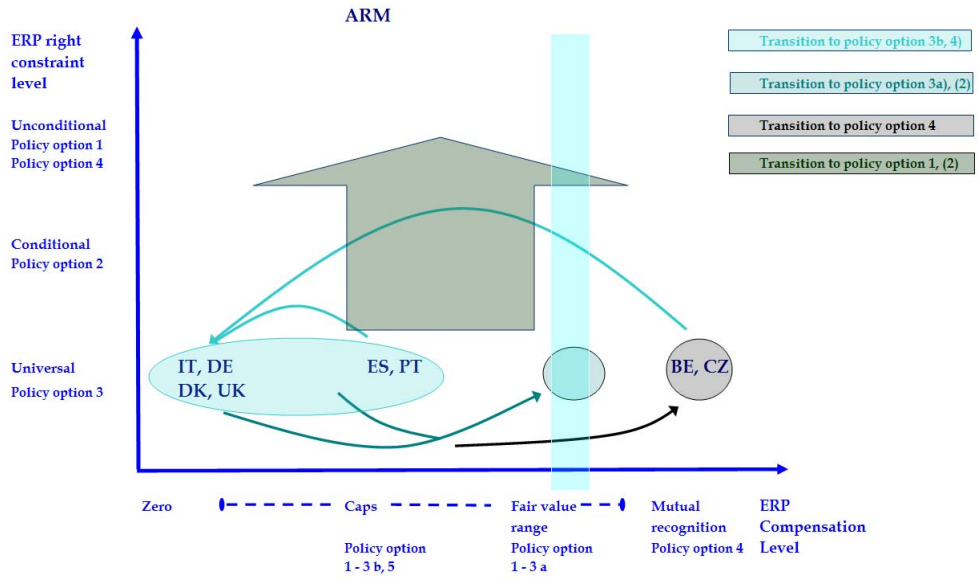
We leave out of the analysis a discussion of hardship case differentiations. We consider hardship cases to be covered partially by policy option 2 that aggregates two sub-portfolios with separate early repayment right regimes. In most countries the discussion would be about compensation or fee cap differentiations (e.g. Netherlands) – those cases may be approximated by choosing a different point on the compensation/fee – option cost line which we present in the following subsection.

Figure 45 Early repayment policy options – visualisation of reform interventions for each of the case countries, non-callable FRM and hybrid ARM (initial fixed-rate)



Note: *symmetric fair value compensations over the interest rate cycle tend to produce lower average compensation costs compared to asymmetric fair value compensations. Chart assumes falling interest rate trend, fair value levels may decline relative to other values when interest rates fall less or remain constant or rise.
Source: Finpolconsult.

Figure 46 Early repayment policy options – visualisation of reform interventions for each of the case countries, ARM



Note: No specific interest rate trend assumed
Source: Finpolconsult.
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In total we therefore model 8 policy options and 8 case countries (who individually never entirely match a policy option, as specified). This makes 64 reform interventions to be analyzed. Figure 45 and Figure 46 portray some of these interventions for our 8 case countries for both relevant classes of products, non-callable FRM and ARM.

8.7.3 Calibration of model parameters

General early repayment option pricing structure

We have discussed in detail in the microeconomic analysis the relations between prepayment behaviour, early repayment option cost levels and compensation/fee arrangements for both reinvestment loss and foregone intermediation profit. We use these findings to identify assumptions for the quantitative analysis based on three logical steps:

- First, we identify full option cost for both types of risk, reinvestment loss/profit and foregone intermediation profit, for the 10-year FRM benchmark.

- Secondly, we apply observations concerning the 'option cost yield curve' to that benchmark in order to identify full option cost for

contracts with differing fixed-rate periods. This is only needed for reinvestment risk.

- Thirdly, we analyse the type (compensation, fee) and level of call protection that is legally admitted or practiced and with that information determine the ratio of full option cost that a lender prices, given those constraints on his ability to fully recover costs. We do this for both types of risk.

Figure 47 and Figure 48 visualise our results and allocate these to the case countries, Table 54 shows the numbers. The product cases of non-callable FRM and hybrid ARM with initial fixed-rate periods feature reinvestment loss risk, for ARM the option cost issue is reduced to the foregone intermediation profit.

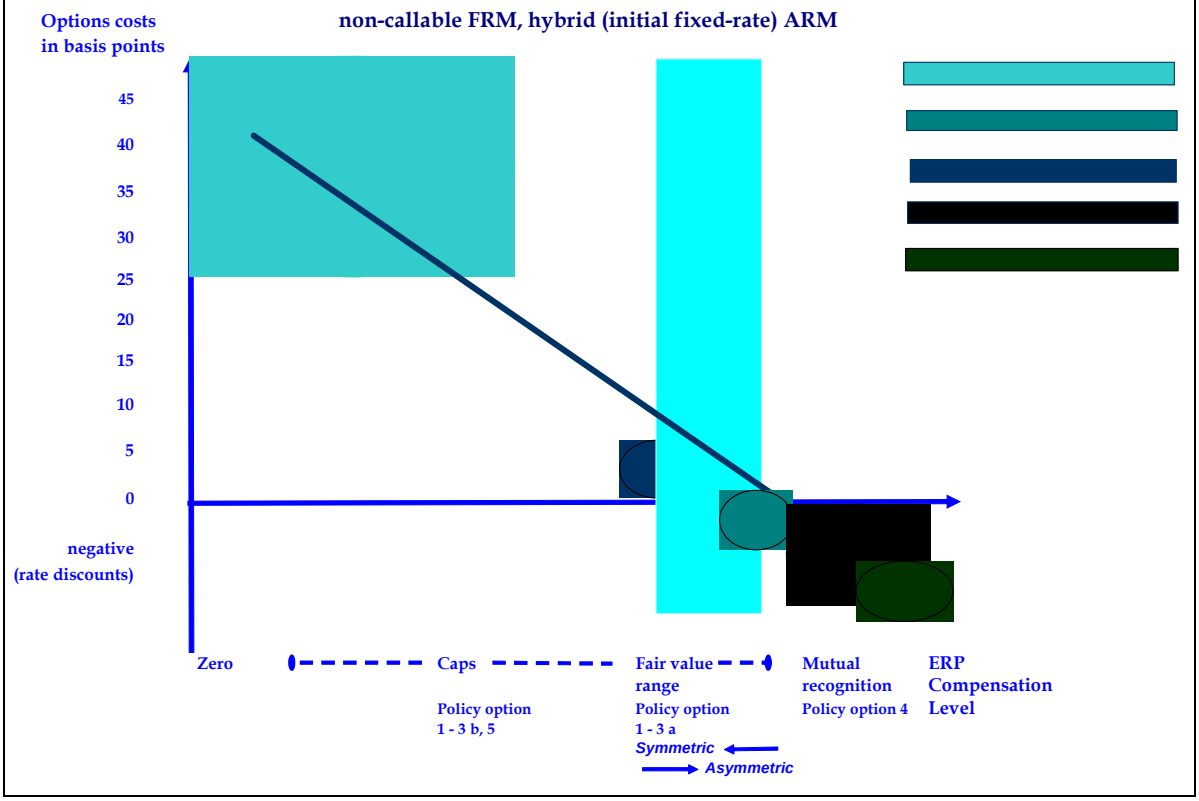
We start by discussing the pricing extremes full option cost and zero option cost.

- We assume full early repayment option cost of 45 basis points for a 10 year FRM, consisting of 43.4 basis points for reinvestment loss and 1.6 basis points for foregone intermediation profit[143] to be passed on to consumers at zero compensation level as an additional interest-rate mark-up.

  Based on the evidence collected above and in earlier studies[144], we consider the reinvestment loss option cost level as representative for a long-term historical Euro area (and Denmark) situation with regard to interest rate volatility, the interest rate fixing term considered and typical options exercise behaviour seen. A few caveats should be expressed at this point:

[143] The assessment of foregone intermediation profit option cost is based on the assumption of 5 basis points of profit lost over a residual fixing period of 10 years. If all borrowers were leaving the lender those costs would stand at some 6.5 basis points; however, empirically ¾ of consumers are retained by the same lender, which significantly reduces the loss assumption we make (to 1.625 basis points).
[144] Batchvarov et. al. (2003), Dübel and Lea (2000), European Commission (2006b), Dübel (2007b).

Figure 47: Model calibrations for non-callable FRM and hybrid ARM (initial fixed-rate), option cost hierarchy (10-year fixing period)



Notes: Uk and CZ option pricing varies as a result of predominance of contractual early repayment fees. Assumes falling interest rate trend. Policy option 2 assumed to be a hybrid of policy option 1 and 3a), asymmetric.
Source: Finpolconsult.

- Option cost can only be observed directly in a fully capital market based system with low transactions costs, which in Europe exists only in Denmark. RMBS markets are too shallow and servicing niches, and where they are not they do focus on funding ARM assets (UK). We have extensively discussed in the empirical subsection the sources of bias introduced in data stemming from bank-based systems, from yield curve factors via transactions costs to internal cross-subsidisation.

- Our pricing benchmark for the analysis is a 10-year non-callable FRM, a product that does not exist in Denmark where the typical fixed-rate period is 30 years for callable FRM and 3 years for non-callable FRM. Historical option cost for the 30-year FRM product were around 60 basis points– see Figure 27 and text discussion above, in the Danish case they include an element of foregone intermediation profit.

- The option cost changes as a logarithmic function of the fixed-rate period, so it declines very fast as the length of the fixed-rate period declines. Figure 48 below shows this function which reflects our assumptions over the full range of maturities. We go down to 2 years, the typical initial fixed-rate period of the hybrid ARM predominant in the UK. Full option cost are only 17 basis points for a 2 year fixed-rate period.

- Moreover, historical option cost values are a function of the interest rate trends prevailing over the observation period, which for the Danish example (2001-2009) was between constant and slightly negative. Values are likely to change when interest rate trends change (declining when interest rate rise, increasing when interest rates drop), even though it has to be said that standard options theory does not consider interest rate trends as a factor in option pricing formulae[145].

- However, standard options theory assigns a high role to interest rate volatility, which in exchange drive option cost volatility. We emphasise in that regard that in Denmark the option cost have displayed considerable volatility over time – see Figure 27 and Figure 28. Phases of tightening capital market conditions, such as occurring during the current financial crisis when key investor classes in prepayment risk had to deleverage, can lead to a considerable increases in the option cost due to changes in demand. Vice versa, with sufficient availability of investors willing to purchase loans or securities containing the option the option cost may drop to low levels. This leads to an additional margin of error of the option cost assessment even in capital market based systems.

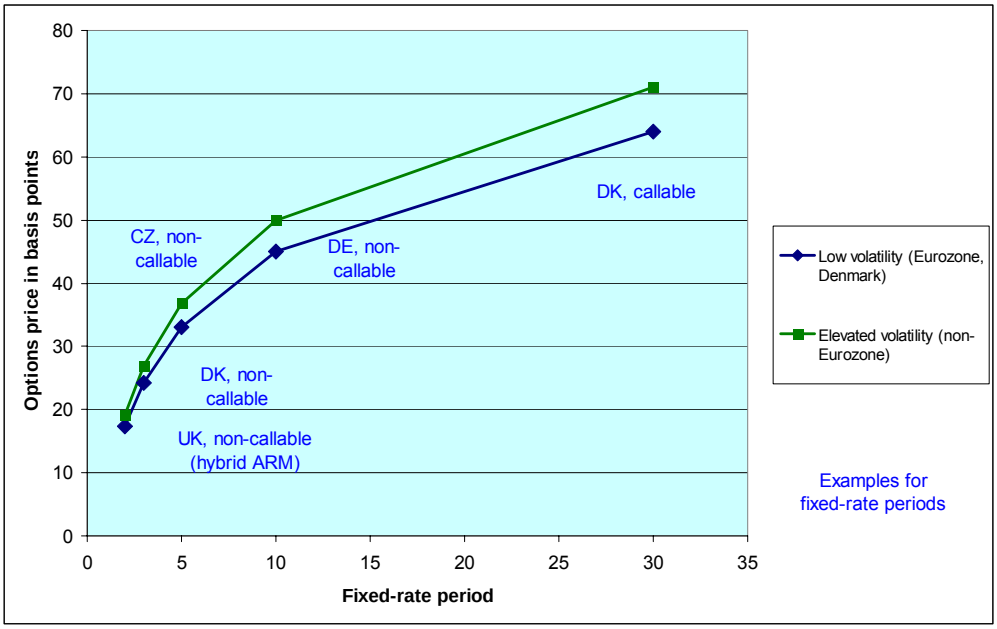
  As changing abundance of investors may lead to an upward shift of the option cost – fixing period curve, so does increased interest rate volatility according to standard options theory. In Figure 48 we assume such a (moderate) upward shift for financial systems outside the Euro area, especially those in Central and Eastern Europe that feature higher interest rate volatility.

- Full option cost levels are reached in Italy, where the early repayment compensation/fee level has been set by law to zero.

[145] See discussion in any textbook, such as Baz and Chacko (2004).

- Backed by basic theoretical arguments, only a small level of option cost – namely the 1.6 basis points assumed for foregone intermediation profit - will arise in the case of a symmetric fair value compensation. If compensation for that type of loss can be charged, option cost can be brought down to zero. This is technically not the case in Denmark, however among all country cases the Danish non-callable FRM early repayment regime comes closest to a zero options price and considering reinvestment risk alone it is zero. 0 option cost is assumed for policy option 1-3a), symmetric fair value compensation.

Figure 48: Model calibrations for non-callable FRM and hybrid ARM (initial fixed-rate), impact of length of interest rate fixing period and interest rate volatility, no compensation or fee



Source: Finpolconsult.

Early repayment pricing structure in the case countries and policy options

After having determined two points on the option cost – compensation / fee regime curve displayed in Figure 47, we now motivate our assumptions for the remaining case countries and the policy options.

- We assume partial early repayment option cost to be passed on to consumers between 0 and 43.4 basis points in proportion to the degree to which legally admissible early repayment compensation or fees produce revenue in case of an options exercise by the consumer that lie systematically below lender costs. We assume that relation to be broadly linear, i.e. with fees ranging from 0.78% (Belgium, 3 months interest of 4.63% - the average January - March 2009 fixed rate per annum) via 1% (CCD, Policy option 5) and 2%(Portugal fee limit) to 3% (France fee limit) the share of option cost to be priced declines. At the 3% level of France, 50% of full early repayment option cost are charged (i.e. 21.7 basis points plus 1.6 basis points foregone intermediation profit), at the Belgian 0.78% level 88% of the full option cost level is charged (i.e. 38.2 basis points plus 1.6 basis points foregone intermediation profit). Portugal (68%, 29.3 basis points plus 1.6 basis points) and the CCD (83%, 36 basis points plus 1.6 basis points) lie in between.

Table 54: Early repayment option cost parameter assumption for country cases and policy options

REINVESTMENT RISK

Compensation or fee in %	Options cost pricing ratio	Options costs in basis points	Country cases NC FRM	Country cases ARM	Policy options
0	100%	43.4	IT		
0.78	88%	38.2	BE		
1	83%	36.0			Option 5
2	68%	29.3	PT		
2.5*	60%	26.0			Option 3b), FV
3	50%	21.7	(FR)		Option 3b), fee
5.5*	0%	0.0	DK	ALL	Option 3a), sym
6*	-5%	-2.2	DE, UK		Option 3a), asym
6.5*	-8%	-3.5	ES		
7.5**	-12%	-5.2	CZ		Option 4
10**	-15%	-6.5			Option 1

FOREGONE INTERMEDIATION PROFIT

Compensation or fee in %	Options cost pricing ratio	Options costs in basis points	Country cases NC FRM	Country cases ARM	Policy options
n.a.	100%	6.5			
0	25%	1.6	BE, DK, IT, PT	DE, DK, IT, UK	Option 3b)
0.14	0%	0.0	DE, UK		Option 3a)
0.5	-40%	-2.6	ES	ES, PT	Option 5 (ARM)
0.71	-50%	-3.3		BE	
1**	-60%	-3.9	CZ	CZ	Option 1,4

Notes: FV – fair value, sym – symmetric, asym – asymmetric, NC FRM – non-callable FRM. Non-callable FRM definition includes initial fixed-rate periods of hybrid ARM (UK case). 'Negative option cost' imply interest rate discounts. 25% ceiling on pricing of foregone intermediation profit reflects 75% internal refinancing assumption. Convexities in both assumption sets reflect changing exercise behaviour. * fair value assumption, may move with interest rate trend, ** fee assumption.
Source: Finpolconsult.

- Policy option 3b) – compensation and fee cap – assumes the French fee cap of 3% and a slightly lower compensation level for a 3% fair value cap of 2.5%, since in contrast to the fee model compensations may decline to zero if interest rates rise. For the 2.5% average we assume that 60% of option cost need to be priced, i.e. option cost of 26 basis points.

- We proceed by assuming slightly 'negative option cost' – i.e. an interest rate discount - for jurisdictions applying an asymmetric (partial) fair value compensation. The reasons are reinvestment gains made by lenders when interest rates rise while reinvestment losses occurring when interest rates fall are equalised by fair value compensations. As prepayments are broadly limited in the case of rising interest rates to 'non-financial' motives, such as moving, we cannot simply extrapolate the linear curve – below the zero option cost line the relation becomes flatter. We assume a discount of 5% of the full option cost, i.e. minus 2.2 basis points, for the case of Germany.[146] This pricing ratio is also assumed for the UK (adjusted for the lower cost levels in the case of shorter interest rate fixing periods) and generally policy option 3 a), asymmetric (partial) fair value compensation. Spain now applies a less restricted compensation model (mortgage-loan to government bond yield difference) than Germany and is assumed to pass through a negative 8% of the full option cost, i.e. minus 3.5 basis points – on the non-callable FRM portfolio.

- We finally assume also somewhat larger interest rate discounts still for jurisdictions that allow ex-ante determined contractual fees without legal limits and above fair value, such as those practiced in the Czech Republic. We assume for these cases a discount of 12%, i.e. an interest rate discount of 5.2 basis points. This pricing structure will also be likely the result of policy option 4 (mutual recognition), which copies the most 'favourable' regime for lenders. Our prepayment fee assumption in the Czech case is 7.5% - above fair value in most scenarios.

- For policy option 1 (contractual option) we assume a further increase of the fee level to 10% and in exchange a pricing discount of 15% of the full option cost, i.e. 6.5 basis points.

- The pricing assumptions for policy option 2 (partial contractual option, partial universal option) are indirect. We arrive at results for policy option 2 by computing results for policy option 1 and 3a), asymmetric and giving each a 50% weight. For example, movers would benefit from the universal option 3a), asymmetric, as in the German case, and non-movers would be constrained to paying considerable fee levels if they wanted to prepay early (policy option 1). Hence we attach no explicit assumption figures to policy option 2.

[146] This is a somewhat stylised description of the German case, which in strict term applies policy option 2, i.e. a mix of contractual option and asymmetric (partial) fair value compensation. We justify this approach with two arguments: a) in terms of simulation modeling it is difficult to create two sub-portfolios on top of many other complications, b) empirically the cases where banks reserve the contractual option and demand higher fees for a second contract is likely to be small. However, we fully model policy option 2 further below.

To put the assumptions made on fair value and uncapped fees into perspective, consider the results of the simulation model presented in Dübel (2006) with historical German mortgage rate figures. For loans originated in the decade of the 1990s, which were characterised by interest rate compression preceding the European Monetary Union, asymmetric fair value compensations averaged roughly 10%. This may also be representative of a transition country today where domestic currency interest rates are expected to decline prior to EMU accession. In contrast, we assume here far lower fair value levels – if interest rate trends reverse they may even fall below the option cost associated with some of the statutory caps. In theory, under a stationary interest rate trend, with symmetric specification and fully symmetric exercise behaviour they may fall to zero.

In the case of ARM our primary concern is foregone intermediation profit, which we also need to compute as an add-on to the non-callable FRM option pricing where they are legally limited. Table 54 has the details of our assumptions.

Since the bulk of consumers – we assume from our interviews and punctual empirical evidence 75% - sign a new contract with the same lender, only a quarter of the full option cost of 6.5 basis points needs to be priced in the worst case for the lender. The interesting cases here are:

- those that are not allowed to charge for foregone intermediation profit for ARM (Denmark, Germany, Italy, United Kingdom) and have to pass on these costs - 1.63 basis points (6.5/4) - to consumers.

- those where foregone intermediation profit charges are permitted, but capped (Spain, Portugal at 0.5% or 50 basis points). However, we note that the present value of 1.63 basis points over 10 years at our initial long-term interest rate of 3.5% is only 13.56 basis points, i.e. the fair value level expressed in policy option 1-3a) lies *below* the actual Spanish and Portuguese caps, which are the only specific caps other than zero on record. Hence these caps should come with an interest rate discount which we calibrate at some minus 3 basis points.

  This is also the case when applying the CCD (Policy option 5) which allows for a 0.5% fee in the case of ARM *expressis verbis*.

- We therefore do not use the CCD level but rather assume a 0% compensation cap or fee limit as the assumption behind policy option 1-3b) for the case of ARM.

- In contrast, jurisdictions charging fair value compensation of 13.56 basis points would charge no option cost and grant no interest rate discounts. This is our assumption for policy option 1-3a). We add here that there is considerable debate in Germany, where the fair value principle for foregone intermediation profit is enshrined in law *for FRM*, about whether such compensation component can be charged in the case of a prepayment with the same lender. If the answer would be affirmative, the

fair value compensation level would quadruple, and the Spanish/Portuguese/CCD fee limits levels would be surpassed.

- those where in the case of ARM the same fee limits apply as in the case of FRM, with the result of above fair value levels of compensation and even deeper interest rate discounts. This is in particular the case in Belgium, where our fee assumption is 0.71% and the rate discount derived from this fact is assumed to be minus 3.3 basis points.

- accepting higher than fair value levels for foregone intermediation profit and hence ARMs also is assumed to be the substance of policy option 4 (mutual recognition), policy option 1 (contractual option). Absent practice data we also assume 1% (the historical Spanish figure) to be the level charged in the case for ARMs in the Czech Republic and for both policy options.

Foregone intermediation profit works in our model as an add-on to either option cost or exercise pricing, depending on the legal configuration. Treatment differs between ARM and FRM in Germany and the UK (explicitly FRM charges allowed under fair value principle). We also assume for those countries with tightly capped FRM reinvestment loss (Belgium and Portugal) that they need to price a margin for foregone intermediation profit as the caps are very unlikely to cover reinvestment loss. In contrast, jurisdictions practicing the contractual option (Czech Republic, policy options 1, 4) are assumed to price in excess of fair value on foregone intermediation profit.

Non-financial prepayments and mobility

In the presentation, initially the same low amount of non-financial prepayments of 3% p.a. will be assumed. The figure reflects a minimum of early repayment resulting from house moves or inheritances and other windfalls that typically is assumed as inelastic to the refinancing incentive. Prepayments fall to the non-financial level when the financial incentive (interest rate differential between loan coupon and current interest rate) is zero or when financial gains from prepayment are eliminated by a fair value compensation charged from borrowers.

Please refer to the conditional prepayment rates displayed in Figure 30 and Figure 35 for a motivation of this assumption.

We will later assume a general non-financial prepayment rate of 6% in order to stress the results for the case of a more mobile society. The lower non-financial prepayment rates for the high fee situations described before move upwards proportionally.

8.7.4 Stakeholder economics specific to the early repayment sub model

Consumer economics

Consumers will be confronted with a given options price – compensation/fee policy allocation for the non-callable FRM and ARM product. They are price takers and in the computations presented do not change their relative product demand as a result.

This is a highly stylised assumption, as our discussion in the empirical and qualitative review shows. The model is capable to take the impact of product pricing changes on demand into account; however, we opt – on the quantitative side – for calculating with constant product demand patterns in order to clearly show the impact of the options on a status quo economy.

Consumers in our computations do react to changes in the pricing setup, however, as far as their early repayment behaviour is concerned. When they face a low cap on compensation or fees and as a result higher interest rate levels (due to partial or full option cost pricing) they will be more inclined to prepay in reaction to changes in the financial prepayment incentive than when they are faced with fair value compensation, and vice versa.

Lenders economics

Lenders of callable and non-callable FRM collect an options spread and early repayment compensation as revenues and face reinvestment risk from prepayments, which we model as equivalent to a fair value compensation as the present value of asset-asset interest differences over the remaining fixing period of the loan. The fixing periods for non-callable FRM is generally 10 years, except for 3 years in the Danish case and 2 years in the UK case.

We similarly model foregone intermediation profit as the present value of the options-adjusted profit – generally 5 basis points (50 basis points options-adjusted revenue minus 45 basis points administration costs). Here we assume 10 years as typical duration of the profit (for all products, ARM, non-callable and callable FRM).

Table 55 Product market share assumptions for the case countries

Market share assumptions		"FRM countries"				"ARM countries"			
		Belgium	Czech republic	Denmark	Germany	Italy	Portugal	Spain	United Kingdom
by credit risk	Subprime	5%	5%	10%	5%	5%	5%	10%	10%
	Prime	95%	95%	90%	95%	95%	95%	90%	90%
by interest rate risk	Callable FRM	0%	0%	40%	0%	0%	0%	0%	0%
	Non-callable FRM	60%	90%	20%	90%	40%	10%	10%	30%
	ARM	40%	10%	40%	10%	60%	90%	90%	70%

Notes: sub-prime and prime distributions by interest rate risk protection mechanism are identical. UK non-callable FRM figure reflects hybrid ARMs (initial fixed-rate period).
Source: Finpolconsult.

The discount factors applied over the difference are the contemporary risk-free long-term interest rates. We make no further differentiations for credit risk.

While the loans are modelled as prepayable (subject to the early repayment regime) the liabilities are non-callable. This may lead to a negative maturity transformation risk. In response to this we use two funding instruments for lenders: short-term (1 year) and long-term (10 year). Lenders vary the mix according to their interest rate risk preferences as a reaction to interest rate incentives (yield curve). In our model lenders are universal banks with a high elasticity of demand for short-term funding instruments with respect to yield curve.

The actual funding cost structure of the lender has no impact on the reinvestment loss calculation for the loans, which is subject to an asset-asset comparison.

We assume that all prepaid amounts are reinvested within the national portfolio, i.e. every borrower receives a new loan, from a new loan cohort, including in the case of non-financial prepayments. This means that 'external' refinancing remains within the portfolio while the profit margin goes to some new lender.

We assume no administration cost impact of reform for lenders.

Intermediary economics

No specific assumptions for early repayment. Early repayment adds to intermediary profit via a higher level of new originations.

Government economics

Government is (almost) not directly involved in the risk-pricing trade-off of early repayment, although in principle government subsidies (esp. for

callable FRM whose supply may be unstable) are conceivable and de-facto they are present.

The 2001-2009 Danish figures that we use as a basis for our computations can be considered as largely free of government subsidies from a supply side perspective. In the 1980s there was still considerable government influence on the willingness of investors to buy callable FRM via regulations that forced Danish pension funds to invest in the domestic bond market. Those are gone in the meantime.

However, an effect of mortgage interest deduction in Denmark on the data used is present – the larger interest rates (option cost transferred to borrowers), the larger the value of the tax deduction. We abstain from modelling such direct government interventions, however.

There is an indirect effect of the early repayment regime on government, which in our simulation keeps subsidising lender credit losses. Credit losses are lower, the higher prepayments of high interest rate loans are, i.e. decline with the degree of option pricing. We have minimised this effect by assuming a parallel reduction in credit risk cost charged with the amount of option cost pass-through.

8.7.5 Early repayment cost-benefit dynamics – an example

Before we condense the quantitative simulations into single net present value figures that allow us to calibrate the impact of the policy options for all country cases and the EU-27 at large we will for improvement of understanding demonstrate the operation of the model with an example.

The best country cases for this demonstration are Belgium and Germany. Both use fixed-rate mortgages, which produce larger reinvestment risk and options and compensation or fee revenue flows compared to adjustable-rate mortgages. Belgium also practices a tightly capped fee model and the universal right, and Germany the (partial) fair value compensation and in addition a partial contractual option, which sets both countries at extreme ends of the option cost pricing – compensation / fee level curve of Table 54.

To improve visibility further we assume grandfathering of the pre-reform loan cohorts. This avoids abrupt changes in revenue and cost post-reform in year 2. The full cost-benefit analysis below will present all results for both grandfathering and no grandfathering assumptions. In order to keep the discussion manageable, we finally limit the discussion to two scenarios: the stability and the volatility scenario.

We start with empirically most relevant transitions to different models of compensation or fee under a universal early repayment right assumption - policy option 3a) and b) - and later approach the transition from a universal early repayment right to early repayment as a contractual option, which affects policy options 1, 2 and 4.

Policy option 3b), fee cap: transition from partial (asymmetric) fair value compensation and capped fee models to a zero fee cap model

For better visibility of the effects, we assume in this example the introduction of a fee cap zero. This differs from the politically more realistic assumption made for capped fees in the cost-benefit computations below (3%).

We use our above market and option pricing parameters to compute how a change in the early repayment regime from a fair value compensation regime to a zero compensation regime would affect consumer and lender costs and benefits.

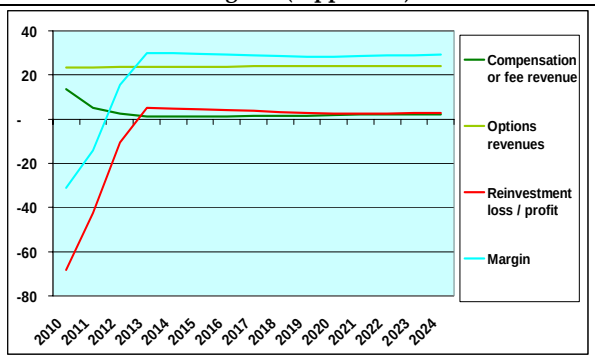
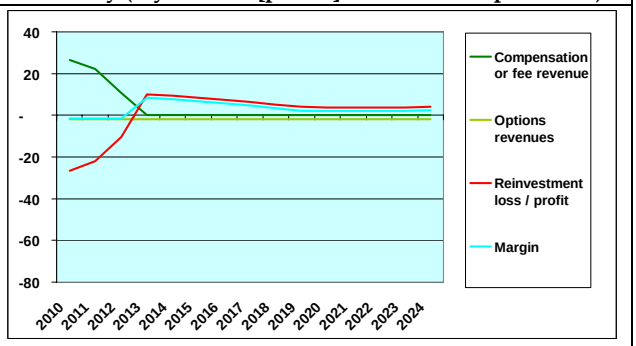
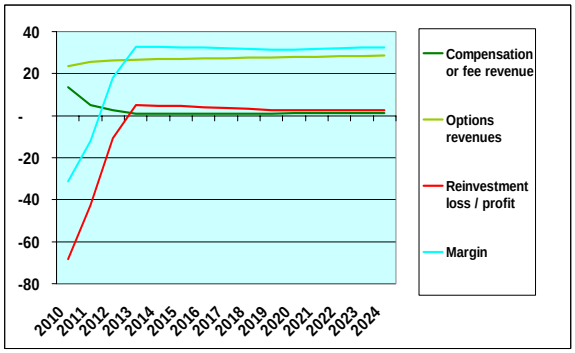
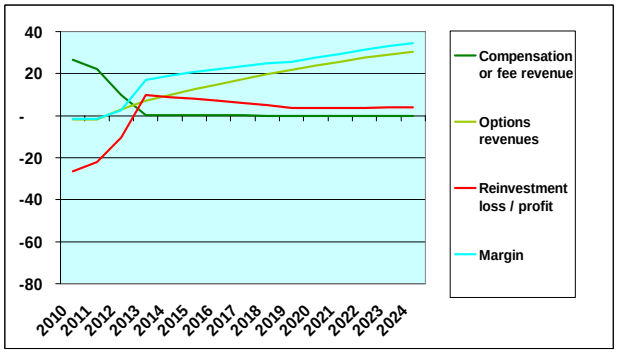
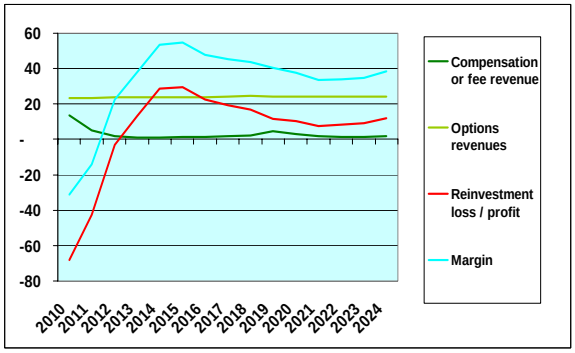
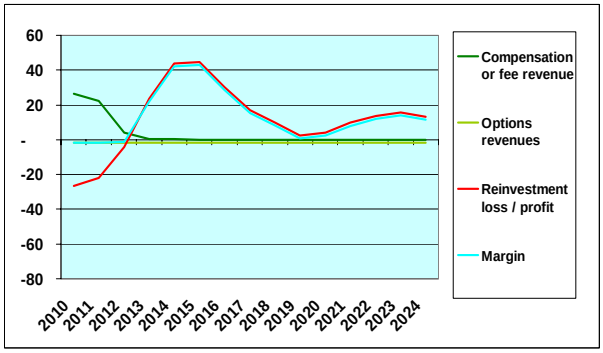
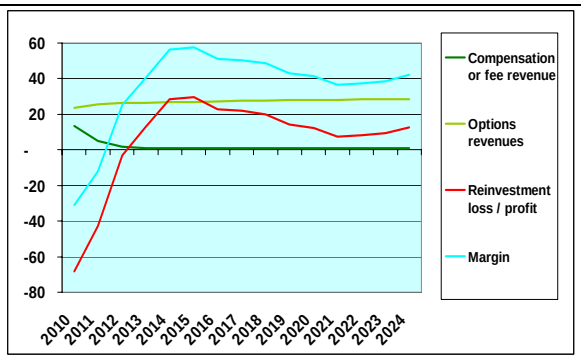
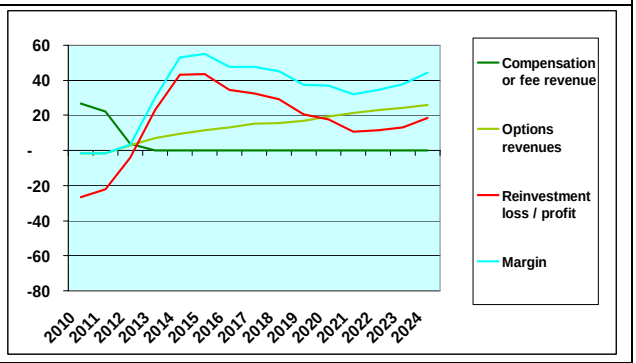
Figure 49 details the revenue and cost profile from the early repayment profit centre for lenders in both countries, i.e. reinvestment loss or profit, options revenues, compensation (Germany) or fee (Belgium) revenues and the net margin from early repayment operations. All data are expressed in percent of the outstanding mortgage portfolio. Lender costs and benefits are mirroring corresponding costs of credit and gains from prepayment (via lower interest payments of the portfolio) positions of consumers.

- The status quo for both countries differs: Belgian lenders charge the 38 basis points options premium for non-callable FRM while German lenders offer a small discount. Considering the high ARM share in Belgium, the total early repayment options revenue in Belgium is some 23.5 basis points initially. Since interest rates fall immediately in both scenarios – a result of the ongoing financial crisis, both jurisdictions face some reinvestment losses for lenders: however, in the Belgian case those are considerably larger, due to higher financial prepayments - adding to non-financial prepayments to which the German case is essentially restricted - while Belgian lenders only charge a third of the compensation revenue of their German counterparts.

- Both countries then differ in Scenario 1 (stability) and 3 (volatility). As interest rates increase and reinvestment losses turn into reinvestment profit, Belgian lenders under the fee model that even covers ARM still are able to reap early repayment revenue, and in addition options revenue. They are hence making a considerable profit margin on the early repayment option (reduce their losses under the under pricing assumption). German lenders, due to the asymmetric nature of their compensation formula, make a profit, too – however, due to the absence of any cash charges it is limited to reinvestment profit (which is larger in Germany given the larger share of FRM than in Belgium).

- Both scenarios differ essentially by the volatility of interest rates. To the extent that in the future interest rates fall drastically again, the same picture as in the early years of the cost-benefit analysis re-emerges.

Figure 49: Lender early repayment profit centre: impact of a transition from capped fee and asymmetric (partial) fair value compensation to zero fee – cases Belgium and Germany

	Belgium (capped fee)	Germany (asymmetric [partial] fair value compensation)
Stability scenario - Status quo		
Stability scenario – Reform		
Volatility scenario – Status quo		
Volatility scenario – Reform		
Assumptions	60% FRM, 40% ARM, universal bank, 0.382% option cost pricing and 0.78% (of outstanding, approx 3 months interest) early repayment compensation pre-reform, 100% option cost pricing and 0% fee post-reform.	90% FRM, 10% ARM, universal bank, -5% option cost pricing and asymmetric (partial) fair value early repayment compensation pre-reform, 100% option cost pricing and 0% fee post-reform.

Note: grandfathering of pre-reform cohorts.
Source: Finpolconsult computations.

Let us now consider the impact of reform – introducing, as Italy did in 2007, a zero compensation / fee limit on both the Belgian fee and the German asymmetric fair value compensation model (see Figure 49).

- Belgian lenders will now be faced with an elimination of the fee model for new loans underwritten from January 1, 2011, f year 2, (e.g. 2011) onwards. Fee income is therefore gradually declining to zero. It is possible that grandfathering for loans underwritten prior to January 1, 2011, is not granted, which would ground fee income to zero immediately. This is actually our assumption for the full cost-benefit analysis whose results are shown below. Belgian lenders will then 'retaliate' by charging now the full 43.4 basis points option cost rather than only 38.2 basis points, on new loans originated. The total effect is that their profit level from early repayments is somewhat reduced in both scenarios.

- German lenders are more radically forced to alter their early repayment business model. Given that interest rates in both scenarios rise towards the middle of the decade and that old loans are grandfathered, not much is happening to fee income. However, they start now to charge option cost from January 1, 2011, onwards, providing them with significant additional revenue towards the end of the decade.

In summary, Belgian lenders are the losers and German lenders the winners of this reform. At least the latter result is contrary to a common argument made by the industry that routinely ignores – or denies – the ability of the bank to charge an option cost mark-up. The source of such claims is the uneven competition between universal banks and mortgage banks that puts pressure on mortgage margins. It should thus be considered when interpreting our result that we model universal banks (adjusting their liability mix to the yield curve) which given their greater use of short-term funding can absorb some of the reinvestment loss via yield curve profits.

- Mirroring the effects on the lender side, German consumers will lose and Belgian consumers will win as a result of the reforms under the two scenarios. Arguably then, the 43.4 basis point assumption for full option cost is unrealistic if lenders are able to make a systematic profit, as they do in the options-pricing situations described. The core point however is that interest rates in the two scenarios described above change the trend of the past 20 years and tend to remain stable or rise. Surely, as new data make their way through bank interest rate forecast models, there will be an ex-post adjustment of option pricing.

- At the same time, it cannot be ruled out that even greater volatility or a depression scenario become reality, or that lenders remain fundamentally uncertain about interest rate trends. And whatever the level of options price charged, the revenue and cost dynamics described in the charts do not fundamentally change.

Intermediaries will benefit from greater prepayments in all scenarios as originations will increase as a result of a higher share of financial prepayments.

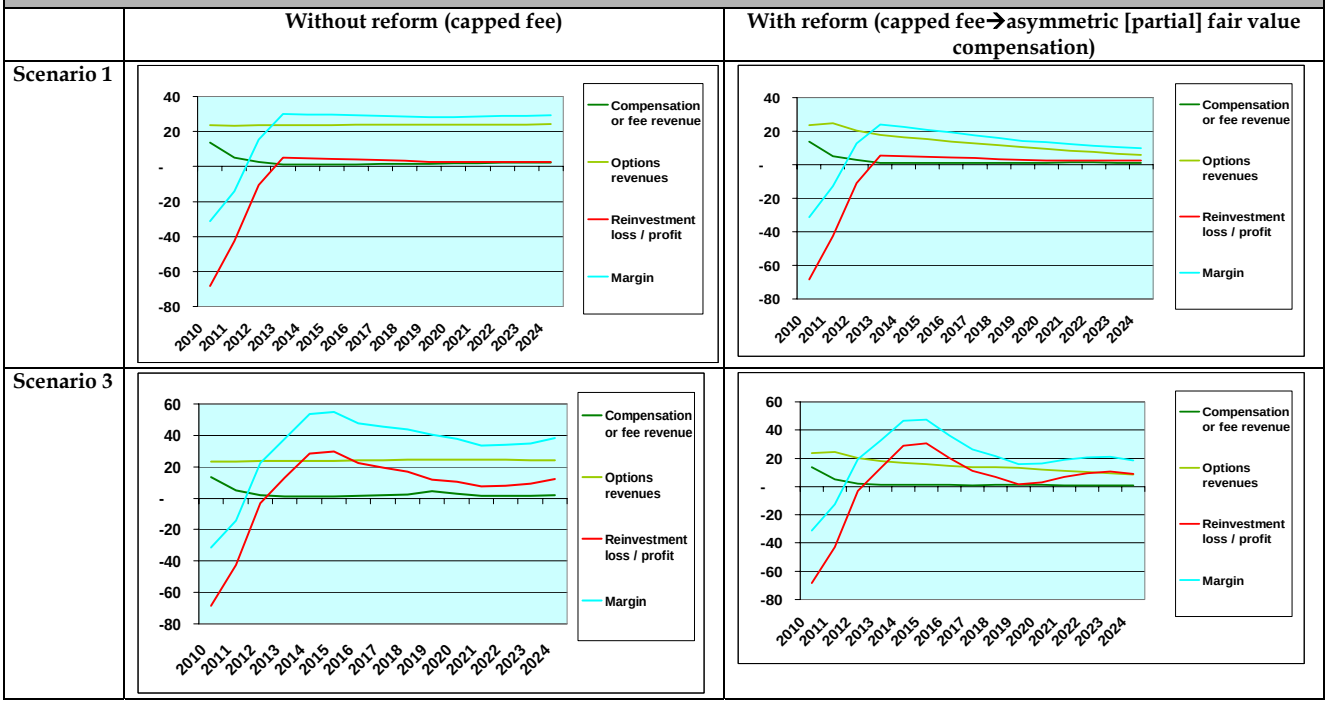
Policy option 3a), asymmetric: transition from a capped fee model to asymmetric (partial) fair value compensation model

We proceed to explore the next policy option, the introduction of maximum harmonisation to allow lenders to charge for the losses they incur by way of an asymmetric (partial) fair value compensation. Figure 50 portrays the Belgian case – Germany already practices that solution.

- We note first that a compensation model will deprive Belgian lenders of their current ability to charge early repayment fees from prepaying FRM borrowers if interest rates have risen, and also from charging when an ARM borrower prepays. This eliminates the profits made on non-financial prepayments in such situations.

- Moreover, as the asymmetric compensation is introduced, new loans underwritten in Belgium after January 1, 2011, drop in price by 40.4 basis points – the option cost of 38.2 basis points plus an additional discount of 2.2 basis points for the fact that the compensation is asymmetric, see Table 54.

Figure 50 Lender early repayment profit centre: transition from capped fee to asymmetric (partial) fair value compensation – case Belgium



Notes: grandfathering of pre-reform cohorts. For assumptions, see Figure 49 and Table 54.
Source: Finpolconsult computations.

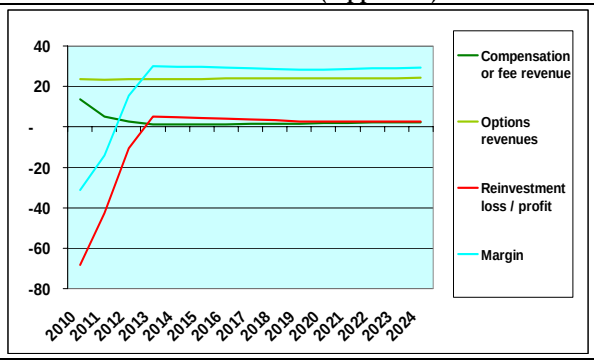
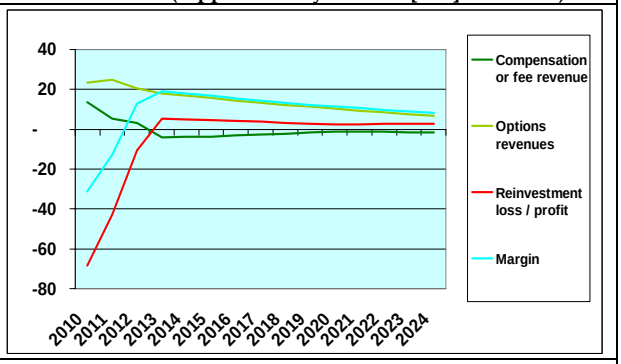
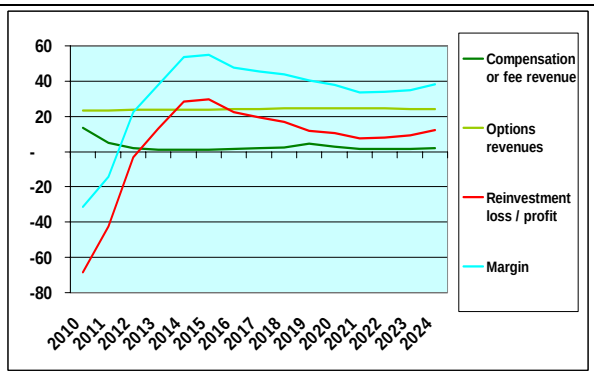
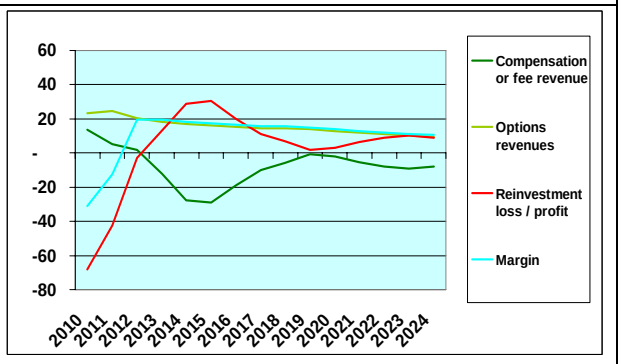
As a result of these changes, in both scenarios, Belgian consumers are now in the comfortable situation of having saved some 10 basis points in overall credit costs, a substantial reduction considering that total spreads are in the range of 1.5-2% (FRM, ARM).

Obviously, however, those Belgian consumers that wish to prepay during falling rates beyond the time horizon of the analysis would have to face additional compensation cost.

Policy option 1-3a), symmetric: transition from asymmetric (partial fair value) compensation and capped fee model to symmetric fair value compensation model

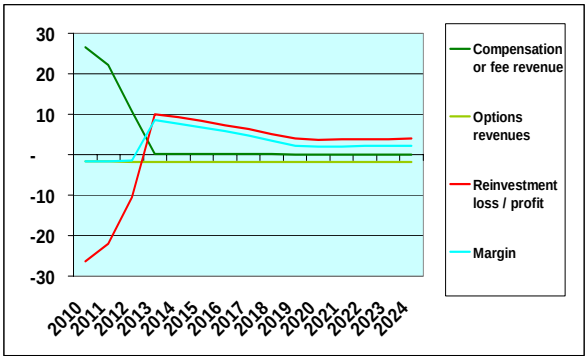
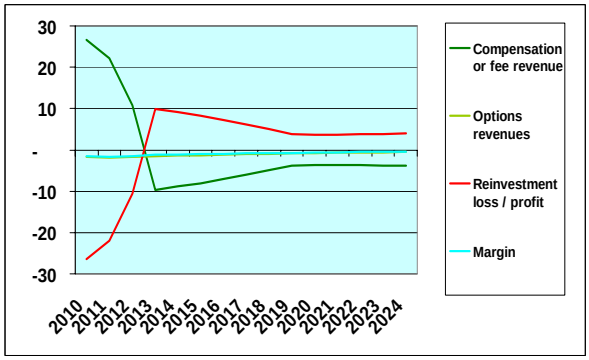
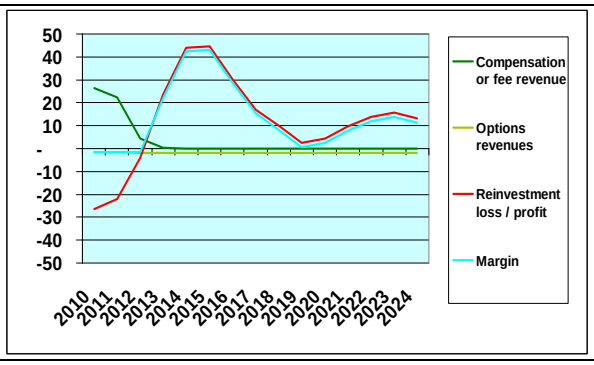
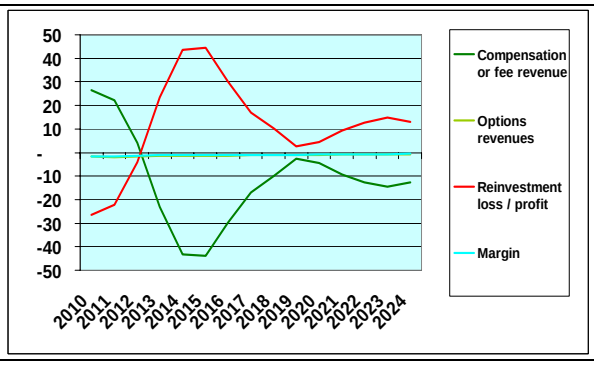
We finally consider what happens if both countries, the one practicing a fee model and the one practicing an asymmetric compensation, would switch to a full fair value compensation model with symmetric payouts from/to consumers to / from lenders. In reality, lenders do not pay anything in cash – they just receive a proportionally lower prepayment proceeds.

Figure 51: Lender early repayment profit centre: transition from capped fee to symmetric (full) fair value compensation – case Belgium

	Without reform (capped fee)	With reform (capped fee→symmetric [full] fair value)
Scenario 1		
Scenario 3		

Notes: grandfathering of pre-reform cohorts. For assumptions, see Figure 49 and Table 54.
Source: Finpolconsult computations.

Figure 52 Lender early repayment profit centre: transition from asymmetric (partial) fair value compensation to symmetric (full) fair value compensation – case Germany

	Without reform (partial fair value)	With reform (partial fair value→full fair value)
Scenario 1		
Scenario 3		

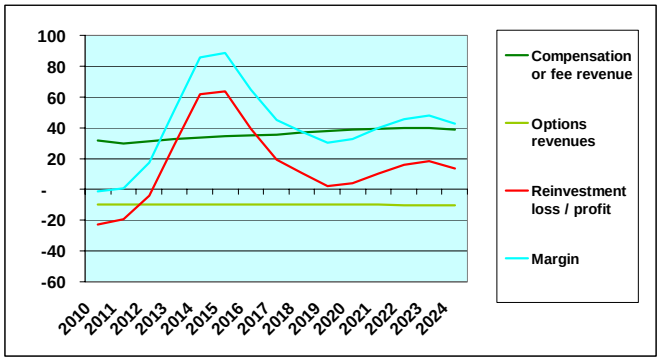
Notes: grandfathering of pre-reform cohorts. For assumptions, see Figure 49 and Table 54.
Source: Finpolconsult computations.

Figure 51 and Figure 52 show the results for Belgium and Germany respectively.

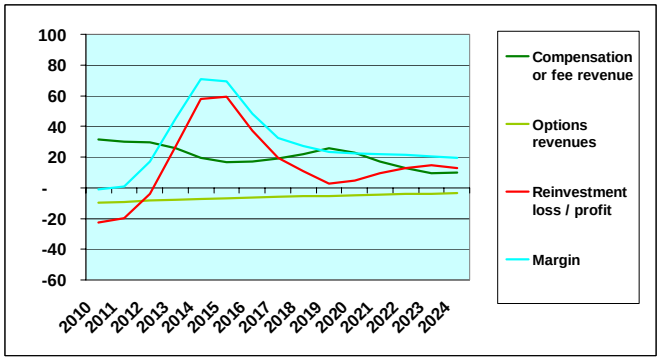
- In the Belgian case, a symmetric compensation would cut back lender profits from early repayment even more substantially than in the asymmetric case, given that we face a tendency of increasing interest rates and overall reinvestment profit outlook for lenders. Note that lenders reinvest the cash profitably and do not make losses – only their profit level decreases. Belgian lenders now reduce their option cost from 34 basis points to 5 basis points, so some long-term pricing penalty for consumers in exchange for the symmetry remains. The inertia of the portfolio ensures that the overall price reduction takes time to materialise.

Figure 53 Lender early repayment profit centre: transition from contractual option to universal early repayment right and symmetric (full) fair value compensation – case Germany – and grandfathering effect

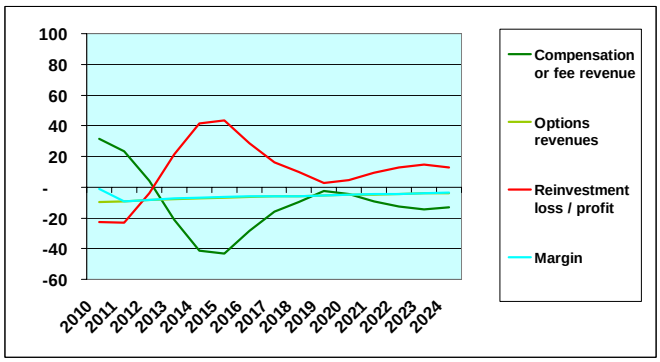
Status quo – contractual option



Post-reform – symmetric fair value, WITH grandfathering of 0 and 1 cohorts



Post-reform – symmetric fair value, WITHOUT grandfathering of 0 and 1 cohorts



Notes: For assumptions, see Figure 49 and Table 54.
Source: Finpolconsult computations.

- All that changes in Germany is the symmetry of payouts. However, the effect on early repayment profits is remarkable, as Figure 52 demonstrates. For German lenders start with a zero profit line the options to gain from reinvesting the prepaid cash at higher interest rates disappear. The early repayment profit line becomes flat, it rises only gradually as the 5 basis points interest mark-up for the cost difference between symmetry and asymmetry of compensation permeates to the bottom line.

Again, we emphasise that the level of option cost charged may vary with the interest rate scenario – this holds also true for the 'symmetry' premium, which might be larger, depending on the scale of foregone reinvestment profit of lenders. We note, however, that increasing rates also may mean increasing credit risk and there is a limit to this argument.

Policy option 3b), symmetric: transition from unconditional contractual option to symmetric fair value compensation

We may approximate the situation of a country practicing an unconditional option with a fee level that under the assumed economic scenarios typically in most circumstances will be above fair value. We assume a 10% fee (see Table 54), derived as the result of a negotiation of a second contract that buys the consumer the right to prepay. We use German data to compute the effects, because borrowers wishing to prepay that are not moving house remain subject to a contractual option.

We also ignore that such a fee policy could have a further dampening effect on our non-financial prepayments, which are low at 3% however, and assume that borrowers would still trade at such high fee levels because of higher opportunity costs of not prepaying on their side. Figure 36 had discussed this argument.

Clearly, lenders would substantially benefit from such a contractual option in our interest rate scenarios. The early repayment margin in the status quo shown in the upper chart of Figure 53 would exceed 80 basis points in the Scenario 3 in certain years. Such fee levels divorced from the true cost basis of the lender would become a base for stable profits, unless borrowers significantly scaled down non-financial prepayments.

The middle chart in Figure 53 further explores the early repayment profit centre dynamics when the system is moved towards universal early repayment right and symmetric fair value compensation. As before, introducing symmetric fair value substantially reduces early repayment profit – numerically by roughly a quarter.

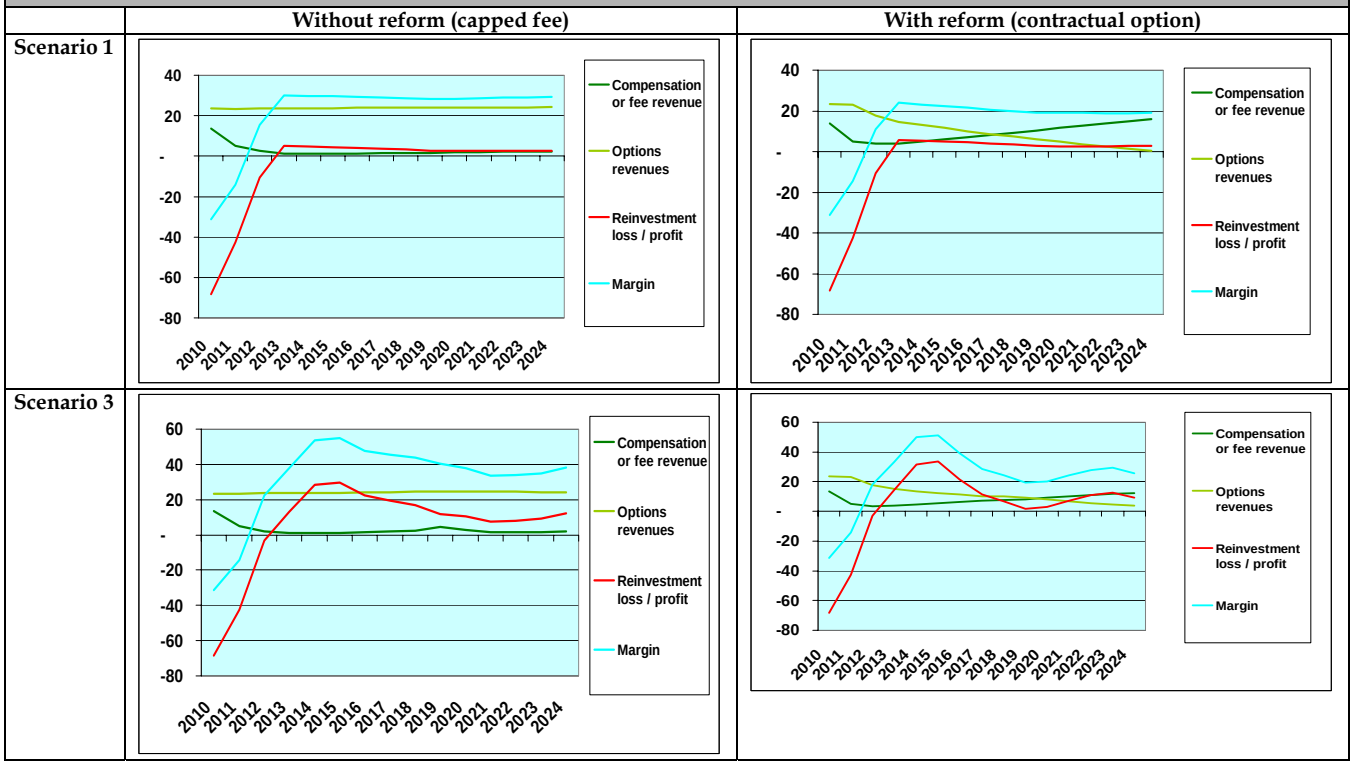
It is instructive to test the effects of grandfathering with this example. Grandfathering implies that the loan cohorts originated prior to reform remain unaffected by it; if we lift this assumption, the first two cohorts in the model can immediately be prepaid subject the new fair value compensation.

The effect is shown in the lower chart of Figure 53. Any early repayment profit is removed after reform on January 1 of year 2, in fact, depending on whether the pricing advantages of the pre-reform cohorts subject to the contractual option change or not (which means changing the interest rates in an existing contract) lenders even could face small losses.

Policy option 1: transition from limited fee and asymmetric (partial) fair value compensation to unconditional contractual option

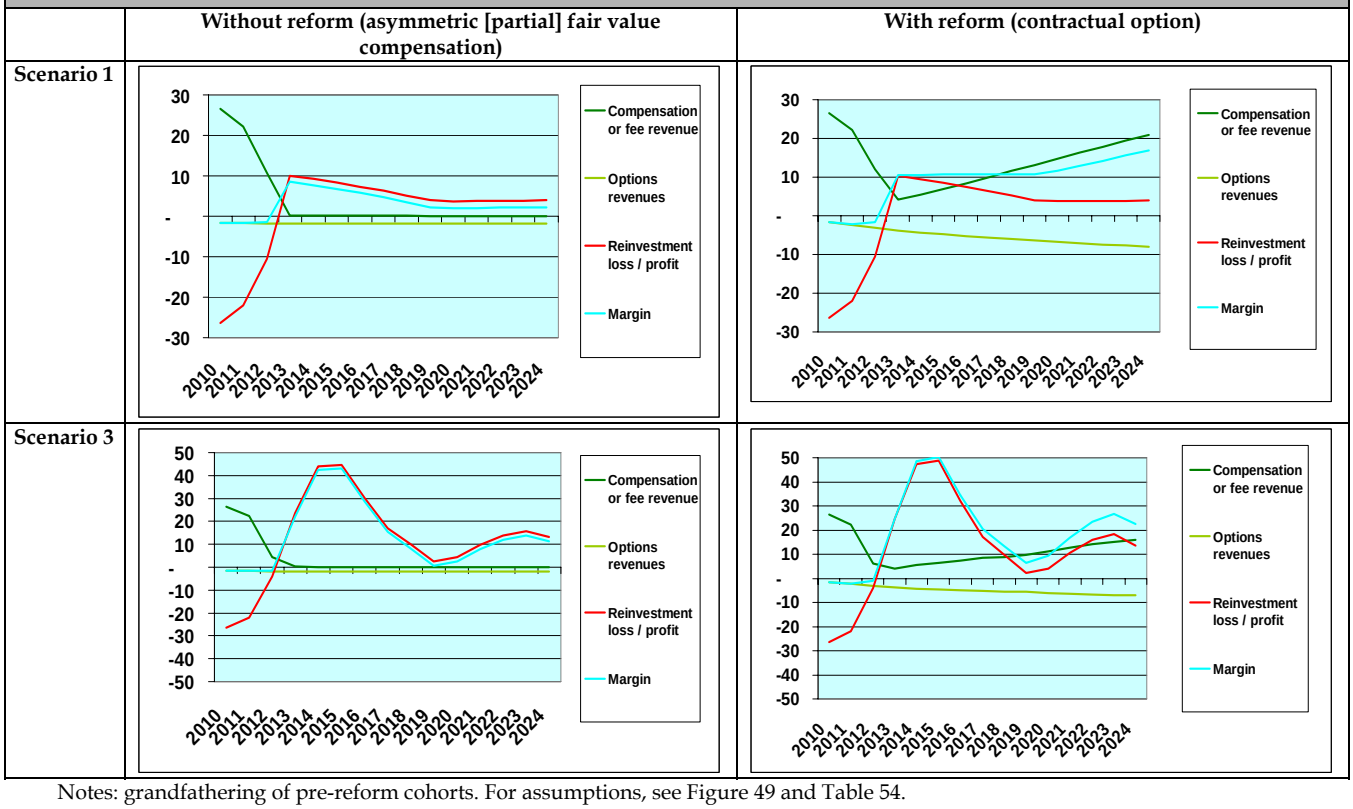
Our final simulation assumes the reverse transition – from the current Belgian and German legal situation (in the latter case for moving/house selling only) to an unconditional contractual option. We keep the 10% fee assumption in this case, which means in the Belgian case a more than 10-fold increase (for FRM only), and for Germany still roughly a doubling.

Figure 54 Lender early repayment profit centre: transition from capped fee to unconditional contractual option – case Belgium



Notes: grandfathering of pre-reform cohorts. For assumptions, see Figure 49 and Table 54.
Source: Finpolconsult computations.

Figure 55 Lender early repayment profit centre: transition from asymmetric (partial) fair value compensation to unconditional contractual option – case Germany



Notes: grandfathering of pre-reform cohorts. For assumptions, see Figure 49 and Table 54.
Source: Finpolconsult computations.

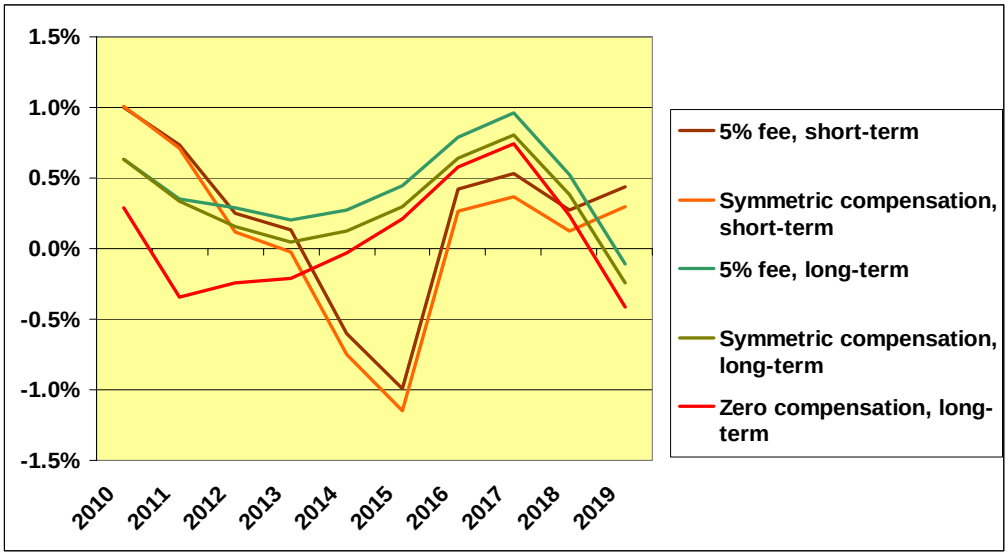
Figure 54 and Figure 55 show the results for both countries, which feature mirror effects of the before discussed transitions. In the Belgian case, and considering that there is no grandfathering assumed, profit levels of lenders from early repayment decline despite the optically improved compensation levels. The reason is falling options revenues from the new model under sufficient levels of competition (exacerbated if lenders from countries practicing contractual option enter the Belgian market, e.g. German for cases other than house selling and moving).

In the German case we record an increase in early repayment profits, especially because at rising interest rates in the middle of the period under observations lenders can now charge high fees from prepaying consumers, whereas compensations under the asymmetric (partial) fair value compensation concept are zero. The total effect is not fully compensated by the further decline in options revenues (further increase in discounts) on the German market.

Impact of lender funding structure, financial stability risks

We may still ask at this juncture what would happen to lenders applying different funding strategies. How material are early repayment revenues in stabilising a lender funding model, e.g. for issuance of covered bonds? For that question we simulate a long-term (95% long-term funding) and a short-term financed lender (between 50 and 100% short-term funding) and compare the above fee model results for Belgium and Germany in Figure 56 for Scenario 3, which promises the greatest problems for lenders.

Figure 56: Comparative impact of funding strategy and early repayment compensation model



Notes: grandfathering of pre-reform cohorts. For assumptions, see Figure 49 and Table 54.
Source: Finpolconsult computations.

Clearly, the type of funding strategy of the lender matters – yet, in a scenario of volatile (and potentially rising) interest rates, a long-term funded lender would be at a much safer position in mortgage finance than a short-term lender, whatever the early repayment compensation model. This avoids the US Savings and Loan crisis scenario – rising short-term rates risking the insolvency of a mismatched mortgage lender.

As Figure 56 shows, switching from a fee model – we assume here 5% as the average over the fees recorded - to a full fair value compensation reduces bottom line for the long-term lender somewhat, but not materially so. He should also be able to adjust margin pricing to compensate for lower excess profit when interest rates have risen. What is important for stability, though, is that the compensation model does not cut back compensation to zero. As

the red line in Figure 56 shows this would be bought by considerably higher profit volatility, which is a threat to the solvency of long-term lenders that as issuers of capital market instruments tend to operate with extremely thin margins. At least a longer transition period should be considered in such a case.

8.7.6 Key results for the case countries

In the complete cost-benefit analysis we use all four economic scenarios and eight case countries.

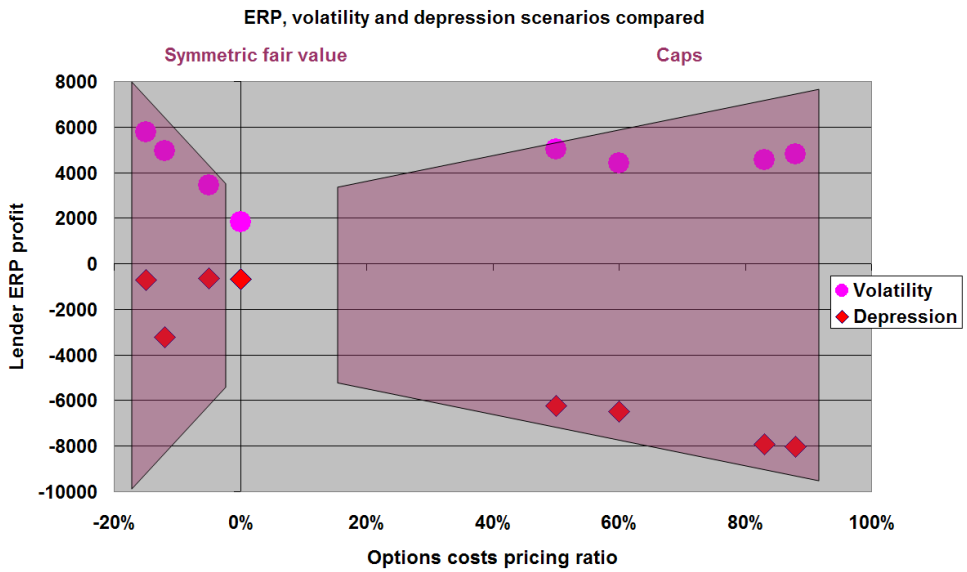
In the discussion we will initially present the (politically more likely) grandfathering of the pre-reform loan cohorts originated at the end of years 0 and 1. We will later present the full results for both grandfathering and no grandfathering.

Lender-consumer redistribution

As has been already demonstrated in the conceptual and empirical sections, any departure from the status quo early repayment legal regime for any given scenario and country implies a redistribution between lenders and consumers, and within consumer groups between those prepaying and those not prepaying. The maximum swing from lender and consumer benefits to the other side is reached at the extremes of the option cost – compensation / fee curve (contractual option, 0 fee cap).

Figure 57 demonstrates this point for the Belgian case by using two starkly contrasting scenarios – volatility and depression. The chart uses absolute lender profit numbers and sorts all policy options by the option cost pricing ratio for reinvestment risk (see Table 54 for detail). Up to relatively minor social changes (see discussion below), a loss for lenders is a profit for consumers in the aggregate, and vice versa.

Figure 57: Belgium – 15 year NPV of lender profits (€ million) by economic scenario and option pricing ratio of policy option for reinvestment risk – grandfathering of pre-reform loan cohorts



Notes: Policy option 2 excluded from presentation due to mixed character, see numeric results. Option cost pricing ratio 100% corresponds to zero fee or compensation, 0% to full fair value compensation, and negative values to fees or compensations above fair value level. See Table 54 for detail.
Source: Finpolconsult computations.

In the depression scenario, lenders confronted with severe prepayment compensation or fee caps and a large prepayment wave will make considerable losses, which will appear as gains on the consumer side. These lender losses made during phases of interest rate declines cancel out with reinvestment gains made when interest rates increase again in the volatility scenario.

If a depression scenario is likely, lenders will hence fare best with a fair value compensation or contractual option policy. In contrast, in a volatility scenario (and also in the stability and mixed volatility scenarios not displayed here, see figures below), lenders will fare better compared to depression with all policies except the fair value policy, which requires them to a reduction of the amount to be prepaid to consumers if a prepayment occurs when interest rates have risen relative to the coupon. All other policy options do not require such reductions below par and hence, given suitably adopted pricing policies (see Table 54), yield potential for systematic profits for the lender.

The least redistributive policy option in terms of lender-consumer redistribution is the symmetric fair value model. Consumers may gain in the depression scenario from capped compensations and fees, but they do not do so in the other scenarios. Consumers lose in the other scenarios from a contractual option. We will present the full case detail below.

Hence, while policy makers and stakeholders may attach different weights to each scenario and hence produce different hierarchies of policy options, the least volatility policy option over all scenarios is the fair value compensation model, and here in particular the symmetric version practiced in Denmark.

Economy-wide impacts

The primarily nature of early repayment as a lender-consumer redistribution channel implies that economy-wide cost and benefit changes due to shifts in policy options are minor – the maximum departure of social return from the status quo recorded in any case country is 6%, and the lender-consumer swing typically contributes some 90%. Table 56 resents the results for the eight case countries and four scenarios. Annex 6 presents charts on the dynamics for each of the case countries.

Table 56 Economy-wide NPV of benefits / costs of policy intervention in the area of early repayment (€ million) – case countries, grandfathering of pre-reform loan cohorts, deviation from status quo

Country	Policy option		Scenario 1 Stability	Scenario 2 Mixed volatility	Scenario 3 Volatility	Scenario 4 Depression
Belgium	1	Full contractual option	331	515	488	22
	2	Partial contractual option	291	527	570	21
	3a), asym	Asymmetric fair value compensation	251	539	652	20
	3a), sym	Symmetric fair value compensation	254	557	695	29
	3b). FV	Fair value compensation cap 3%	32	134	197	- 11
	3b), fee	Fee cap 3%	67	220	306	- 18
	4	Mutual recognition	334	555	585	40
	5	CCD fee cap 1%	12	35	55	17
Czech rep	1	Full contractual option	4	- 0	- 8	4
	2	Partial contractual option	- 10	- 8	- 7	- 8
	3a), asym	Asymmetric fair value compensation	- 23	- 16	- 7	- 20
	3a), sym	Symmetric fair value compensation	- 28	- 20	- 9	- 24
	3b). FV	Fair value compensation cap 3%	- 98	- 220	- 265	- 83
	3b), fee	Fee cap 3%	- 88	- 177	- 209	- 74
	4	Mutual recognition	2	2	2	1
	5	CCD fee cap 1%	- 120	- 331	- 414	- 100
Denmark	1	Full contractual option	257	245	305	197
	2	Partial contractual option	167	162	204	128
	3a), asym	Asymmetric fair value compensation	77	79	103	59
	3a), sym	Symmetric fair value compensation	66	68	87	50
	3b). FV	Fair value compensation cap 3%	- 141	- 406	- 630	- 117
	3b), fee	Fee cap 3%	- 117	- 317	- 489	- 97
	4	Mutual recognition	251	244	308	192
	5	CCD fee cap 1%	- 88	- 542	- 888	- 71
Germany	1	Full contractual option	654	- 364	- 1,887	319
	2	Partial contractual option	352	- 155	- 909	180
	3a), asym	Asymmetric fair value compensation	51	54	69	40
	3a), sym	Symmetric fair value compensation	2	173	467	- 1
	3b). FV	Fair value compensation cap 3%	- 2,749	- 4,732	- 5,311	- 1,248
	3b), fee	Fee cap 3%	- 2,284	- 4,166	- 3,878	- 1,064
	4	Mutual recognition	640	- 13	- 965	324
	5	CCD fee cap 1%	- 3,688	- 7,284	- 8,861	- 1,606
Italy	1	Full contractual option	817	1,162	1,384	260
	2	Partial contractual option	705	1,119	1,437	215
	3a), asym	Asymmetric fair value compensation	593	1,075	1,489	169
	3a), sym	Symmetric fair value compensation	599	1,103	1,554	181
	3b). FV	Fair value compensation cap 3%	223	492	757	107
	3b), fee	Fee cap 3%	277	614	917	88
	4	Mutual recognition	823	1,223	1,534	288
	5	CCD fee cap 1%	309	430	620	249
Portugal	1	Full contractual option	66	81	83	30
	2	Partial contractual option	15	32	30	- 7
	3a), asym	Asymmetric fair value compensation	- 35	- 17	- 22	- 43
	3a), sym	Symmetric fair value compensation	- 35	- 15	- 18	- 42
	3b). FV	Fair value compensation cap 3%	- 101	- 108	- 132	- 82
	3b), fee	Fee cap 3%	- 97	- 98	- 119	- 81
	4	Mutual recognition	66	86	94	32
	5	CCD fee cap 1%	- 7	- 16	- 25	- 2
Spain	1	Full contractual option	229	146	174	184
	2	Partial contractual option	- 112	- 160	- 189	- 93
	3a), asym	Asymmetric fair value compensation	- 453	- 466	- 551	- 370
	3a), sym	Symmetric fair value compensation	- 457	- 459	- 529	- 373
	3b). FV	Fair value compensation cap 3%	- 908	- 1,085	- 1,300	- 679
	3b), fee	Fee cap 3%	- 876	- 1,015	- 1,209	- 666
	4	Mutual recognition	228	167	229	185
	5	CCD fee cap 1%	- 278	- 506	- 608	- 129
United Kingdom	1	Full contractual option	946	876	1,120	784
	2	Partial contractual option	595	555	708	493
	3a), asym	Asymmetric fair value compensation	245	234	297	202
	3a), sym	Symmetric fair value compensation	216	211	256	178
	3b). FV	Fair value compensation cap 3%	- 423	- 1,075	- 1,760	- 349
	3b), fee	Fee cap 3%	- 360	- 851	- 1,388	- 297
	4	Mutual recognition	929	873	1,116	769
	5	CCD fee cap 1%	70	- 1,060	- 1,988	56

Source: Finpolconsult.

Country-specific results, aggregation over four scenarios

We sort the case discussion by the cases' position on the option cost pricing – compensation / fee curve for reinvestment loss. For the ARM countries Spain, Portugal and UK we compare the results to the option cost pricing – compensation / fee curve for foregone intermediation profit, the dominant source of compensation / fee for these countries. Aggregation over the four scenarios is done by simple averaging.

We emphasise that using country cases rather than stylised ARM/FRM cases reduces visibility of the effects while enhancing realism of the results. Please refer to Annex 6 for detail charts for each country case.

- Czech Republic: the status quo is de-facto contractual option applied to typically 5 year FRM. As a predominant FRM country, the Czech case shows the expected profile of consumer returns and lender profits. The least profit policy (highest return) option for lenders (consumers) is the symmetric fair value compensation. However, the highest social returns (by a narrow margin) can be achieved under this policy option in the grandfathering scenario, this hierarchy disappears if policy reforms are implemented immediately without grandfathering in favour of the status quo. The differences between the scenarios are less pronounced than in other FRM cases because of the lower interest rate fixing period (5 vs. 10 years as default). However, being situated at one extreme of the option cost pricing distribution, the maximum percentage change (to CCD implementation, policy option 5) is the largest of all cases.

- Spain: Spain is applying slightly above fair value compensations on both ARM and (post reform) also FRM. We observe similar correlations as in the FRM cases between consumer/lender return / profits. However, the symmetric fair value does not come out as the absolute best (worst) for consumers (lenders), as in the Czech case – lenders improve themselves while the consumer position deteriorates slightly. This is likely a result of the pricing assumptions for foregone intermediation profit, which in a competition scenario would be corrected over time. Total society returns hardly vary in both the grandfathering and the no grandfathering cases.

  We note here that the Spanish results will materially change with a future higher FRM share in the market, whose stimulation was a key intention of the 2007 reforms.

- United Kingdom: For the UK we assumed a higher non-callable FRM (here: hybrid ARM) market share than for Spain. Despite the fact that the initial fixing periods in the UK are short and hence changes are more moderate than in countries with longer fixed-rate periods, this somewhat distorts the results. However, for all metrics – consumer return, lender profit and total society return – the same signs as in

Spain are reached. Given our pricing assumptions, the fact that UK lenders need to price ARM foregone intermediation profit - as compensation in the UK is by law set to zero - does not materially affect their profit level. Also, the swings in lender-consumer redistribution originated with a departure to other policy options – fair value or a fee above fair value as in Spain (0.5%) are minor relative to the total economy.

- Germany: In the German case we obtain results that are comparable to the Czech case. The symmetric fair value policy option is optimal for consumers and least optimal for lenders. Lenders (consumers) could reap (suffer) considerable extra profit (loss) – especially in the no grandfathering scenario - if they could return to the full contractual option scenario. However, moving in the opposite direction to full option cost pricing is not optimal for consumers either as the additional pricing margin removes the benefits from reduced exercise costs. In other words, introducing a zero or low cap would lead to intra-consumer redistribution between those exercising the option and those not exercising the option. Assuming grandfathering the symmetric fair value compensation is slightly socially optimal.

- Denmark: the impact of legal transition materially affecting primarily non-callable FRM is cushioned by the high market shares of callable FRM and ARM, also the interest fixing periods of non-callable FRM are short. These factors and the central position of the Danish model on the option cost – compensation / fee line lead to very low absolute and percentage changes from the status quo. Non-callable FRM consumers are close to the optimum especially if reforms are introduced without grandfathering. Lenders might reap additional early repayment profit if the symmetric fair value compensation were abandoned in favour of higher option cost pricing and lower compensations; however, the product already exists in Denmark in the form of callable FRM. Under the assumed scenarios the Danish social return could slightly increase if the system moved to a contractual option, against a margin discount, but lenders would make a loss under this scenario compared to the status quo.

- Portugal: shows essentially the same patterns as Spain. Due to the dominance of ARM lending, the differences in permissible fee levels for FRM do not come out very clearly in the results. As in all cases with high ARM share, the percentage changes over the status quo are minimal only.

- Belgium: in Belgium, the status quo is at a high option cost pricing ratio which shifts the point of reference relative to Germany. Otherwise we observe very similar relations between the different policy options, the dynamics is somewhat reduced due to the higher ARM share (which also supports lender profitability as they can charge the same fees as in the case of FRM, which in the ARM case are above fair value). The optimum for consumers is always the

symmetric fair value policy option, although it is broadly at par with the status quo in the no grandfathering scenario. The social optimum is with the symmetric fair value policy option in the grandfathering scenario – results for no grandfathering are diverse.

- Italy: The Italian results are similar to the Belgian ones. The higher ARM share leads to lower overall sensitivity to the policy options and differences between the scenarios. As in the Belgian case the consumer optimum is the symmetric fair value compensation policy option, as is the social optimum in the grandfathering case.

Figure 58 Economy-wide NPV of benefits / costs of policy intervention in the area of early repayment (€ million) – individual case country results, grandfathering of pre-reform loan cohorts, deviation from status quo

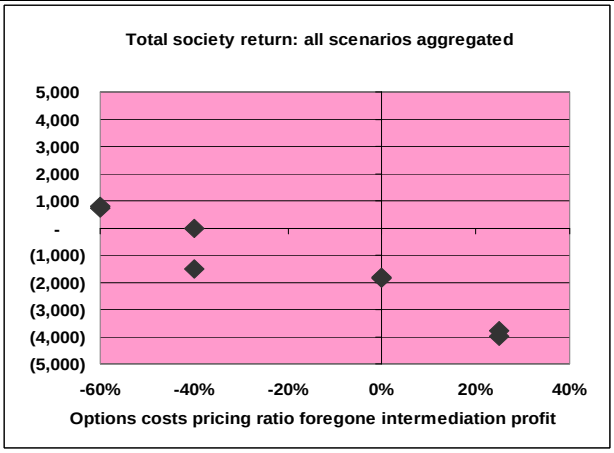
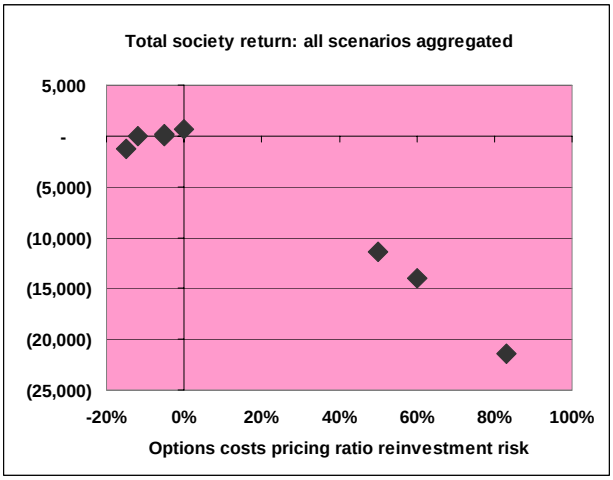
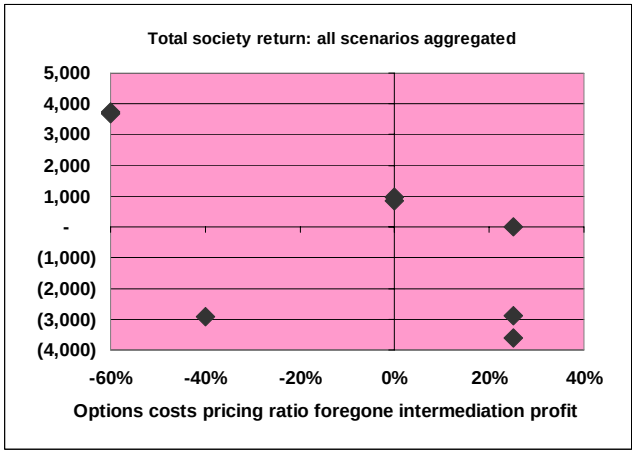
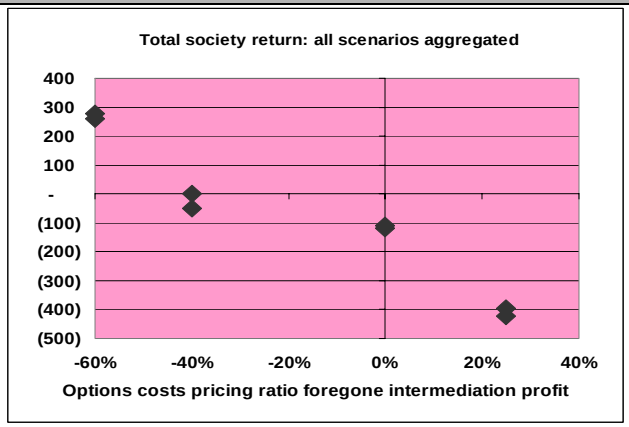
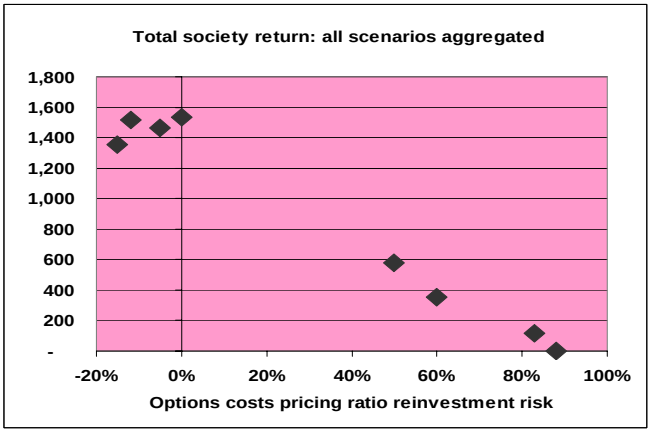
FRM countries (scale: option cost due to reinvestment risk)	**ARM countries** (scale: option cost due to foregone intermediation profit)
Czech republic	**Spain**
	
Germany	**United Kingdom**
	
Denmark	**Portugal**

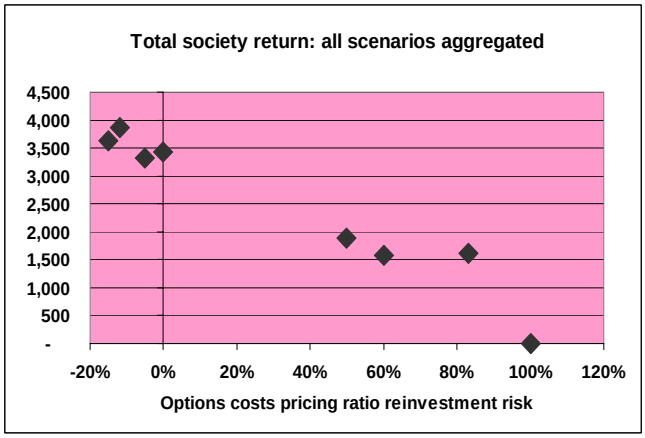
Figure 58 Economy-wide NPV of benefits / costs of policy intervention in the area of early repayment (€ million) – individual case country results, grandfathering of pre-reform loan cohorts, deviation from status quo



Belgium

Italy (to FRM countries)





Source: Finpolconsult computations.

8.7.7 Extrapolating to EU-27 for core stakeholders

Identification of country groups

The results from the detailed case studies are used to generate EU-27 results. To do so, we would typically use each country's distance from the policy frontier to generate an estimate of the NPV of the policy intervention for that particular country.

In the present case, we can regroup countries according to their proximity to one of the eight case countries. We broadly group countries with predominantly FRM products to the relevant cases (Czech Republic, Germany, Belgium) as we do with those using predominantly ARM products (United Kingdom, Spain, Portugal). This results e.g. in a high weight of the Belgian case, which represents also France and the Netherlands, or Germany, which represents some Central and Northern European countries. This

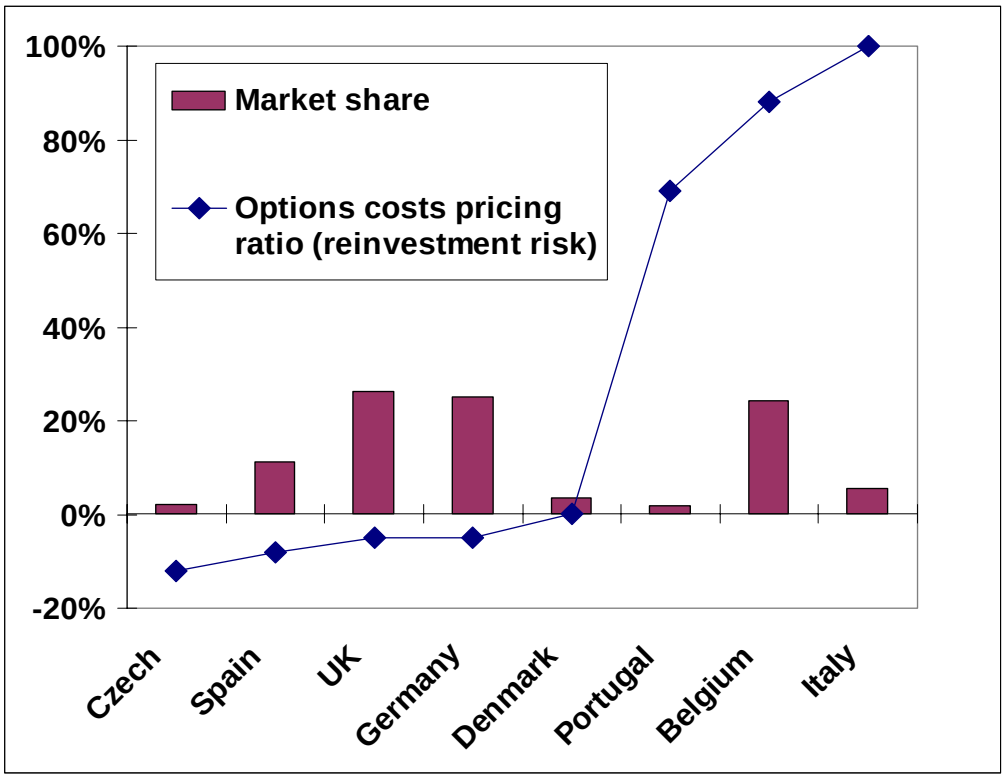
overlap is never perfect; however, we assume that differences to the policy frontiers cancel each other out. This assumption is supported by the fact that with 8 countries our detailed country cost-benefit analysis already covers a 4.1 trillion Euro submarket, or 67% of the EU mortgage market.

By using the information compiled in Table 50 and Table 51 we define the following country groups. The groups are sorted by the non-callable FRM option cost pricing ratios corresponding to their case country (see also Figure 59):

5. Group 1 – Czech Republic and all other transition countries not mentioned below as well as Cyprus;
6. Group 2 – Spain;
7. Group 3 – United Kingdom and Ireland;
8. Group 4 – Germany, Austria, Bulgaria, Estonia, Luxemburg, Sweden, Finland;
9. Group 5 – Denmark;
10. Group 6 – Portugal and Greece;
11. Group 7 – Belgium, Netherlands and France;
12. Group 8 – Italy.

Malta could not be allocated to a group since no legal baseline information was provided.

Figure 59 Market shares EU-27 allocated to case country groups, by reinvestment risk option cost pricing ratio



Note: jurisdictions sorted by non-callable FRM regulation, does not fully reflect overall option cost pricing distribution (e.g. Danish callable FRM market segment would be added to Italy bracket). For pricing assumptions, see Table 54.
Source: Finpolconsult computations.

The results of the extrapolation of the NPV by group of countries and type of policy intervention is provided in Table 57 for the case of grandfathering of the first loan cohorts. Table 58 summarises our results for the case of no grandfathering, i.e. when the existing portfolio on reform day January 1, year 2, is affected as well by the legal changes.

Table 57: Economy-wide NPV of benefits / costs of policy intervention in the area of early repayment (€ million) – EU-27 aggregation, deviation from status quo, GRANDFATHERING

Country group	0 Status quo	1 contractual option	2 partial contractual option	3a), asymmetric (partial) fair value compensation	3a), symmetric (full) fair value compensation	3b), asymmetric (partial) fair value compensation cap 3%	3b), fee cap 3%	4 mutual recognition	5), asymmetric (partial) fair value compensation cap 1%
Group 1	64,040	0	-48	-97	-118	-970	-798	9	-1,404
Group 2	348,373	183	-138	-460	-454	-993	-942	202	-380
Group 3	859,395	1,026	648	269	237	-993	-797	1,015	-804
Group 4	851,449	-427	-178	72	214	-4,688	-3,804	-5	-7,159
Group 5	116,210	251	165	79	68	-324	-255	249	-397
Group 6	95,478	113	31	-51	-48	-184	-172	121	-22
Group 7	755,421	3,588	3,728	3,869	4,059	931	1,525	4,004	313
Group 8	164,210	912	875	837	865	398	477	974	405
Total	3,254,576	5,646	5,082	4,518	4,823	-6,824	-4,766	6,569	-9,449

Source: Finpolconsult analysis.

Table 58: Economy-wide NPV of benefits / costs of policy intervention in the area of early repayment (€ million) – EU-27 aggregation, deviation from status quo, NO GRANDFATHERING

Country group	0 Status quo	1 contractual option	2 partial contractual option	3a), asymmetric (partial) fair value compensation	3a), symmetric (full) fair value compensation	3b), asymmetric (partial) fair value compensation cap 3%	3b), fee cap 3%	4 mutual recognition	5), asymmetric (partial) fair value compensation cap 1%
Group 1	64,040	-46	-37	-27	-52	-2,709	-2,163	9	-4,295
Group 2	348,373	-41	-208	-376	-282	-192	-837	78	921
Group 3	859,395	937	603	269	249	-2,669	-2,036	960	-3,782
Group 4	851,449	-7,021	-3,475	72	2,138	11,642	-2,125	-4,461	20,158
Group 5	116,210	239	167	95	71	-960	-727	247	-1,473
Group 6	95,478	32	-10	-53	-27	8	-157	66	310
Group 7	755,421	2,313	4,209	6,105	7,335	11,481	4,404	3,879	16,554
Group 8	164,210	737	962	1,188	1,371	1,939	934	971	2,752
Total	3,254,576	-2,850	2,211	7,273	10,803	18,540	-2,707	1,748	31,145

Source: Finpolconsult analysis.

Aggregation and findings by grandfathering / no grandfathering implementation forms

We proceed by aggregating the scenarios through an unweighted average. As we have pointed out before, this is a problematic procedure, and many alternative aggregation mechanisms are conceivable. For example, a consumer protection agency might pursue a 'Rawlsian' approach of weighting the scenarios with the greatest risks for the consumers (volatility) higher, a bank regulator might apply the reverse weight to the scenario with the greatest risk for lenders (depression).

After taking simple averages, we note the following findings:

- The decision whether to grandfather or not pre-reform cohorts leads to significant differences in the changes vs. the status quo. Understandably, changes vs. the status quo when no grandfathering is granted have the tendency to be inflated - by roughly factor 2; however they are not uniformly inflated by this amount, and for some policy options even signs differ.

- The absolute policy optimum for consumers in both cases – grandfathering and no grandfathering - is the symmetric fair value compensation, see Figure 61. In the grandfathering case it is followed by asymmetric fair value, mutual recognition and contractual option, in the no grandfathering case by the capped compensation or fee policies.

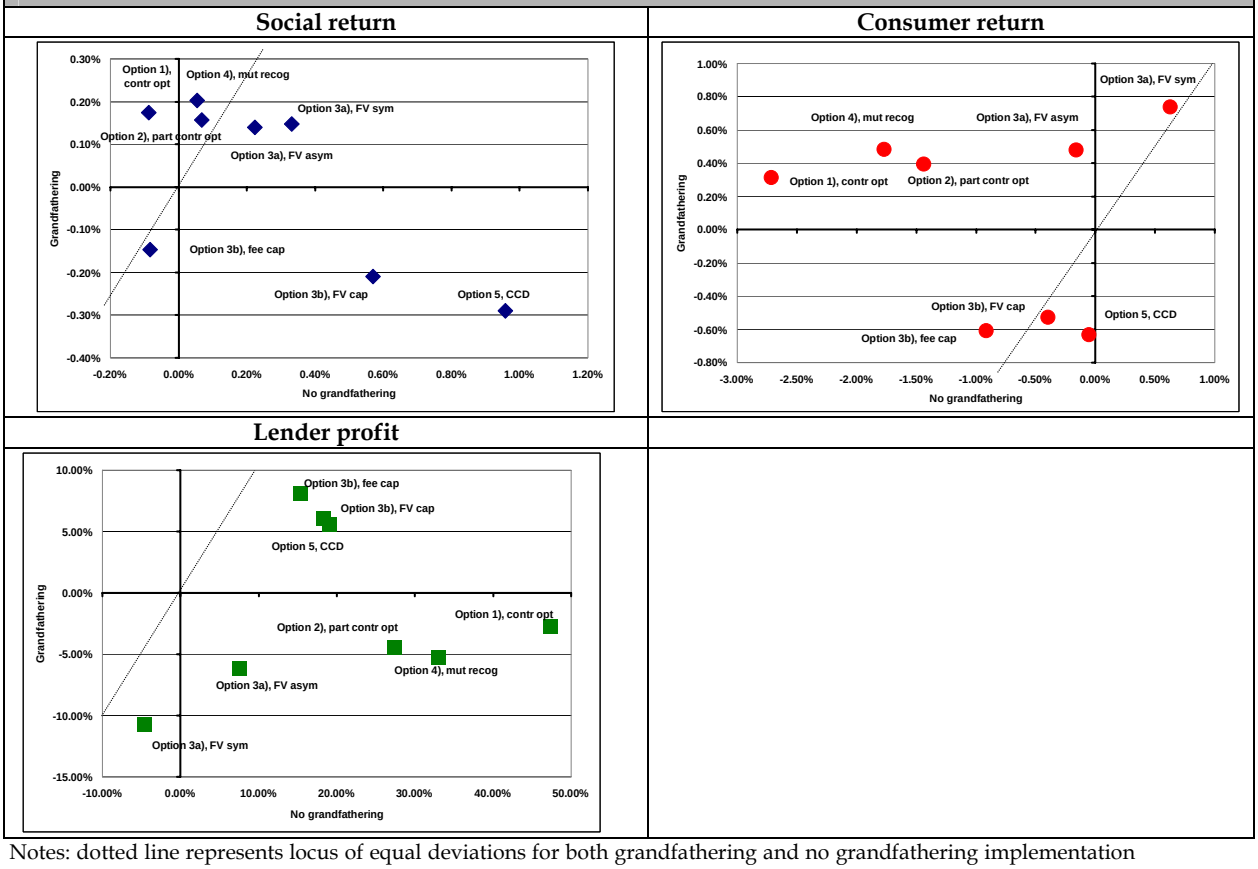
    - The reason for the former hierarchy is that if there is no grandfathering, prepaying consumers will be able to both save early repayment charges on existing loans and non-prepaying consumers will benefit from low interest rates, and vice versa. The hierarchy might disappear over time as loan pricing is adjusted to the new legal regime and the pre-reform cohorts disappear.

    - The result might be sensitive to different weights attached to capped compensations or fees, e.g. because of different weights attached to mobility, see discussion below.

- Lenders under grandfathering are able to keep their current option pricing policies for a while – see Figure 61 for the distribution - and hence are able to in parallel charge compensations and raise option cost when fees are capped. This makes fee caps appear favourable for lenders. Under no grandfathering lenders practicing contractual exclusion or other high fee options can immediately reap high early repayment revenues while losses and revenues from capped compensations cancel each other out. The most adverse policy option

for lenders leading to between 5 and 10% profit decline is the symmetric fair value compensation, followed by the asymmetric fair value compensation.

Figure 60 Economy-wide NPV of benefits / costs of policy intervention in the area of early repayment – EU-27 aggregation, deviation from status quo in % by grandfathering and no-grandfathering implementation forms



Notes: dotted line represents locus of equal deviations for both grandfathering and no grandfathering implementation options.
Source: Finpolconsult computations.

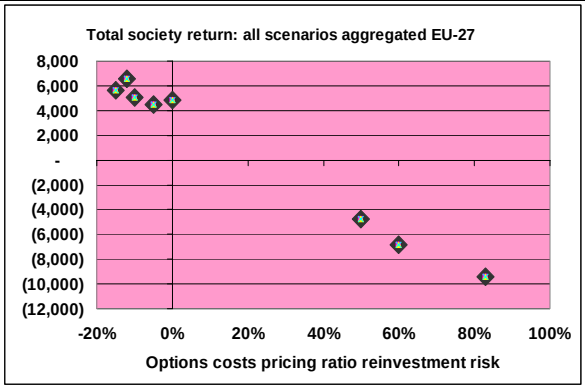
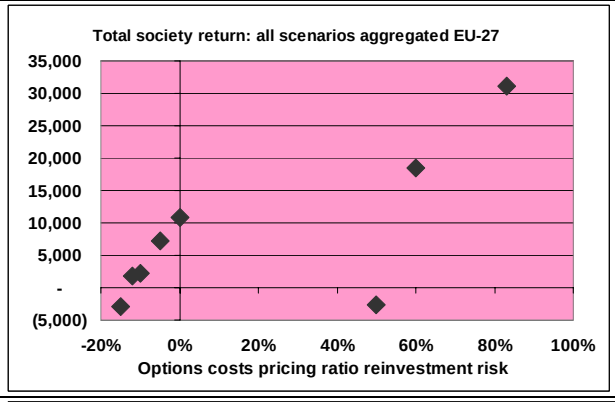
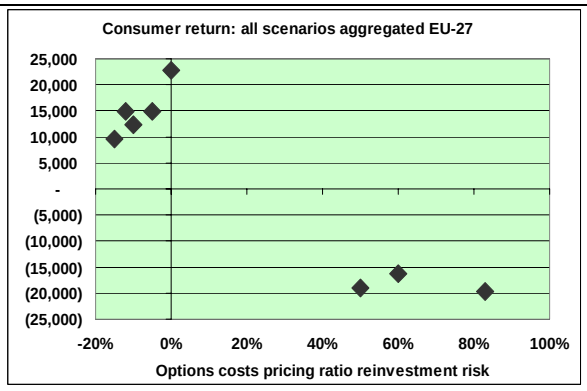
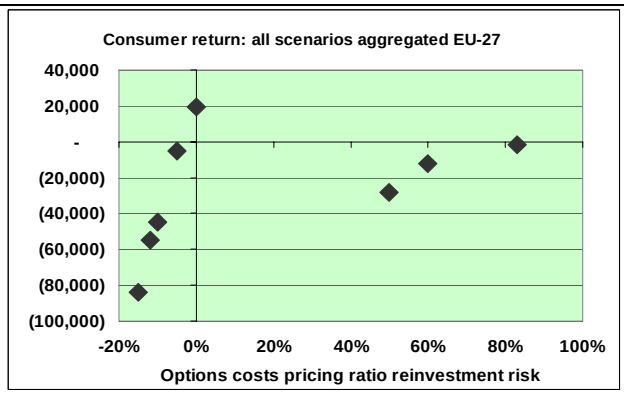
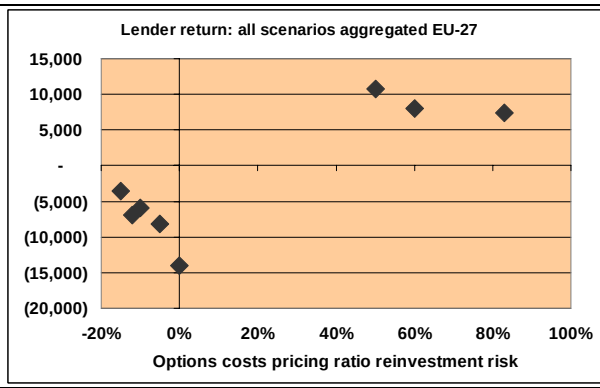
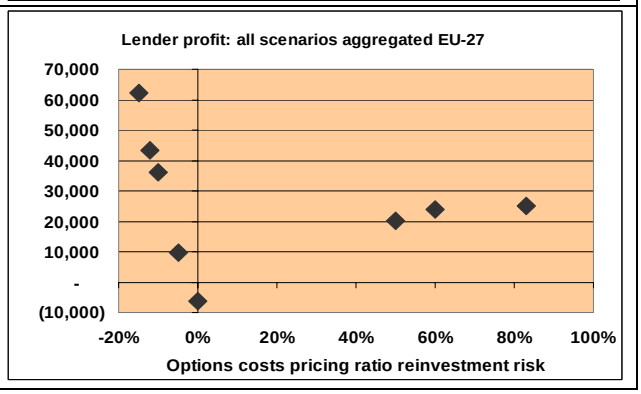
- The total society return is essentially the sum of both lender and consumer positions. It appears monotonic in the grandfathering scenario in favour of fair value compensations and high fee or contractual option models.

- Figure 61 shows the discrepancies between the policy options in the different implementation forms. Fair value compensations, mutual recognition and partial contractual option promise the greatest stability and positive returns in both implementation forms while

transposing the CCD or imposing tight fair value caps would lead to great swings between implementation forms.

- When interpreting the results it should be considered that the absolute changes for social return remain quite small – since simply loan pricing adjusts to a new policy option, and lender gains (losses) and consumer losses (gains) broadly cancel each other out.

Figure 61 Economy-wide NPV of benefits / costs of policy intervention in the area of early repayment (€ million) – EU-27 aggregation, deviation from status quo – simple averages over all scenarios

	Grandfathering	No grandfathering
Total society return		
Consumer return		
Lender profit		

Source: Finpolconsult computations.

Considering all stakeholder positions, we see thus our finding for Belgium discussed above confirmed for the EU-27 at large: fair value compensation policy options promise the least volatility in terms of necessary lender-consumer swings during transition from the status quo, of all options. The reason in the end is not so much to be it fair value nature – lenders being confronted with higher or lower statutory compensations or fees will adjust loan pricing – but the fact that it lies in the middle of all policy options concerning the pricing hierarchy, and thus minimises lender-consumer swing. In other words, the fair value policy options promises to minimise the political costs of establishing agreement between different European Member States.

Administration costs

Lenders in the surveys repeatedly pointed to differences in administration costs between applying fee versus (actuarially determined) compensation policies. A quantification would improve somewhat the cost-benefit balance of the fee models, which do not require detailed computations and discussions with consumers. However, since these administration costs are distributed across the entire curve (e.g. UK, Belgium) and the policy options do not differentiate between the fee versus compensation approaches we cannot find a systematic impact on the cost-benefit positions of the policy options. Moreover, while we find the arguments made plausible, we have no data substantiating the size of the cost advantages of a fee model.

Other potential lender administration costs in relation to the policy options are negligible.

8.7.8 Quantitative impacts: customer mobility

Customer mobility is the only of the four other areas of analysis for which we feel comfortable with drawing at least partial quantitative conclusions.

Alternative customer mobility assumptions (non-financial prepayments) in the simulation model

The main instrument that we can use in the simulation model to describe the impact of alternative customer mobility assumptions is the non-financial prepayment rate, which in practice to a large extent can be expected to reflect movers. We double our assumption from a 3% non-financial prepayment rate to 6%.

We expect ex-ante that higher mobility will lead to a smaller sensitivity of early repayment demand to interest rate signals, i.e. lower consumer returns (higher interest rate burden and compensation / fee payments) and higher lender profits.

Table 59: Policy options under different mobility assumptions (3% vs. 6% non-financial prepayment rates) in million €, % change from status quo

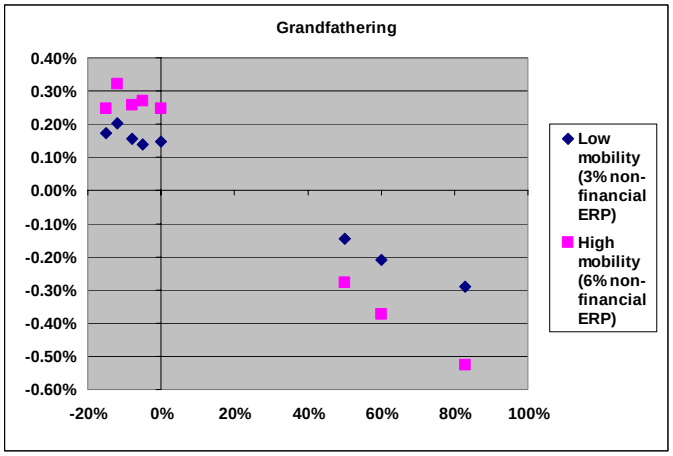
Mobility	Policy option	Low mobility (3% non-financial ERP)		High mobility (6% non-financial ERP)	
Grandfathering		abs.	percent.	abs.	percent.
Full contractual option	1	5,646.13	0.17%	7,449.08	0.25%
Mutual recognition	4	6,569.25	0.20%	9,734.41	0.32%
Partial contractual option	2	5,082.19	0.16%	7,806.65	0.26%
Asymmetric fair value compensation	3a), asym	4,518.25	0.14%	8,164.21	0.27%
Symmetric fair value compensation	3a), sym	4,822.53	0.15%	7,507.41	0.25%
Fee cap 3%	3b), fee	-4,765.99	-0.15%	-8,418.22	-0.28%
Fair value compensation cap 3%	3b). FV	-6,823.65	-0.21%	-11,305.26	-0.37%
CCD fee cap 1%	5	-9,449.22	-0.29%	-15,920.20	-0.53%
Status quo level		3,254,576.11		3,026,297.73	
No grandfathering					
Full contractual option	1	-2,849.96	-0.09%	3,502.64	0.12%
Mutual recognition	4	1,748.46	0.05%	10,886.21	0.36%
Partial contractual option	2	2,211.42	0.07%	9,226.16	0.30%
Asymmetric fair value compensation	3a), asym	7,272.80	0.22%	14,949.68	0.49%
Symmetric fair value compensation	3a), sym	10,803.02	0.33%	14,049.16	0.46%
Fee cap 3%	3b), fee	-2,706.78	-0.08%	-18,073.43	-0.60%
Fair value compensation cap 3%	3b). FV	18,540.19	0.57%	18,779.61	0.62%
CCD fee cap 1%	5	31,145.04	0.96%	40,304.96	1.33%
Status quo level		3,254,576.11		3,026,297.73	

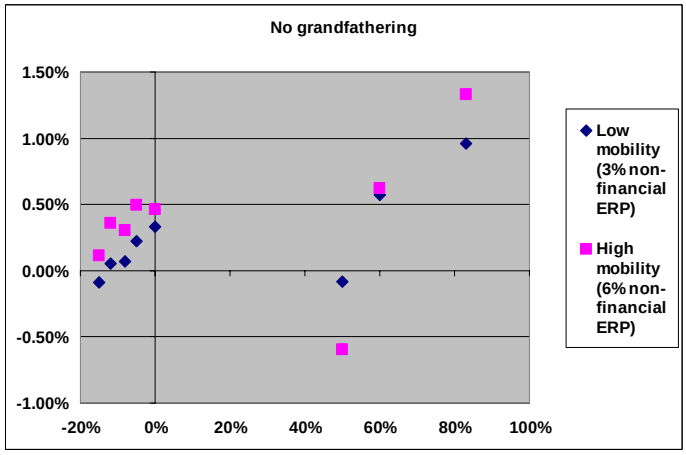
Notes: Policy options sorted by option cost pricing ratio, see Table 54.
Source: Finpolconsult computations.

The first effect of higher mobility is an overall reduction of social return. The reason is that greater insensitivity to the interest rate situation leads to collectively non-rational prepayment decisions. This is from the isolated perspective of the mortgage sector, of course: labour market output may increase more than any losses incurred in the mortgage sector.

The second effect, which comes out clearer in the charts of Figure 62 is an enhancement of the variance of the social returns for the policy options. The greatest variance is reached in the CCD policy option 5 (grandfathering) and the fee option (no grandfathering). As before, the least variance policy option is symmetric fair value compensation (policy option 1-3a, symm).

Figure 62: Policy options under different mobility assumptions – deviation of social return from status quo in %





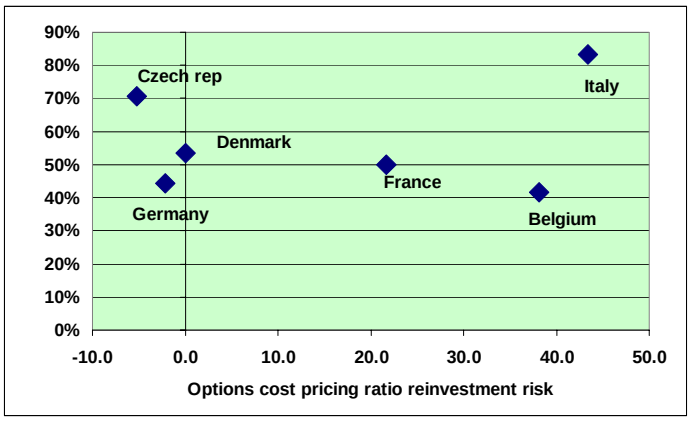
Notes: Policy options sorted by option cost-pricing ratio, see Table 54 for detail.
Source: Finpolconsult computations.

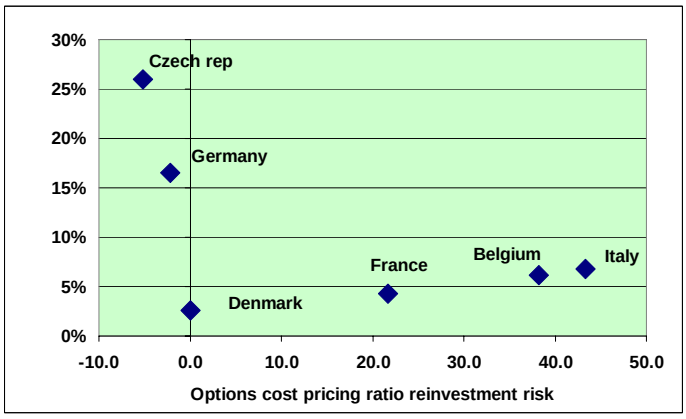
Some quantifications from the Eurobarometer survey results

As before we correlate consumer survey results from Eurobarometer survey concerning switching of mortgage providers, this time with the option cost pricing – compensation / fee level curve of Table 54. Figure 63 shows the result of this exercise for two different questions posed by Eurobarometer to consumers for a selection of countries. In Annex 8 we present regression results for 21 countries for the entire set of responses made in Eurobarometer (2009b).

Figure 63: Customer mobility from Eurobarometer survey results and early repayment legal regime by option cost ratio (country cases) in FRM countries

Failed and difficult switching attempts in the past two years*	Current mortgage contract makes switching difficult





Notes: Policy options sorted by option cost-pricing ratio, see Table 54 for detail. *households indicating difficulties to switch, failed attempt to switch, and non-attempt to switch because of difficulties divided by all households minus households who did not try to switch because they were either not interest or did not switch for other, unspecified reasons.
Source: Eurobarometer (2009a, Q3 on p.48 – l.h.s.) and (2009b, table 19a – r.h.s.. Finpolconsult computations.

The questions about failed and difficult switching attempts yield broadly a slightly negative correlation with the amount of prepayment protection imposed via the legal regime; a large mortgage market such as Germany appears to look favorable when no differentiation is made between e.g. between switching upon scheduled interest rate adjustments and prepayments. Consumer perspectives of difficulty in Italy appears high likely as a result of the historic difficulties for consumers to prepay that only the 2007 law changed, which may affect ongoing perceptions.

When specifying the question to specific switching problems due to the nature of the contract – see right-hand-side of the figure - ambiguity of the response is diminished. The countries practicing partial contractual option (Germany) and contractual option (Czech Republic) show far higher shares of negative consumer perception than those with universal prepayment option. Transition countries in general excel in the survey with the highest levels of switching problems associated with contractual issues, which correlates with the high incidence of contractual exclusion and above fair value compensation fees and generally the recency of consumer protection legislation in the region.

Interestingly, though, there is almost no difference in consumer perception between the symmetric fair value compensation case Denmark and the low and zero compensation or fee cases Belgium and Italy. Italy appears more in

line with expectations of facilitating mobility now, which was the intention of the 2007 reforms. The Danish system, although it may feature substantial levels of compensation, seems to be seen as facilitating switching from a contractual perspective.

Our regressions in Chapter 1 confirm these results – the impact of the early repayment right on mobility are far more significant than the impact of compensation / fee caps. The regressions also reveal that awareness of the switching (early repayment) option is more limited in cases where no universal right is given. We comment that this is likely due to generally low awareness of switching options in transition countries where simultaenously the early repayment right so far is only weakly legally configurated.

8.7.9 Dynamic dimensions: pricing and product diversity, financial and house price stability

The first important dynamic response to any policy intervention chosen will be direct pricing changes along the lines of the option cost – compensation / fee curves defined in Table 54. Any statutory reduction in compensation along that curve will lead to higher pricing, and vice versa.

The curve itself will vary in slope depending on market conditions, interest rate volatility, astuteness and education levels of consumers and other factors, which themselves may vary over time. For example, in the US, in the middle of the 1990s lenders began to compete more strongly over borrowers willing to prepay as intermediaries had begun to raise awareness of the existence of the option in mortgage contracts.[147] Such an event would raise the slope of the curve. Vice versa, lower interest rate volatility would lower the slope of the curve.

A second dynamic response to interventions directly related to the first could be demand changes for products. The non-callable FRM offers a mezzanine interest rate risk protection level between callable FRM and ARM, and pricing changes might push demand to either alternative. We have discussed the Danish case above. Elsewhere in Europe, we have so far seen far lesser swings between essentially non-callable FRM and ARM products, with the exception of some smaller markets such as Belgium, Denmark and Greece. This justifies our decision to not model such a second round impact, however, it could exist and it could materially reduce the cost-benefit balance especially of those policy options that tend to turn the non-callable FRM into a callable FRM (policy options 5, 3b).

The third important dynamic dimension are changes in the funding and risk management approach of lenders needed to support a certain policy option,

[147] See discussion in Dübel and Lea (2000) which compares the US, France, Germany, the UK and Denmark.

and the associated changes in the relative cost-benefit distance of the option socially due to the possibility of financial crisis. A banking crisis resulting from mis-adjustment of the funding menu to a new policy setup would pull social return of an otherwise optimal solution into negative territory by reducing the mortgage supply and raising government costs via bank bailouts after financial crises.

- The classic example in the EU is the crisis of the French non-callable mortgage bond in the early 1980s after the 1979 Scrivener law had essentially rendered all mortgage loans callable – policy option 3b) fee model. In the subsequent years, French lenders ran into so-called 'negative maturity transformation risk', i.e. the risk that in a falling interest rate environment, which was characteristic for the early 1980s, the duration of bonds exceeded substantially the duration of loans. This resulted in considerable lender losses. By 1984 the mortgage bond product had to be abandoned as a funding in, and since French lenders have primarily financed callable mortgage loans through short-term deposits.

- Funding mortgages through short-term liabilities may provoke the reverse problem, of 'positive maturity transformation risk', when interest rates rise and loans extend their durations. This was a key factor leading to the US Savings and Loan debacle in the 1980s.

- These factors mean that especially specialised banks operating on a matched funding basis are put at a disadvantage, unless they can come up with an efficient transfer mechanism of the prepayment risk to investors (e.g. through callable bonds, as in Denmark). Using the swap markets is often not an option since pricing there depends highly on the liquidity situation of a narrow list of counterparts. However, also universal banks would have to adjust their asset-liability management considerably and resort to greater use of complex products, e.g. derivatives, to manage the prepayment risk.

A fourth aspect is the feedback effects of policy interventions on house price volatility. Callable FRM and ARM due to their short durations and high 'pass-through' of falling interest rates may lead to higher house price volatility than non-callable FRM. The implication is that monetary policy influences a substantial part of the lending market directly, with all positive (greater effectiveness) and negative (subjectivity to political manipulation) ramifications.

In contrast, policy options supporting non-callable FRM such as fair value compensation schemes have certain default implications and might in the extreme case – i.e. if no time limit is imposed - lead to systemic inability to prepay and the need for a public bailout (see Danish case discussed on page 247). In case of selecting symmetric fair value compensation model an additional risk could lie in mismatches of benchmarks and funding

instruments chosen, as discussed above. Proper implementation of reforms in the calculations presented before requires parallel changes in consumer protection and bank regulation.

The survey results and the stakeholder consultations confirm these qualifications. We are unable to quantify additional cost-benefit dimensions arising from changing lender insolvency risk profiles and fundamental supply changes or changing product preferences and fundamental demand changes in this study. However, the above computations have given some insight about the dynamic trade-offs as far as a normal supply curve of interest rate risk protection and the related price, option cost, are concerned.

8.7.10 Winners and losers by policy option

We summarise our above findings by policy option.

Policy options 1, 2, 4: full and partial contractual option, mutual recognition

Lenders

We have shown that in the short-term if lenders could switch immediately to potentially excluding early repayment via the contractual option or partial contractual option or via a mutual recognition channel (no grandfathering) they could reap a substantial windfall, even though they would offer partly substantially cheaper loans. However, this is no longer the case – in the European aggregate and given our scenario assumptions – in the case of grandfathering.

Specialised lenders would benefit most from the policy options as they could stabilise their matched-funding asset-liability management model. All lenders would benefit from higher customer retention and suffer from lower contestability of domestic and cross-border markets.

In the long-term, a relative price adjustment is likely to level out any excess lender profit. The overall long-term result is a substantially lower credit margin and greater customer retention and lower overall competition dynamics (the lower margin is a result of lower costs, not competition intensity).

Consumers

For consumers the mirror picture arises, they would lose in the short-term if lenders could switch immediately to a contractual option or mutual recognition and gain moderately in the case of grandfathering, supposing all price effects to materialise as detailed above.

Consumers would lose in terms of mobility and likely also product diversity, but generally gain by reduced credit costs.

Further and far more detailed modelling than what is within the scope of this study of different consumer groups would probably yield that negative consumer net benefits for the mutual recognition and contractual option policy options would increase if consumers with unstable incomes or high-interest loans would be taken separately into account. Both groups rely on high product diversity and mobility.

Intermediaries

Intermediaries will suffer from greater retention by lenders and be the losers of this policy option.

Government

Government will suffer in from lower customer mobility and possibly higher default risk, but will gain from greater financial stability – as lender cash flows are more stable - and lower bailout costs.

Policy option 3b, 5: universal right with capped compensation or fee / CCD transposition

Lenders

Lenders would moderately gain in transition if they were able to fully roll over the additional option cost to consumers.

The ability to roll over option cost will depend on the amount of additional competition that higher prepayment speeds bring, however, we do not assume that effect to be large in the long-term although lenders might continue to cross-subsidise mortgages in some jurisdictions.

In the long-term also excess profits will be levelled out through lower option cost. Since more complex funding instrument have to be used to price the option, callable bonds, derivatives and/or a complex-to-design funding mix strategy, there may be some additional funding costs, e.g. in the form of liquidity costs or higher costs for financial expertise. Also, a permanent risk premium might exist as lenders unable to complete hedge themselves face increased insolvency risk. Inside the lender community, specialised lenders unable to do so will be the losers (however, as the Danish case shows, investors can take the place of lenders as investors in the prepayment option).

Consumers

Consumers will be forced to buy the option and hence lose in the short-term and in the long-term face increased credit costs. As the non-callable FM

disappears, although default risk declines as callable FRM are more used, a possible switching reaction might be to greater use of ARM, which implies greater default risk.

Against these costs and risks, consumers gain in greater financial mobility. Apart from strongly negative effect of removing the non-callable FRM product there might be counteracting effects on product diversity through greater competition and cross-border lending.

In the end, however, enforcing the purchase of the option is a pooling of different consumer groups, and the question of matching with needs arises. Consumers with high propensity to prepay are not generally in need of greater flexibility, to the contrary: those with high degree of financial astuteness or good chances on the labour market are likely to be overrepresented among those prepaying. By the same token, where prepayment would truly socially matter, e.g. in high-interest rate lending to sub-prime risks, the likely choice will be ARMs due to the option cost effects.

Intermediaries

Intermediaries will generally be the winner of higher market turnover, i.e. options leading to higher prepayment speed.

Government

Government will benefit in some dimensions from greater customer mobility, but will suffer from greater financial instability as a result of lender funding problems and higher use of ARMs.

Policy option 3a: universal right with fair value compensation

Lenders

Fair value compensations are a double-edged sword for lenders. While they allow for keeping the non-callable product, and this would in particular keep specialised lenders issuing non-callable bonds in business, they are also the least profit options recorded in our simulation in the short-term, especially the symmetric version.

However, an advantage is that these options lie in the middle of the option cost – compensation / fee level curve and therefore carry the lowest adjustment cost for lenders. The fact that simple bond instruments can be used to fund the non-callable FRM may add moreover to system stability. In the case of symmetric compensations lenders would have to add to their loan pricing and funding infrastructure, e.g. by suitable bond instruments (Danish type of mortgage bonds subject to the balance principle) or alternative pricing benchmarks.

Consumers

The absolute cost-benefit optimum for consumers in both cases – grandfathering and no grandfathering - is the symmetric fair value compensation, which strikes a compromise between sufficient mobility, product diversity and costs.

In neither of these dimensions cost-benefit is individually fully optimised, however, consumers under these options should be able to self-select between products and chose greater mobility assuming that the callable FRM product is offered. There are signs that the market is doing so in larger Member States (esp. Germany), however, probably more needs to be done on the regulatory side to stimulate the product (e.g. bank capital requirements).

Asymmetric compensations come in with some distance, they burden in particular consumers forced to move or prepay if interest rates have increased.

Intermediaries

Intermediaries will benefit from the universal option, but suffer from lower prepayment speeds.

Government

Government will benefit from a compromise between customer mobility and financial stability.

8.8 Conclusions

Legal baseline

We have identified the early repayment legal regimes in the EU and gone through a verification phase of these regimes with local regulators. We feel comfortable with concluding that almost all EU Member States grant a universal prepayment option for FRM and the remainder can be explained by legacy effects of covered bond systems and lack of legal development in transition countries. In the case of ARMs, Europe practices a universal option de-facto everywhere.

A broad majority of Member States also makes a reference in legislation to either general principles of fairness, objectivity, reasonability or specific costs incurred by lenders that can be interpreted in the way of a 'fair and objectively justified compensation' that the policy options refer to with regard to early repayment compensation or fee levels. However, in most legislation we miss clear guidance towards nature and form of computation formulae,

and where such formulae exists no two pieces of legislation use the same approach.

In terms of levels of compensations for FRM, more specifically lender reinvestment risk, that are legally permissible, Europe is divided into three models: uncapped ex-ante fees – with a tendency of permitting above fair value levels transition countries, fair value compensations in Denmark, Germany and a few other Central and Northern European countries, and tight ceilings imposed on compensation levels in Western and Southern Europe (with the notable exception of the UK and Ireland). Surprisingly, legally such ceilings often appear as fee ceilings, which implies above fair value compensations when interest rates have risen (France, Belgium). Spain is an exception with her recent reform move back to fair value compensation levels for FRM.

In terms of compensation levels for ARM, more specifically foregone intermediation profit as ARM has very limited reinvestment risk, no clear pattern can be observed. Countries that tightly limit reinvestment risk-related compensations appear above fair value with regard to foregone intermediation profit (Belgium) and vice versa (Denmark).

Conceptual framework and empirical review

We discuss a broad set of microeconomic concepts available to analyse lender and consumer cost and benefits in the areas of early repayment right, compensation formulations, and transactions costs.

We also use a detailed empirical review to derive an option cost pricing – compensation or fee level curve that is the basis for the cost benefit analysis. We conclude from this that the early repayment option at zero compensation level can be assumed to have a cost in the range of 45 basis points in Europe, assuming the Euro area, a 10-year interest rate fixing period, and a functioning market of investors in products carrying the option. This figure contains only a small margin for foregone intermediation profit and is largely a result of reinvestment risk loss faced by long-term lenders or investors.

Our main substantiation for these figures are observations from the Danish mortgage market, which as a purely capital market based system has the least biased pricing structure of all European markets. However, we also use data from other European markets, including analysis by rating agencies and lenders.

We note that the market for callable FRM that contain the full option pricing has run into difficulty during the financial crisis, and regularly also after earlier spells of high prepayments, which raises the question about a broader strategy needed to ensure that FRM without compensation and option pricing are offered in the European markets (e.g. via capital requirements).

Our second empirical point of reference needed for the cost-benefit analysis is the zero option cost point, which is reached when symmetric fair value compensations can be charged since this is the only compensation approach that fully eliminates lender reinvestment risk (and *mutatis mutandem* foregone intermediation profit).

Almost all EU compensation formulae – with the exception of Denmark – however only establish a partial fair value compensation, i.e. fair value only applies when interest rates fall. When interest rates rise, the lender stands to make a reinvestment profit, which we translate into the assumption of a small margin discount given under such 'asymmetric' regimes.

Similarly, the regimes that limit compensation or fee between the two reference points of zero and fair value compensation or fee lead to higher interest rates via additional option cost. In the cases where the fee model is applied those cost are moderated by a small embedded discount in order to compensate for possible lender reinvestment profit (when interest rates have risen).

We also micro-economically analyze the policy option removing the universal early repayment right and introducing an unconditional contractual option and define it as a case where an arbitrary fees is charged for an early repayment as the result of a negotiation between lenders and consumers. In this way the concept is operationalised for the cost-benefit analysis. We proceed similarly with the mixed concept of an early repayment right in 'certain circumstances' (or conditional contractual option).

When looking into interactions between the early repayment regimes and consumer confidence we find in particular greater confidence in FRM than in ARM countries, the latter with more volatile house prices. Inside FRM countries, problems with financial mobility may reduce confidence, to an unclear extent however. We also empirically support the conjecture that the universal option increases customer mobility and contractual exclusion diminishes it. We then find that product diversity will decline with the scale of intervention into prepayment compensations or fees, but that competition dynamics run in the reverse direction modifying the impact somewhat. We finally see any harmonisation as supporting the cross-border market.

Cost-benefit analysis results

We limit the analysis to the microeconomic costs and benefits for stakeholders in the mortgage market, consumers, lenders, intermediaries and government. Our main tool is the option cost pricing – compensation / fee level curve for reinvestment risk and foregone intermediation profit defined based on the empirical evidence. Consumer mobility is addressed by assuming changing levels of non-financial prepayments.

We first analyse Belgium and Germany as two countries whose example can be taken to demonstrate almost all transition effects of the policy options. We show a few results that defy common wisdom: for example German lenders outside a depression scenario can improve their profit levels when confronted with a zero compensation fee; the crucial assumption here is that lenders may be able to charge an options premium commensurable to rising costs. Belgian consumers might similarly benefit under the most likely economic scenarios going forward from moving to a partial fair value compensation as in the German case where they can avoid the fee that Belgian lenders charge when interest rates have risen. Lender profit across the board tends to decline and consumer benefits to increase when moving to symmetric fair value compensation as practiced in Denmark.

We also show with an example that mismatched lending – the remedy of the past two decades to counter the declining asset maturities of FRM when prepayments occurred in such countries as France or Belgium – is an increasingly dangerous strategy in a rising interest rate environment. So, financial regulators should have an interest in supporting matched lending (which speaks in favour of fair value compensations) and in general co-ordinating their efforts with consumer protection reforms. In fact, there is danger that policy options that de-facto eliminate the non-callable FRM lead to follow-up problems with regard to more complex funding instruments and greater use of ARM by consumers, which was the case in the US.

When enhancing our analysis to the full set of eight case countries, eight policy options (expanded by further differentiating two of the original five and adding the status quo) and four economic scenarios we confirm the basic findings reported for Belgium and Germany.

As we have ranked both cases and policy options on the option cost pricing – compensation / fee curve our result is that any departure from a given model primarily results in a redistribution between lenders and consumers; intermediary and government positions play a minor role in the cost-benefit analysis in the early repayment case. The mentioned redistribution may result in large swings, for example in the case of the Czech Republic practicing an above fair value model, or the case of Italy where a zero compensation model would have to be given up in favour of higher compensations under all policy options except the unlikely sub-case of a zero cap. Hence, the policy options located in the centre of the curve – symmetric and asymmetric fair value compensations - show the least swing if EU-27 is taken into account. This finding also holds when we vary the scenarios (scenario weightings) or grandfathering assumptions.

Clearly, however, within that subset, the symmetric fair value compensation excels. Symmetry is an issue when interest rates rise, even though fewer households will prepay. But even under predominantly stable interest rate trends to be expected going forward (and dominating our scenarios), the issue of symmetry is becoming more important than in the past, as situations

of lender reinvestment profit will increasingly occur. For consumers using the non-callable FRM product the policy option represents an absolute optimum in our cost-benefit analysis; for lenders it does not, however, and means some adjustment of option cost pricing and also institutional / regulatory setup.

With regard to the early repayment right and equivalently above fair value fee models the outcome is somewhat arbitrary. Unless the competitive situation changes to the worse, general loan pricing discounts will compensate consumers in the aggregate for higher fee levels paid, and in our model both go into the same pool of aggregate costs and benefits. However, the identity of consumers willing to prepay will matter here more than with other policy options: if prepayment is denied or made very expensive for consumers locked in high interest rate contracts or for consumers with unstable incomes default and high social follow-up costs might be the result. Such effects are impossible to quantify with accuracy within the scope of this study, as their scale might also change swiftly with small changes in the fringe conditions, such as higher price and interest rate volatility, or a reduced supply of rental housing as the main alternative.

What we can say from the analysis, however, is that removing some of the potentially most adverse practices for those groups on that part of the option cost pricing – compensation / fee curve will not materially affect overall social welfare in the aggregate. Provided, that is, if the fair value principle for compensations remains preserved as an anchor for zero prepayment option cost (which speaks for maximum harmonisation of the compensation / fee elements of the policy options), and if sufficient regulatory safeguards are put in place to contain potential lender stability problems, especially for the matched-funded.

9 Responsible lending and borrowing

9.1 Policy options under review

9.1.1 Context of the discussion

Responsible Lending (and borrowing) is another important consumer protection issue to be addressed in this study. It is a broader area as compared to early repayment and hence the discussion benefits from a short review of the historical context.

In the White Paper on the Integration of EU Mortgage Credit Markets, 2007, "*the Commission considers it essential that mortgage lenders lend responsibly, in particular by thoroughly assessing the borrowers' ability to pay instalments in the context of the transaction envisaged*".[148]

The White Paper argues that improved creditworthiness checks would reduce the likelihood of borrower default, and therefore lower the default risk. One potential way to improve such checks is to ensure that mortgage lenders are not discriminated against when accessing credit registers cross-border and that credit data circulates smoothly, while complying fully with EU data protection rules.[149]

The European Coalition for Responsible Credit (ECRC) has also formulated a set of principles for responsible lending.[150] These principles include, amongst others, call for lenders assuming liability for misrepresentation, false advice or missing information and certain sales of services known to be inadequate.[151]

The European Mortgage Federation has established a set of indicators for responsible lending. The indicators include "*fairness, transparency, and professionalism*" by the lender, "*lender access to information on credit records*" of the borrower, "*information that should be provided by the borrower*" to the lender,

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[148] EC White Paper Integration EU Mortgage Credit Markets, SEC(2007)1683. http://ec.europa.eu/internal_market/finservices-retail/docs/home-loans/com_2007_807_en.pdf

[149] In its Communication to the Spring European Council Driving European Recovery of 4 March 2009,, *the European Commission undertook to come forward with measures at EU level on responsible lending and borrowing, including a reliable framework on credit intermediation, in the context of delivering responsible and reliable markets for the future and restoring consumer confidence." COM (2009) 114.* http://ec.europa.eu/commission_barroso/president/index_en.htm.

[150] http://www.responsible-credit.net/.

[151] These principles are also relevant for the provision of pre-contractual information. For example, they foresee that that the pre-contractual information should disclose the likely impact of future payments on consumers' household liquidity and future purchasing power (Reifner, 2007).

and "*assessment of creditworthiness*" including "*reasonable and non-discriminatory cross-border access to relevant records*".[152]

The Consumer Credit Directive (CCD) adopted by the European Parliament in 2008 also contains some provisions on responsible lending in general that could also be adapted to mortgage lending. In particular, the CCD promotes the provision of adequate information to, and the education of, consumers, including, warnings about the risks attached to default on payment and to over-indebtedness.[153] Such warnings are similar to one of the responsible lending options to be assessed later in the present chapter.

The CCD states, "*it is important that creditors should not engage in irresponsible lending or give out credit without prior assessment of creditworthiness*".[154] Such an assessment could be improved by using information provided by the consumer not only during the preparation of the credit agreement in question, but also during a long-standing commercial relationship.

In addition, the CCD also states, "*the Member States' authorities could also give appropriate instructions and guidelines to creditors. Consumers should also act with prudence and respect their contractual obligations*".[155]

One policy option considered by the Commission for targeting the improvement of responsible lending across Member States involves the transposition of some of the CCD sections into new legislation or recommendations. This includes lender access to databases, assessment of consumer creditworthiness, and the provision of adequate explanations to the consumer.[156]

9.1.2 Policy options under review and basic analytical approach

Policy options under review

Two broad policy areas relate to responsible lending and borrowing that the Commission requested to be analysed in this study.

We outline these two areas below, and the specific policy options to be considered within each area.

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[152] European Mortgage Federation, Responsible Lending for Home Loans, August 2009, http://intranet.hypo.org/docs/1/FDOJGBFBMBMELIAGAJGIALDFPDBG9DBYGKTE4Q/EMF/Docs/DLS/2009-00144.pdf

[153] It does not mandate the provision of advice to consumers, however.). This (again) is also relevant for pre-contractual information.

[154] CCD paragraph 26, and article 8.

[155] CCD paragraph 26.

[156] CCD paragraphs 28 and 26, and article 5(6).

Policy area A

Introduction of legislative provisions or the issuance of a Recommendation along the lines of the responsible lending provisions in the revised Directive on credit agreements for consumers Paragraph 26 of the Consumer Credit Directive as adopted by the European Parliament on 16 January 2008, states the following:

> *"Member States should take appropriate measures to promote responsible practices during all phases of the credit relationship, taking into account the specific features of their credit market. Those measures may include, for instance, the provision of information to, and the education of, consumers, including warnings about the risks attaching to default on payment and to over indebtedness. In the expanding credit market, in particular, it is important that creditors should not engage in irresponsible lending or give out credit without prior assessment of creditworthiness, and the Member States should carry out the necessary supervision to avoid such behaviour and should determine the necessary means to sanction creditors in the event of their doing so. Without prejudice to the credit risk provisions of Directive 2006/48/EC of the European Parliament and of the Council of 14 June 2006 relating to the taking up and pursuit of the business of credit institutions, creditors should bear the responsibility of checking individually the creditworthiness of the consumer. To that end, they should be allowed to use information provided by the consumer not only during the preparation of the credit agreement in question, but also during a long-standing commercial relationship. The Member States' authorities could also give appropriate instructions and guidelines to creditors. Consumers should also act with prudence and respect their contractual obligations."*

Specifically the options included in this first policy area are the following:

Policy option A1:

A requirement for each Member State to - in the case of cross-border credit - ensure access for creditors from other Member States to databases used in that Member State for assessing the creditworthiness of consumers and to ensure that the conditions for access are non-discriminatory. This provision is contained in Article 9 of the Consumer Credit Directive as adopted by the European Parliament on 16 January 2008.

Policy option A2:

A requirement for Member States to ensure that, before the conclusion of the credit agreement, the creditor assesses the consumer's creditworthiness on the basis of sufficient information, where appropriate obtained from the consumer and, where necessary, on the basis of a consultation of the relevant database. This is contained in Article 8 of the Consumer Credit Directive as adopted by the European Parliament on 16 January 2008.

Policy option A3:

A requirement for Member States to ensure that creditors and, where applicable, credit intermediaries provide adequate explanations to the consumer, in order to place the consumer in a position enabling him to assess whether the proposed credit agreement is adapted to his needs and to his

financial situation, where appropriate by explaining the pre-contractual information to be provided in accordance with paragraph 1, the essential characteristics of the products proposed and the specific effects they may have on the consumer, including the consequences of default in payment by the consumer. Member States may adapt the manner by which and the extent to which such assistance is given, as well as by whom it is given, to the particular circumstances of the situation in which the credit agreement is offered, the person to whom it is offered and the type of credit offered. As stated in Article 5(6) of the Consumer Credit Directive as adopted by the European Parliament on 16 January 2008.

Policy area B

Introduction of legislative or self-regulatory provisions or the issuance of a Recommendation along the lines of the following:

Policy option B1:

A requirement for the lender to act honestly, fairly and professionally in accordance with the best interests of the client.

Policy option B2:

A requirement for the borrower to disclose – in good faith – all relevant information requested by the lender to perform a creditworthiness assessment.

Policy option B3:

A requirement for the lender to provide specific "risk warnings" on the consequences attached to default on payment and to over-indebtedness in special situations (e.g. to financially vulnerable consumers) or upon the request of the consumer.

Policy option B4:

A requirement for the lender to refrain from lending to a consumer if doing so would be deemed too risky for the consumer in the light of the latter's specific situation.

9.2 Legal baseline

This section presents the assessment of the legal baseline for responsible lending and borrowing.

The information comes from the survey of the 27 Member State authorities and industry associations. It is combined with information from the Report of the *Expert Group on Credit Histories*,(European Commission, 2009d). Where there is a distinction between requirements for credit and non-credit institutions, information from the *Study on the role and regulation of non-credit institutions in EU mortgage markets (*European Commission, 2008a), is also used.

The legal baseline is assessed strictly in terms of the policy options to be assessed in the Cost Benefit Analysis in regard to mortgage credit. Summaries of the individual Member State Laws can be found in the separate legal baseline annex to this report.

The Capital Requirements Directive (CRD) contains some requirements for Credit Institutions and Investment Firms to monitor the creditworthiness of borrowers. The information collected from national regulators and industry associations for this study reports any requirements on lenders to assess borrowers' creditworthiness in addition to those required under the CRD. First policy area A is assessed, followed by policy area B.

9.2.1 Policy area A

Table 60: Legal baseline assessment – Policy area A

Member State	Option A1: non-discriminative access to credit registers	Option A2: Assessment of consumer creditworthiness	Option A3: Adequate explanations
AT	Physical presence is required. Registration and authorisation as a credit institution is required.	No legislative or regulatory requirement for creditors or credit intermediaries to assess creditworthiness or consult a creditworthiness database.	Legislative requirement for creditors to provide explanations such that consumers can assess if the credit agreement is suitable for their needs. No such requirement for credit intermediaries. However, there are plans to introduce either legislation or an industry code in the future. No information on timing or content is available to date.
BE	Physical presence is required. Lenders from other EU Member States: ▪ If a credit institution in their home Member State, then must seek "registration" with	Legislative requirement for creditors and credit intermediaries to assess creditworthiness. Creditors must (also) consult a creditworthiness database. No legal requirement for credit	Legislative requirement that the offer must contain all the terms of the contract. There is a draft law that may introduce further obligations, however no further information is

Table 60: Legal baseline assessment – Policy area A

Member State	Option A1: non-discriminative access to credit registers	Option A2: Assessment of consumer creditworthiness	Option A3: Adequate explanations
	the national Belgian regulator. ▪ If a non-credit institution in home Member State, then they must seek "inscription".	intermediaries to consult a creditworthiness database. However, there is a draft law which provides for credit intermediaries to assess creditworthiness on the basis of "sufficient information", and the Minister of Economics could also provide for a duty of care such the credit intermediaries must also consult a creditworthiness database.	available at this time. Further, there are industry guidelines issued by the Union of Professional Creditors (Union Professionelle du Credit) for both creditors and credit intermediaries.
BG	Foreign lenders are required to be credit institutions in order to access – but not to lend. Further they must have a physical presence. Domestic lenders need not be credit institutions. There are plans to transpose Article 9(1) of the CCD 2008 on non-discriminatory access.	Legal requirement for creditors, no requirement for credit intermediaries. No requirement to consult a credit database for either creditors or credit intermediaries.	Industry Code of Conduct for creditors. No Code or regulations for credit intermediaries.
CY	The regulators, policy makers and industry associations in Cyprus report that there is no creditworthiness database in Cyprus. This information differs from that presented in the recent report of the *Expert Group on Mortgage Credit*,(see European Commission 2009d), which reports that there is one private credit bureau in Cyprus. This private credit bureau provides private companies, which subscribe to the credit bureau, access to the public information registry on issuers of dishonoured cheques.	Legal requirement for creditors. Reported as "not relevant" for credit intermediaries. However, looking to other information sources, this is because credit intermediaries are not supervised or regulated (Europe Economics, 2009).	Legal requirement for creditors. Reported as "not relevant" for credit intermediaries. However, as previously, this is most likely because credit intermediaries are not supervised or regulated.
CZ	We have been informed that "in general", access to the registers requires registration in the Czech Republic. Such that foreign lenders do not generally have the same access as domestic lenders.	Legal requirement for credit institutions. Does not apply to non-credit institutions, or credit intermediaries. No requirement for any of the entities to check a credit database.	Legal requirement for both creditors and credit intermediaries.
DE	All mortgage providers must be credit institutions in Germany. Both domestic and foreign credit institutions have access under the same terms and conditions.	Currently, no requirement exists. However, there are industry guidelines provided by the German national banking association. From 2010, a legislative requirement for creditors; it will not include credit intermediaries. Post 2010, legal requirement to consult credit database "if necessary".	Currently no requirements. From 2010, a legislative requirement to provide the explanations as per the CCD. Credit intermediaries required to provide the same explanations from 2010. The creditor will be legally responsible for intermediary faults.
DK	Foreign providers do not have access on the same terms and conditions as domestic mortgage providers.	No legislative requirement for either creditors or credit intermediaries. No requirement to consult a credit database. No industry recommendations or guidelines.	Legislative requirement for both creditors and credit intermediaries.
EE	There is one private register and	Legal requirement for creditors but	Regulator guidelines for creditors

Table 60: Legal baseline assessment – Policy area A

Member State	Option A1: non-discriminative access to credit registers	Option A2: Assessment of consumer creditworthiness	Option A3: Adequate explanations
	access therefore depends on the requirements of this private company.	not for credit intermediaries. No requirement for either creditors or credit intermediaries to consult a credit database.	but not credit intermediaries. These we believe can be interpreted as self-regulations.
EL	Foreign lenders must be credit institutions in Greece in order to provide mortgages and to also to access the credit database.	Legal requirement for creditors. Credit intermediaries do not assess creditworthiness.	Legal requirement for creditors and credit intermediaries.
ES	Foreign and domestic mortgage providers have the same access. We believe there is no requirement for physical presence.	No legislative requirement for creditors or credit intermediaries to assess the creditworthiness of consumers. No requirement for either creditors or credit intermediaries to consult a credit database.	Legislative requirement for creditors and credit intermediaries.
FI	Foreign and domestic mortgage providers have the same access. No requirement for a physical presence.	Legal requirement for creditors. No requirement for credit intermediaries.	Finnish regulators' Code of Conduct and Recommendation. No requirement for credit intermediaries. However, the respondents identified that this may change in the future.
FR	All mortgage providers must be credit institutions in France, and therefore only credit institutions can access the database. Both domestic and foreign credit institutions have access under the same terms and conditions to the private credit register.	No legislative requirement or industry guidelines. Credit intermediaries are not required to assess creditworthiness in France.	Established by Case Law and the French Civil Code.
HU	Foreign lenders must have credit institution status and a physical presence to access the credit database. This is not the case for domestic lenders where non-credit institutions may also gain access.	Legislative requirement for creditors. N o requirement for credit intermediaries. No requirement to consult a creditworthiness database for either creditors or credit intermediaries.	Legislative requirement for creditors and credit intermediaries.
IE	Foreign and domestic lenders do not have the same access currently. We believe that because the credit register is private, it depends on this private company as to who has access. Access to the database is not regulated by the Financial Regulator.	Legislative requirement for creditors and credit intermediaries. However, no legal requirement to consult a credit data base.	Legislative requirement. Applies to both creditors and credit intermediaries.
IT	Foreign mortgage providers are required to be credit institutions in order to access the credit registers. Foreign non-credit institutions, which can provide mortgages in Italy, cannot access the registers. Further foreign mortgage providers require a physical presence.	Legislative requirement for creditors. No requirement for credit intermediaries. No requirement for either creditors or credit intermediaries to consult a credit database.	No requirement for creditors or credit intermediaries. We are informed, however, that there are plans to introduce such requirements.
LT	Foreign mortgage providers are required to be registered as credit institutions in Lithuania to gain access.	Legal requirement for creditors. No requirement for credit intermediaries as credit intermediaries cannot conclude credit contracts. No requirement for creditors to	No legal requirement. However, we have been informed that are plans to introduce industry recommendations or guidelines in this area.

Table 60: Legal baseline assessment – Policy area A

Member State	Option A1: non-discriminative access to credit registers	Option A2: Assessment of consumer creditworthiness	Option A3: Adequate explanations
		consult a credit database.	
LU	No credit registers in Luxembourg.	No requirement for creditors. No requirement to consult a credit database.	No legal requirement.
LV	Foreign mortgage providers are required to be registered as credit institutions in Latvia to gain access. However, foreign non-credit institutions can provide mortgages in Latvia.	Legal requirement for creditors. No requirement for credit intermediaries. No requirement to consult a credit database.	Legal requirement under the Consumer Rights Protection Law.
MT	No information provided. However, using information provided by the Expert Group on Credit Histories; there are private credit registers in Malta and therefore it is likely that access depends on the conditions set by these private organisations.	No information provided	No information provided
NL	No information provided. However, using the information from the Expert Group on Credit Histories; the credit registers in the Netherlands are private and access therefore most likely depends on the conditions set by these private organisations.	Legal requirement to assess credit worthiness by both creditors and intermediaries. Legal requirement to consult a creditworthiness database for creditors and credit intermediaries.	Legal requirement for creditors and credit intermediaries.
PL	Foreign mortgage providers must be credit institutions to provide mortgage credit in Poland. However, foreign credit institutions cannot access the credit registers.	Legislative requirement for creditors. No requirement for credit intermediaries. No requirement to consult a credit database.	Legislative requirement for creditors. No requirement for credit intermediaries.
PT	Mortgage providers in Portugal must be credit institutions. Foreign credit institutions, without a physical presence in Portugal, do not have access to the credit databases.	No legislative requirement for creditors or credit intermediaries to assess creditworthiness. No legislative requirement for creditors or credit intermediaries to check a credit database. No industry recommendations or guidelines.	Legal requirement for creditors to provide explanations to consumers such that consumers can assess if the credit agreement is suitable for their needs. No requirement for credit intermediaries. However, such requirements may be introduced in the future.
RO	Foreign mortgage providers must be registered on the National Banks Special Register in order to gain access. This is also required of domestic providers.	Legal requirement for creditors and credit intermediaries. No requirement to consult a credit database	No requirement, but is under consideration by the authorities.
SE	Foreign and domestic mortgage providers have the same access.	Legal requirement for creditors and credit intermediaries. No requirement to consult a credit database.	Regulatory authority Recommendations apply to both creditors and credit intermediaries.
SI	Only credit institutions registered in Slovenia can access the credit registers.	Legal requirement for credit institutions and "savings banks". No requirement to consult a creditworthiness database.	Legal requirement. For both creditors and credit intermediaries.
SK	Mortgage providers must be credit institutions to provide mortgage credit. If the foreign institution is a credit institution and they have a physical	No legal requirement.	Ethical Code (self-regulation)

Table 60: Legal baseline assessment – Policy area A			
Member State	**Option A1: non-discriminative access to credit registers**	**Option A2: Assessment of consumer creditworthiness**	**Option A3: Adequate explanations**
	presence in Slovakia then can access.		
UK	All lenders have access irrespective of their type i.e. credit or non-credit institution. Further, no physical presence in the United Kingdom is required.	Legislative requirement for creditors. Legislative requirement for credit intermediaries only if they provide advice. No legal requirement to consult a credit- database.	Only if advice is given, then a legislative requirement for both creditors and credit intermediaries.

Source: London Economics Legal Baseline survey.

Policy area – B

For policy option B2, where a Member State is reported as having industry self-regulation for mortgages this means that lenders require borrowers' to provide all relevant information requested by the lender, but there is no specific legal requirement for such in regard to mortgages. The lenders can do this as part of their ordinary lending or business practices.

Table 61: Legal baseline assessment - Policy area B

Member State	Option B1: Behaviour in best interest of clients	Option B2: Borrower disclosure*	Option B3: Specific risk warnings	Option B4: Refrain from lending**
AT	No legal requirement specifically in relation to mortgage provision.	No requirement in regard to mortgages.	No requirement in regard to mortgages.	No requirement in regard to mortgages.
BE	Industry self-regulation.	Industry self-regulation	No legal requirement or industry recommendation.	Industry self-regulation
BG	Industry self-regulation	Legal requirement	Legal requirement.	No legal requirement.
CY	Industry self-regulation	Industry self-regulation	Legal requirement for lenders.	Legal requirement.
CZ	Legal requirement for credit institutions. Does not apply to non-credit institutions or credit intermediaries.	Legal requirement.	No legal requirement, but it is expected that if the CCD is transposed to mortgage credit will introduce such legal requirements for both creditors and credit intermediaries.	Legal requirement for credit institutions. Does not apply to non-credit institutions or credit intermediaries.
DE	Industry self-regulation From 2010, after transposition of the CCD this will be a legislative requirement.	No requirement or industry self regulation in this regard. From 2010, a legislative requirement.	Industry self-regulation in special circumstances (vulnerability), or upon borrower's request. From 2010, a legislative requirement.	Industry self-regulation. From 2010 a legislative requirement. .
DK	Legislative requirement.	No legal requirement.	Legislative requirement to provide information on consequences of obtaining a mortgage including the impact on consumers' economic situation, but these are not "specific risk warnings".	No legal requirement.
EE	Legal requirement.	No legal requirement.	Regulator guideline (self-regulation)	Legal requirement.
EL	Code of Banking Ethics (self-regulation)	No legal requirement.	Legal requirement.	No information available
ES	Legal requirement.	No legal requirement.	No legal requirement.	No legal requirement.
FI	Legal requirement and self-regulatory obligation.	No legal requirement.	No legal requirement.	No legal requirement.
FR	Established by case law.	Established by case law.	Established by case law.	Established by case law.
HU	Legislative requirement	Industry Code of Ethics	Legislative requirement	Industry Code of Ethics.
IE	Legislative requirement	Legislative requirement	Legislative requirement in special circumstances (vulnerability) or upon borrower's request.	Legal requirement.
IT	Legislative requirement	No requirement	No requirement.	Legal requirement.

Table 61: Legal baseline assessment - Policy area B

Member State	Option B1: Behaviour in best interest of clients	Option B2: Borrower disclosure*	Option B3: Specific risk warnings	Option B4: Refrain from lending**
			However, we have been informed that there are plans to introduce such in the next few years.	
LT	No legal requirement specifically in regard to mortgage credit. However, Civil Law requirements for business practices apply.	No requirement.	We believe there are no requirements in this regard.	No requirement.
LU	No requirement specifically in regard to mortgage provision.	No requirement specifically in regard to mortgage provision.	No requirement specifically in regard to mortgage provision.	No requirement specifically in regard to mortgage provision.
LV	Legal requirement.	Legal requirement.	No requirement.	Industry self-regulation provisions.
MT	No information provided	No information provided	No information provided	No information provided
NL	Legal requirement.	Legal requirement.	Legal requirement.	Legal requirement.
PL	Legislative requirement	Legislative requirement	Legislative requirement	Legislative requirement
PT	Legal requirement	Legal requirement	Legal requirement	No requirement
RO	We believe no requirement specifically in regard to mortgage provision	We believe no requirement specifically in regard to mortgage provision	Legal requirement.	We believe no requirement specifically in regard to mortgage provision
SE	Legal requirement.	No legal requirement.	Legal requirement.	Legal requirement.
SI	No legal requirements specifically for mortgage provision.	No legal requirements specifically for mortgage provision.	No legal requirements specifically for mortgage provision.	No legal requirements specifically for mortgage provision.
SK	Legal requirement.	Industry guidelines.	No legal requirement.	Industry self-regulation
UK	Legislative requirement. The legislative standards are higher if the lender or credit intermediary provide advice.	Case Law (Common Law) requirement.	Legislative requirement.	Legislative requirement.

Notes: In regard to borrower disclosure, we refer to specific legislation or regulations in regard to mortgage provision. We do not address the underlying Civil Law obligations and requirements, nor Case Law or Common Law, which in many situations places some form of legal onus on the consumer to provide truthful information when entering a contract. ** This does not include loan to value ratio assessments nor loan to income ratios. It assessed strictly in regard to formal requirements in situations "deemed to be too risky".
Source: London Economics Legal Baseline survey.

Interaction of consumer protection and banking law

The Basel II transposition in the Capital Adequacy Directive (CRD) requires, that credit institutions provide own funds which, in respect to their lending activities, are set at 8% of the total of their risk-weighted exposure amounts calculated on the basis of either the standardised approach or an internal ratings based approach.

Under the standardised approach, the exposure value of an asset is its balance-sheet value and the exposure class is determined by the nature of the exposure. In contrast, under the internal ratings based approach, credit institutions can use their own rating system to determine their risk-weighted

exposure provided that "*the credit institution's rating systems provide for a meaningful assessment of obligor and transaction characteristics, a meaningful differentiation of risk and accurate and consistent quantitative estimates of risk*"[157] and "*internal ratings and defaults and loss estimates used in the calculation of capital requirements and associated systems and processes play an essential role in the risk management and decision-making process, and in the credit approval, internal capital allocation and corporate governance functions of the credit institutions*".[158]

In the case of the assessment of residential mortgage lending under the standardised approach, a risk weight of 35% can be assigned to the loan provided that the value of the property does not depend on the credit quality of the obligor, the risk of the borrower does not materially depend on the performance of the underlying property and the value of the property exceeds the exposures by a substantial margin. The latter ceiling is typically set by regulators at a LTV of 80%, but does vary across Member States. Mortgage loans not meeting these conditions normally attract a capital charge of 75% (retail borrowers) or 100%.[159]

In the internal ratings-based approach, the credit institution has to calculate the risk weighted exposure with a formula using information about the "probability of default" and the "loss given default" of the type of loan, taking into account collateral. The "probability of default" of the borrower has to be at least 0.03%, and should be based on the institution's assignment of each exposure to different grades, or pools, as part of the credit approval and monitoring processes.

Thus, credit institutions that have decided to adopt an internal-ratings based approach will already have to undertake detailed creditworthiness and risk assessments of each new mortgage loan. Therefore, the responsible lending proposals to be assessed as part of the CBA will not result in additional costs to them.

In contrast, credit institutions adopting the standardised approach may internally use less sophisticated creditworthiness assessments and therefore the implementation of the CRD cannot be said to "pre-empt" any costs associated with the implementation of the responsible lending principles to be assessed.

However, even in the case of such credit institutions, general banking laws and regulations already aim to achieve broadly the same behavioural objectives as the responsible lending principles to be assessed. This was confirmed during the meeting with mortgage lenders and mortgage lenders

[157] Article 84.2.a of Directive 2006/48/EC of the European Parliament and of the Council of 14 June 2006 relating to the taking up and pursuit of the business of credit institutions (recast) (the Capital Requirements Directive (CRD)).
[158] Article 84.2.b of the CRD.
[159] Capital Requirements Directive, http://ec.europa.eu/internal_market/bank/regcapital/index_en.htm.

associations in Belgium, Denmark, France, Germany, Hungary, Italy and Spain and the responses to the survey of lenders.

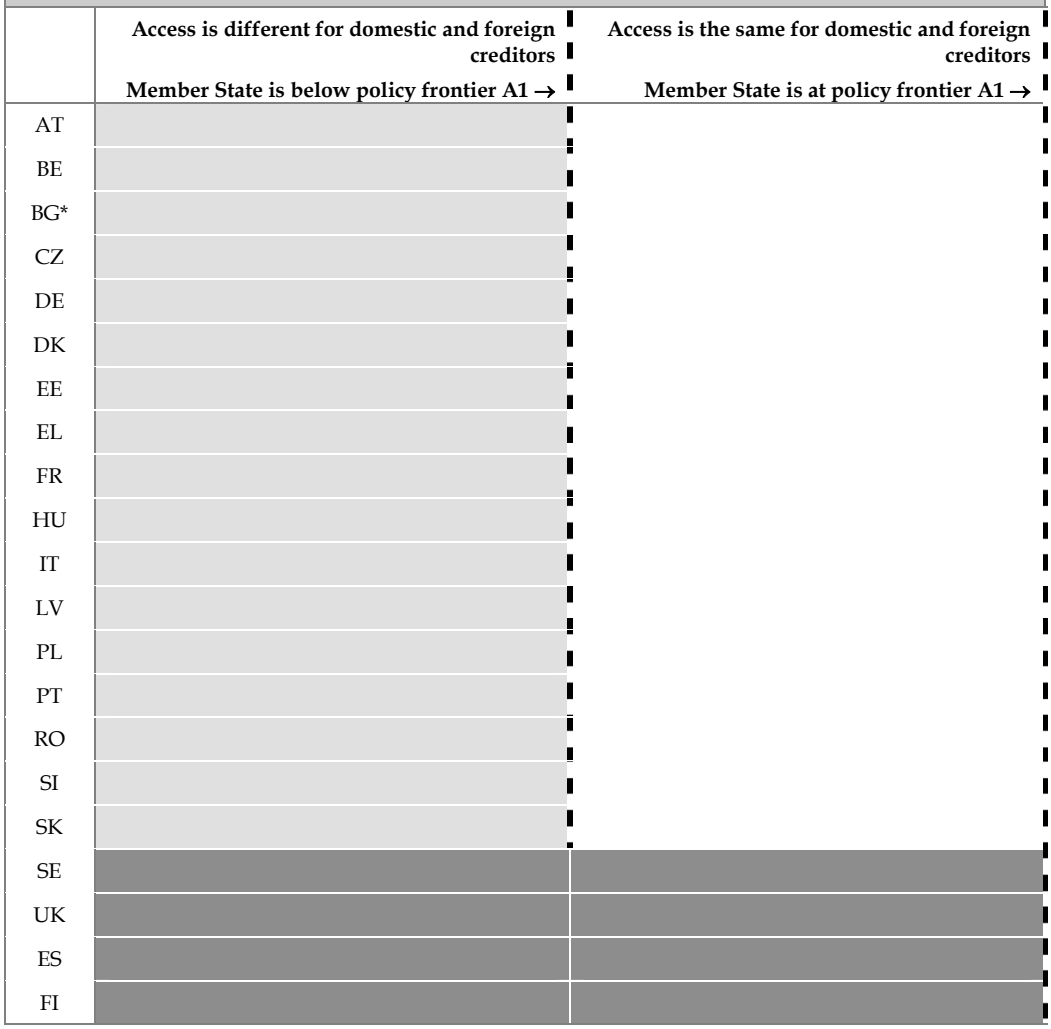
9.3 Legal baseline distance

Using the information from the legal baseline, this section presents an assessment of the distance from the policy frontiers as listed above.

Member States that do not provide the same access to credit databases for domestic and foreign creditors are shown in light grey and are below the frontier for this policy option. Member States shown in dark grey are at the policy option frontier as these Member States provide the same access for domestic and foreign creditors.

Policy area - A1: Non-discriminatory access to credit databases for assessing credit worthiness

Figure 64: Distance from policy frontier A1: Non-discriminatory access to credit databases for assessing credit worthiness



Notes: * In Bulgaria there are future plans to transpose Article 9(1) of the CCD to mortgage credit. No information on when this may occur was provided.
Source: London Economics Legal Baseline survey.

As can be seen from Figure 64, the legal baseline assessment indicates that five Member States provide the same conditions for access in the case of cross-border mortgage provision. These Member States are represented as at the policy frontier in the above figure. Nineteen Member States do not provide for the same conditions of access. These Member States are represented as below the policy option frontier.

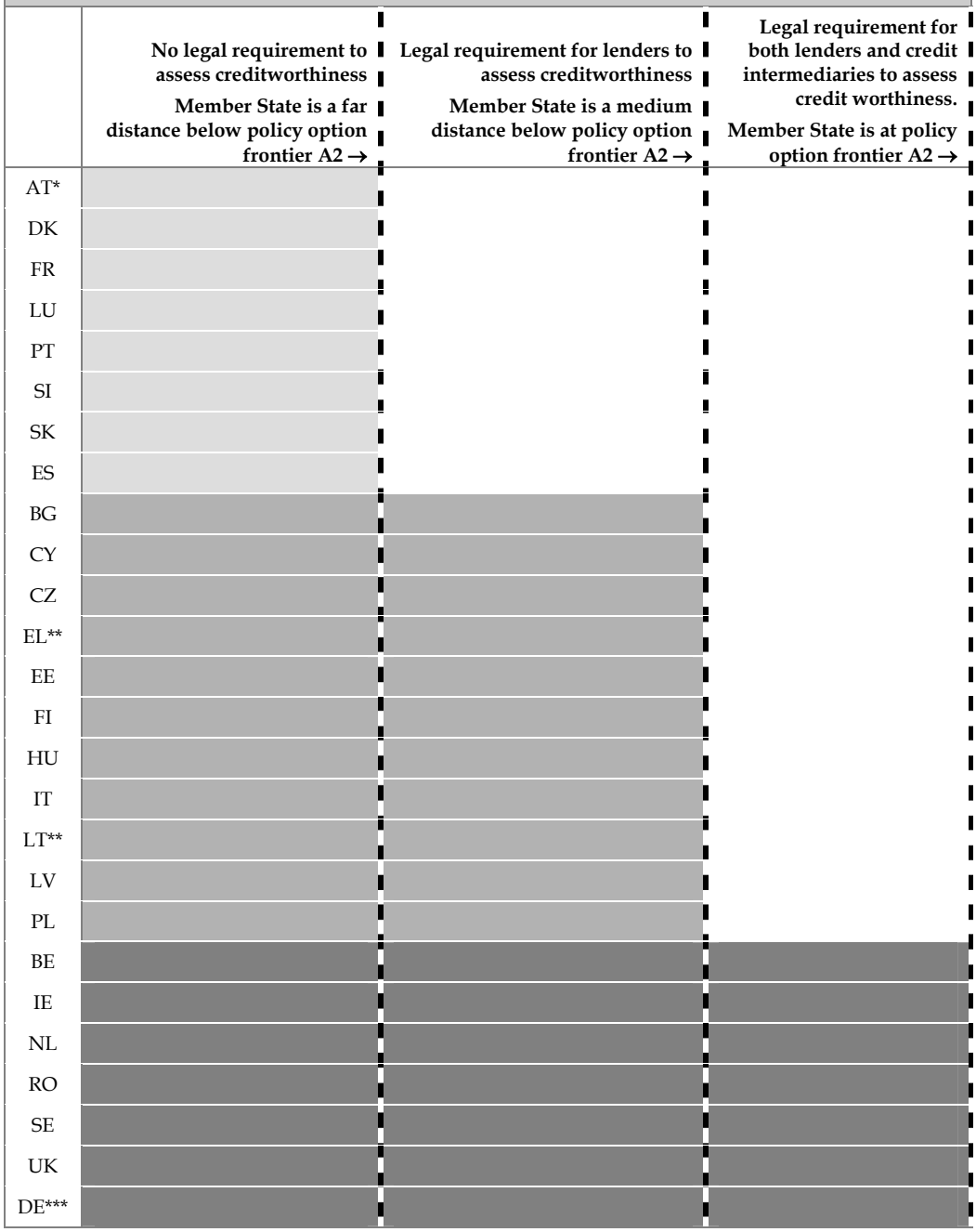
In Cyprus there are no credit databases. The authorities and industry associations have confirmed that this is the case despite the information contained within the *Expert Group on Credit Histories* (European Commission 2009b), which reports there is one private credit bureau. The Cypriot authorities report that the only credit history information available is included in the *Registry of Insolvent Physical and Legal Persons* managed by the Register of Companies and Official Receiver. In addition, the Central Bank of Cyprus has created a central information registry which includes information on issuers of dishonoured cheques. The private credit bureau, referred to by the *Expert Group on Credit Histories*, is called "*First Cyprus Credit Bureau*", and provides access, for private companies that have subscribed to this bureau, to the central information registry on issuers of dishonoured cheques.

In Luxembourg, there are no credit registers. In the case of Malta, the respondents did not answer the questionnaire in regard to responsible lending. However, as previously stated, the Expert Group on Credit Histories reports that there are private credit registers in Malta and therefore, using this information, it is likely that access depends on the conditions set by these private organisations. The respondents to the baseline questionnaire for the Netherlands (also) did not answer this question in regard to access. However, as previously reported, the Expert Group on Credit Histories finds that the credit registers in the Netherlands are private and, therefore, access most likely depends on the conditions set by these private organisations.

While at the present time, non-discriminatory cross-border access does not exist in all Member States, it is important to note that as part of the transposition of the Consumer Credit Directive into national laws for consumer credit, such access will have to be provided for consumer credit assessment purposes.

Policy area –A2: Assessment of the consumer creditworthiness

Figure 65: Distance from policy frontier A2: Assessment of Consumer Creditworthiness♠



Note: ♠ The requirement to assess credit worthiness is in addition to the requirements contained in the Capital Requirements Directive. * In Austria, when the CCD is transposed and applied to mortgage credit it is expected that there will be a new "rule" regarding assessment of consumer credit worthiness. ** In Greece, Lithuania, credit intermediaries do not assess credit worthiness. *** In Germany this will apply post 2010 after implementation of the CCD to mortgage credit.

Source: London Economics Legal Baseline survey.

As can be seen from Figure 65, eight Member States have specific legal requirements for mortgage providers, both lenders and credit intermediaries, to undertake an assessment of consumer creditworthiness. These Member States can be considered as close to the policy frontier.

The respondents highlighted that it is up to the provider to determine if consultation of a credit database is necessary, and in many instances they do undertake such a consultation.

Ten Member States require a creditworthiness assessment by lenders and therefore can be considered a medium distance from the policy frontier. While, eight Member States have no specific legal requirement or specific industry guidelines/recommendations, and therefore can be considered as far from the legislative and recommendation frontier.

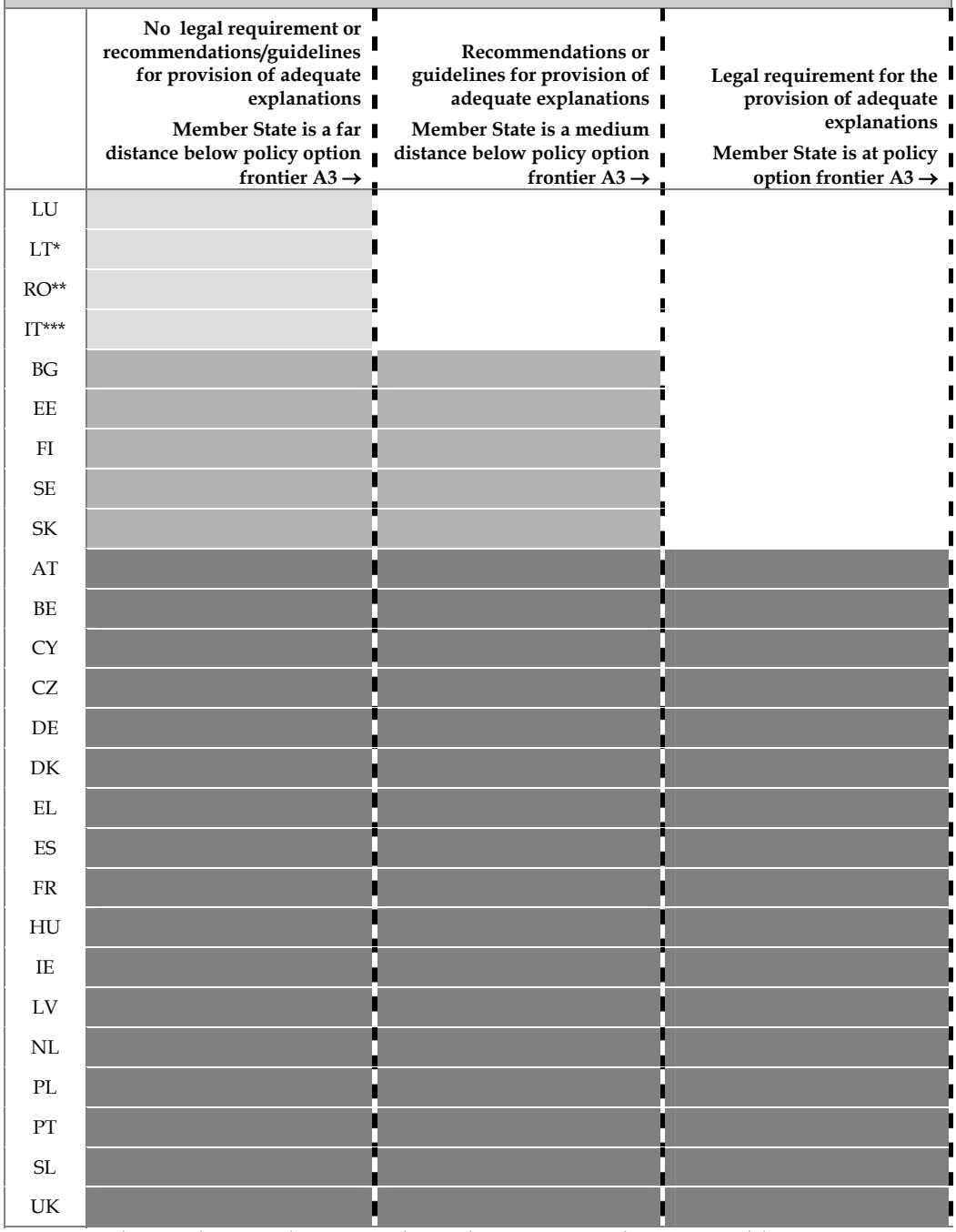
No information was provided for Malta.

However, it must be recognised that lenders, before concluding a mortgage credit agreement with a borrower do assess the creditworthiness of the borrower as either part of general banking law in the Member State or as part of their own businesses practices. This is reinforced by the information provided by respondents to the cost benefit questionnaires, and the legal baseline questionnaire.

Policy area – A3: Provision of adequate explanations

This policy area was very difficult area to assess for respondents to the questionnaires. This is because the effect of either recommendations or legislation depends on the interpretation of adequate explanations. Further, Member States have requirements contained in general consumer protection laws and/or business practice laws in regard to advice for consumer credit including mortgage credit agreements.

Figure 66: Distance from policy frontier A3: provision of adequate explanations



Note: In Lithuania, there are plans to introduce industry recommendations or guidelines. ** In Romania this issue is under consideration by the authorities.
Source: London Economics Legal Baseline survey.

As can be seen from Figure 66, sixteen Member States have a specific legal requirement for the provision of explanations to mortgage credit consumers.

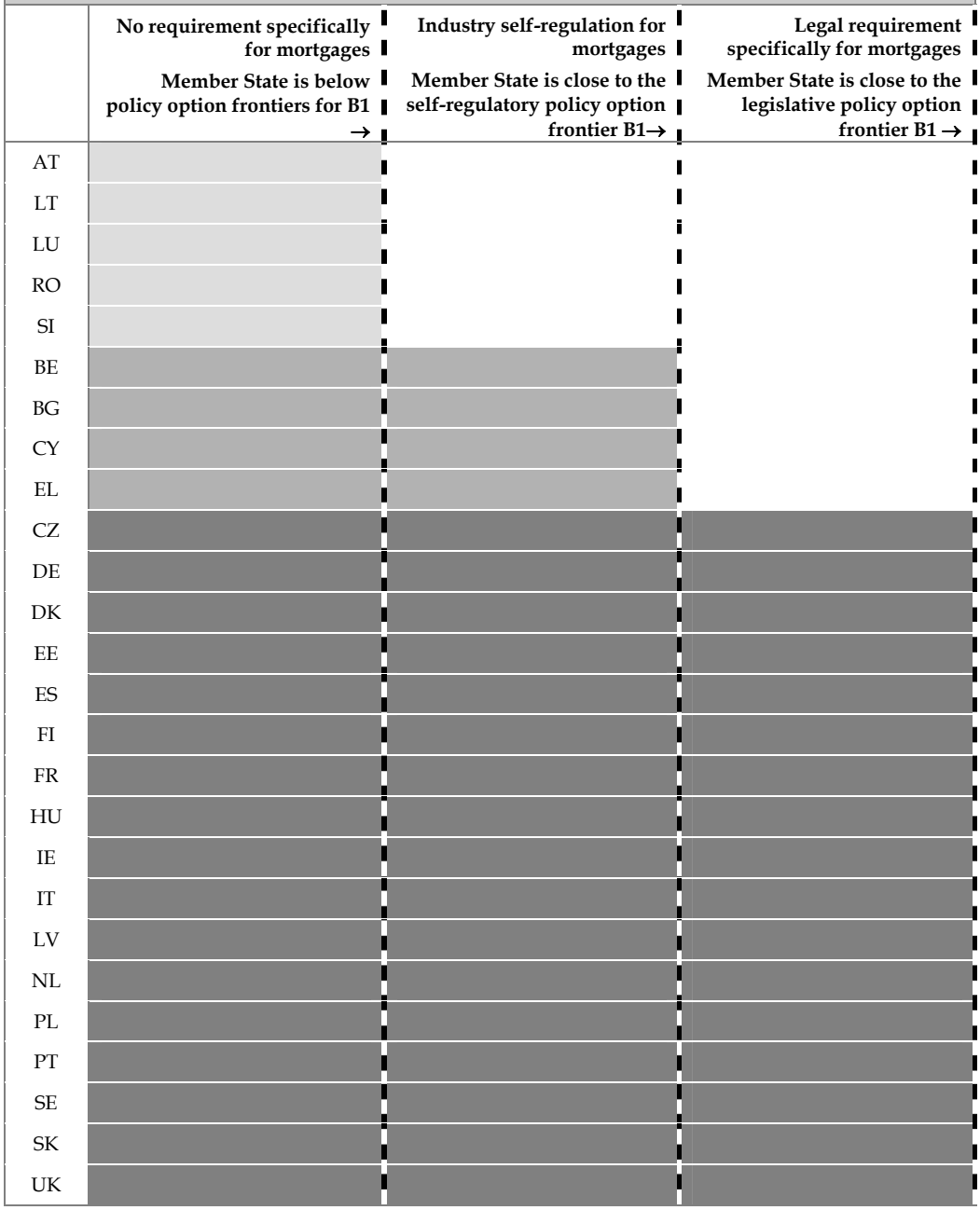
Five Member States have recommendations or guidelines specifically in regard to mortgage credit. In three of these Member States, Bulgaria, Estonia and Finland, the recommendations do not apply to mortgage credit intermediaries. In these three Member States credit intermediaries do participate in the mortgage credit market (Europe Economics 2009).

Four Member States have no specific legislation or recommendations in regard to mortgage credit in this policy area. However, in three of these Member States, Lithuania, Romania and Italy we have been informed that discussions are underway to consider if changes should be made in this policy area.

Malta cannot be assessed as no information was provided for this policy area.

Policy area – B1: Behaviour in the best interest of clients

Figure 67: Distance from policy frontier B1: Behaviour in the best interest of clients



Note: * In Germany post 2010 with CCD transposition. ** France established by Case Law. *** Lithuania in Civil Law.

Source: London Economics Legal Baseline survey.

As can be seen from Figure 67, eighteen Member States have specific legal requirements in regard to mortgage credit, and can therefore be considered as close to the legislative policy frontier in this area.

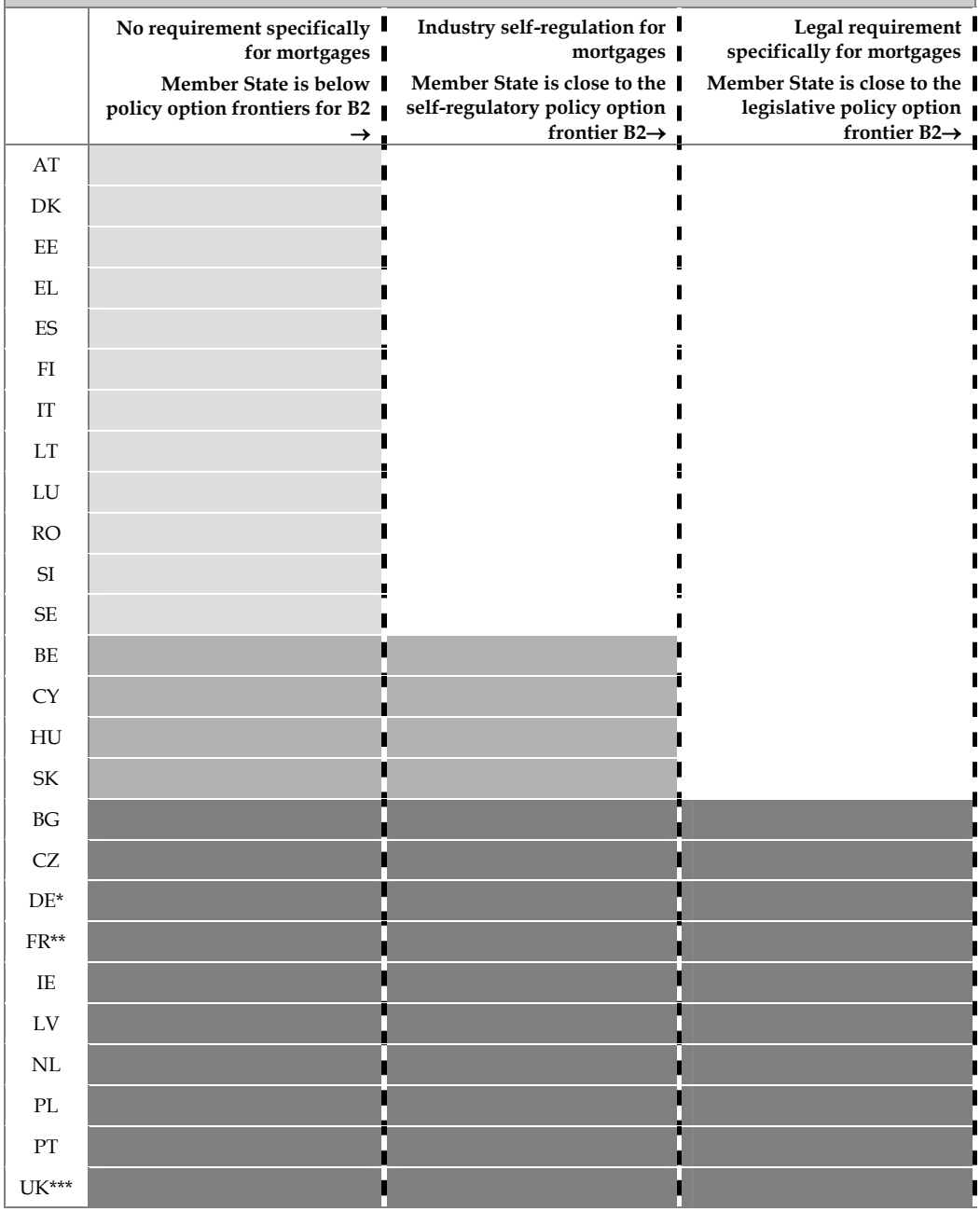
Four Member States have an industry self-regulatory approach, and can therefore be considered as close to the self-regulatory policy frontier.

Four Member States have no legal requirements or industry self-regulatory guidelines or recommendations specifically in regard to mortgage credit, and can therefore be considered as far from the self-regulatory and legislative frontiers in this policy area.

No information was provided for Malta.

Policy area –B2: Borrower disclosure

Figure 68: Distance from policy frontier B2: Borrower disclosure



Note: * In Germany post 2010 with CCD transposition. ** In France established by case law. *** In the UK established by case law.

Source: London Economics Legal Baseline survey.

As can be seen from Figure 68, eleven Member States have a legal requirement specifically in regard to mortgage credit and can therefore be considered as close to the legislative policy frontier.

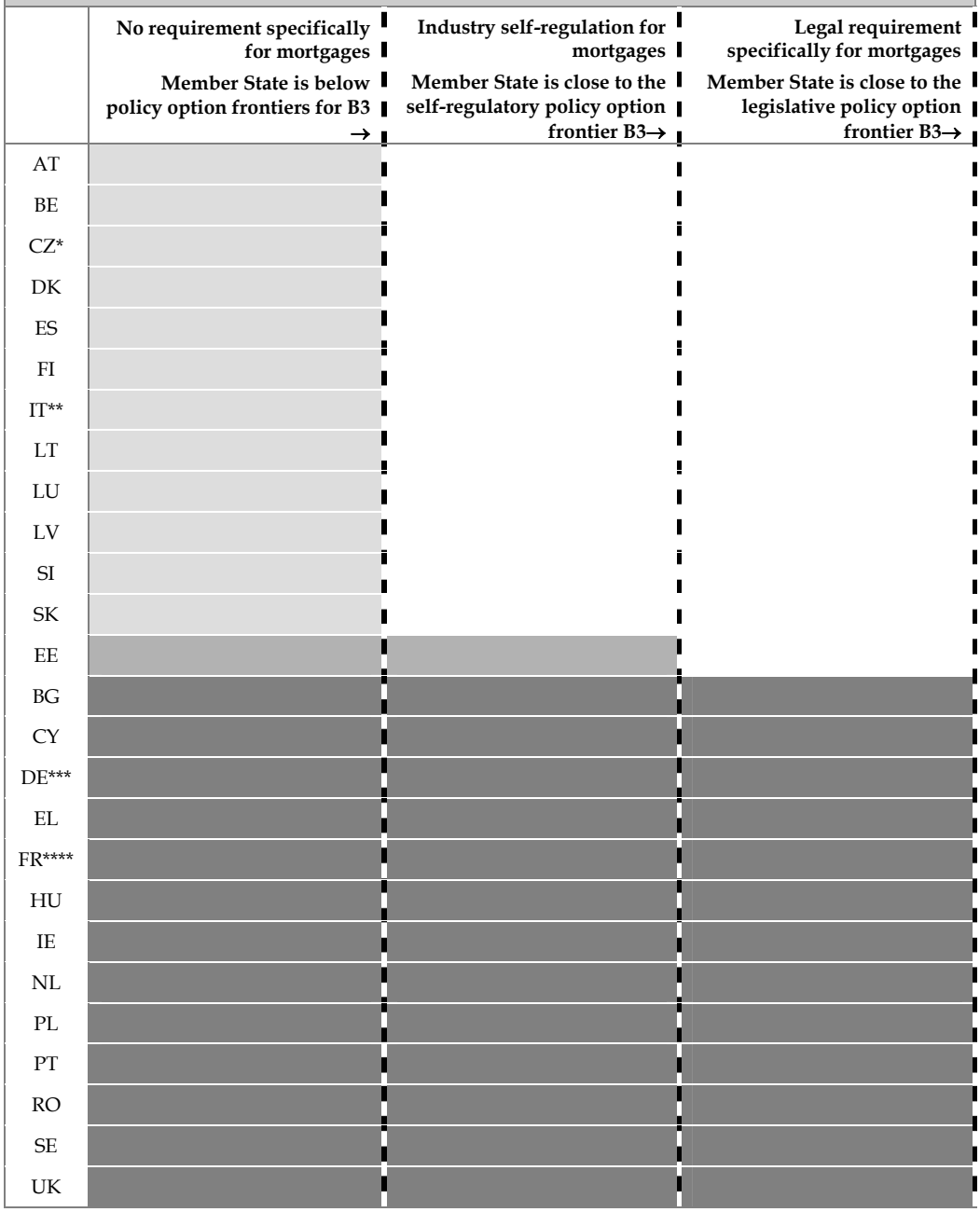
Four Member States have industry self-regulatory guidelines or recommendations and can therefore be considered close to the recommendation policy frontier.

Twelve Member States have no legal requirements or self-regulatory guidelines/recommendations and therefore can be considered as far from the policy frontiers in this policy area. However, as stated throughout this baseline assessment, this does not mean that the lenders do not practice/require such borrower disclosure.

No information was provided for Malta.

Policy area – B3: Provision of specific risk warnings

Figure 69: Distance from policy frontier B3: Provision of specific risk warnings



Note: * In the Czech Republic there are changes under consideration for the future. ** In Italy there changes under consideration for the future. *** In Germany post 2010 with CCD transposition. **** In France established by Case Law.

Source: London Economic Legal Baseline survey.

From Figure 69, it can be seen that thirteen Member States have a legal requirement for specific risk warnings, and can therefore be considered as close to the legislative policy frontier.

Estonia has self-regulatory guidelines.

Twelve Member States have no specific legalisation of self-regulatory recommendations / guidelines.

No information was provided for Malta.

Policy area – B4: Refrain from lending

Here the definition of refrain from lending if deemed "too risky", is not determined and as such the legal baseline assessment was difficult for respondents. Therefore, the respondents, we believe, answered in terms of specific legal or self-regulatory requirements and recommendations in terms of "refrain from lending" given different interpretations of too risky. Note, many Member States also have loan to value or loan to income restrictions. These are reported in the individual Member State summaries and are not used to assess the legal baseline as these measures are not necessarily synonymous with "refrain from lending if deemed too risky".

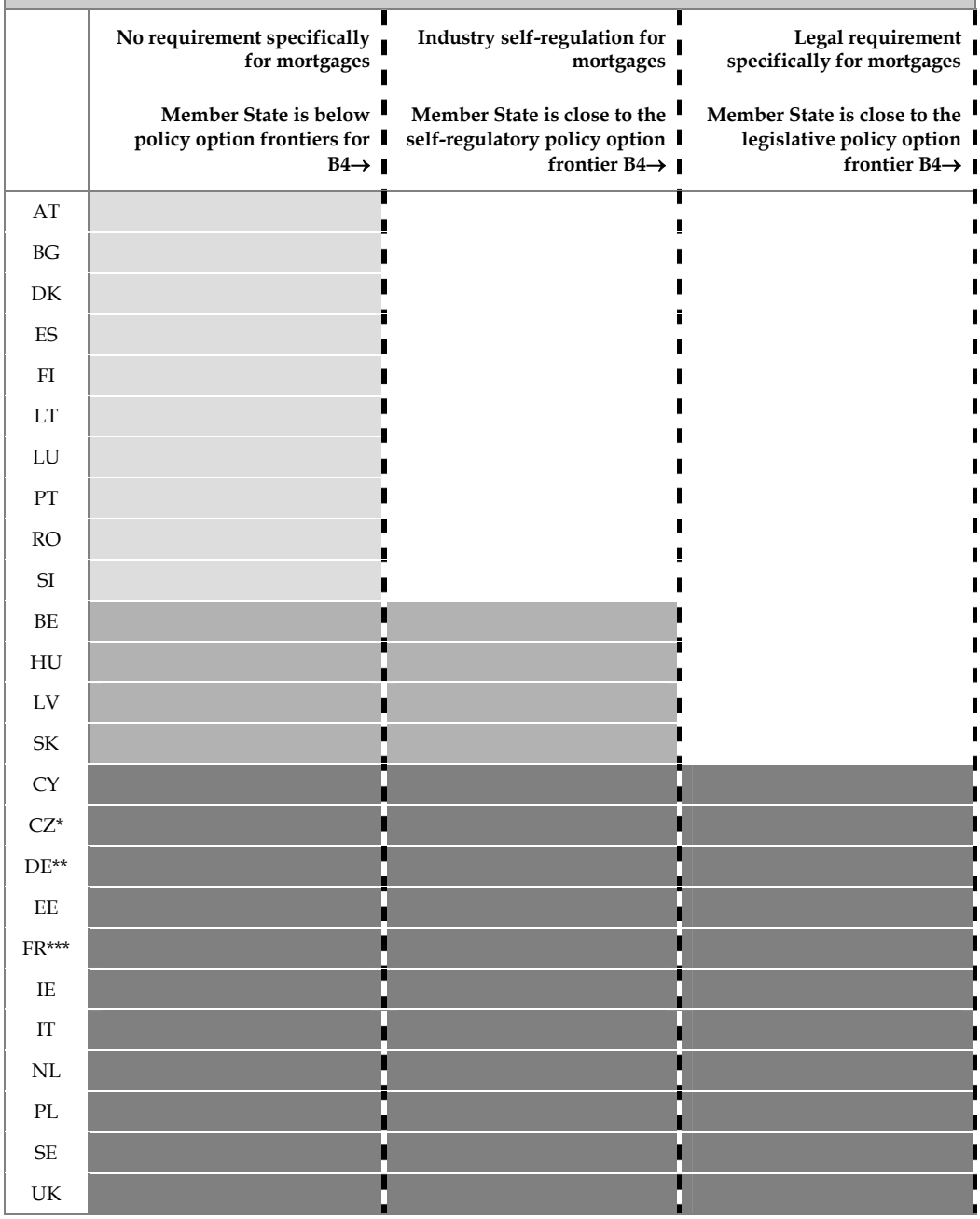
Figure 70 shows that eleven Member States have a legal requirement, and therefore can be considered as close to the legislative frontier.

Four Member States have industry guidelines or recommendations and therefore can be considered close to the self-regulatory policy frontier.

Ten Member States have no legal requirement or self-regulatory guidelines and therefore can be considered as far from the policy frontier in this policy area.

No information was provided for Malta and Greece.

Figure 70: Distance from policy frontier B4: Refrain from lending



Note: * In the Czech Republic, there is a legal requirement for credit institutions but not for non-credit institutions. ** In Germany post 2010 with CCD transposition. *** In France established by Case Law.
Source: London Economics Legal Baseline survey.

Concluding remarks on the legal baseline

While in the previous discussion, Member States have been classified by their distance from the policy frontier, for the assessment of the costs and benefits,

the issue is more complex in the present case as, with the exception of the policy option concerning the access to credit registers, the responsible lending options are of a general nature and are already applied to lending in general we have observed from the legal baseline survey that lenders, in practice, in all Member States follow the responsible lending principles (that are to be assessed as part of our analysis) either because of specific legal requirements or more generally good banking practices. The extensive stakeholder consultations that we undertook and the results of the different surveys confirm this broad conclusion. This does not mean that certain irresponsible practices did not occur in the past. Indeed, later in this chapter, we discuss a number of such practices. But the prevention of such practices would have required very specific rules as to what constitutes an irresponsible practice.

The situation with regards to mortgage credit intermediaries is less clear-cut as the regulation of this activity differs greatly across the EU.

9.4 Selection of case countries for detailed study

The selection of countries for the detailed case studies is based on the following criteria:

- The legal baseline and the distance relative to the policy option.
- Economic issues with responsible lending that shed light on the costs and benefits of the proposed Policy Options.
- Market indicators such as size, geography, system maturity (emerging, mature), risk levels, structural factors (homeownership rate, role of intermediaries).
- Data availability (for detail of data requirements see CBA discussion below), and access to consumer associations, lender associations and individual financial institutions for interview.

On the basis of these criteria, the following countries were selected for the quantification of the implementation costs: Belgium, France, Germany, Ireland, Hungary, Spain and the UK.

In addition, a number of countries were reviewed in greater details to discuss various aspects of responsible lending issue:

- The United Kingdom, because it is an example of a country that has undertaken a series of reforms in the area and is close to the policy frontier, and still sees considerable issues with regard to unsound lending

practices. The UK is a mature mortgage market and has comparatively good data.

- Spain, mainly because a number of responsible lending issues have arisen, and, as loan instruments similar to those in the UK are used, it provides an interesting contrast to the UK with regard to distance from the policy options. Spain is a emerging as a maturing mortgage market and has a fair data situation.

- Hungary and Poland were chosen because they broadly similar in terms emerging mortgage markets. Both countries use the same currency for mortgage lending, namely the Swiss Franc. However, the two countries are characterised by different sets of regulations and outcomes. Data availability is reasonable to good.

9.5 Conceptual and empirical basis for the cost-benefit analysis

In this section we review existing theoretical concepts and empirical evidence - mainly from Europe and occasionally from the US – concerning the relation between the legal regimes governing responsible lending issues and the appearance of non-responsible vs. responsible lending practices. Our main indicator differentiating between the two types of practices is the likelihood` of default by the borrower.

We also present information that allow us to calibrate inputs for the cost-benefit analysis serving to analyse the policy options such as the scale of non-responsible practices, the interaction between house price levels, interest rate levels and intermediary fee levels and such practices, and other quantitative input for the cost-benefit analysis such as credit risk pricing and default levels.

We focus on microeconomic aspects of the mortgage markets; however, we touch on important macroeconomic issues when discussing the impact of house price inflation and interest rate levels and volatility on lending practices.

Earlier studies

Any economic analysis of responsible lending should start with an understanding of general information and credit market theory findings. The best overview here is provided by Freixas and Rochet (1998), especially chapters 4 (borrower performance) and chapter 5 (credit rationing).

The main line of argument is focused on information asymmetries between borrowers and lenders. In the classic theory, the lender is information-

constrained and uses instruments, such as mortgage collateral, to improve both his information situation and provide incentives for borrowers to repay. The interplay between fundamental credit parameters establishing control instruments - such as loan-to-value ratio of collateral financed and debt-service-to-income ratio - and the likelihood of mortgage repayment has been analysed frequently in an option-theoretic framework – an early literature review article here is Quercia and Stegman (1992). This framework interprets default as a put option of the house by the borrower to the bank[160] and explains mortgage credit default crises as a result of changes in the market values of underlying credit parameters and the insolvency regime determining the default penalty.

Stiglitz and Weiss (1981) postulate in another branch of the literature that credit supply differs from other goods in that it is (the supply) bent 'backwards' at certain price (interest rate) levels. This is because, absent full screening options, lenders' high interest rate levels attract greater credit risk - an adverse selection mechanism. This model (still) seems to have considerable relevance for the analysis of sub-prime mortgage markets.

In our context, the reverse information problem is also relevant – information asymmetry on the borrower side about the characteristics of different loan products and different lenders, and implications of these for the borrower's own default risk. That problem has attracted far less prominence in the literature. Exceptions are studies on predatory lending and self-fulfilling defaults in the US (e.g. Sanders and Cohen (2004)). It is to be expected that the current mortgage market crisis will promote a greater body analysis of this part of the information problem.

There are many empirical analyses of mortgage default determinants for the US. More recently, a joint termination literature has been developed that looks at both prepayment and default terminations simultaneously (see Deng, Quigley and van Order (2000)). The literature on Europe is far more limited, largely due to data constraints and lack of sponsorship – the most active has been produced for Britain, especially in the aftermath of the default crisis of the early 1990s.

Structure of the analysis

We present in the following section microeconomic analytical and empirical evidence on responsible lending with two elements:

1. Interpreting responsible lending practices as applying some form of protection against elevated loan default levels, e.g. by choosing safe products or controlling for debt-service limits upon underwriting, we

[160] When a borrower defaults in a situation with limited or no residual debt after foreclosure, which is typical for most US states, he is de-facto able to sell ('put') the house for the (cancellation of the) value of the remaining debt.

start by discussing the conceptual implications of such measures for borrower selection, for loan product selection and for credit risk pricing.

2. We continue with an empirical review of practices of non-responsible lending in Europe and their interaction with the legal consumer protection regime and exogenous factors, such as interest rate and house price levels. This step allows us to put the later discussion of the policy options into a context of effectiveness with regard to reaching the goal of greater credit risk protection. It also provides us with data for the cost-benefit analysis.

The discussion will present the cases as well as comparisons between cases to motivate the findings empirically.

9.5.1 Conceptual analysis: credit risk protection, product diversity and pricing

Static framework - errors of inclusion and exclusion in loan underwriting

The easiest conceptual approach to responsible lending issues is a static theory framework, in which the lender attracts a random lottery of credit applicants from a population with a known distribution of default likelihoods. Lenders use instruments – such as income information or collateral - to extract creditworthiness signals from this population.

In this scenario, the responsible lending policy options presented could be interpreted in a way that lenders should attempt to minimise errors of accepting non-creditworthy borrowers (the alternative is rejecting non-credit-worthy borrowers) during loan underwriting:

- Such an approach of focusing on minimising errors of inclusion ('misselling') carries considerable cost-benefit implications for consumers, lenders, other loan investors, and intermediaries as well as governments, which vary substantially according to legal regime and specific contracts written:
  - For consumers, the cost-benefit outcome will be a function of a combination of their relative cost savings compared to a rental solution, their capital investment into the home and the insolvency regime that forces them to carry on servicing residual debt in case of a default. Clearly, the key notion of the proposed policy options is that rejecting a borrower, at least for underwriting of a specific potentially risky product, may have positive welfare implications for consumers.

- Lender profitability depends closely on the legal regime, too. However, a first caveat is that they may roll over the credit costs of *any* legal regime to borrowers. Their profitability levels thus depend strongly on the market structure, i.e. the degree to which cost changes can be rolled into price changes.

  Secondly, lenders running large portfolios benefit from the law of large numbers and hence may suffer from a loss of profitability through an absolute error minimisation strategy. Rather, the alternative strategy of pricing a certain level of errors of inclusion may be preferable. This holds even for lenders taking strictly a long-term going concern perspective.

  Yet, at some level of credit risk errors of inclusion can no longer be priced satisfactorily. For example, if additional credit risk charges lead to self-fulfilling defaults, or equivalently if higher interest rates attract higher risks[161]. Depending on the lender's risk transfer and funding strategies, this may jeopardise the solvency of the lender.

  There are, however, lender classes with minimal business setup costs that take a shorter-term optimisation perspective. Such lenders may adversely select investors by running short-term optimisation strategies based on excess pricing followed by high defaults and insolvency.

  It is noteworthy that mortgage insurers – a rather undeveloped industry in the EU - are regulated in a way that forces them to set aside unearned premium reserves, i.e. impede such short-term profit-maximisation strategies. However, such a form of regulation has not prevailed so far with mortgage lenders, banks and non-banks.

- Intermediaries present another extreme example of short-term profit maximisation as the industry is so far regulated only in a few countries.[162] Absent regulatory and legal penalties in many EU Member States for misselling, means that intermediaries stand to benefit from an increase in market turnover regardless of the level of default created by errors of inclusion.

- For governments, errors of inclusion mean less need for rental sector subsidies but probably in excess of proportionality, higher subsidies for homeowners. They are linked to lenders

[161] This refers to the theory of the backwards bending credit supply curve. See Freixas and Rochet (1998) for an overview of banking sector theories.
[162] See Europe Economics (2009), table 5.8 on p. 120. Six EU Member States are seen to regulate mortgage credit intermediaries significantly, another five moderately.

as insurers of the bulk of their liabilities in a principal-agent problem: a short-term oriented lender maximising errors of inclusion may leave the government severely adversely selected against. Broader fiscal and stability implications are imposed through the possibility of systemic risk in the financial system caused by excessive credit expansion and leverage.

- Interestingly, discussions of the proposals rarely mention the impact of the opposite error – of exclusion of consumers that may be creditworthy. This error can be seen as an opportunity cost for consumers of receiving statutory protection and for lenders from being subjected to the rule under a regulatory strategy to minimise errors of inclusion.

  - A classic example is pro-cyclic regulation. For example, ARM lending tends to be discouraged when an interest rate peak has led to high default levels. However, the safest ARM cohorts tend to be those originated near or at high interest rate peak levels if initial affordability is given.

  - Likewise, a quantitative reduction of sub-prime lending as opposed to a modification of its terms to reduce risk layering (e.g. a greater use of FRM, more conservative LTV, etc.) may produce large errors of exclusion.

Dynamic framework - loan lifecycle, housing and credit market cycles

A dynamic theory framework will ask about the determinants of default over the lifecycle of the loan and how those relate to responsible lending rules, especially material ones determining the financial risk position of the consumer after having closed a loan contract. The lifecycle theories can be in principle condensed to two scenarios:

- Cash flow motives for default: here the household budget constraint is violated by either exogenous (e.g. unemployment) or endogenous (e.g. product with payment risk) shock. Absent fresh lending sources allowing the household to finance the cash flow he defaults simply due to cash constraints.

  The key variable to observe in order to monitor the cash flow motive of default is the debt-service-to-income ratio (DTI) that relates the two principal cash flows of the household.

- Option-theoretic motives for default: here – in analogy to early repayment - the foreclosure and insolvency legislation is interpreted as providing the consumer with a 'default option', more specifically a put option to sell the house to the bank against a takeover of the debt.

The degree to which that put option "is in the money", i.e. the borrower stands to benefit from default by removing mortgage debt in excess of the value of the house, depends on various factors. These include house prices, the size of the initial down payment and the opportunity costs of default such as residual debt (expressed e.g. in number of years during which a consumer has to service the debt post insolvency, the so-called discharge period). Social factors are also important, such as stigmatism associated with bankruptcy, and individual factors such as 'ruthlessness' of exercising the default option.

Therefore, the key variable to observe in order to monitor the option-theoretic motive of default is the loan-to-value ratio (LTV).

The most advanced option-theoretic analyses and related empirical studies suppose the simultaneous presence of two types of borrower options for loan termination - through default and early repayment - in so-called joint termination analyses.

- Additional default motives, such as fraudulent underwriting, are present and have received considerable attention during the recent US mortgage market crisis.

Dynamic and static frameworks can be combined in overlapping generation models[163] to describe the default behaviour of the entire portfolio and its reaction to exogenous shocks and interaction with other markets.

In particular, lending markets and housing markets closely interact. Lending through the leverage effect stimulates housing demand, and high house price levels require more lending to finance new purchases. Yet, the higher leverage, the greater is fragility.

Even in jurisdictions with high new housing supply elasticity, there will be house price cycles. As a result, default rates are highly sensitive to the conditions that prevailed at underwriting versus current conditions. Defaults rise when 'market LTV' increases – i.e. the ratio of current house prices to loan volumes[164], which may occur because house prices decline or loan volumes increase (e.g. in case of a foreign currency loan after a devaluation). They also tend to rise when debt service rises (in case of ARM lending) or does not fall in line with market rates (in case of non-callable FRM lending,

[163] Overlapping generation models are where consumers/households live a long enough period of time such that one generation's life 'overlaps' with the next generations life. They are dynamic models of consumption and saving.

[164] More precisely, market LTV describes the market value of the house minus the market value of the loan. The latter is a function of the distances between loan contract rates and market rates. Since jurisdictions except Denmark do not allow borrowers to realise the market value of the loan and rather enforce a repayment of the loan at par, we drop the differentiation here.

where rates remain locked in), and when incomes fall, e.g. through unemployment.

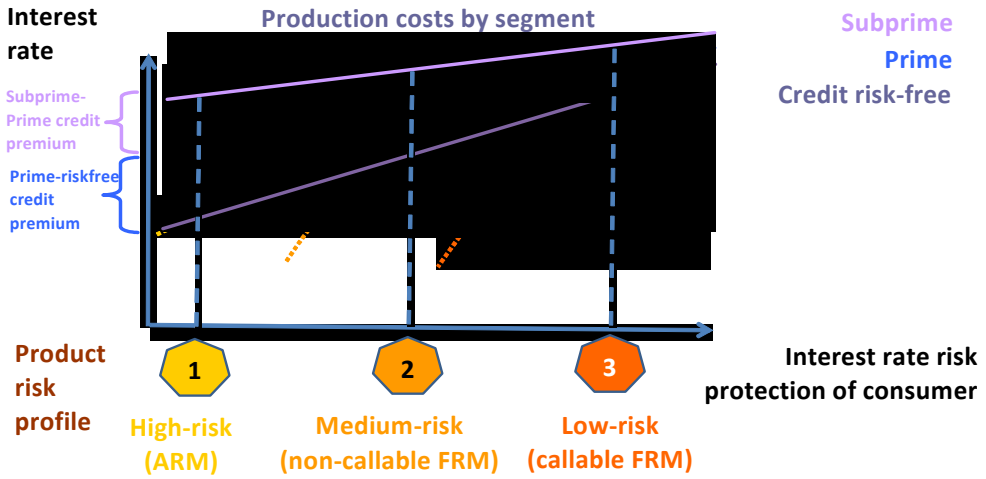
Typical for mortgage markets is also a sequencing of increasingly aggressive loan underwriting during phases of house price appreciation followed by extreme tightening and temporary collapse of new lending. These effects are more pronounced in mortgage finance than in consumer finance because of the long-term nature of the credit exposure. Just before the tightening, at peak levels of house prices, the least responsible lending practices are typically seen that are intended to squeeze the last borrower cohorts into the market.

Among these practices are the use of high LTVs and high DTIs, the extension of loan maturities, the introduction of products using negative amortisation or no amortisation in combination with speculative or underfunded repayment vehicles, or a lower interest currency with devaluation risk, and the introduction of low initial teaser rates or temporary rate discounts for existing products. Those borrower cohorts – sitting on the fastest eroding equity and least affordable debt service that is vulnerable to just slight changes in conditions – tend to default first. We will discuss empirical evidence for this in the empirical subsection below.

Application of the Capital Asset Pricing Model to the pricing of responsible lending practices, interaction with interest rate risk protection

Under the option-theoretic interpretation of default, credit risk can be conveniently analysed within the Capital-Asset-Pricing model as an option whose underwriting by the lender carries a market price – typically in the form of a credit spread payable by the borrower to the lender, and sometimes in the form of mortgage insurance or higher collateral requirements (lower LTVs). This spread is mathematically determined as the discounted cash flow of the product of the probability of default (PD), the exposure at default (EAD) and the loss given default (LGD) at any time in the future. It shifts the production function displayed in Chapter 7 in the early repayment chapter, and reproduced in Figure 71 below, upwards.

Figure 71: Analytical framework for the three main mortgage product types leaning on the Capital Asset Pricing Model, credit risk option pricing and interest rate risk protection



Note: see product definitions in terminology conventions
Source: Finpolconsult.
.

However, via the probability of default factor, the credit option spread must be asymmetric in the level of interest rate risk protection that the borrower chooses by selecting a mortgage product with different risk profile: the higher the interest rate risk, the higher will be the likelihood of default of more vulnerable consumers (here denoted as 'sub-prime') and vice versa. This will mitigate the additional costs of higher levels of interest rate risk protection somewhat (further regulatory adjustments could reduce the differences even further).

Clearly, the credit option spread also depends on the discussed institutional, market risk factors, such as the insolvency regime, the house price risk and/or the income risk, and the time of underwriting, which are the key determinants of loss given default. However, especially the penalty imposed by the insolvency regime on defaulting consumers can also be assumed to strongly influence the probability of default.

9.5.2 Empirical analysis: non-responsible lending practices, product choice and credit risk[165]

This section prepares the empirical ground for the individual assessment of the policy options further below by identifying non-responsible lending practices, whose elimination is the key goal of the policy options.

Data constraints in Europe

A fully detailed cost-benefit analysis with regard to the proposed responsible lending rules would have to fully analyse market practice, product set, borrower default and over-indebtedness incidence and the variation of those variable between strictly or less strictly regulated and unregulated jurisdictions.

This is not possible under the current information situation characterising the European mortgage market, and the current study is therefore constrained on the empirical side.

- For a start, while since the mid of the 2000s we have household datasets for the EU tracking aggregate mortgage default rates, absent a European Fannie Mae, i.e. an entity focused on pan-European credit risk intermediation, there is no EU-wide loan level mortgage default dataset from which inferences on the impact of lending standards on hard indicators such as default rates or debt levels could be made. We thus have to rely on national data.

- From performance reporting in the European capital market in mortgage-backed securities (MBS) we have access to mortgage loan pool-based default data, which carry selection and other bias but in exchange allow in-depth analysis. Those markets are, however, de-facto limited to the Netherlands, the UK, Ireland, France, Italy, Portugal, Greece and Spain. We report FitchRatings (2009a) findings on default rates in these pools in Figure 72. From this list, we focus much of the discussion on the UK, where the MBS market has been more representative for the entire mortgage market than elsewhere and also detailed empirical analysis concerning the 'non-conforming' market is available.

- On the back of such pool reporting, rating agencies have covered most European markets in the past decade with 'residential mortgage market default models' that provide clues about the role of lending

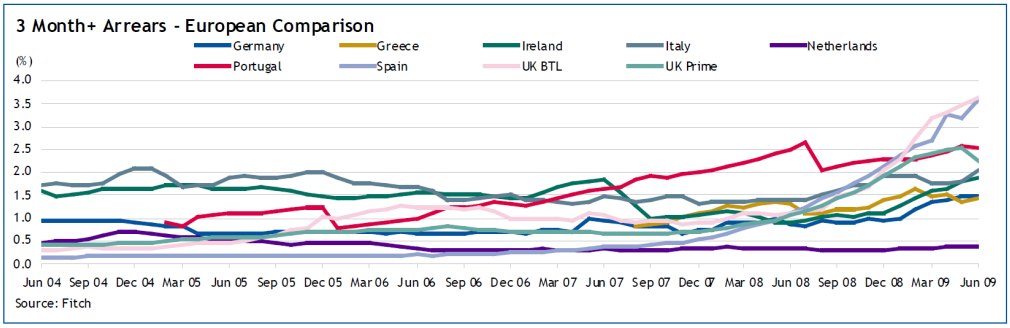
[165] A full empirical review of mortgage lending practices is not possible within the scope of this project. The reader is referred to earlier comparative empirical literature on the European mortgage market, in particular the work undertaken at Merrill Lynch by Batchvarov et al (2003) for Western Europe and Batchvarov et al (2007) for transition countries. Dübel, Low and Sebag-Montefiori (2003) are an example for comparative empirical analysis of product choice and pricing.

standards and their interaction with legal (such as the quality of execution) and market (such as price cycle amplitudes) issues.

- The banking system - central banks and banking associations – in contrast only occasionally publishes usable mortgage default data. Usually publication is limited to countries that have had a policy focus on mortgage performance related to earlier crises or generally high relevance of homeownership (e.g. UK, Hungary). Banking associations have partly ceased to publish earlier default data (e.g. Verband deutscher Pfandbriefbanken in Germany). While not directly addressing responsible lending and default issues, a 2009 ECB report, based on a comprehensive bank survey, provides for the first time useful structural data on the mortgage markets of the Euro area.[166]

- Countries that have experienced a mortgage market crisis or have had serious incidence of over-indebtedness have seen an abundance of economic and sociological studies on micro issues that often raised the pressure to introduce legislation.[167]

Figure 72 European mortgage default rates derived from RMBS performance analysis, 2004 - 2009



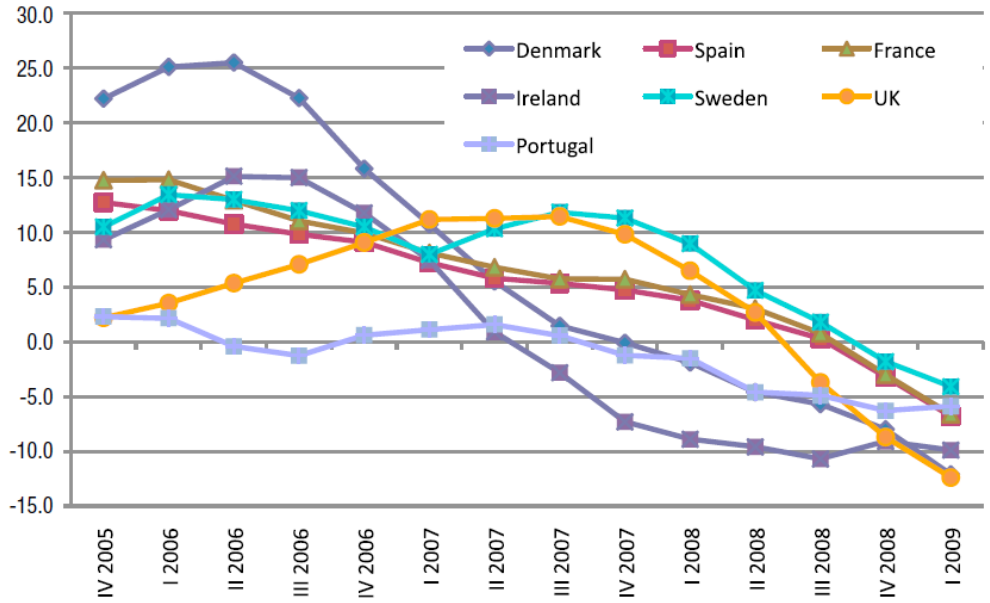
Source: FitchRatings (2009a).

Another handicap concerning accurate data analysis in the area is the recent the global financial crisis, with the European isolated sub-crises. Both US and European events promise to shift the dimensions of defaults upwards and change the relevance of the individual default determinants discussed above.

[166] See European Central Bank (2009b).
[167] Examples of such sources are the Rowntree Foundation for the UK, ANIL for France, or Schufa and the iff for Germany.

- For example, given the scale of the recent house price cycles in some EU Member States option-theoretic default may have become far more relevant to explain mortgage default compared to past spells of lending crises. However, option-theoretic default takes time to materialise as borrowers with sufficient cash flow to service their debt will default only with a delay, after awareness of a significant permanent negative equity position in the house has developed that a default can possibly eliminate. This point is particularly relevant for those European jurisdictions where the house price cycle lags strongly, for example Spain where house prices started to decline well after such a movement had been observed in a number of other countries (see Figure 73).

Figure 73: House price growth (year-on-year in %)



Source: EMF Quarterly.

- Risky credit or 'exogenous sub-prime': denotes the sales of mortgage loans to a class of consumers who are based on their proprietary characteristics and economic risk profile exposed to a high probability of defaulting.

- Excessive leverage or 'endogenous sub-prime': denoting the sale of excessive levels mortgage debt to consumers, including prime risks, as a consequence of general debt and house price inflation. Critical are high debt levels compared to assets and income, highly leveraged investments and debt uses for consumption purposes such as mortgage equity withdrawal.

- Distorted consumer incentives: the value of the default option for consumers can be raised if residual debts are swiftly cancelled or stigmatisation and other adverse social consequences are avoided.

- Lender negligence: denotes the absence of sufficient transparency, underwriting and internal control standards by lenders to ensure that all the necessary conditions for granting the loan are fulfilled. Insufficient standards not just may harm consumers but also lead to moral hazard behaviour of some lenders vis-à-vis investors and – as the lender and insurer of last resort – government.

- Risk layering: i.e. combinations of the above practices. As the recent US sub-prime crisis suggests, a particularly relevant covenant is the selling of risky products to non-creditworthy consumers e.g. by misleadingly keeping the appearance of creditworthiness. We discuss risk layering issues within the subsections covering the previous points.

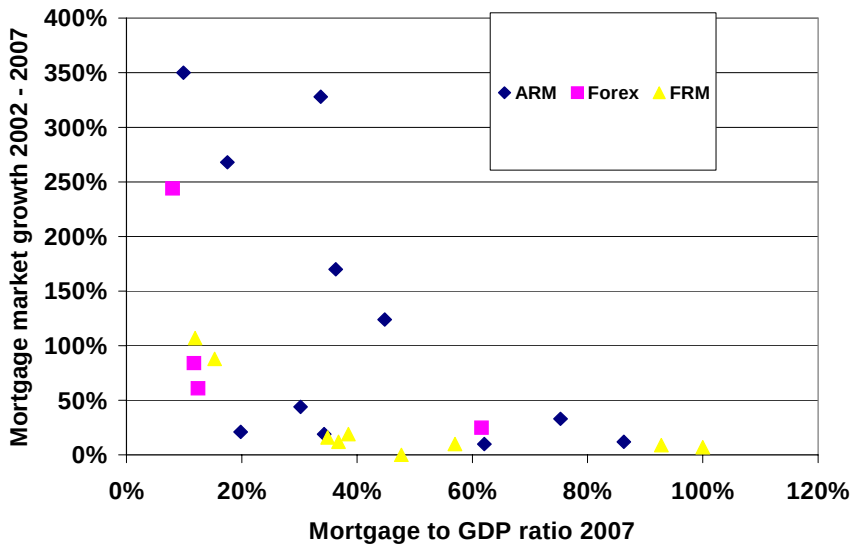
Risky products

The distribution of these products could be addressed primarily by policy options A2 (credit assessment), A3 (adequate explanations), B3 (specific risk warnings) and B4 (refrain from lending).

Demand and supply determinants

In the discussion in the early repayment Chapter 7 we already gave an example of the cost-risk hierarchy of different mortgage products. A full evaluation is beyond the scope of this study. The basic rule is, however, that the lower initial payments offered by a product, the higher the payment shock potential is.

Figure 74 Mortgage market size, growth and predominant product



Notes: chart shows all EU Member States except Malta.
Source: Hypostat, Finpolconsult assessment of predominant product type.

Figure 74 suggests that products with high payment shock risk tend to be found more frequently in young and fast growing mortgage markets, in particular those without developed long-term bond refinancing systems. However, examples in Western and Southern Europe show that also mature systems can increase their market growth with such products, at least during phases of interest rate compression. The US experience suggests that the growth of products with payment shock potential is fastest among more vulnerable borrower groups; we get back to this point below.

We focus the discussion of risky products on forex loans – prevailing in Central and Eastern Europe -, ARMs – prevailing in much of Western and Southern Europe, and teaser rate practices – characterising in particular the U.K. market.

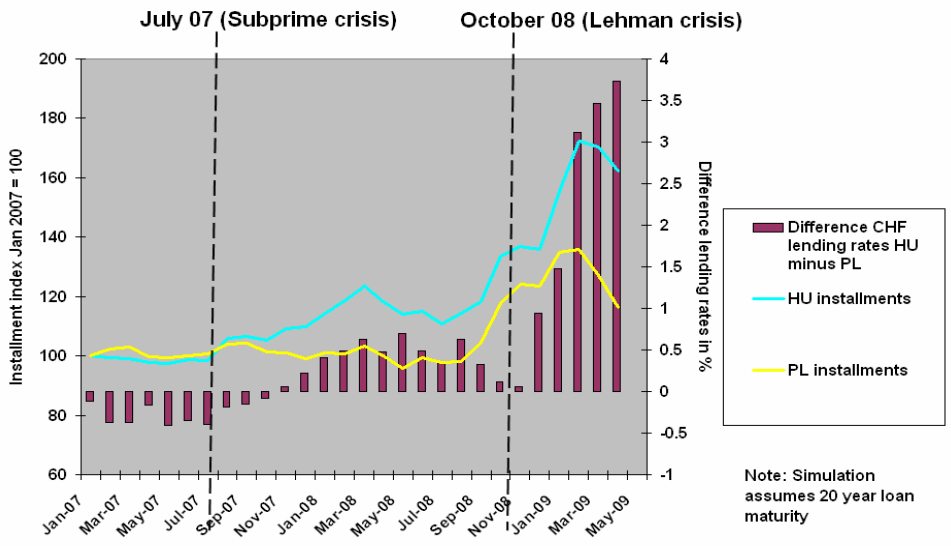
Forex loans

The offering of mortgage loans denominated in foreign currency (forex loans) to consumers is a practice widespread in Central Eastern Europe. The causes are high interest rates in local currency, correlated with high inflation levels.

In the presence of high inflation, the so-called Tilt effect leads to fast declining loan-to-value ratios and debt service to income burdens when a house purchase is financed with a loan in the inflating currency. The key mechanism is that house prices and incomes rise with inflation while loans outstanding are usually kept constant or decline in nominal terms. Both crucial drivers of affordability are therefore 'tilt', i.e. their time profile is steeper than under low inflation. Due to this change in time profile, under high inflation in the initial phase of the financing there is insufficient affordability while in later phases of the financing there is more than sufficient affordability. Such front-loading of the payment profile gives rise to early payment defaults, or lenders denying credit.

A forex loan basically adjusts for this imbalance by capitalising the inflation difference between the local jurisdiction and the jurisdiction of the foreign currency into the loan balance, as expressed in local currency. The forex loan amortises in foreign currency, but it generates negative amortisation - matching rising house prices and incomes - in local currency. Loan-to-value ratios and debt service to income ratios fall less steeply.

Figure 75: Foreign-currency mortgages denominated in Swiss Francs in Poland and Hungary – different payment shock in combination with indexing practices



Note: Payments computed for loans closed in January 2007 (Index Jan07=100).
Source: Dübel and Walley (forthcoming).

This is a stylised representation; in reality one risk – early payment default – is reduced while giving rise to another – payment shock throughout the life of the loan.

In order to explore the risk content of different forex lending practices of the mortgage industry, it is instructive to compare the Hungarian and Polish cases. Both countries use the Swiss Franc (CHF) as the main currency for mortgage lending. Figure 7 describes the differences between mortgage interest rates – usually 3-6 months adjustable – charged on the outstanding mortgage portfolio and the combined impact of devaluation and interest rate changes on consumer debt service.

Polish practices resulted in a far lesser payment shock than Hungarian, despite a similar-sized devaluation. As of mid-2009, Hungarian mortgage portfolio defaults have climbed to about 3.5% while Polish default rates remain insignificant. What are the reasons?

- Polish banks – due to a long history of loan indexing – largely tie CHF interest rates to the CHF money market indices. This index has dropped substantially during the devaluation shock as a result of decisive Swiss central bank intervention. Hence, as a result of two factors moving into opposite directions, a hedging effect has been produced that protected debt service payments. Hence, the cash flow motive of default has remained subdued.

  However, this hedging effect does not mean that Poland will not run into material default problems as a result of the devaluation going forward. The reason is option-theoretic default, as many loans were given at high loan-to-value ratios – a perverse effect of the lower initial debt service of CHF vis-à-vis PLN loans were higher LTVs – and the loan value in local currency for many cohorts has substantially increased. Option-theoretic default will first be exercised by speculators (who realise they have lost their capital and still have a main dwelling), but over time also affects the homeowner portfolio.

  Moreover, Polish lenders temporarily take a loss on the outstanding portfolio as the index spreads do not compensate for the substantial increase in their borrowing costs.

- Hungarian banks in contrast to Polish banks practice reviewable CHF rates which are adjusted upon the lenders' discretion. They have passed through their recent substantial funding cost increases to the CHF rates on the outstanding Hungarian mortgage portfolio, which as a result have increased after devaluation shock. In combination, a declining currency and rising interest rates have exacerbated the payment shock. Hence, Hungarian lenders buy higher default risk while remaining protected in terms of funding cost increases on their performing portfolio. An interesting footnote is that commercial lending in Hungary is generally index-based, so the commercial portfolio is currently cross-subsidising the retail mortgage portfolio.

A common factor in both countries has been the choice of currency, CHF, rather than the Euro as the main lending instrument. This was historically driven by foreign bank entrants – in the case of Hungary notably Erste Bank, which transferred Austrian practices of CHF lending to a neighbouring country, and in the Polish case Portuguese Millennium bank. Both banks started with low market shares and used the new, 'more affordable' product to rapidly expand their business.

When assessing these practices in terms of costs and benefits for stakeholders, caution needs to be applied. Countries with high interest rates in national currencies (e.g. in Central and Eastern Europe) may be better off to 'anchor' long-term loans such as mortgages by using a foreign currency. The question

to be addressed is a fair risk sharing arrangement between consumers, lenders and ultimately government.

Lending based on volatile short-term indices

We have discussed in detail the risks of ARMs and the determinants of the relative demand of ARMs and FRMs in the early repayment chapter, and come back below on the interaction effects with house prices.

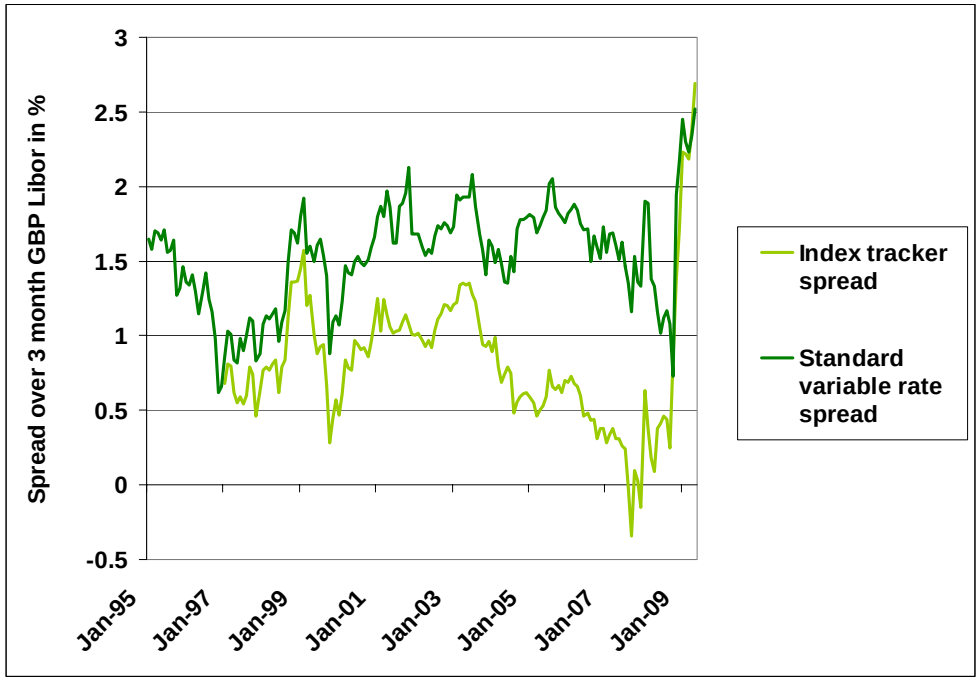
Outside a high inflation scenario, the use of an ARM in isolation increases default risk only moderately when several 'anti-risk-layering' rules are followed:

- High amortisation ratio, especially of the saved 'yield curve costs'. In some jurisdictions, e.g. Germany, ARM products that mimic FRM cash flow characteristics exist.
- Sufficiently conservative house price-to-income levels and LTVs upon underwriting to ensure that interest rate shocks leave debt service within affordable proportions.
- Selling of ARMs only to borrowers that can afford a certain level of debt service shock.
- Transparency about the full costs of an ARM (fully-indexed-fully-amortising, FIFA).

Unfortunately, the European reality of ARM lending is frequently characterised by risk layering: ARMs have come with declining amortisations, where house price inflation occurred (e.g. in the Spanish market, where typical loan maturities rose from 20 to 50 years within a decade) and their - temporary - yield curve advantage has been used to finance high house price-to-income levels and loan-to-value levels (in virtually all ARM markets). While adverse selection as in the US sub-prime case – low-income to ARM, high-income to FRM – seems absent in European ARM jurisdictions – since the FRM has virtually disappeared from the market, lower-income borrowers tend to be inadequately exposed to interest rate risk through ARMs.

Finally, especially in high house price jurisdictions transparency is often further reduced through initial teaser rate and discount practices that provide an illusion of affordability. It should be noted in that regard that the key lending instrument in US sub-prime, a 1-2 year initial fixed-rate teaser period followed by an index tracker with a substantial payment increase, was practiced in Europe for decades (e.g. in the UK) before it made its appearance in the US.

Figure 76 UK tracker vs. SVR interest rates differentials 1995 - 2009



Source: Finpolconsult computations of Bank of England data.

We briefly discuss here three protection mechanisms against payment shock in ARMs: rate adjustment mechanism (index-tracking vs. reviewable), periodic or lifetime caps, and the dominance of initial fixed-rate or discount arrangements.

- Index-trackers vs. reviewable rate adjustment: the example of the UK shows the pitfalls here. In terms of new origination volume, the classic British reviewable rate product commonly labelled SVR (for 'standard variable rate') has been practically replaced by index-trackers during the 2000s. Index-trackers have been issued at increasingly small spreads over GBP 3-months Libor, as Figure 8 shows.[168]

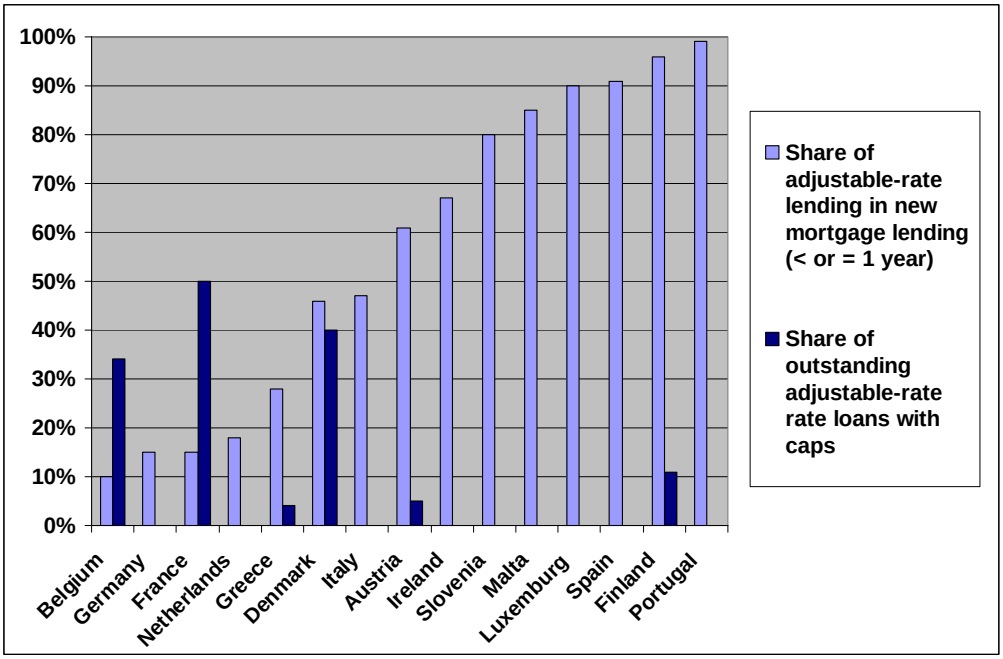
  Yet, that affordability gain for consumers has been bought with higher volatility of new lending rates, as demonstrated by the figure. Also, there is now faster pass-through of interest rate increases to the existing portfolio. In contrast, the SVR had left lenders with the option to smooth the debt service burden of the portfolio when

[168] A similar observation can be made for Spain, where average Euribor tracker mortgage spreads declined from ca 1.5 % in 2003 to 0.5% in 2006.

refinancing rates spiked (but see discussion of Hungarian case above with regard to failure of lenders to downwards adjust rates when refinancing rates do).

The absence of a smoothing option is a particular problem with index-trackers if higher spreads contracted during an interest rate trough (in the UK and Spain at least during 2003 and 2004) remain constant over the lifetime of the loan, which is the rule, and prepayment is expensive. This was the case for instance in Spain where ARM borrowers had to pay a 1% prepayment fee until the reforms of 2007, see discussion in the early repayment chapter.

Figure 77 ARM share and use of ARM caps in the EU per 2007



Source: ECB (2009b), Realkreditraadet, Finpolconsult computations.

- As Figure 77 shows, based primarily on ECB bank survey data[169], the use of caps in European ARM lending is rather limited, and moreover negatively correlated with the intensity of the use of ARMs. France, Belgium, Denmark practice interest rate caps widely:

[169] Source: European Central Bank (2009b), table 2.

- In France, the typical level is underwriting interest rate plus caps varying between 1 and 3%. Loans with tight caps come occasionally with prepayment fees.[170]

- Belgian lenders similarly practice floors and ceilings for ARMs, with a typical maximum deviation of 3%.[171]

- Denmark started a capped ARM market in the early 2000s with cap levels slightly below the prevailing FRM coupon rate and also experimented with different types of caps. During the mid 2000s when the yield curve steepened, the Danish product for some time overtook the callable FRM in market share. In the meantime most Danish ARM are again uncapped. An interviewed Danish lender commented that covered bonds refinancing capped ARMs were difficult to market to investors, and that also with rising house prices consumers sought to avoid any additional credit costs such as cap premiums. [172] Cap premiums in two capped ARM products offered by the lender in 2007 were 50 (cap at 6% level) and 80 basis points (cap at 5% level), respectively.

- After the breakdown of the subsidised fixed-rate lending system of Bausparen in 1999, Austria tied the Bauspar subsidies to a capped ARM product – the cap of 6% replaced the former 6% standard fixed-rate level.[173]

[170] Sources: websites of lenders active in the French market, e.g. Crédit Agricole.
[171] Source: European Central Bank (2009b).
[172] However, investor acceptance problems have also occurred with uncapped ARM: in December 2008, the repricing of uncapped ARMs in Denmark met serious difficulty as investors feared high defaults and trusts in banks guaranteeing the associated covered bond issues was weakened. The government had to step in to support investor demand through purchases of a public pension fund.
[173] Source: interview with S-Bausparkasse (Erste Bank Group).

It is noteworthy that in the above mentioned countries, the use of caps is not legislated.

Some Spanish lenders also use caps and even floors for interest rates in Euribor-linked contracts. However, the ranges are wide (e.g. floor of 2.5% and cap of 10%) and provide little upward interest rate risk protection.[174]

The UK and Ireland have ARM systems where downside risk for the borrower is technically uncapped.

We have insufficient data in Europe to test – necessarily across countries with all their institutional and data standard differences - whether capped ARMs have contributed to lower default rates. However, we know for example that a cap of X+2% would have reduced the interest rate shock on Spanish Euribor loans originated between mid-2003 and the mid-2006 by the end of 2008 from 100% to around 65%. This would have reduced investor anxiety that ravaged the Spanish bond market and banking system during 2008 and 2009 as well as pressure from the ECB to reduce short-term interest rates to very low levels.

In the quantitative analysis below we will further explore the characteristics of ARM caps as a payment shock protection instrument.[175]

[174] Source: interview with Spanish mortgage association. The Bank of Spain is currently surveying market practices with regards to caps and floors.
[175] The European Commission at the time of writing has launched a tender to explore the use of interest rate restrictions and their effects.

- Hybrid ARM products (combining initial fixed-rate or variable-rate discount periods with an ARM) increase initial affordability further compared to a 'fully indexed' ARM, at the expense of an additional source of payment shock risk when the ARM kicks in. Those products have a tradition in the UK and Ireland, but interestingly not in other European ARM markets.[176]

  The reason seems to be that initial teasers and rate discounts came historically up in the highly competitive British market in the 1990s as an instrument that provided borrowers with incentives to switch lenders and thus change market share. The discounts for the front book were clawed back by higher spreads paid by the backbook. Only under increasingly inflated house prices initial teasers and rate discounts became an affordability instrument.

  In normal times, lenders speculate on eventually earning profit on borrowers after the end of the teaser or discount period by transferring them into high-margin ARMs; in crisis times, the hope is rather to find another lender offering a new teaser or discount period, or face a client with a payment shock. We will discuss the British case in some detail below, and note here that the US has clamped down on those products by requiring fully indexed-fully-amortising rate underwriting.

Combo loan products

Most important in this category are insurance / investment fund products used as repayment vehicles to amortise mortgages. A common feature is the departure from standard amortisation patterns. The key risk is the non-performance of repayment vehicle, and only slowly declining loan-to-value ratio due to absence of amortisation. Risk layering also occurs.

[176] See Low, Dübel and Sebag-Montefiori (2003) and Batchvarov et al (2003) for product overviews.

- Combo products are often driven by income tax arbitrage. The most prominent example here is the Netherlands with the second largest European residential mortgage market in relation to GDP after Denmark. The main reason is that Dutch mortgages do not amortise. There are several product combinations on the market. Under the savings mortgage, the borrower can even reap a dual tax deduction – on the mortgage interest and on the savings contribution into the vehicle. In combination of such incentives to higher consumer indebtedness and severe land supply constraints (Randstad development concept), it is not surprising that the Netherlands records one of the highest house price income relations in Europe. A mitigant to default in the country is seen in the predominance of FRM, which lowers the payment shock risk. See also Table 63 below which reports a set of rating agency assumptions with regard to Dutch mortgage loan pool default predictors.

- A second driver has been the Bankassurance concept that aims at the cross-selling of loans by insurers and vice versa of insurance products by lenders. The most striking example here seems to be the Austrian practice of combining Swiss Franc mortgage lending and Euro life insurance repayment vehicles. We discuss this in the box below.

Box 2 Combo loan product risks – Austria's combination of forex and repayment vehicle loans

Starting in Vorarlberg state at the Swiss border, forex lending in CHF, later also JPY, had been booming in Austria since the late 1990s. Particularly popular was a product that linked a non-amortising CHF mortgage loan with a EUR repayment vehicle (e.g. an endowment insurance contract). The basic concept was to invest the difference between a EUR loan instalment and the CHF instalment into the repayment vehicle. Insurers, banks and intermediaries were beneficiaries of this product that fit the Bankassurance concept of the time (selling insurance contracts through banks, and vice versa). Consumers liked the idea of lower CHF interest rate payments and the opportunity of a possible gain from currency appreciation.

As clear as the benefits of the products, however, were the risks for consumers including non-performance of the repayment vehicle and currency risk. Already in 1999, the Austrian finance ministry had become critical of the practice, but it took until 2003 to produce a set of rules. Under these rules, banks were held to limit the downside risk for consumers (through CHF-EUR conversion offers), restrict loan and portfolio size, and undertake credit rating and risk-based pricing. Loans had to be underwritten on the assumption of increased instalments following a devaluation.

Yet, the initiative remained inadequate and did not succeed in curbing the practice. During the considerable implementation lag (4.5 years between MoF letter and FMA regulation), CHF household lending tripled. While mention to stress test and conversion limits were made, no specific values were set. Eventually, lenders themselves decided in winter 2009 to stop the practice: the key reason had been the CHF funding shock of October 2008, which had revealed the severe funding constraints for lenders in that currency. Once a critical mass of lenders was present, the regulator was encouraged to issue a formal ban of the product in the spring of 2009.

Source: Dübel and Walley (forthcoming).

In some constellations senior-subordinated lending practices in the form of second mortgages are also problematic. In their unregulated form in the US, such seconds wrought havoc on coastal mortgage markets, where large proportions of high-LTV financings consisted of such senior-subordinated financing structures. The capital-market financed second mortgages had replaced the traditional mortgage insurance model, where an insurer would strictly control and price the additional risk taken.

Examples in Europe appear rather well-behaved, such as the German Bauspar system limited to 80% loan-to-value ratio (for the lending portion of the financing) and the occasional public second mortgage. Those products raise in particular APRC issues as the concept has still not been defined for

combo financings at the European level. Yet there are also certain credit risk issues such as the co-ordination needs for the different lenders in the case of foreclosure, or in relation possible obstructions to a prepayment, or a lower overall amortisation profile of the loan.

Exogenous sub-prime (consumer groups with difficulties to repay)

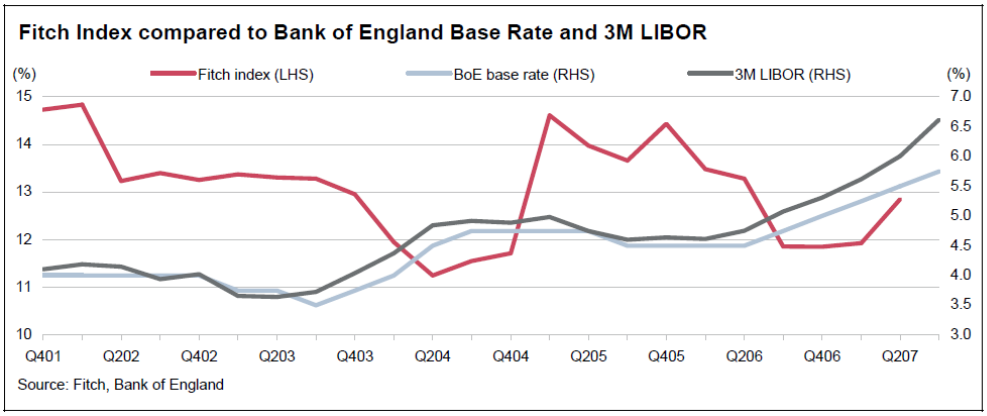
Within the range of policy options proposed, the practices described here could be addressed in particular by A1 (access to credit databases), A2 (credit assessment), A3 (adequate explanations), B3 (specific risk warnings) and B4 (refrain from lending).

The sub-prime crisis in the United States has conveyed substantial evidence of mis-selling to consumer groups with difficulties to repay, for reasons that are also existent in Europe. The exogenous causes for such borrower groups to enter the mortgage market are usually the absence of functioning private rental markets and the insufficient supply of social rental housing. Also, public subsidy or guarantee systems for low-income or young mortgage borrowers are often incomplete or inadequately set up and cannot cope easily with house price inflation.[177]

The evidence about European sub-prime markets is limited as most Member States do pursue either social rental housing policies or low-income housing finance programs. So far only the UK has developed a formal non-prime market, which also only partially overlaps with what establishes sub-prime in the US.

[177] One of the less publicised factors behind the rise of private sector sub-prime lending in the US was the gradual withdrawal of the public agency FHA, a division of the US Department of Housing and Urban Development, from guaranteeing such loans. FHA was unable to adjust their house price ceilings to US house price inflation (in particular in coastal areas) and in addition through most of the house price cycle was limited in her guarantee program to callable FRM, which had a serious credit cost disadvantage relative to the ARM and hybrid ARM that the private sector used (albeit far zero payment shock risk).

Figure 78 UK non-conforming RMBS default index, Bank of England base rate and 3-month-LIBOR, 2001– 2007



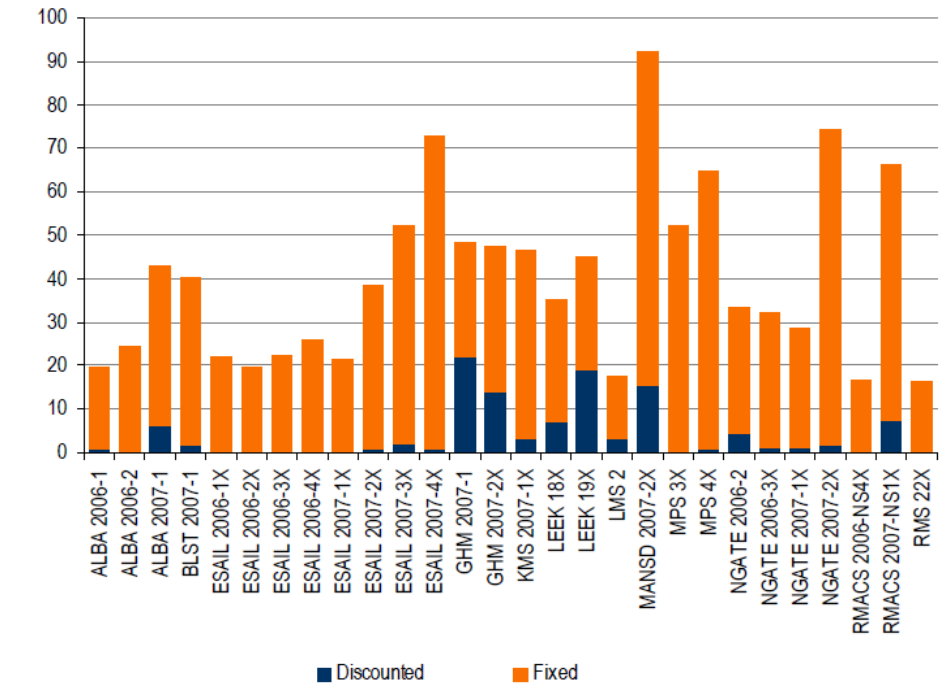
Note: 'Fitch index' denotes a default index compiled from non-conforming RMBS deals.
Source: FitchRatings (2007a).

The broader category used for lower credit quality borrowers in the UK leaning on US terminology is 'non-conforming' loans. In the UK it includes also buy-to-let loans, loans to self-employed and to borrowers with short credit histories. Until the factual market breakdown in 2008 the British non-conforming category was catered for by a group of specialist lenders. The same specialists also lent to sub-prime borrowers, in the UK those with impaired credit history, but more commonly, it would be measured by county court judgments (or effectively debt courts).

The underwriting conditions and instruments used by those specialists to assess affordability differed were generally very optimistic.[178] Almost all loans were hybrid ARMs – either initial fixed-rate or discounted – with the associated reset risk (usually after 2 years, see Figure 79). British non-conforming borrowers, as their sub-prime counterparts in the US, would also contract very high margins once their reset date was reached (see Figure 80). This and other vulnerability factors explain the high susceptibility of default risk to interest rate changes (see Figure 78).

[178] FitchRatings (2006) provides an overview of practices at the peak of the market. At the time, the typical debt service stress test assumption made by specialist lenders was an increase of the interest rate by 1%.

Figure 79 UK non-conforming RMBS reset risk by deals for 2009 in % of original loan pool balance



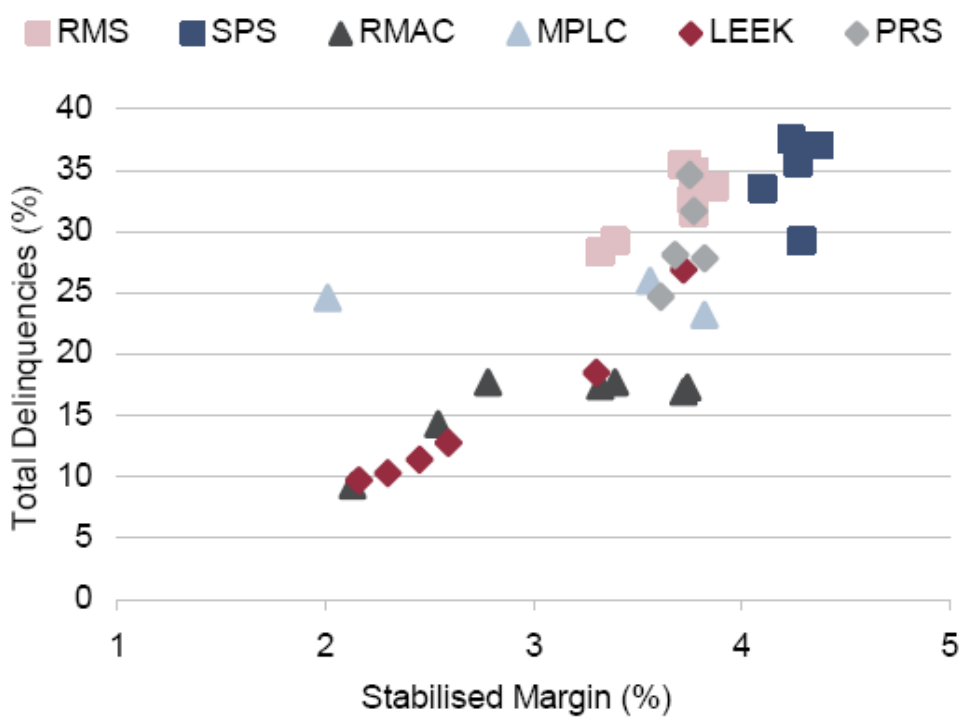
Source: Merrill Lynch, ABSXchange, investor reports

*Excludes deals where the amount of resets is less than 10% of original balance

Source: Bank of America Merrill Lynch (2009).

Figure 80 shows the performance of spreads of non-conforming portfolios compared to other UK mortgage portfolios pooled in residential mortgage-backed securities. The spread differences can be taken as a proxy for their credit risk expectation (and other factors, such as accuracy of ratings). Broadly, non-conforming spreads have risen in proportion with prime spreads, their level is however about 50% higher. 2005 vintage arrears over 90 days of non-conforming loans at the end of 2008 were 15%, compared to 1.5% in the case of prime mortgages. This is due to reset problems – while borrowers are being sometimes helped through reset to index-tracker and standard variable rate loans where underlying base rates have declined, they are still often subjected to payment shock. Figure 80 shows that the level of margins contracted with borrowers in individual deals on aver correlate directly with the delinquency status of the securitisations.

Figure 80 UK non-conforming RMBS pool margins and delinquencies, snapshot of 2007



Notes: abbreviations denote deal labels of different specialist lenders, stabilised margin = average of loan margins in the pool after expiration of initial fixed-rate or discount period over LIBOR .
Source: FitchRatings (2007a) based on data provided by Lehman Brothers and RMBS trustee reports.

As of 2009, with the disappearance of investors and specialist loan originators, lending to non-conforming UK borrowers has been largely abandoned – an exception is lending to free-lancers.

We have very limited evidence for non-prime markets outside the UK. It is nevertheless instructive to discuss a few cases:

- In contrast to the UK and the US, the Spanish non-prime or sub-prime market segment is not openly defined as such. Neither products sold nor underwriting standards differ much: the main affordability feature for borrowers with lower incomes are longer amortisations, which quickly expanded during the house price inflation to between 40 and 50 years. However, from the perspective of consumer groups interviewed in the stakeholder discussion held for this study, a Spanish sub-prime market clearly existed before the crisis shut it down; lenders in contrast deny its existence.

The key driver for non-prime lending in Spain is the absence of a rental market for young households and migrants, including a large wave of African immigrants in the past decade. Spain has had a history of severe rent controls and despite a series of liberalisations has not been able to revive that market. Spain also has had a history of high youth unemployment rates in European comparison. Many previously non-eligible households became eligible for mortgage lending when Euribor rates were extremely low during the middle of the 2000s, since they fit standard underwriting criteria such as debt-service-to-income ratios. However, as the Euribor doubled within a few years and borrowers were underwritten at already high house price-to-income multiples those groups were among the first to experience serious stress.[179]

Lenders have argued in the stakeholder meetings that at the time of underwriting, the groups in question were prime borrowers. Consumers have argued that lenders were aware of excessive house price levels in Spain as the Bank of Spain had repeatedly issued warnings and that lenders acted irresponsibly by extending credit to more vulnerable groups. The consequences of default are very serious in Spain since insolvency legislation for consumers is absent, implying that consumers are technically fully liable for residual debt (see Table 62). Moreover, most properties can be foreclosed by power of sale, which is likely to maximise residual debt.

- France provides an interesting contrast to Spain: the country has experienced a similar house price cycle than Spain but so far has seen far lesser credit problems. A private French sub-prime market does not exist. Vulnerable borrower groups are being addressed more by a public-private insurance institution called FGAS – guaranty fund for social access (to credit) that takes care of borrowers with low and variable incomes, including students and self-employed. Moreover, the predominant French ARM products, into which many of the vulnerable consumers self-select, use tight caps over initial market rates, e.g. initial plus 2% (i.e. if the Euribor rate was 2.5%, the rate would never exceed 4.5%).

[179] It is not possible to get segmented default data for Spain. As of mid-2009, first residence mortgage portfolio default rates at the main commercial lenders stand at ca 1.5% (Source: Bank of America Merrill Lynch 2009); delinquencies in the more vulnerable borrower segments can be expected to be multiples of that figure.

- It has been argued against the context described that transition countries form the European sub-prime market. This may be true in isolated cases. For instance in Latvia, the absence of a credit bureau in combination with strong house price increases and easy credit conditions has induced numerous borrowers to take out multiple loans and investing in condominiums.[180] Incidences of speculation were also observed recently in Poland or Romania, and during the late 1990s house price boom in Hungary. However, as credit bureaus are developed those cases are becoming more isolated and lenders seem to react through pricing and underwriting constraints. Also, transition countries face some specific adverse selection problems caused by the fast increase in broker origination and, in some cases, also the product menu. Lenders in the region surveyed for this study are adamant that, as a general rule in the emerging mortgage markets of transition countries, prime risks are the main target and that a general characterisation of the markets as sub-prime is misleading.

- Firstly, in a review of the advantages and disadvantages of sub-prime market practices, from a theoretical point of view one would need to assess whether and to what extent a practice reduces individual consumer utility as compared to the utility of consumers as a whole. It could be possible that countries with structurally weakened rental markets (e.g. Spain due to decades of severe rent controls) or very low-density housing stock (United Kingdom, Ireland, Poland, Scandinavia, Baltic countries) may be better off with a sub-prime lending market accepting higher default levels as it may facilitate access to residential property to a wider spectrum of the population even if some borrowers may suffer a default as a result of taking such a loan.

- Secondly, a costs and benefits discussion needs to consider the available alternatives. Would renting be the more efficient alternative for consumers and/or government? While rental markets were predominant around 1900, many EU Member States today only have rudimentary shares of rental housing stock left. How long would it take for a country starting from scratch to stimulate a private or public-private rental investor class, the homologue to mortgage lenders, to produce rental housing? While we calibrate the rental alternative as opportunity cost of mortgage borrowing in the quantitative analysis, it is extremely difficult for some markets to put a realistic figure on the level of those cost.

[180] Source: interview with World Bank staff involved on Latvian mortgage sector restructuring.

Endogenous sub-prime (inflated debt levels and financial innovation)

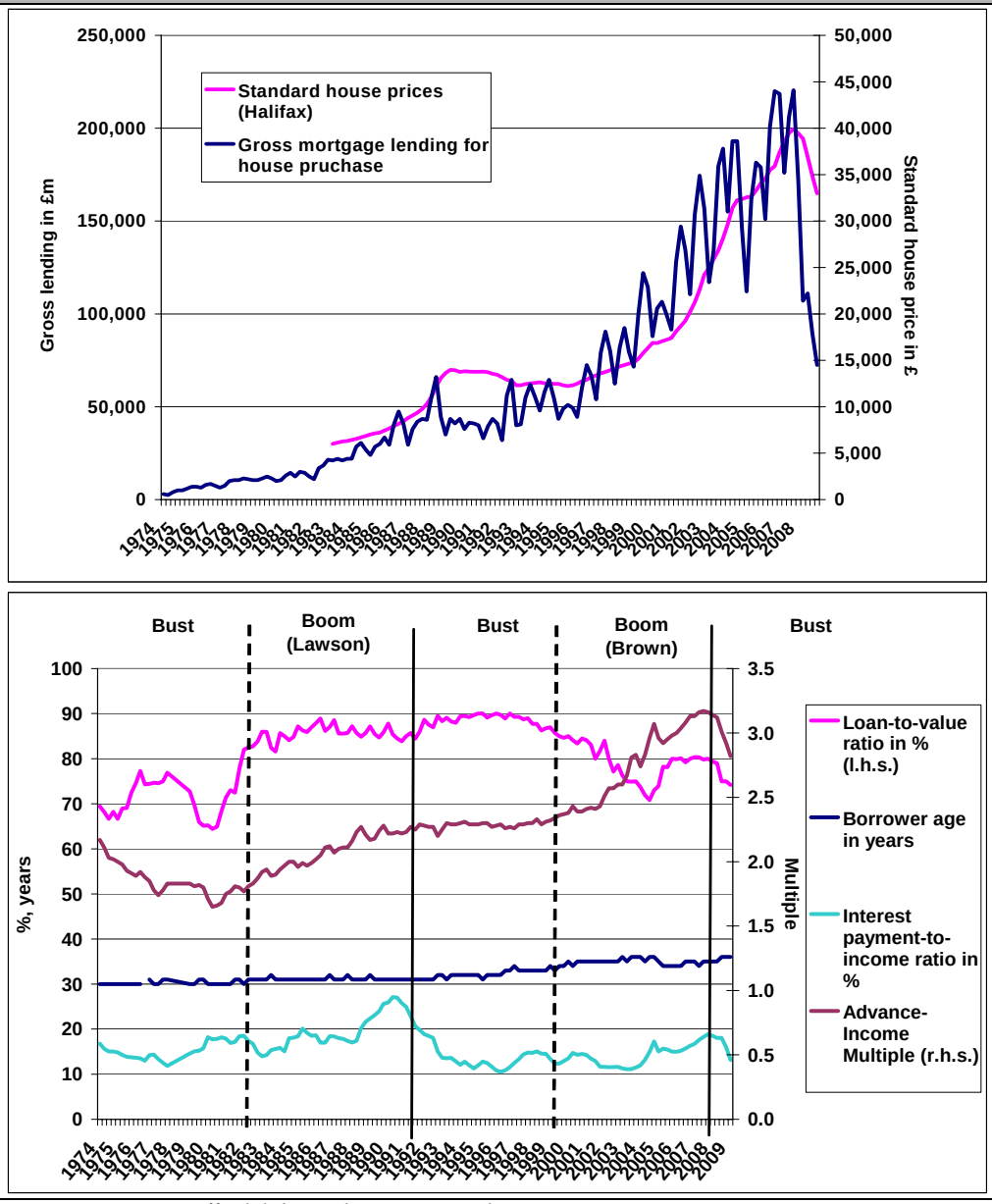
The practices described here result from general house price and debt inflation, which is to a greater degree affected by policies outside the ambit of consumer protection than other non-responsible products and practices described. However, we see policy options A2 (credit assessment) and B4 (refrain from lending) as potentially effective to lean against a general inflation trend and their consequences.

The single one driver of risky lending practices is arguably house price inflation, which – everything being equal including unemployment levels - has the potential to quickly turn prime borrowers into a non-prime category.[181]

House price inflation interacts with both land and housing supply conditions as well as general credit market conditions influenced by such diverse factors as monetary policy or the willingness of foreign investors to finance the capital account, or the banks for that matter, of a given jurisdiction. As of 2009, cases of pricked house price inflation bubbles have been recorded in large parts of Europe, most of which must be suspected to be the result of excessively lenient lending conditions.

[181] The prototype for endogenous sub-prime is the US 'Alt-A' market, a market segment that is larger than sub-prime and comprises essentially prime borrowers who violate one or several check boxes for Fannie Mae and Freddie Mac refinancing eligibility. With house price inflation in the coastal regions of the US an increasing number of borrowers missed check boxes and were moved into that category. A key example for a missed check box is lack of income verification, often a deliberate miss as computation with true income would have rendered a financing impossible.

Figure 81 Debt inflation, house price inflation and underwriting standards in the UK – 35-year comparison 1974 - 2009



Source: CML. Note: affordability indicators are medians.

We discuss in some detail here the case of the UK, which is now going through the second major housing and mortgage market cycle in a generation.

Figure 81 shows that the British house price inflation of the 2000s outpaced even the inflation of the 1980s. What the figure does not show is causality:

credit inflation can be seen as either trailing or causal to house price inflation. In a country with severe land and housing supply constraints, the causality of credit inflation is likely to be more pronounced.[182]

The question as to who is to blame for such excessive credit market expansion is at the heart of post-crisis regulation discussions. Our main focus with regard to the policy options to be analysed is whether and which underwriting standards would help to avoid future cycles.

Figure 81 shows the time profile of UK underwriting standards over the past 35 years, which includes both large house price inflations. Firstly, we notice a few secular trends: first the increase in loan-to-value ratios in the 1980s and 1990s compared to the 1970s, as a result of financial liberalisation. Secondly, British borrowers relative to their incomes got more and more indebted when purchasing housing. This fact has thirdly not been mitigated by the rising borrower age.

How did the British market react to the crisis of the 1990s following the Lawson boom, which was almost unparalleled in Europe? Apart from innovative approaches in restructuring, there were three major outcomes of early 1990s mortgage market crisis for loan underwriting. All of these were voluntary arrangements made by the industry:

- Mortgage lenders created a Code of Conduct in 1997[183] in order to improve general ethics and transparency of loan underwriting. The Code was later replaced by the M-day regulation reforms.

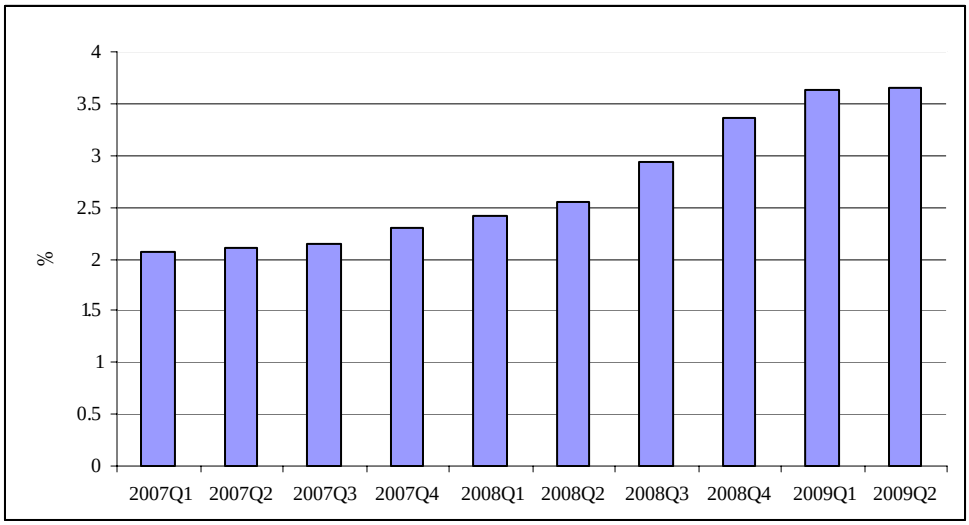
- An industry initiative was also the creation of private mortgage protection plans, insurance schemes protecting against an income shortfall of the borrowers that drew the consequences from high incidence of unemployment risk in early 1990s crisis and reluctance of the British government to keep subsidising mortgage payments immediately following a default. In 1999, the UK Government issued a challenge to the industry to increase Mortgage Payment Protection Insurance sales to 55% of new mortgages sold by 2004.[184]

[182] The reader wishing to explore this discussion further is referred to various Reviews sponsored by the UK government on both land and housing market (e.g. Barker Review (Barker 2005) and mortgage market (e.g. Miles Review (Miles 2004) policies.
[183] Council of Mortgage Lenders, *Mortgage Code*. This code came into effect for lenders on 1st April 1997.
[184] See Council for Mortgage Lenders (2006).

- The most tangible result perhaps – as can be discerned from Figure 81 - was that LTV's became reduced compared to the excesses of the liberalisation of the 1980s. Then, under the Right to Buy policy low-income households had been given access to close to 100% LTV loans to be able to afford to privatise social housing dwellings. Due to high unemployment risk these were the first loans to default after the interest rate shock following German reunification. [185]

Despite these arrangements, a new lending and house price boom occurred. Loan-to-income (and house-price-to-income) ratios climbed to new heights during the Brown boom, and, as of 2009, a new default crisis is developing.[186] The most recent data available from the UK Financial Services Authority show that in the first half of 2009, the percentage of mortgage loan balances in arrear relative to total mortgage loan balances had increased by 70% relative the average observed in 2007 (3.65% versus 2.15%) (see Figure 82).

Figure 82: Mortgage balances in arrears as % of total mortgage loan balances



Source: Financial Services Authority UK, Mortgage Lending & Administration Returns (MLAR).

[185] See Dübel and Pfeiffer (1994) for a discussion of UK residential LTVs and default rates at the time. Hogarth and Elias (1994) discuss the profound changes in the social structure and unemployment risk of mortgage borrowers in the UK during the 1980s.

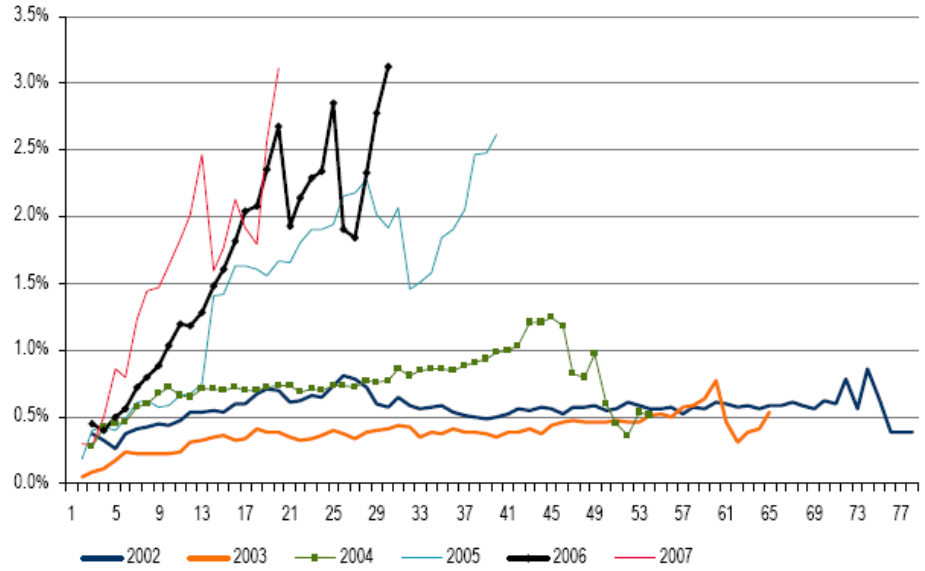
[186] The text above provides a description and assessment of recent developments in the UK mortgage market. To reflect the type of house prices/mortgage lending cycle shown by the UK mortgage market, one of the economic scenarios developed for the purposes of the CBA is also characterised by a sharp cyclical pattern in house prices and mortgage lending.

The key difference and driver of lending volumes and prices this time around can be seen in financial innovation and implicit investor subsidies to the UK market.

- Despite increasing house prices until the very last phase of the Brown boom, median UK debt service ratios have been lower in the 2000s than in the 1980s. The main reason can be seen in financial innovation: the appearance of index tracker products with very low spreads over Libor - during 2006 and 2007 at 0% or 0.5% - see Figure 76, as well as hybrid ARMs (teaser rate products) with low initial fixed rates and associated payment shock risk. The latter were also the key instrument during the US sub-prime crisis. The product is used in the UK in the same way that it is used in the US: prepayment at the end of the fixing period is the general assumption of both lenders and consumers. Financial innovation and 'teaser hopping' explain that since 2002 prepayments account for half of the UK housing finance market turnovers – a European record level – up from some 10-20% in the 1990s. Financial innovation products - index-tracker and hybrid ARMs - according to Bank of England statistics combined during 2005-2009 made up 80-90% of new originations.

- In the credit dimension, while some lessons of the Lawson boom had been learned (lower LTV, risk-based pricing), in combination with the above measures to reduce monthly burdens in the short-run, financial innovation nevertheless aggressively expanded the bankable product and borrower range.

Figure 83 Spanish RMBS arrears > 60 days by vintage, end of 2008

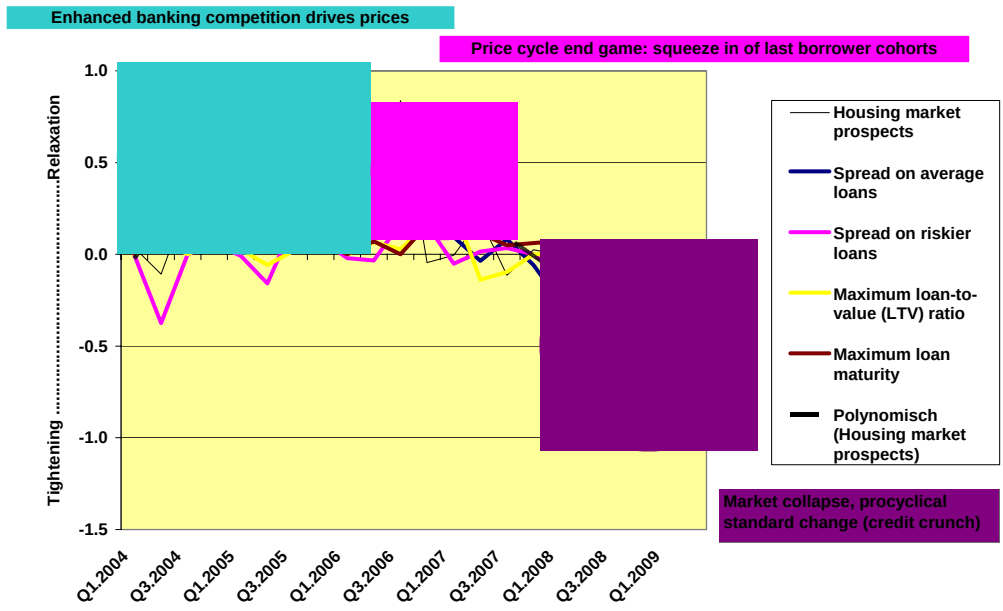


Source: Bank of America Merrill Lynch (2009).

Spain is a case with comparable dynamics. In Spain, amortisations increased with the house price cycle, as did house price to income and loan to income ratios, which both broadly doubled between 2002 and 2007. However, the Spanish product menu relies less on teaser periods than the UK and the attempt to keep debt service to income ratios by amortisation extensions alone was unsuccessful.

Instead, the overwhelming dominance of Euribor index-tracking and long amortisations led to a quick pass-through of the pre-crisis Euribor increase and a substantial payment shock. Moreover, negative equity played an almost instantaneous role. In interaction of both effects, Spanish RMBS loan pool arrears are ballooning since 2008, with defaults at those loan cohorts underwritten at peak house price levels by far underperforming the remainder of the portfolio, as Figure 12 shows. While the ECB mitigated the Spanish shock by following the US Fed in interest rate reductions and accepting Spanish RMBS on a large scale as repo-eligible – which meant that bank could take out the developers they had lent to for a few more months, the correction was merely delayed.

Figure 84 Relaxation and tightening of mortgage market standards during the last Polish house price cycle

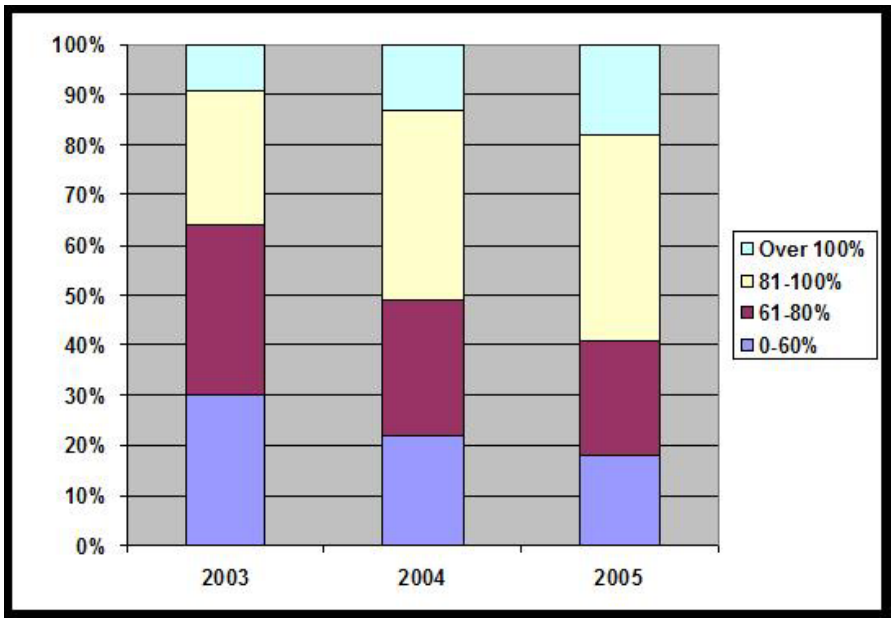


Note especially the sequencing of spread reductions, followed by maturity extensions.
Source: NBP lender survey, Finpolconsult presentation. Question: Over the last three months, how have the terms on which housing loans are granted by your bank changed?

Interestingly, house price cycle endgame financial innovation tactics have also quickly captured European transition economy markets. Figure 84 presents the Polish case based on standard lender surveys. Three phases of lender behaviour can be discerned: a reduction of spreads coinciding with strong house price growth; as maximum house price levels are reached, a reduction of lending standards to push borrowers into the market – here in particular amortisation – and as prices decline a collapse and considerable tightening of lending standards, in particular of spreads.

It is important to point out that relaxation of lending standards and financial innovation also occurs when housing inflation is absent.

Figure 85 Germany – LTV changes during the interest rate compression phase 2003 – 2005



Source: Hypoport AG, Finpolconsult. Data source is Europace mortgage intermediation platform, covers ca 10% of the German mortgage market.

A notable case is Germany with its uniform non-callable FRM lending and flat house price trend that was shaken by the emergence of broker intermediation during the 2000s. Figure 85 shows with Europace data that LTV standards had become considerably more relaxed in the early 2000s when the market was hit by new entrants, helped by additional broker intermediation. At peak times, 20% of new lending was above 100%. Inter alia, US entrant GMAC had introduced such products – targeted on high income clients to avoid risk layering. Nevertheless, default rates of the "E-Mac" deals were high compared to German average levels. 100% LTV products have disappeared during the financial crisis again.

Consumer incentives to sound underwriting

The practices described here tend to contribute to higher default rates as a result of a utility maximisation approach undertaken by consumers. The policy option directly addressing the issue is B2 (borrower information requirements), however other policy options such as A2 (credit assessment) and B4 (refrain from lending) are also potentially effective.

Insolvency law

Foreclosure and consumer insolvency law crucially determine how much a mis-selling practice contributes to consumer detriment in the form of residual debt. A potentially highly negative outcome via debt to be paid down without a housing service being reaped in exchange may impact on some consumers' attitude towards debt and the risk of bankruptcy.

In jurisdictions with a combination of high-LTV lending, fast discharge of residual debt, scarcity of alternative rental options and a loan market for impaired credit, the financial position of the consumer may be only marginally impaired by a default (e.g. via moving costs to a rental unit).

- A discharge regime leading to no or minimal residual debt has been a highly publicised factor behind the recent US mortgage market crisis. This is a fair characterisation for sub-prime and near-prime ("Alt-A") - borrowers in US coastal states. In those states, lenders practice the 'election of remedies' – i.e. a contractual predisposition to either foreclose on the property or pursue claims against the wealth of the borrower. Usually, lenders opt for foreclosure, which then limits the cases in which consumers are liable for residual debt. Moreover, states apply partly rigorous discharge periods, with a typical period of 2 years, which further limit additional claims. Many borrowers in the sub-prime and near-prime market segments as a consequence had loans underwritten with very low own capital, which economically rendered them closer to rental tenants than owners.

The reduction of the barriers to default in this way in the US is suggested by many discussants to help explain the swift increase in sub-prime default rates, next to the cash flow reasons related to payment shock. In contrast, the higher the equity lost and the residual debt levels burdening consumers beyond the financing, the lesser accessible rental markets, and the more severe future credit constraints are, the greater the costs for consumers.

In contrast to the US, in a number of European markets – for example Spain and the United Kingdom – consumers are faced with such a combination of cost-increasing factors that raise the default penalty.

- In Spain, absent consumer insolvency legislation, consumers are still fully liable for residual debt, i.e. no discharge is available.[187] This renders the current crisis particularly problematic during which many young households took up unaffordable debt at excessive house prices.

[187] See Table 62 "Debt recovery rules" overleaf. This was also raised in the stakeholder discussions in Spain undertaken for this project.

- The UK has tightened its insolvency regime as one of the aftershocks of the crisis of the 1990s that left lenders with little more than keys of houses in repossession, at partly substantial negative equity amounts. Nowadays, in the case of bankruptcy, the debt is discharged after 12 months.[188] However, in the case of personal bankruptcy creditors can seek a debt repayment plan. These payments amount to between 50% and 70% of real disposable income. The payment plan can last up to a maximum of three years.[189]

- In Germany and other countries, in contrast, consumer insolvency law has been relaxed in recent years, especially during the 1990s. See Reifner et. al. (2003) for the last available survey. There seems to be in Europe broadly a convergence to limited, but economically for the borrower noticeable, time period under which residual debt must be served.

[188] Enterprise Act 2002, came into force on 1 April 2004.
[189] Insolvency Act 1986 and the Enterprise Act 2002.

Table 62: Debt recovery rules in the European Union

Country	Minimum income protection	Wage garnishment limits % of income	Availability of discharge (Y/N) (1)	Discharge Period (2)
Austria	N	n.a.	Y	7
Belgium	Y	Varying thresholds of 0% to 100% depending on income level	Y	0
Denmark	Y	n.a.	Y	3
Finland	Y	1/3 of net income subject to meeting necessary living expenses	Y	5
France	N	Scale varies with number of dependants	?	
Germany	Y	No limit above minimum protected income	Y	6
Greece	N	Not permitted	N	
Ireland	N	Not permitted	Y	12
Italy	N	20% of wage income	N	
Luxembourg	Y	Threshold varies with income level	Y	7
Netherlands	Y	Up to 100% from 90% of minimum wage onwards	Y	3
Portugal	Y	1/3 of wage income	-	-
Spain	Y	Threshold varies income level above minimum wage	N	
Sweden	Y	No threshold	N	
UK	Y	Between 50% and 70% of real disposable income where disposable income is assessed case by case under the Insolvency Act 1986.	Y	1

Note: (1) Availability of discharge means is it possible for any debt unpaid to be discharged (wiped clean) after a pre-defined period. Data refers to 2005; (2) Number of years until debt is discharged. Data for Luxembourg refers to 2002; data for all other countries refers to 2005.
Source: Reifner et al. (2003); Armour and Cumming (2008); http://ec.europa.eu/civiljustice; www.insolvency.gov.uk.

- At the present time the regimes of wage / income claims vary greatly across the EU. Table 62 provides information on such regimes for selected Member States. It shows that the possibility for lender to claim part of the income of the defaulted mortgagor to cover any residual debt after the foreclosed property has been sold ranges from nil (for example, Denmark and Greece) to the full amount of the wage in excess of the minimum wage (for

example, Netherlands).

- Obviously, the risk for lenders to residents of countries with higher wage claim ceilings is lower and, ceteris paribus, should be reflected in a somewhat lower interest rate. Alternatively, lenders may be more restrictive in their creditworthiness assessments and decline to grant mortgage loans to potential borrowers with a higher default risk.

- The wage claim ceilings are not the only factor that a lender will take into account in assessing the probable loss in the case of a borrower default. Another important factor is the length of the foreclosure period. The longer this period, the more costly a defaulting borrower will be to a lender as the lender will have to carry this non-performing asset in its books until the foreclosure procedure is successful or sell it a hefty discount. Italy is an extreme example of a very long foreclosure procedure of up to 7/8 years (see Table 62). Rather than charging higher interest rates to more risky borrowers, stakeholders indicated that Italian lenders aim to manage this risk through being more restrictive in the choice of their borrowing clients.

- The quantitative impact of insolvency rules on consumer borrowing behaviour has been a matter of constant debate, and played an important role in the New Institutional Economics branch of microeconomics. For Europe, Japelli et al. (2008) report that "altogether, the time series data for the U.K., the U.S. and Germany suggest two main conclusions. First, defaults increase after periods of rapid debt accumulation in each of the three countries, which can be interpreted as support for the financial fragility hypothesis. Secondly, pro-debtor bankruptcy reforms tend to be associated with a subsequent increase in insolvencies, while the opposite applies to pro-creditor reforms, in line with the empirical studies for the U.S. surveyed in White (2006)."

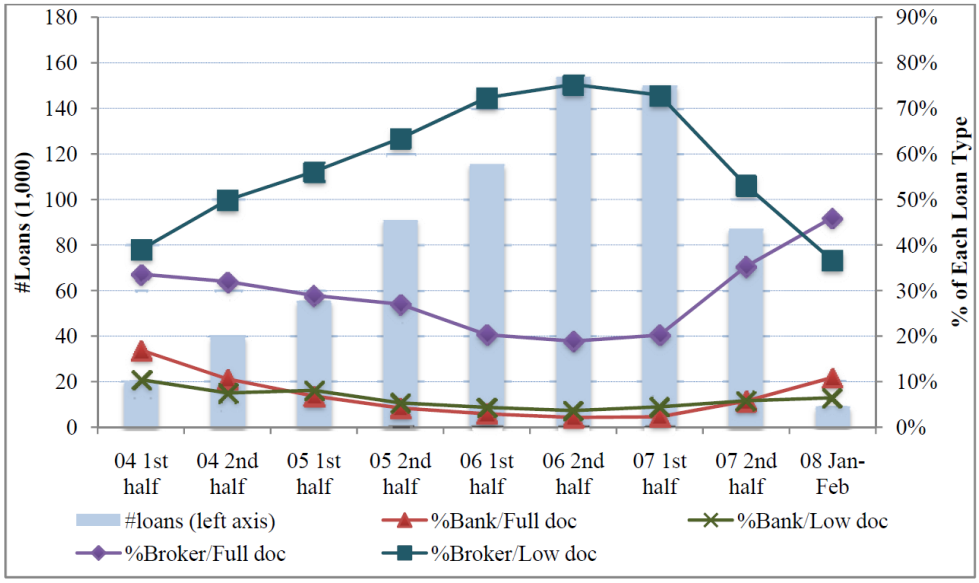
Borrower data disclosure, fraud

It would appear that compared to the potentially distortive role of the insolvency regime, the impact of improving on data disclosure by borrowers in responsible lending (Policy option B2) is secondary.

The discussion seems to be strongly influenced by the rise of self-certified income credit markets, and here in particular the US experiences with "Alt-A" credit, which contained a large segment of so-called 'liar' or 'NINJA' (no income no job no assets) loans (see Figure 86). The history of this market should be seen somewhat more nuanced though.

Alt-A and comparable market segments in Europe - e.g. self-certification in the UK - were initially intended to provide a solution for borrowers with true income documentation problems, for example free-lancers and other entrepreneurs or informal sector workers. More timely or complete income documentation is often unavailable for these groups because it does not exist (informal economy) or a delay is beyond their power (e.g. delayed income tax returns from tax authorities, or disputes between the authorities and the taxpayer).

Figure 86 Incidence of low-documentation ('liar') loans and distribution channels in the United States, 2004 - 2008



Note: based on all loan originations of a major US national mortgage bank.
Source: Jian, Nelson, and Vytlacil (2009).

The initial market idea of self-certification, as in the case of sub-prime, became corrupted in the second half of the 2000s under the influence of high house price inflation. In the coastal regions of the US, for example, thousands of prime borrowers with existing income documentation were confronted with the alternative to either be categorised as sub-prime, or report their income documentation as missing and be categorised in the near-prime category Alt-A, a category that offered better interest rates than sub-prime. Figure 86 shows that at the peak of the house price cycle from mid-2005 to mid-2007 those types of loans started to balloon. It is clear, however, that without the consent of investors, this reversion of the initial idea could not have persisted.

With regard to European evidence, FitchRatings analysis for the UK and the Netherlands whose results we discuss below (see Table 63) points to considerably higher default assumptions for self-certified income loans, especially if combined with other risk factors such as self-employment. Bank of America Merrill Lynch (2009) analysis seems to suggest that the product in the UK has been less used as a prime credit substitute during the house price cycle than in the US, at least the share of self-certification loans in the non-conforming market has been fairly constant over time (see Annex 6) . However, considerable risk layering is reported – especially of self-certification with interest-only loans – that are an indication of the stretched nature of these financings, and the share of interest-only loans is correlated with house prices. 60% of UK non-conforming loans on average are self-certification.

We conclude that at least in a price bubble situation, a regulation trying to enforce data disclosure by the borrower, as proposed by policy option B2, would have to work against strong incentives – on borrower and lender side – to falsify income documentation in extreme market situations.

Against this background, it is unclear what the legal consequence of an obligation for borrower data disclosure would be for the borrower. If the lender or intermediary were co-responsible for inadequate data generation, rendering lender or liability void would not be justified. If the borrower cannot produce the information objectively, the same holds true. Only if true fraudulent intentions of the borrower can be proven, lender liability could be limited. It would appear though that most civil and penal codes have adequate provisions to deal with this issue.

Lender negligence and moral hazard

The issues raised here are directly addressed by the policy options A2 (credit assessment) and B1 (honesty, fairness and professionalism).

Inadequate credit assessment processes

Basel II already provides lenders with significant incentives for the improvement of credit assessment processes via internal risk-based models and the use of ratings. Yet, nothing comparable is requested from intermediaries.

Moreover, many European lenders have opted under Basel II for the standardised approach because of lack of sufficiently developed credit assessment processes. Under the standardised approach the risk rating of different asset classes is pre-specified and does not require the implementation of sophisticated and complex internal risk rating systems. We have no conclusive evidence with regard to the implementation progress for internal risk rating systems. Anecdotal evidence suggests that only the largest

banks implement such systems. For example, in Switzerland, only the 2 largest banks were planning to adopt the internal risk based approach. Similarly, all except the two largest German Bausparkassen – specialised mortgage lenders – planned to do business under the standardised approach.

The current status is that the standardised approach provides significant capital advantages for mortgage lending compared to the Basel I situation (35% over 70%, provided minimum safeguards are met). This means that the incentives for using quantitative modelling for smaller lenders remain weak.

Even where quantitative models are implemented they remain subject to data scarcity problems, model design risk, i.e. inability to cover the relevant aspects, cover them statistically properly, or even manipulation risk. A classic example for manipulation of quantitative models is 'geo-scoring', an attempt to generate missing individual default information for borrowers by using their housing location as an estimation instrument. Problematic is also a potential overreliance on historic credit risk data, both for capital requirement and credit risk assessment purposes.

Smaller lenders do not have the statistically necessary data breadth to use them meaningfully. Yet, they compensate for a lack of information by a deeper information depth, especially knowledge about local housing markets and from long-term relationships with consumers.

Moral hazard of lenders, create and trade

For lenders, mis-selling practices leading to higher levels of default may boost both costs and benefits, in some cases only for some time during the credit cycle followed then by their own insolvency, but for others permanently. There is hardly another credit sector where the difference between short and long-term perspectives of lender management matters as much as in mortgages. The key here is agency risk, i.e. the degree to which lenders are able to create negative externalities, especially adverse selection of risks, for their own investors. [190]

A model that is particularly susceptible to moral hazard is the 'create and trade' model of securitisation where lenders shifted credit risk to capital investors, i.e. created de-facto infinite leverage. However, similar levels of conflict of interest apply to a lesser degree – tied to leverage - to on-balance sheet mortgage banking. Hence, the type of business models of mortgage

[190] The classic examples from the US sub-prime crisis are mortgage companies focusing on sub-prime or near-prime lending for securitisation. Sanders and Gwinner (2008) report that more than 70 percent of loans originated by New Century had low initial teaser rates, and 40 percent were underwritten on a stated income basis. New Century filed for bankruptcy protection in 2007 as investors in securitised loan pools demanded repurchase of defaulted and deficient mortgage loans.

finance (transfer of credit risk) and general bank regulation (risk-based capital requirements and leverage limits) matter in assessing to whom costs and benefits of risky lending practices accrue. Vice versa, a crisis caused by risky practices may sweep away entire business models due to an investor strike. As with consumers, there is no homogeneous single class of lenders to be considered.

Restructuring compared to foreclosure

Depending on their own incentive structures, lenders might even have interests aligned with consumers' in mitigating the consequences of risky practices through an ex-post restructuring. This will cure a risk situation if default causes are addressed: the higher the costs for lenders the more likely is a new lending situation avoiding another (second) default. Restructuring incentives tend to increase cyclically during market crises when foreclosure proceeds must be expected to be very low – in a stable market situation, restructuring costs usually exceed foreclosure losses and lenders will opt for foreclosing.

Litigation incentives

Another cost factor for lenders is litigation costs for mis-selling. Although the policy options do not specify the legal consequence of a failure by lenders or intermediaries to abide, greater litigation leading to an implicit guarantee of some consumers in some situations against losses would be a likely effect. Where this might add burden to a solvent lender, management might have an incentive to curb mis-selling practices, yet an insolvent or gambling lender might simply pass the costs on to investors, and ultimately government.

A problem with the litigation and other incentive-steering approaches for lenders is to avoid hindsight judgment. In a low-interest rate situation more consumers are creditworthy than in a high-interest rate environment. If the alternative is unaffordable rental markets, lenders might be forced to either reject credit, or take the risk. Even high-quality credit risk models may not capture certain interactions in risk layering. Also, they will operate within standard volatility assumptions that a crisis may pulverise. More generally, as long as housing markets are cyclical – and they are so even absent housing finance, boom-bust lending to some extent may be unavoidable. This raises questions with regard to the operability of provisions such as A2 (credit assessment).

Intermediary practices[191]

We discuss here to what extent intermediary practices can be seen to have contributed to non-responsible lending outcome. The policy measures addressing these issues that could potentially be extended to intermediaries are A3 (adequate explanations), B1 (honesty, fairness and professionalism) and B3 (specific risk warnings).

General incentive structure of intermediaries

Intermediaries are a class of institutions that under most current practices and legislation is subject to strong incentives in favour of maximising new origination turnover and giving less attention to potential mis-selling. We discuss the impact of fee structures, churn/poaching and adverse selection incentives in more detail below.

Even in the presence of a credible litigation option the capital base required for intermediaries tends to be low and with it market entry costs and capacity to pay damages resulting from potential lawsuits brought forward by lenders or borrowers. We also discuss this point further below.

As far as intermediaries are tied to lenders[192] and this fact is made known to consumers, i.e. they are mere administration-cost substitutes, there is only limited externality to other stakeholders associated with their incentive structure. Lenders could as well do the distribution service in-house, but may refrain to do so for cost reasons – branch distribution is relatively inefficient and closing via the internet or phone banking is still rarely used.[193]

However, as many intermediaries are not tied and are marketing themselves to consumers as independent gatekeepers and to lenders as reliable distribution agents they face considerable reputation risk when a mis-selling wave or bias giving the impression of conflict of interest occurs. Such conflicts may eliminate the credibility of their business model, creating a boom-bust sequence - as in the case of lenders following myopic business models.

The fragility of the model is supported by recent experiences: in the UK the broker share in mortgage originations, after almost two decades of expansion and reaching a peak of 62% in 2007/08, has been falling in 2008/09 by full 7% points to 55%.[194]

[191] For empirical details on mortgage credit brokers in the EU-27, the reader is referred to Europe Economics (2009).
[192] See Douna, Dübel, and Low (2007) and Europe Economics (2009) for data.
[193] See Douna, Dübel, and Low (2007) for an extensive discussion of lender distribution economics in the presence of intermediaries.
[194] See Financial Services Authority (2008 and 2009b).

Broker fees aligned with lender profit

There are two mechanisms of irresponsible intermediation, alignment with lender margin and with loan volumes.

Broker fees are often aligned with the profitability of the loan for the lender or investor. Even if consumers pay a fee, the incentives for lenders to pay brokers for intermediating the most profitable product are overwhelming as profit differences may make up several thousands of Euros per product. Consider as an illustration an example that the present value of 0.5% additional margin ('yield spread') on a 5% 10 year fixed rate loan amounts to 2.4%, or €2,400 on a €100,000 loan. This potential pool of additional profit to be distributed between lenders and originators is likely far beyond what consumers are willing to pay for intermediary services. For example, studies undertaken for the FSA in United Kingdom as part of the Retail Distribution Review found that consumers would be willing to pay between €80 and €105 per hour of advice received from a financial advisor.[195][196] [197]

The US sub-prime crisis may be seen as the first major crisis of a mortgage intermediary system globally after its exorbitant growth in the past two decades in developed mortgage markets: 'yield spread premiums' derived from computations as described above were a standard fee instrument in the market. Broker fees on products with high yield spread, e.g. sub-prime or non-prime ARM, were considerably larger than fees paid on standard prime FRM.[198] The main reason was that ARM products became very profitable for lenders during the interest rate trough, in the presence of a steep yield curve, and due to the relatively high costs for FRM also could attract large numbers of new borrowers. An additional factor was rising prepayment options costs in the aftermath of the 2002/2003 large prepayment waves that had caught investors by surprise.[199] Out of a 300 basis point yield curve in mid-2004, US prime ARM lenders have carved out 100 basis points as additional yield for themselves only the rest was passed through as benefit to consumers.[200] However, also a reclassification of a consumer from prime to sub-prime could raise the yield spread.

In the UK the use of intermediaries has been particularly dominant in non-conforming lending.[201] In that regard, the British FSA has repeatedly expressed concern that intermediaries direct non-conforming borrowers to

[195] The figures refer to willingness for advice on retail investment products.
[196] See Douna, Dübel and Low (2007) for additional discussion.
[197] See Deloitte (2008 and 2009).
[198] See Hong and Reza (2005) for examples and a discussion of the adequacy of legal constraints to these practices in the US.
[199] See Dübel (2007b).
[200] For example, www.mortgage-x.com reports US ARM margins and www.yieldcurve.com US treasury yield curves.
[201] See Europe Economics (2009), p. 115 for a case study of the reaction of the UK intermediary industry to the credit crunch in the non-prime market segments.

more expensive products.[202] Large swings in spreads can be observed in the UK market for index trackers (see Figure 76), and it is likely that intermediary fees paid by lenders in the UK were varying proportionally to lender margin. While the UK is not fully representative of European markets in the credit quality dimension, similar observations have been made elsewhere – e.g. in Poland, where brokers focused heavily on marketing Swiss Franc credit for new market entrants.[203]

A bias in fees, however, leads to strong incentives for brokers to misclassify prime borrowers into sub-prime and understate the risks of ARMs, despite the almost universal existence in the US of broker Codes of Conduct that were meant to curb those practices. Considerable numbers of US sub-prime loan have been refinancings from prime loans.[204] Numerous court cases and criminal investigations into such practices have been launched.

Other conflicts of interest for intermediaries include the tying to a single lender, irrespective of a particular product menu, and the cross-selling of insurance and loan products.

- Evidence for this has been broadly discussed in public in Germany, where the credit broker industry developed during the 2000s as small and fast growing family businesses. That model promised a high degree of independence and attracted good credit risks – financially astute consumers intending to shop for the best offers. The brokers as a result developed considerable market power with the associated fee levels (about 0.5% on average, considerably higher than UK broker fees).[205]

- However, that initial independence has been put into question through the acquisitions of 2 of the 4 largest brokers by lenders (Interhyp by large mortgage lender ING; AWD by Swiss Life, an insurer with mostly cross-selling interest).[206] Clearly, as brokers reach a certain credibility and profit level in the market, lender incentives for such acquisitions are maximised.

- Regulators failed to understand those incentives and either pre-empt the transactions or regulate the definition of 'independence'. In the meantime, the marketing of one of the 2 brokers acquired by lenders

[202] See FitchRatings (2007b).
[203] Interviews undertaken by the author, Hans-Joachim Dübel, during work with Mercer Oliver Wyman for Douna, Dübel, Low (2007).
[204] Foote et.al. (2008) show that 70 percent of homes foreclosed on in 2006 and 2007 in Massachusetts were initially purchased with prime loans, but 45.2 percent of defaulted mortgages were sub-prime.
[205] Estimate based on interview with Hypoport AG, Berlin and Douna, Dübel and Low (2007). Estimates of lender fees vary strongly between studies, as information is not publicly disclosed by lenders. Europe Economics (2009), p. 113 arrives at even higher German broker fee levels.
[206] Interviews undertaken by the author, Hans-Joachim Dübel, during work with Mercer Oliver Wyman for Douna, Dübel and Low (2007) and several follow-up assignments with private sector clients.

as 'independent' has been successfully challenged by a competitor in court. Such public argument is undermining the business model as a whole, and the outlook for the industry is uncertain.

Short of establishing a tie, a second problem - not limited to the credit broker industry as originators - is the linking of origination fees to business volumes generated. This creates a general incentive for intermediaries against credit risk mitigation. For example, in the German market lenders and intermediaries participating in the Europace platform engage in individual negotiations of the remuneration envelope, which are highly influenced by business volume generated in the past.[207] A constant or even an only mildly regressive percentage fee would create a direct linkage between house price inflation and intermediary profit.

Both problems interact over the lending-house price cycle. At constant loan-to-value levels, brokers reach their maximum revenues and profits precisely when house prices have reached their maximal levels, and by implication the highest share of financial innovations hits the market to ensure credit supply for the last borrower cohorts. Those borrowers face the highest default likelihood.

Churn/poaching

'Churn', the practice of maximising turnover of intermediaries by approaching consumers with high frequency for a loan refinancing with a new lender, has been discussed in the context of early repayment. While high turnover has negative cost-benefit implications for lenders in the aggregate, certainly incumbents servicing an existing portfolio, there is a certain level of turnover that brings positive net utility for consumers as they are alerted of new, potentially more favourable offers which allow them to select more efficient lenders.

That level of turnover optimising consumer benefit, however, may be considerably below the profit-maximising level for intermediaries.

[207] Based on interviews with officials from Hypoport AG, Berlin; the company runs the Europace platform.

- It is interesting to see how fast the practice is getting hold of emerging European markets. In Poland, during the credit boom until ca 2008 2% broker fees were the norm and brokers as a consequence mushroomed and - in the absence of penalties - poaching practices were overwhelming lenders.[208] This took place on the basis of very small spread savings for consumers borrowing primarily indexed-based in Swiss Franc. In an emerging economy, the high fees paid to brokers are explained by the reluctance of market entrants to incur the costs for branch infrastructure development.

- Interviews undertaken by the author[209] with lenders in the UK suggest that trailing broker fees, i.e. fees that are only paid out by lenders over several years, are seen as an option to reduce churn.

Since we lack loan-by-loan analysis on the issue in Europe it is an open empirical question to what degree churn is an irresponsible intermediation practice in a more narrow sense, i.e. inducing borrowers to take greater risk rather just cutting negligible amounts of costs on the same products. [210]

Adverse selection of lenders

Brokers may not only provide information services but also – at least implicitly - do a pre-selection of borrowers for lenders. The latter practice is prone to adverse selection problems; i.e. lenders relying heavily on broker distribution may end up with higher credit risk, and errors of inclusion may be maximised. This will be to the detriment of consumers who face a loss of equity invested in the house instead of having been turned down for an unsuitable financing.

The outcome seems to strongly depend on the structure of the broker industry:

- In the UK, the mortgage intermediary channel accounted at its peak for slightly less than 65% of mortgage origination[211] and has evolved largely in response to the proliferation of mortgage offers (several hundred before the onset of the financial crisis) which rendered mortgage selection by consumers a complicated process. At the same, the existence of such a significant origination channel encouraged borrower segmentation through the offering of additional products. The importance of the broker channel and product range evolved in symbiosis.

[208] Assessment based on interviews with Polish brokers and lenders conducted by the author Hans-Joachim Dübel as co-author of Douna, Dübel and Low (2007).
[209] Assessment based on interviews with British lenders and brokers conducted by the author Hans-Joachim Dübel as co-author of Douna, Dübel and Low (2007).
[210] Some evidence for this hypothesis is provided by Foote et.al. (2008) for the US.
[211] See Financial Services Authority (2009b and 2008a).

- In Poland, brokers developed as distribution arms of either developers or banks unwilling to develop costly distribution networks. De-facto greenfield entrants such as Millennium Bank were most dependent on them. Adverse selection by brokers is perceived to be a substantial problem for these entrants.[212]

- In the Czech Republic, brokers even developed as distribution arms of developers frustrated by the lack of competition between banks that hampered their own distribution efforts. While the goal of greater competition between banks appears to have been reached, as the accelerating pace of product innovation and margin development shows, dependence on developers raises questions with regard to elevated default risk.

- In Germany, the family business broker model rather provided a positive selection bias as the independence argument convinced educated clients to shop via brokers rather than collect data via the internet. A part of the intermediary market is also consumer-fee based and explicitly targets high net worth clients (personal finance advisors).

There is considerable evidence about broker-induced adverse selection during the sub-prime crisis in the US.[213]

Also, lender behaviour differs. Mortgage specialists funded by covered bonds due to their thin margins in France or Germany were traditionally forced to operate only small networks and as a result have differentiated in response: some have attached themselves to large bank networks, others have taken the potential additional credit risk of using brokers and have developed close relationships with them in order to mitigate the risk. Universal banks have generally been slower to use brokers than specialists; however, given the relative cost differences between branch and broker distribution there is been increasing pressure to at least partly diversify distribution.[214]

Insufficient capital and insurance levels of intermediaries, advisory function

Only in the UK, Germany and Bulgaria is the mortgage intermediary industry subject to minimum capital requirements. And only in the UK, the

[212] Assessment based on extensive interviews with Polish brokers and lenders conducted by the author Hans-Joachim Dübel as co-author of Douna, Dübel and Low (2007).
[213] See Jian, Nelson, and Vytlacil (2009) demonstrate with individual loan level data of a large US lender (originations 2004-2008) agency problems between banks and brokers that lead to lower quality of broker-originated mortgage loans. They find that broker-originated loans have a 50% higher likelihood of default than bank-originated loans and two thirds of the difference can be explained by observable borrower characteristics.
[214] See Douna, Dübel and Low (2007) for an extensive discussion of the lender economics associated with mortgage intermediation.

Netherlands and Austria is there a mandatory insurance requirement supporting intermediary claims payment capacity in cases of mis-selling.[215]

In the UK, the capitalisation requirement came in force on 31st October 2004 (the so-called M-day) in parallel with regulations of the activities of mortgage brokers which clearly distinguish between arranging and advising.[216] The new regulatory regime has brought a certain concentration of an extremely decentralised industry (more than 7,000 brokers in 2006).

German brokers typically have general malfeasance insurance. Companies have no minimum capital requirements, and individual brokers in networks rely on insurance contracts. German brokers are not required to provide advice, but rather explanations of the product set they are offering to consumers. The main protection against lawsuits is a session protocol signed by the consumer.

It would seem that absent capital or insurances, individual brokers could be held personally liable under EU legal systems. Therefore, brokers in broadly unregulated environments will chose a legal form that protects them against recourse, for example Polish brokers are typically organised as limited companies.

Default and credit risk pricing impact

For the quantitative cost-benefit analysis we need to at least cursorily inspect the default pricing impact of credit risk protection, or alternatively riskier products and practices.

A first observation is that – as we have demonstrated already in Chapter 2 for the case of British high-LTV lending – risk pricing in mortgage finance is intrinsically cyclical and a purely cross-sectional analysis tends to be misleading. Moreover, as the high-LTV example shows, prices may become prohibitive and products ultimately disappear during crisis.

Nevertheless, in order to undertake a quantification we need some average pricing yardstick, and – after cheap capital market financing has disappeared - we consider a cross-sectional perspective in the post-crisis situation of 2009 as more representative for actual costs than earlier years of the decade.

Table 63 reports the assumptions of the credit rating agency Fitch that give a picture of the pricing of certain products and practices for the UK and the Netherlands. Both countries have been chosen by FitchRatings for development of a full econometric credit risk model in analogy to what rating agencies already provide to customers for the US. The language here is to assign a credit risk mark-up to a given deviation of the norm case that will

[215] See Europe Economics (2009), p.67.
[216] See Financial Services Authority (2009b).

likely be proportionally reflected in a higher credit risk margin of the loan product.

Table 63: FitchRating assumptions of default mark-ups of various products and practices for the UK and the Netherlands

United Kingdom		Netherlands	
Lender adjustment (applied to prime or non–prime specific matrix)	1.00 to 1.50	**Underwriting quality**	
Adjustments for Risky Products (not applied to AAA to A stress scenarios)		Prime lender	0.95 to 1.40
Heavy or Unlimited Adverse Products	1.2	Sub-prime lender	1.40 to 1.90
Medium Adverse > 80 % LTV or other products > 90% LTV	1.2	**Borrower profile**	
Self-Certified for Employed Individuals	1.2	Civil servant	0.98
Self-Certified for BTL	1.2	Employed full-time	1.0
Second Charge loans	1.2	Employed full-time temporary	1.2
Bankruptcy order/IVA – years discharged		Self-employed	1.2
<1	3.0	Self-certified and self-employed	2.0
>=1 and <2	2.8	Self-certified and employed	2.5
>=2 and <3	2.3	Pensioner (certified/stable income)	1.0
>=3 and <4	2.0	Pensioner (non-certified	2.0

Table 63: FitchRating assumptions of default mark-ups of various products and practices for the UK and the Netherlands

United Kingdom		Netherlands	
		income)	
>=4	1.5	Unemployed	1.1 to 1.5
CCJ amounts		Unknown	1.2 to 2.0
>100 and <=1,000	1.2	Adverse credit history	case-by-case
>1,000 and <=5,000	1.2	**Repayment type**	
>5,000 and <=10,000	1.3	Linear	1.0
>10,000	1.5	Annuity	1.0
CCJ years		Savings	1.0
<=1	1.5	Traditional life insurance	1.05
>1 and <=2	1.3	Other insurance	1.08
>2 and <=4	1.2	Investment	1.1
>4	1.2	Interest only	1.2
Arrears on current mortgage		**Interest rate**	
1–30 days	1.3	Fixed	1.0
31–60 days	1.5	Floating	1.25
61–90 days	1.8	**Payment frequency**	
>90 days	100% DP	Monthly	1.0
Prior mortgage/rental arrears last 6 months		Quarterly	1.05
>2 months	1.8	Semi-annual	1.1
2 months	1.5	Annual	1.15
1 month	1.3	**Loan purpose**	
Prior mortgage/rental arrears 7–12 months		Construction deposit (> EUR2,500)	1.1
>3 months	1.8	Second home	1.2
		Investment properties	1.2 to 1.4
3 months	1.5		
2 months	1.3		
1 month	1.2		
Interest only balloon			
Balloon 0–10 years	1.3		
Balloon 11–15 years	1.2		
Balloon 15 years +	1.1		
Loan purpose			
Buy-to-let	1.15 to 1.35		
Debt consolidation	1.2		
Right-to-buy	1.1		
Payment holiday	Case-by-case		
Borrower profile			
Income self-certified or not verified	1.20 to 1.50		
Self-employed	1.1		
First-time-buyer	Case-by-case		

Source: FitchRatings (2008a, 2009b).

The table shows default multiple assumptions relative to the baseline – in the UK ARM, in the Netherlands FRM. The assumptions are mainly derived from RMBS pool performance observations. A few results are noteworthy in the context of our previous discussions:

- In the Netherlands, ARMs are expected to be 25% more likely to default than FRMs. In the UK no such adjustment is made since there is no true FRM market (instead there are hybrid ARMs with short teaser rate phases). Given that neither market uses caps, the issue is not mentioned.

- Repayment profile and underwriting LTV play a prominent role, not just for loss-given-default but also in this context for the probability of default. In particular, non-amortising (interest-only) and ballooning debt profiles are seen with considerably higher default risk.

- The self-certification market is assigned considerably higher default assumptions in both countries (between 40% and 150% increase, depending on additional constellations).

- Loan purpose is seen as significantly influencing default rates, especially if take-up is for investment purposes (buy-to-let).

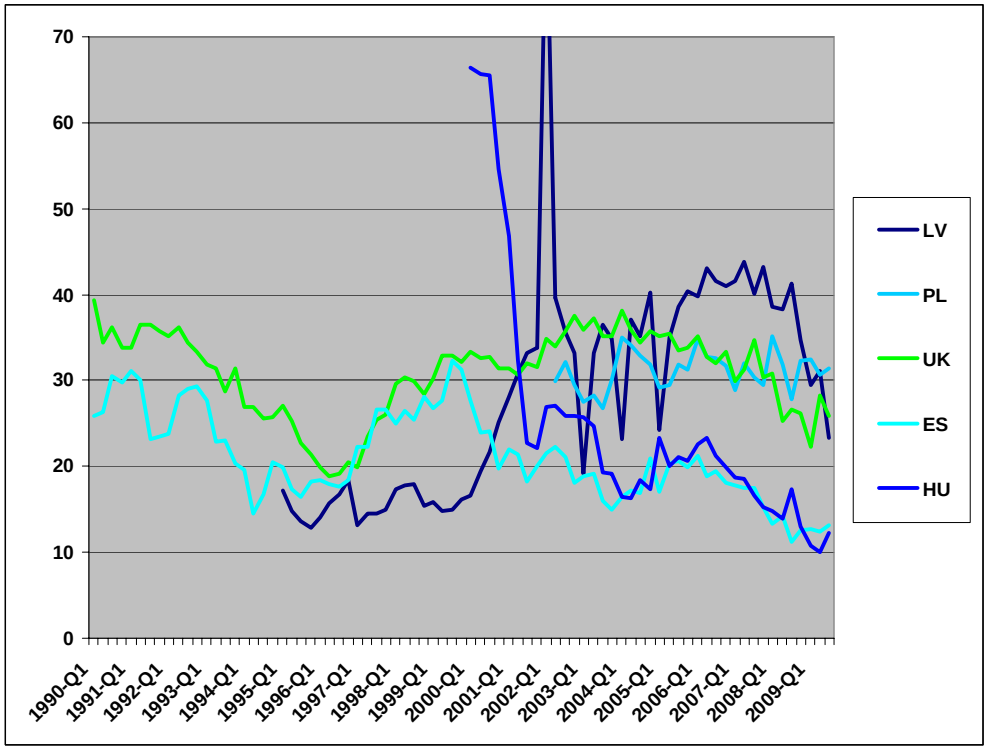
These figures provide a snapshot only and may change with default events and credit market conditions (e.g. prepayments) going forward. However they provide us with some yardstick for additional evaluations below.

9.5.3 Empirical analysis: consumer confidence, customer mobility and cross-border lending

Consumer confidence

We have only very limited data for the EU that enable us to test the link between non-responsible lending practices and consumer confidence. From the consumer confidence time series data provided by the European Commission DG for Economic and Financial Affairs we can make some inferences, though, of the latent demand for housing investment as approximated by our index constructed in Chapter 3.

Figure 87 Housing investment consumer confidence index for responsible lending case countries, 1990 - 2009



Note: for further details on the index see Chapter 3.
Source: European Commission / DG ECFIN, Finpolconsult computations.

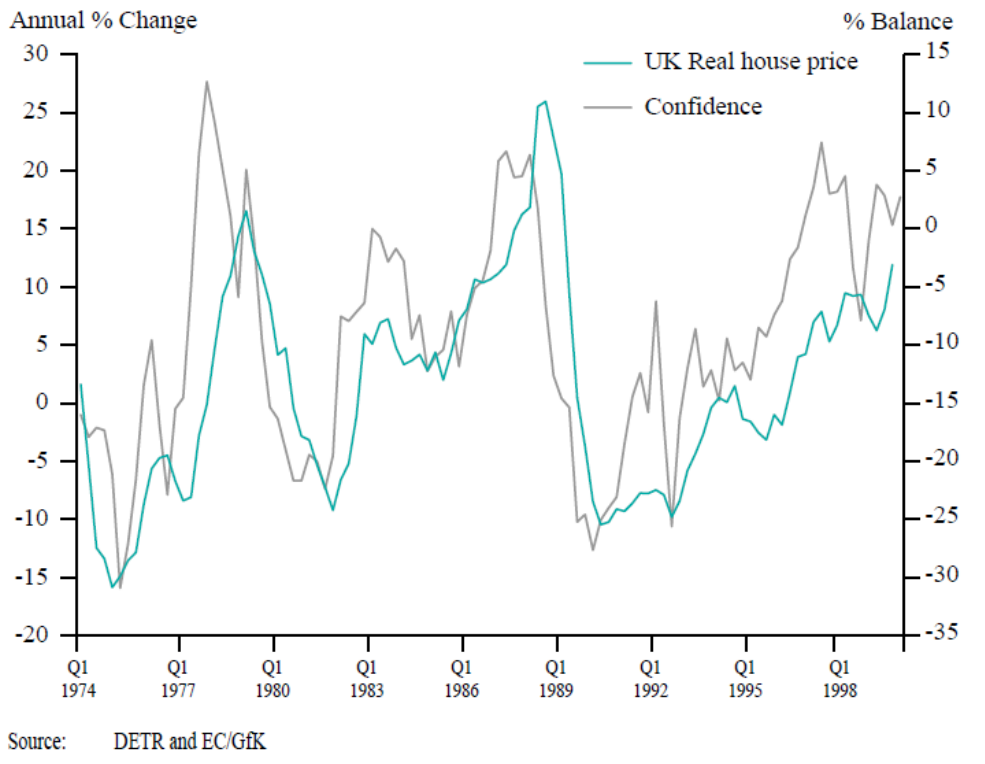
We add Latvia to the set of case countries as a case of particular volatility of this index. As Dübel and Walley (2009, forthcoming) further explore, the strong growth of confidence in Latvia in the beginning of the decade correlates closely with the availability of credit and ballooning house prices, and the 2008/09 collapse vice versa. Concerning the CHF lending pair Hungary and Poland, it is interesting to note the continuous decline of confidence in Hungary compared to stability in Poland, from a similar initial situation around 2000. Hungary even in the late 1990s had experienced a housing market boom based on premature EMU accession speculation that had boosted confidence. While economic and fiscal factors can be assumed to drive the differences considerably, the Hungarian house price development in the aftermath of the boom was also far more subdued than in Poland. It is hard to discern an effect of lending practice, but the fact that Polish confidence has remained stable after 2007 while Hungarian confidence declined further seems to indicate that the far lesser payment shock has contributed to confidence there.

Looking at the Spanish figures it would seem that the credit and house price boom of the 2000s has not contributed to greater consumer confidence,

despite an arguably larger number of creditors. The most plausible explanation here is crowding out by high house price levels. With the clear realisation of excess house price inflation in 2007, confidence plunged further. The British figures convey a similar picture, although not quite as extreme. They mirror quite closely the development of the number of new mortgage contracts – since already 2003 the high price levels have crowded out consumers from the market, and the considerable product innovation that took place does not seem to have stopped the trend.

It is beyond the scope of this study to further explore the determinants of confidence empirically. However, a readily observable correlation exists between house price cycles and consumer confidence. Figure 88 shows a longitudinal analysis by the British council of mortgage lenders with impressive co-movements of both variables.

Figure 88 Correlation between consumer confidence and real house price inflation in the UK 1974-2000



Source: Garratt (2000).

Although the evidence on the impact of house price inflation on confidence seems to be mixed – as e.g. crowding out of outsiders (first-time buyers) and greater empowerment of insiders (homeowners) may trade against each other – it is of interest to explore some of the channels of positive interaction between prices and confidence:

- Falling house prices mean typically lower net household wealth and therefore will reduce confidence in the sufficiency of accumulated retirement savings, depending on the strength of the public retirement system and the relevance of homeownership for retirement purposes in a given jurisdiction.

- Falling house prices also increase the option-theoretic default motive and hence put problematic financing practices (such as 100%-LTV-financings, which had strongly increased in the late 1980s in the UK) at particular risk. The effect is exacerbated if coinciding with an interest rate shock that puts debt service in ARM contracts under pressure, as was the case in the UK 1990 (German reunification shock).

- It is interesting to note that when defaults peaked to rise in the UK by 1992/3 consumer confidence began to recover. This points to the isolated nature of default, even if occurring on a historically large scale, relative to the entire borrower population.

An alternative way to approach the issue is to consider specific cases of confidence crises related to problematic lending practices of mortgage lenders. Some casuistic examples show a wide range of factors driving these events:

- Latvia in 2009 suffered from a severe mortgage default crisis which had resulted from inflated house prices and unsafe lending conditions (index-linked ARM, absence of credit bureau, imbalance between lending for new construction and existing flats which became speculation objects). Absent a consumer protection framework, the question of residual debt of defaulting homeowners became politicised – and in fact a political issue between the Latvian government and IMF, EU and foreign banks.[217] Figure 87 reports consumer confidence in the summer of 2009 at almost record lows.

- In the Netherlands in October 2009 the small specialised lender DNB collapsed after it was boycotted by consumer groups as a result of dubious tying practices between insurance and mortgage products.[218]

[217] Bloomberg News of October 12, 2008. "Latvia seeks Last-Minute Agreement to Appease Bailout Donors"
[218] Handelsblatt of October 19, 2009.

- In Germany, the emergence of a trading market for non-performing loan portfolios in 2003 had raised anxiety with consumers affected by the trades that the new owners, often US- or UK-based funds, would handle arrears and foreclosures more rigidly than the original lenders who had sold the loans. In 2008, the government reacted by considerably tightening the conditions for loan assignment and related foreclosure proceedings.[219]

- Consumer confidence crisis have historically also hit ARM markets beyond the UK. While the EU experience has been limited due to interest rate decompression and the swift response to the financial crisis in 2008/09, the case of Turkey is noteworthy, which in 2001 had banned ARMs as a result of spiralling interest rates and defaults. Inside the EU, Italy had in 2007 frozen ex-post the interest rates on ARM contracts to the level of 2006, responding to consumer group protests.[220]

Any calibration of the impact of non-responsible practices on consumer confidence will hence have to estimate several layers of filters, inter alia the relative relevance of non-responsible lending practices – in cross-section and intertemporal, homeownership ratio and retirement regime, foreclosure/insolvency regime, pass-through to the economy, social filtering effects (by consumer groups, activist/non-activist political system. Absent wider availability of data and basic research in the EU on the subject it appears impossible to quantify the effects.

A final problem is causality: experience with steeply falling consumer confidence after the sub-prime crisis in the US seem to suggest potentially very large 'multipliers' of non-responsible practices on consumer confidence; however, it remains a matter of debate to what extent sub-prime lending practices were causal or rather a symptom of broader risk factors affecting the US such as monetary policy, international capital transfers, financial sector deregulation and excessive size of and remuneration excesses within the financial sector.

Finally we note that the very factors that co-induce confidence to decline in credit and housing market recessions are those that inflate confidence in boom times, e.g. via wider availability of credit. This further limits the negative impact of non-responsible lending practices on consumer confidence.

[219] See iff (2007) for a reflection of the intensive consumer protection debate in Germany.
[220] See discussion of the Italian legislation in the early repayment chapter.

Customer mobility

The relation between responsible lending and customer mobility can be also conveniently discussed by considering different phases of the credit cycle:

- Non-responsible or problematic lending practices as discussed before by their very existence add to switching options for borrowers, since they are frequently associated with the emergence of new lenders. Bringing marginal, or sometime substantial product variation to the market is a widely used market entry strategy during the acceleration phase of a credit boom when standard product markets are overcrowded or defended by incumbents.

  For example, in the German highly standardised mortgage market, with the easing of credit market conditions around 2004/2005 the number of lenders increased and with that the offer of new, partly risky products (extension of age limit for mortgage finance, previously bankrupt lending, high LTV lending). Deutsche Bank followed US examples and created a specialised finance company to offer such products. Foreign lenders bought smaller banks – e.g. Societé Générale bought Hanseatic bank, or set up own banks – e.g. GMAC - to offer new products. This expansion of supply has enhanced customer mobility, although against some features in the German market (e.g. prepayment compensation) that tend to limit mobility. It has led to some stability problems later on - e.g. elevated default rates on the GMAC high-LTV securitisation deals.

- Non-responsible lending practices frequently support or even rely on early repayments and lender switching in order to avoid a default due to payment shock embedded in the product. The availability of switching options is most critical during the maturity phase of a credit boom characterised by high interest rates and the house price peak, when standard financings become unaffordable.

- Yet, early repayments and lender switching will become near impossible for such types of financings when the credit market collapses or severe limitations of credit occur (credit crunch). While interest rates of standard financings may adjust downward quickly due to central bank reaction, lender risk appetite decreases considerably in parallel and the duration of their existing portfolio extends due to declining prepayments. Both effects limit switching.

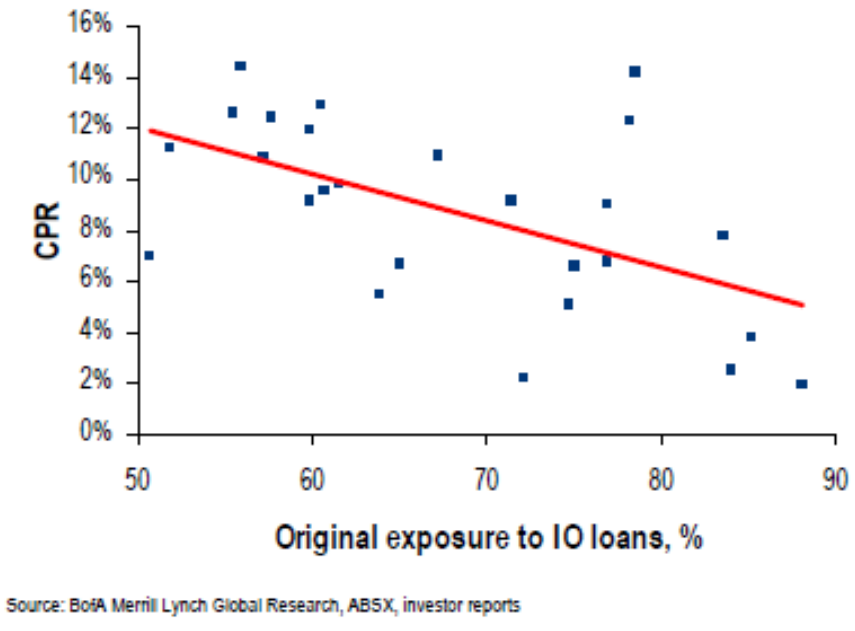
The latter two points - betting on consumers to find a new lender before payment shock hits in order to avoid a default - have been a key non-responsible lending feature both in the US and the UK.

- In US sub-prime lending, teaser rate periods were usually much shorter than in prime lending - 1-2 years in sub-prime compared to 3-5

years in prime – which has led to far greater pressure on sub-prime borrowers to find a new teaser rate arrangement, or default as a result of ballooning payments. The performance of many sub-prime financings was essentially a bet on a permanent market for teasers, at very low teaser interest rate levels of typically between 1 and 3%.

- In the UK, both teaser rate and interest-only lending have been a problem in particular in the non-conforming market. Figure 89 shows the results of an analysis of UK RMBS pools in the non-conforming market sorted by their conditional prepayment rates. Clearly prepayment and therefore lender switching ability during stress phases of the market declines with the higher share of risky products contained in the pool, here approximated by the share of interest-only loans in the loan pool. The relationship may be assumed to be flatter or zero during the credit boom.

Figure 89 Correlation between conditional prepayment rates and relative exposure to interest-only loans in UK non-conforming RMBS pools per October 2009



Notes: IO – interest only loans (zero amortisation), chart data based on RMBS mortgage loan pool data. Early repayments from securitised loan pools technically imply lender switching.
Source: Bank of America Merrill Lynch (2009).

Apart from being refrained by higher credit risk, prepayments become generally more difficult in situations of credit crunch, including for borrowers

as FitchRatings (2009a) reports for European RMBS jurisdictions. According to that report, early repayments have dropped particularly strongly in the UK, Ireland, Spain, Greece and the Netherlands – countries affected either by house price decline or market anxieties with regard to house price levels - and so has likely customer mobility.

It is important, however, to see that credit cycles are likely repeating themselves, which absent regulatory intervention is likely to lead to a revival of non-responsible or at least problematic practices in each credit cycle that add new lender groups to the market and enhance customer mobility. An example is the high-LTV market:

- We have discussed above the example of the UK where the right-to-buy policies of the Thatcher government at the end of the 1980s introduced high-LTV lending. The main lender group then were the building societies, shortly after their liberalisation. In the boom of the 2000s, while LTV had been declining for the UK market as a whole compared to the 1980s, the same type of product has re-emerged offered now particularly by specialised finance companies in the non-conforming sector.

- Similarly, high-LTV lending by market entrants in Germany has been a repeat phenomenon. During the reunification house price peak around 1990, commercial banks had been trying to boost their traditionally low market share against the more strictly regulated Bausparkassen and Pfandbrief (covered bond) issuers by marketing high-LTV products. In the 2000s, foreign entrant GMAC revived the same type product, and absent a house price boom targeted to younger borrowers.

Some non-responsible lending practices also have featured the lock-in of extremely high interest rates through high early repayment fees, which reduces customer mobility while severely increasing default risk. Such policies occurred at least in the US in sub-prime lending and have induced US regulators to ban prepayment fees for high-interest rate loans. It is unclear to what extent such policies are prevalent in the EU.

Seen in total, there is reason to assume that a reduced incidence of non-responsible lending practices may reduce customer mobility due to a lower number of lenders entering the market during boom times. The effect diminishes, however, if seen over the entire credit cycle which includes phases of credit crunch during which non-responsible practices disappear. We lack sufficiently detailed empirical research to quantify these effects for the EU, e.g. by tracking the number of lenders in the market.

Cross-border lending

We have also no comprehensive EU-wide analysis of the relation between cross-border lending and the incidence of non-responsible or problematic lending practices. We know, however, that given the tight pricing of standard mortgage products in the EU and inertia factors in many Member State markets, product innovation is a major cross-border entry channel, especially in the credit dimension. [221]

Moreover, a growing body of evidence from the credit boom phase prior to the financial crisis in Europe suggests that many cross-border lenders have attempted to enter foreign markets with risky products or covenants, often those that could not be pursued at home due to consumer protection restrictions.

- The most prominent case has been the stimulation of the CHF market in Poland and Hungary by foreign lenders already mentioned before, in the Polish case Millennium Bank (Portugal) and in the Hungarian case Erste Bank (Austria). Before CHF lending became prominent, both countries had local currency markets and forex loan markets in USD and EUR respectively– currencies that implied higher interest rates than CHF. The use of CHF as an entry product with lower interest rate levels must be seen as an attempt of incumbents to gain swiftly market share in developing credit boom environment: in both cases the entering banks bought local banks of secondary market relevance as vehicles. [222]

- Other cross-border entries in EU transition countries created the product set in their respective market: Swedish lenders in the Estonia and Latvia introduced Euribor-based lending, which was supported by government decision to establish de-facto currency boards. German and Austrian Bausparkassen, in contrast, established a rather safe product – fixed-rate lending with a preceding contractual savings period - in the Czech Republic while requiring high levels of government subsidies to establish the product.[223]

- In Germany, the credit boom phase in the mid-2000s was accompanied by foreign lenders entering in high-risk products, for example US-headquartered GMAC in high-LTV lending and Societé

[221] Low, Dübel and Sebag-Montefiori (2003) survey lenders in eight EU countries and assess the degree to which product set gaps will be filled by domestic product innovation vs. cross-border entry. In particular product gaps in the credit dimension are unlikely to be filled by domestic lenders alone, which tend to be bound by regulation or lending traditions. The study also demonstrates the low options-adjusted price prevailing in core EU markets.

[222] Insightful in that regard is also a closer look at Erste Bank's operations in Central and Eastern Europe outside Hungary. The bank acquired for example savings banks with dominant market position in the Czech Republic and Romania, where the existing mortgage product set was rather gradually developed. Source: interview with Erste Bank.

[223] See Dübel (2003).

Générale in other non-standard lending. Attempts to launch sub-prime lending in Germany failed due to lack of demand.

- The Dutch market has similarly seen a great deal of product differentiation driven by mortgage companies such as GMAC.

In other Western European markets the correlation has been less clear cut and entering lenders seem to have adjusted more to local practice. In France, cross-border entry came primarily from the UK – starting in second home lending, and developing then via takeovers of local banks. British banks appear to have promoted ARMs in France, their main product at home, but a review of websites suggests they have done so by universally offering a cap product option, which they do rarely do in the UK. However, highly developed consumer protection frameworks may force an entrant to further adjust his offer. For example, British lenders in Spain offer reviewable-rate mortgages only under a British legal situation (e.g. second mortgage on a UK residence); the product is illegal under Spanish legislation, which enforces index-linkage.

Moreover, while foreign lenders have contributed to non-responsible practices in some cases, their contribution varies from marginal (e.g. Germany) to substantial (e.g. Hungary). There is also a fine line between foreign contributions to filling gaps in the product set and non-responsible practices. For example, GMAC's Germany strategy was to promote high-LTV lending – non-existing in the market before - for consumers with high incomes only. The weak performance of the portfolios, securitised in RMBS pools, so far has proven the strategy wrong, but this is not necessarily an argument against a strategy expanding the risk universe in one dimension while trying to avoid risk layering.

9.6 Qualitative evaluation of the policy options

In the light of the discussion above, we first evaluate the proposals item by item and only later in the chapter give consideration to the legal quality as Recommendation, Law or Code of Conduct, acknowledging that a specific pairing of the form and function has been proposed.

9.6.1 Evaluation by proposed policy option

Introduction

The policy options are sorted here by the degree of intervention into market completeness or intervention into the product set they are associated with. See Figure 90 below which sorts the proposals in a three-dimensional

presentation with regard to their cost impact, their stability impact and their product choice impact. Other dimensions such as customer mobility, consumer confidence and cross-border lending impact cannot be captured in the chart and will be discussed separately.

In order to support the assessment, we also discuss alternatives to the proposed policy options that have arisen in the context of recent regulatory initiatives or debates, or that do suggest themselves from the above review of problematic products and practices.

Moreover, we need to consider that different constellations of other public policies, most notably monetary policies and financial sector regulations, will change the impact of different policy measures:

- For example, a tighter monetary policy going forward would keep the slope of the yield curve flatter and likely both reduce house price volatility and lower the incentives to use payment shock products. This would change the urgency of intervention into certain products and practices, or change market composition (e.g. if greater unemployment was the result and reduced loan supply for non-prime segments).

Because of the long list of proposals, and the similarly long list of alternative responsible lending rules to be discussed, we keep the argumentation shorthand.

Policy option B1: honest, fair and professional action in accordance with the best interests of the client

The terms of reference state: "*A requirement for the lender to act honestly, fairly and professionally in accordance with the best interests of the client*".

These provisions are or have been a standard in Codes of Conducts around the world, for example the US, Ireland and the UK. They are also found in numerous pieces of legislation (see the standalone 'Legal Baseline Annex').

Arguments in favour of such a provision:

- Absent meaningful other material consumer protection rules – i.e. those constraining behaviour rather than demanding transparency only, such provisions may provide a yardstick for lender or intermediary behaviour.

- Historical examples are emerging mortgage markets, such as Ireland (IBF Code of Conduct of 2000). It would seem that in analogy some emerging Central and Eastern European mortgage markets could benefit from such a provision. Yet, most of these jurisdictions are in the process of developing more specific consumer protection legislation in mortgage finance.

- Similarly, lacking regulation and facing conflicts of interest that are hard to deal with by specific rules the credit intermediaries market could benefit from such a provision. Historically both in the US and Europe (UK Mortgage Code) such general provisions stood at the beginning of intermediary regulation.

Arguments against such a provision:

- Ethics provisions are frequently suspected to be introduced after scandals or crisis in order to ensure that more material consumer protection rules are avoided. The British Mortgage Code of 1997 following the UK default crisis of 1990-1995 seems to be an example here, for the case of lenders. However, the implementation of the Code also was a rather pioneering event for the intermediary industry, which hitherto had been unregulated in the UK, and provided the time for testing certain rules prior to regulation, which became implemented in 2004.

- The quality of the proposal entirely depends on the operability of constraints and controls imposed. Yet, rendering them operational speaks in favour of a more specific regulation.

  It should not go unnoticed that analogous clauses are part of every US state mortgage broker code of conduct, where they spectacularly failed to mitigate the risks associated to US mortgage market practices.

  For example, the Californian Association of Mortgage Brokers (CAMB) had focused their handbook written in 2002-2003 by their Best Practices Committee entirely on formulating honesty, fairness and professional standards. California later became the epicentre of the US mortgage market crisis.

Cost-benefit impact in isolation:

- Consumers: likely very limited benefits, potentially high costs if a Code avoids more specific and binding regulations in areas promising significant consumer detriment (e.g. interest rate or forex risk).

- Lenders: likely very limited costs given the existence of extensive regulation, some long-term stability benefits. Benefits for short-term oriented lenders, some foreign entrants (with risky products).
- Intermediaries: given their less regulated status, intermediaries would be more directly affected. In the US, Codes have been mostly written for intermediaries.
- Government: very limited benefits, potentially large costs if alternative regulation is not implemented.

Policy option A1: Access to databases

Before discussing the benefits and costs of providing for non-discriminatory access to consumer credit databases, it is important to recall that the Consumer Credit Directive requires that:

"Each Member State shall in the case of cross-border credit ensure access for creditors from other Member States to databases used in that Member State for assessing the creditworthiness of consumers. The conditions for access shall be non-discriminatory".

Thus, credit bureaus holding such databases will already be developing all the necessary in infrastructure, systems and procedures to provide non-discriminatory access to cross-border consumer credit providers. As a result, according to stakeholders we consulted during this project, the costs of extending this approach to cross-border mortgage lenders should be small.

The cost estimates provided in responses to the survey of credit registers indicate that one-off and on-going costs are indeed likely to be small, ranging from €50,000 to €300,000 for one-off costs and from €20,000 to €300,000 for on-going costs.

At the present time there exists a great variety across Europe in terms of the ownership of such credit bureaus and the nature of the information they contain. Of particular note is the fact that some credit registers contain only information on arrears and defaults (the so-called "negative data") while other contain information on a person's debts and payment records ("positive data").

A number of stakeholders noted that, while both types of information are useful in assessing a potential borrower's creditworthiness, the credit registers with negative data are useful for identifying potential borrowers with credit problems, they do not allow one to assess the potential borrower's financial situation.

Thus, in countries where only such negative information exists, it is likely that a cross-border entrant would still be at a competitive disadvantage

relative to a domestic financial institution providing a loan to one of its client as the latter's credit history and creditworthiness would be only well-known to the domestic institution.

Pro:

- In principle, granting lenders access to consumer databases across borders should facilitate cross-border activity by facilitating cross-border creditworthiness assessments. The legal baseline assessment shows that, in 17 Member States, certain restrictions apply in terms of access to the credit register such as the requirement that a physical presence in the Member State is required and / or access is only available to credit institutions.

- The elimination of such restrictions will allow foreign credit and non-credit institutions to access the credit registers on a cross-border basis and, thus, should facilitate market entry.

- However, in practical terms the effect is likely to be limited, at least over the short to medium term, as cross-border mortgage credit provision is still limited in size and many non-credit institutions have withdrawn from the market as a result of the financial market crisis and the drying up of wholesale financial markets.

- The responses to our survey of lenders suggest that such activity is unlikely to pick up significantly over the medium term. Moreover, in discussions with lenders, it was noted that access to credit registers containing only negative data is of limited usefulness to cross-border lenders and leaves them still at a competitive disadvantage relative to a domestic lender consider providing a loan to one of its existing clients. This is because the domestic lender will have a relatively good overview of the client's overall financial exposure and, hence, will be able to assess the riskiness of a loan on the basis of a comprehensive picture. In contrast, a lender seeking to enter a market from abroad will be at a disadvantage as only information on credit problems encountered by the potential borrower will be available from the credit register but not on the overall credit taken up by a potential borrower with no credit problems.

Con:

- There exists no reason not to provide access on a non-discriminatory basis.

Cases

The two cases below exemplify the issues that may arise in the absence of a credit register or the existence of a credit register with negative information only.

In Latvia, until recently, no credit registers existed. Thus lenders could not obtain an overall picture of a potential borrower's financial situation and many individuals used this situation to borrow beyond their repayment capacity to invest in new properties in the expectation that rising property prices would allow them to flip the property at a substantial profit, thus fuelling a speculative property boom which unavoidably ended in a crash.

In France, the credit register contains only negative information. This is a situation which favours potential borrowers with a well-established relationship with a financial institution and makes it more difficult to access credit from an institution (domestic or foreign) with which no such relationship exists, especially in the case of non-typical borrowers.

Qualitative analysis of the cost-benefit impact

Credit registers:

- Credit registers not yet providing full access on a non-discriminatory basis will incur some one-off and some on-going costs. The survey results showed that the costs per credit registers are likely to be limited.

- Credit registers may benefit from increased business if foreign lenders take the opportunity of the introduction of non-discriminatory access to enter new markets on a cross-border basis.

Consumers:

- Gains are likely to be marginal, as the use of the credit register information is only one of the elements of the creditworthiness assessment and the provision of cross-border mortgage lending is unlikely to increase much.

- The proposal does not raise particular costs for consumers. While consumers may incur costs when verifying the information credit registers holds about them, this is the case irrespective of whether cross-border access is provided or not.

Lenders:

- Lenders will benefit from obtaining creditworthiness information for cross-border transactions, especially in the case of registers with positive data, but the benefit is likely to be small as lenders do not anticipate increasing cross-border lending by much.

- According to the views expressed by lenders in some of the consultations held during the project, the proposal does not raise particular costs for lenders. Obviously the services of the credit register would have to be remunerated. But, this is also the case when a lender accesses a domestic credit register and therefore should not be viewed as an additional cost arising from the policy proposal. However, a lender may incur additional cost in the case where, in return for accessing the credit register, the lender has to provide, and therefore compile, specific credit history data for the clients he already has in the country in which he is seeking cross-border access to the register.

Intermediaries:

- The information gathered during the project suggests that there are no particular benefits or costs to the credit intermediaries as the lenders are responsible for the creditworthiness checks.

Government:

- The government of the home country of the institution seeking cross-border access to a credit register may benefit if it reduces the riskiness of the cross-border lending of that institution and thus improves financial stability. There are no particular costs to governments as long as the public credit registers operate on a cost recovery basis.

Policy option B3: risk warnings

The terms of reference state: *"On the consequences attached to default on payment and to over-indebtedness in special situations (e.g. to financially vulnerable consumers) or upon the request of the consumer".*

Arguments in favour of such a provision:

- The rule may help to raise the awareness of less financially educated, less risk-aware or potentially highly vulnerable consumers of their specific personal (product-independent) default risk and consequences. Many consumers are not aware that they might loose their house during foreclosure and have to service residual debt, as the legal and contractual situation might be complex to analyse and interpret. The provision thus directly addresses this information problem.

- The provision may reduce the price elasticity of demand of these borrower groups in favour of greater sustainability of the financing. This tends to reduce the demand for riskier products and – depending on the availability of the rental housing alternative - will also reduce the scale of consumer groups with potential difficulty to repay coming to the mortgage market.

Arguments against such a provision:

- The provision does not supply consumers with a warning against specific product risks or risk layering, which are of paramount relevance for default. Yet, such risk warnings may become entailed in pre-contractual information.

- It remains unclear how the consumer characteristics will drive their probability of default, as opposed to the consequences. This requires stress test assumptions on the characteristics, e.g. income levels or additional debt levels – for example credit cards or payday loans. Especially lending to non-prime consumers has been characterised by overoptimistic stress assumptions (see UK example discussed in the empirical review).

- The approach in isolation does nothing to alter the incentive structures of lenders or intermediaries and consumers. The incentives to reduce initial payment and distribute the 'advantage' between the parties while risking a later payment shock are overwhelming during phases of elevated house price levels.

Cost-benefit impact in isolation:

- Consumers: additional information most likely to benefit less financially educated borrowers and first-time buyers; however, those groups are also often those with the greatest housing market problems and need to rely on buying, borrowing at the cheapest rates. Risk warnings do not materially reduce default risk (since not product-specific) or the consequences of default themselves. Without a change in focus of the warnings there could even be a perverse outcome of lower market turnover without altering the balance between risky and safe products, or underwriting at peak or bottom house price or interest rate levels.

- Lenders: Risk warnings are unlikely to change lender behaviour given profitability structure of product menu, depending on salary structure of employees (relation bonus to base salary). Small material cost-benefit impact apart from staff training costs. Likely no liability once the warning has been legally-technically delivered.

- Intermediaries: typically higher relation of bonus to base salary (if any) implies that profitability structure of product menu will dominate behaviour. Likely no liability once the warning has been legally-technically delivered, hence no material change of incentive structure apart from staff training costs.

- Government: forcing lenders or intermediaries to warn consumers of the consequences of default is de-facto an outsourcing of information provision and consumer education concerning the law. This leads in a first round to a reduction of government staff costs (in the US, for example, risk warnings are often conveyed by housing agencies with a formal borrowers' counselling mandate). In a second round, additional supervision and enforcement costs arise. It is very likely there will be no positive benefit impact on reduced social policy costs as a result of foreclosure, banking sector crisis, since basic economics of consumers work against a material impact of the warnings.

Policy option B2: borrower information disclosure requirements

The terms of reference state: "*A requirement for the borrower to disclose – in good faith – all relevant information requested by the lender to perform a creditworthiness assessment*".

Arguments in favour of such a provision:

- There are indeed powerful borrower incentives to hide information from the lender that could lead to a loan rejection, especially if the insolvency law is protective against residual debt and wage garnishment and credit markets exist for previously bankrupt borrowers. Depending on the scale of penalty, such fraudulent behaviour could be reduced.

- The accuracy of the lender creditworthiness assessment could benefit from a greater and more accurate information set concerning borrower characteristics.

- Especially in a dis-intermediated market where risk is borne by third-party investors, intermediaries and lenders may have their incentives aligned with borrowers willing to conceal information (see discussion of self-certification market issues in UK and US above). Forcing the borrower to disclose information would reduce lender/intermediary moral hazard.

Arguments against such a provision:

- The legal implications are not entirely clear. Would an offense imply for example a reduction of liability of lenders for own negligence? We have discussed above with the example of the self-certification market that this would in practice only be the case if there was outright fraud by the borrower. Fraud, however, seems to be sufficiently penalised already by civil and penal codes.

- If there is no additional penalty for the borrower over existing law, the value of the provision is very limited.

- The collusion incentives between consumers and lenders, as shows above with the example of the US self-certification market, in the presence of house price inflation may be overwhelming and make the rule ineffective where it is needed most (e.g. to stem further house price inflation).

- Such a provision could be interpreted as a substitute to developing proper borrower screening techniques by lenders and intermediaries.

- Also, if not sufficiently detailed, a list of specific borrower information obligations could be further detailed contractually, possibly in fine print hard to discern for borrowers, and thus lead to de-facto omnibus elimination of lender/intermediary liability and reversal of the onus even for minor information not provided (analogy to contested practices in the insurance sector).

Cost-benefit impact in isolation:

- Consumers: unless a clear borrower penalty is specified (and here beyond fraud), no direct consequence. However, a consequence could be greater difficulty to prove and enforce justified claims for lender or intermediary liability.

- Lenders: some reduction in screening costs, possibly additional options to shed liability for mis-selling.

- Intermediaries: as lenders.

- Government: as consumers with limited upside and possibly large downside if lender and intermediary liability would be curtailed. It should be noted that financial industry and government databases (e.g. for income or property taxation purposes) are mostly legally firewalled, which pre-empts a possible positive externality from greater borrower disclosure (and provides incentives for borrowers to disclose less faithfully). A change of that firewalling practice might have a more substantive effect on the overall cost-benefit picture, in particular benefit lenders and intermediaries.

Policy option A2: consumer creditworthiness assessment

The terms of reference state: *"Creditor assesses the consumer's creditworthiness on the basis of sufficient information, where appropriate obtained from the consumer and, where necessary, on the basis of a consultation of the relevant database".*

Arguments in favour of such a provision:

- In principle highly operational and addressing a wide range of non-responsible lending practices described in the empirical review, especially with regard to risky products, generic difficulty to repay (exogenous sub-prime) and inflation-related difficulty to repay (endogenous sub-prime) as well as risk-layering.

- Especially if a link is created to bank capital requirements and other prudential regulation that legally binds management there could be a mutual reinforcement effect for consumer protection. For example, lender applying the internal ratings-based approach on modelling mortgage default and loss-given-default could apply the same modelling approach to the individual underwriting decision.

- For the more advanced lenders using the internal ratings-based approach, implementation costs should be low. The transfer is to render portfolio models suitable for individual credit assessments.

- If properly implemented, such a provision generates an indirect limitation of the product set, which is less costly than a direct intervention into the product set (as some risky products remain suitable to certain borrower groups or in certain circumstances) or a provision to refrain from lending. A creditworthiness assessment would, for example, rule out a combination of vulnerable borrowers and payment shock products (risk layering). The condition is that the quantitative risk model or alternative assessment technique (internal scoring, etc.) is properly structured and calibrated.

- Subject to the strength of the legal consequences of the policy option in the consumer protection sphere for lenders and intermediaries the provision could help to foster the standardisation and professionalisation of credit underwriting standards.

Arguments against such a provision:

- The European financial system is vastly overbanked and fragmented in the retail sector. Absent central mortgage refinancing institutions that set credit assessment standards in order to minimise their own business risk, as Fannie Mae and Freddie Mac do in the US through their loan underwriting standards, credit assessment standards in Europe are very wide-ranging.

- For the same reason mortgage loan performance information data that is needed in order to professionalise credit assessment is fragmented. Credit information provision – largely via credit bureaus - is not specialised since Europe has not developed a mortgage insurance or financial guarantee industry. Developing a proper econometric mortgage loan (pool) performance model for Europe is a daunting task under those circumstances.[224]

  We do not argue that centralised systems, let alone uniform credit assessment standards, are necessarily superior (see discussion above). But the absence or weakness of specialist institutions in the European mortgage sector limits professionalisation and thus the operability of the provision.

- While Basel II has provided stimuli to foster standardisation and professionalisation inside European banks, after the financial crisis likely the third pillar, market control over banks and the mortgage sector at large, will suffer from setbacks. Market control, however imperfect, was starting to get strengthened in the Europe sector over the past two decades through the rise of mortgage funding instruments such as RMBS and covered bonds. The decline of these costly-to-issue instruments as banks receive alternatively explicit or implicit government guarantees will reduce available performance data availability further and thus limit the operability of the provision.

[224] It is noteworthy here that the three large rating agencies – after long experimenting with mixed qualitative-quantitative approaches – all now have econometric mortgage loan pool performance models for the United States. Comparable models for Europe are in an early stage of development. FitchRatings just started a comparable product to its US model ResiLogic for the United Kingdom and the Netherlands ('ResiEMEA').

- There is risk that if the provision was rendered operational, e.g. by demanding quantitative credit risk (or at least house price risk) modelling techniques as the main pillar of a credit assessment from lenders, it would lead to stronger concentration of the financial system. Reduction of competition was also a key concern allowing a continued and strong role of the standardised approach under Basel II. Yet, permitting very different credit assessment techniques in parallel might weaken the operability of the provision.

- The Basel II standards for credit risk models are not designed (detailed enough) to support mortgage product underwriting decisions. Consumer protection and bank regulation agencies could remedy this by launching a combined effort to improve the models to allow modelling e.g. of the credit risk impact of certain products.[225]

- An excessive reliance on 'regression'-banking techniques may lead to a de-linking of the credit assessment from other important circumstances to be considered in the individual case. The CCD refers to this issue in the "whereas", but the words of the policy option could be clearer by not suggesting to limit the information sought from consumers to 'where appropriate'. There are laws that seek to strike a different balance between consulting of databases and relationship: for example German data protection law requires that a credit assessment cannot exclusively rely on a database. We have discussed the problems of 'geo-scoring' and other misspecification risks of models above.

- Mortgages being long-term loans, it should be clarified whether such a credit assessment requirement is intended to regulate the underwriting situation only, or would give the lender an argument to adjust financial loan conditions (spreads, collateral requirements) during the financing when the credit assessment has materially changed. This seems to be a material risk: for example, in German the civil law profession in the past years has hotly debated whether changes in internal ratings—based capital requirements under Basel II would justify an ex-post adjustment of interest rates in a fixed-rate financing, as a result of changed lender capital costs.

[225] The rating agencies' quantitative models are only starting to address product-specific risk, for example Fitch ResiLogic for the United States. How difficult cross-product analysis is illustrated by the fact that Fannie Mae, Freddie Mac and FHA in the past almost exclusively guaranteed a single product, callable FRM, while the private sector sought its niches primarily with a large variety of ARM products. This led to disjointed databases that research needs to pool in order to reach conclusions across products.

Cost-benefit impact in isolation:

- Consumers: we see moderate to high benefits in terms of lower probabilities of default, especially if lenders were forced to explicitly evaluate the individual credit risk with a tested and sufficiently standardised methodology using ideally both quantitative and relationship-based techniques.

- We see partly significant costs when quantitative models are mis-specified and model output is used for a potentially destabilising large credit pricing differentiation. There is also cost with regard to reduced access to credit, which differs country by country and location by location as the alternative – rental housing – is available in very variable form.[226]

- Lenders: moderate to high benefits for long-term oriented lenders who should gain in market share and earn higher profit (as credit risk mispricing by short-term oriented lenders is reduced). A direct requirement imposed on lenders to do a proper credit assessment reduces also the ability of short-term oriented lenders to defraud investors by transferring excess credit risk (in excess of what is priced) to them.

- Intermediaries: costs in the form of lower market turnover, benefits in the form of saved litigation costs, especially if lenders take greater responsibility in underwriting. Potential conflict with advisory role of intermediaries.

- Government: benefits through greater stability, but costs through greater needs to support vulnerable borrowers through subsidies (e.g. for taking out an FRM rather than an ARM) or rental programs.

Policy option A3: provision of adequate explanations

The terms of reference state: "*...provide adequate explanations to the consumer, in order to place the consumer in a position enabling him to assess whether the proposed credit agreement is adapted to his needs and to his financial situation, where appropriate by explaining the pre-contractual information to be provided in accordance with paragraph 1, the essential characteristics of the products proposed and the specific effects they may have on the consumer, including the consequences of default in payment by the consumer*".

[226] The authors are unaware of a systematic EU-wide access to credit study in mortgage finance. Clearly, though, the structural differences in EU housing markets, especially the shares of social and private rental housing as documented by the Statistics on Housing render the access problem highly idiosyncratic. The Statistics on Housing is a biannual publication by sequentially varying national housing ministries in EU Member States, latest edition 2005/6 by Ministry of Infrastructure of the Italian Republic.

The key CBA questions surrounding the subject appear to be:

- What level of explanation is adequate and where is the border line to advice and to creditworthiness assessment?
- Who provides the explanation and thus needs to hold the capital base to pay damages, especially lender vs. intermediary?

Arguments in favour of such a provision:

- The provision addresses important areas of non-responsible lending practices described above, such as risky products, difficulty to repay (exogeneous sub-prime) and inflation-related difficulty to repay (endogeneous sub-prime) as well as risk layering.
- The proposed formulation is quite specific as far as the requirement for the lender or intermediary is concerned to analyse and communicate the impact of product characteristics and the consequences for a particular borrower ('adapted to his needs and to his financial situation').
- In contrast to risk warning or credit assessments it covers both the probability of default and loss-given-default aspects.
- If as a result of such explanation the borrower is presented with a ranking of options, it comes very close to advice while avoiding the term. Such a ranking may be avoided by the lender or intermediary if he limits himself to present the borrower with adequate explanations about the trade-offs in particular between early default risk and payment shock risk during the life of the loan. However, the term 'adapted' would suggest that the set of product-lender combinations will be limited. Case law would then develop to specify the boundaries.
- In tandem with the creditworthiness assessment proposal and the approach taken by the CCD (defining the limits of credit risk models), operability of Policy area A on the whole is improved.
- Given its closeness to advice, the policy option is particularly powerful if intermediaries are included in its ambit, in combination with regulation safeguarding the (a certain) independence from lender interests. Intermediaries usually present consumers with matrices of products by lenders. The proposal would safeguard that product and credit agreement characteristics are sufficiently detailed and communicated, while an independence-oriented provision would safeguard that a sufficiently large set of competing offers of the same product is reviewed.

Arguments against such a provision:

- The provision to explain risks alone does not pre-empt extremely risky underwriting and speculative behaviour of both lenders and consumers to override any suggestion of a feasible product set ('adapted'). The provision should therefore sit in combination with the call on the lender to reject applications if necessary (Policy option B4).

- With regard to the 'specific effects' that a financing might have on the solvency of a consumer, the provision is somewhat de-linked from bank regulation rules and the greater operability provided by these in their credit risk assessment requirements. There is risk of mismatch between what bank regulation consider as solvency effects, e.g. LTV ranges, the use of mortgage collateral, debt service-to-income ratios and income and interest rate stress assumptions, and what banks could be interpreted to communicate under the proposal.

- At least for the case of intermediaries the question arises whether the term 'adapted to his needs' will also need to include explanations about the characteristics of the counterparty of the credit, the lender. A borrower with elevated default risk for example will rely on a credit counterparty that can be properly communicated with and is open for restructuring solutions. Non-banks, large commercial and local banks differ in their characteristics in that regard.

- Cognitive dissonances of consumers may exist that render him unable to understand the explanations given. This requires a more proactive approach, e.g. mandatory advice or independent education efforts beyond explanations.

- Compared to advice it is even less clear who bears the onus for proof that adequate explanations have been delivered. The main problem in practice seems to be that lenders and intermediaries develop documentation formats of the meetings with consumers that tend to be accepted in courts universally as confirmation of adequacy.

Cost-benefit impact in isolation:

- Consumers: moderate benefits as lenders are now required to devote more time and effort to explanations and the specific case (product chosen by consumer). Yet there is no pre-emption of risky loan underwriting and the associated consumer detriment. Greater impact could also be reached for consumers if lender characteristics material for the contract relationship would have to be explained, too. The likely benefits will disproportionately accrue to the more educated consumers who can properly process the explanations given.

- Lenders: moderate costs as more time and effort is spent on explanations. Yet, no material interference with product menu, underwriting policies or business strategies, especially if intermediaries are not obliged to provide explanations of lender characteristics.

- Intermediaries: moderate costs through lower turnover. Litigation risk can be higher or lower if explanations need to be given. If intermediaries are forced to provide the explanations in a consumer-product-specific context, the changes in costs are likely minor. Intermediaries will have to extend their typical presentation format of product characteristics and possibly develop simulations and other explanatory tools to point out risks to the consumer. If intermediaries were to explain differences between lender characteristics (i.e. e.g. likely reaction to a default or likelihood of a loan sale) they could run into conflict with their typically fee arrangements, which are lender profit driven. [227]

- Government: by forcing the industry to spent more resources on meaningful explanations communicated to consumers, the government may save some costs for public financial education programs, furthermore reduce banking crisis and associated social costs if the lenders and intermediaries deliver on the regulation. However, such efforts are unlikely to completely substitute for own public efforts to improve on financial education and explanations of products and practices. Moreover, the fundamental conflict of the co-existence of short-term and long-term oriented lenders continues to distort consumer decisions which cannot be sorted out credibly by the lenders and even intermediaries.

[227] An option to address this conflict of interest could be subsidies in the form of counselling vouchers for (vulnerable) consumers that support the intermediary cost base through a certain level of consumer payment of fees.

Policy option B4: refraining from lending

The terms of reference state: *"a requirement for the lender to refrain from lending to a consumer if doing so would be deemed too risky for the consumer in the light of the latter's specific situation".*

Arguments in favour of such a provision:

- The provision has the potential to address a wide range of non-responsible lending practices discussed in the empirical review.
- The provision can be interpreted as simply spelling out the ultimate consequence of a proper credit risk assessment.
- At the same time it sets tighter limits for underwriting than the mere provision of adequate explanations, or even advice. This will be important especially for financially uneducated or financially vulnerable consumers, which often are particularly conflicted between the initial interest rate of a loan and its payment shock risk content.

Arguments against such a provision:

- The proposal would be better placed as an additional provision in Policy area A complementing adequate explanations and creditworthiness assessment. We will discuss this issue of complementarity of individual rules in the quantitative assessment below.
- Without an additional requirement to terminate a market-wide malpractice once it has been diagnosed as such, the provision will suffer from prisoner dilemma problems, i.e. banks that terminate the practice will price themselves out of the market as long as not everybody terminates the practice. The presence of intermediaries might exacerbate the dilemma.

  It is instructive in this regard to recapitulate the interaction between Austrian regulators and lenders on the forex-combo loan issues discussed in Box 3 above.

  Austrian authorities had been struggling to publish a detailed list of risk warnings and lending constraints while Swiss Franc lending proliferated quickly throughout the market after 1998. After the ordinance finally appeared in 2003, the scope of the malpractice reduced. However, this was primarily the consequence of a reduced market incentive, as Swiss Franc interest rates approached Euro interest rate levels during 2003-2007. The October 2008 Swiss Franc liquidity shock then prompted some lenders to consider a termination of the practice. When they realised that others would not

follow they started to lobby with the regulator for a formal ban of the practice to avoid the prisoners' dilemma situation.

- A rejection might cause the exclusion of bankable borrowers. Those errors are usually maximised in a pro-cyclical manner after some defaults have occurred (credit crunch). This inter-temporal inconsistency is another argument in favour of a stronger co-ordination effort, next to the prisoners' dilemma problem.

- The 'risky' could benefit from further specification. It is not just the underwriting situation of the consumer that should be considered, but also the potential scenarios of changes of loan and economic conditions. For example, Spanish lenders are adamant in claiming that lending to lower-income households during the middle of the 2000s was justified based on the low Euribor interest rates available to them. Without proper stress scenarios for parameters such as interest rates or house prices, such errors of inclusion will not be addressed.

Cost-benefit impact in isolation:

- Consumers: some consumers, and likely the more vulnerable, might benefit from a credit denial if this saves them from losing equity invested in the house.[228] In combination this corrects the benefit bias towards the financially astute caused by adequate explanations. Yet, absent co-ordinated attempts to end a mis-selling practice for all lenders, consumer benefits will remain limited as still some will be induced by less risk-averse lenders to underwrite a risky financing.

  Also, there is a risk of errors of exclusion of consumers that are able to service the loan product in question, e.g. when inferences are made from isolated or temporary default problems associated to the product to the entire population. Also, with the credit denial argument consumers might be forced to take out excess protection which they may not objectively need (e.g. loan or cash flow insurances). The risk is mitigated by the prisoners dilemma described, which may allow the consumer to still find another lender.

- Lenders: adhering lenders might face a dual penalty, loss of market share and profit, absent co-ordination between lenders, against greater sustainability of their business model. Foreign lenders might still enter the market and destroy a local co-ordination agreement – example foreign lenders introducing Swiss Franc products in Poland and Hungary, see discussion above.

[228] This benefit is likely hump-shaped in borrower income, as very low income borrowers – especially younger households - tend to be underwritten during credit cycle peaks without or very low own capital. At the same time, capital lost in proportion to income can be high for such groups.

- Intermediaries: remain directly unaffected by the provision as they are unlikely to interfere with the underwriting decision of a lender, but will benefit from a reduction of litigation risk and suffer from lower turnover, if rejections occur.

- Government: in case of co-ordinated rejections, rejected consumers would have to be housed through other measures, such as loan subsidies or public rental program. In case of non-coordination the practice prevails with potentially negative consequences. However, as the experience with CEE countries shows, national governments may be able to export the costs of mis-selling to the home countries of foreign lenders (e.g. Latvia to Sweden, the home country of the majority of banks - by assets - operating in Latvia).

9.6.2 Evaluation of alternative measures not specifically proposed

CCD encourages additional measures, moving baseline

The reference here is (26) of the Whereas list: "*Member States should take appropriate measures to promote responsible practices during all phases of the credit relationship, taking into account the specific features of their credit market.*"

This leaves options in favour of more robust constraints placed on products or covenants than proposed, e.g. if a market is dominated by forex lending (avoidance of certain currencies with high foreign exchange volatility).

At the time of writing of the study, the baseline in terms of policy measures in the responsible lending arena is moving substantially as many EU Member States are introducing additional regulation and tightening existing rules. It is beyond the scope of the study to fully evaluate this legal trend beyond the proposed policy options. However, we note the so far most far-reaching proposal made by the British FSA in October 2009, with the following elements[229]:

- "Imposing affordability tests for all mortgages and making lenders ultimately responsible for assessing a consumer's ability to pay;
- Banning 'self-cert' mortgages through required verification of borrowers' income;
- Banning the sale of products which contain certain 'toxic combinations' of characteristics that put borrowers at risk;
- Banning arrears charges when a borrower is already repaying and ensuring firms do not profit from people in arrears;

[229] Source: press notice issued by the FSA on October 19, 2009.

- Requiring all mortgage advisers to be personally accountable to the FSA;
- Calling for the FSA's scope to cover buy-to-let and all lending secured on a home."

This canon of rather strong interventions into product choice and practices chosen by a Member State particularly affected by mortgage market crisis, and similar initiatives by regulators elsewhere, gives us motivation to selectively discuss here a number of additional items found in current regulation efforts, or suggested by the responsible lending issues themselves, and contrast these against the current proposals in order to put their cost and benefit into context. In the quantitative assessment we will test one of the below provisions against the proposed policy options.

Underwriting based on fully-indexed fully-amortising loan product assumption / FIFA (prohibition to underwrite on initial loan conditions)

One of the first reactions to the US sub-prime crisis, whose relevance for EU legislation due to great similarities of the product set – especially with the UK - has been outlined before, was the US interagency guidance of fall 2007 that forced lenders to ignore the affordability impact of teaser rates, discounts and zero or negative amortisation periods and underwrite every borrower based on assuming the fully indexed and fully amortising debt service.

Arguments in favour of such a provision:

- This eliminates some lender's tactics to pretend 'affordability gains' through purposefully engineered initial loan conditions, as described in the empirical section on risky products and difficulty to repay (exogenous sub-prime). However, also entire European markets could benefit and here especially countries using teaser and discount practices extensively, such as the UK and Ireland. The measure would trigger positive transparency and competition externalities.
- The formulation is tantamount to a specific version of a cash flow stress test that assesses payment shock risk – both reset (of interest rates) and recast (of the amortisation schedule). As such it is particularly valuable to avoid risk layering, e.g. in the UK non-conforming market where interest-only products have been dominating.

Arguments against such a provision:

- As such it does not encompass downside beyond the fully-indexed fully-amortising level based on current index values. This might easily occur when the index value changes, especially if it is a volatile index (forex, Euribor).

- The specific US case was plagued by implementation problems that might re-occur in Europe absent proper regulator monitoring. A 1998 interagency guidance with almost identical language exists that was written in response to the first US sub-prime crisis (trailer homes) and was never fully implemented.

General stress testing requirements

Arguments in favour of such a provision:

- Stress testing addresses the payment shock problem directly and comprehensively. If combined with an income stress test, problems regarding difficulty to repay can be detected early. Yet, stress-testing must be context-specific, taking into consideration specific consumer risks (e.g. additional credit burden).

- Stress testing may capture index volatility effects not covered by fully-indexed-fully-amortising underwriting. Stress should be applied on the basis of fully-indexed-fully-amortising payment levels, not on the basis of payment levels established by initial loan conditions.

- Poland's 'Regulation S' since 2005 requires Swiss Franc lenders to underwrite consumers on the basis of a 20% devaluation stress assumption. There has been a limited, but noticeable impact on the Swiss Franc lending market share in Poland (supported by moderate Polish market rates).

Arguments against such a provision:

- Post-financial crisis under reasonable empirical assumptions a stress-testing provision will price many practices out of the market – e.g. forex lending in Swiss Francs.

- Stress-testing may be hampered by data problems. See discussion about the value of LIBOR during the end of 2008 when no interbank trades were taking place and the index was constructed based on single-sided quotes.

- The alternatives to historical stress test assumptions are synthetic stress assumptions, which are used for example in the Polish forex regulations (see above).

Product risk descriptions in a standardised format, link to APRC concept

Clarification in consumer communication of the relation between costs of credit (APRC) and risk content of mortgage products. Examples are contained in the MIFID that forces investment intermediaries to describe the risks of investment products, including in a standardised format, and obtain self-assessments of consumers.

Arguments in favour of such a provision:

- A clear risk-price transparency concept is needed for borrowers to be able to judge price (APRC signals). Due to the abstract nature of risk, consumer finance markets are characterised by great difficulty for consumers to assess the risk-price relationship. Strengthening this ability at the individual consumer level is pivotal in order to reduce the demand for risky products with potential payment shock risk.

A public risk assessment or at least standardisation of risk description is a consumer protection standard in other markets. It has been proposed and implemented in many consumer good markets – examples are the traffic-light systems developing in the food market and health hazard warnings in the drug market. Arguments against such a provision:

- Every risk categorisation or standardisation of risk description attempt produces errors of inclusion and exclusion as discussed above. Also, the risk content of products may change. An example is ARM lending where markets have started to offer versions with caps (e.g. Denmark, see discussion above). In order to minimise this risk, financial products could be empirically evaluated in regular intervals.

- In mortgage finance, there is dual risk – credit and interest rate – which requires a somewhat complex risk assessment approach (e.g. econometric models of joint termination, see discussion in the early repayment chapter). Yet, other markets - e.g. food quality and relation to health – are characterised by even more complex relationships that require intensive statistical tests.

Intermediary fee and independence regulations

Candidates for fee structures are in particular trailing fees (i.e. fee payments to intermediaries spread over the initial phase of the loan) and fixed fees.

Arguments in favour of such a provision:

- Such provisions go to the heart of the intermediary incentive problems described.
- Trailing fees and other risk-based remuneration, especially when combined with independence provisions and other forms of recourse for badly underwritten loans may limit the currently large moral hazard problem of intermediaries to leave consumers and lenders with a risky financing.
- EU insurance intermediary regulation already establishes a maximum threshold for equity investments of insurers. Mortgage intermediaries are conceptually equivalent to insurance brokers as elements of the contractual savings, retirement provision system.

Arguments against such a provision:

- Fees need to be truly fixed in nominal terms, and not fixed in proportion to loan volume (and by implication house price), in order to eliminate incentives for mis-selling. Selling a safe product does not help to reduce default risk when house prices are inflated. So far there seems to be no country that has successfully de-linked broker fees from loan volumes, since the incentives for lenders and intermediaries against flat fees are too strong.

  If a fixed-fee regulation was implemented, informal side payments would be the likely result, for example through a takeover of the intermediary by the lender.
- Trailing fees have been introduced in Europe e.g. for mortgage intermediaries in the Netherlands[230]. They are contested by consumer groups as anti-competitive (see discussion of churn above).
- A public support strategy for the independence of intermediaries in the form of vouchers – coupled with forcing intermediaries to remain independent and provide advice - could be a solution. This would then establish de-facto a regulated utility model for the intermediary market (as e.g. exists in the case of notaries).

Mandatory advice

Mandatory advice was extensively discussed in the Mortgage Industry and Consumer Expert Group.[231] Seeking advice can be made compulsory either

[230] See Europe Economics (2009), p.34.
[231] The reader is referred to the relevant documentation, which can be downloaded from: http://ec.europa.eu/internal_market/finservices-retail/home-loans/integration_en.htm

for certain groups – see US attempts to introduce mandatory counselling for vulnerable borrowers – or for entire borrower population.

Arguments in favour of such a provision:

- Experiments with mandatory advice for vulnerable borrowers have shown positive results in the US[232], especially a higher rejection ratio of risky loan offers by consumers. However, such counsellors were third parties, not lenders.
- Given the public implicit support for the financial system, lenders and intermediaries can be asked as a quid pro quo to provide a public service – counselling.
- Other provisions proposed already come quite close to an advice requirement, e.g. adequate explanations considering the individual circumstances of the consumer.

Arguments against such a provision:

- As long as lenders still deploy private equity capital and are not public utilities, they are subject to a conflict of interest between their own profit maximisation and consumer risk mitigation in the short-term. It is unrealistic to expect full performance on both goals, unless the lender business model itself is changed.
- Imposing mandatory counselling duties on intermediaries changes the structure of the intermediary industry and will impose additional costs on the intermediaries.
- Mandatory advice may also impose costs for consumers who consider themselves well able to make their own choices.

Higher capital requirements for risky products

The concept of risk-based capital requirements could be further developed to capture the risk content of products, or even more strongly risk layering, by a differentiation of capital requirements.

Arguments in favour of such a provision:

- The provision ensures that a specific insurance deductible (bank equity capital) is applied to a specific ring-fenced risk (risk-based pricing principle).

[232] See Agarwal et al (2009) who analyse a field experiment in Illinois. In the meantime the state has passed a mandatory counseling law.

- By applying a pricing mechanism, the demand for risky product is corrected. In particular, the pricing disadvantage of products providing credit risk protection, such as fixed-rate lending, versus an increasing number of risky products is reduced.
- May be flexibly used to penalise certain practices, e.g. negative amortisation or low teaser rates.
- Pricing may be a more flexible approach than stress testing as it reduces the product menu less.

Arguments against such a provision:

- There are higher data needs to determine the necessary capital add-ons than European mortgage markets can currently provide. In particular the problem of dominance of individual product classes (see discussion in the early repayment chapter) pre-empts comparative studies in many important markets.
- Capital levels are context-specific (risk layering) – how far should the risk-based capital modelling be developed, given the obvious limitations of modelling as such?
- A flat deductible does not pre-empt very risky practices. For example a sufficiently steep yield curve will lure borrowers from FRM into ARM even if the price difference is reduced by additional capital requirements. A rise in credit costs may generally above some level contribute to the problem (adverse selection of risky borrowers).

Mandatory downside risk limits on risky products (caps, etc)

In jurisdictions with high inflation history, mortgage products conveying high level of capital or payment shock risk often come with mandatory downside risk limits or are even banned. Examples are found today mostly outside Europe – Latin American countries such as Mexico or Colombia legislate risk limits.

In Austria, in the context of forex lending banks have been forced by regulators in 2003 to limit negative amortisation risk (see case discussion above). In general, however, negative amortisation, interest rate or instalment rate caps do not seem to be mandatory at this point in Europe or in the US.

However, there are a number of candidates given recent risk materialisations, and rating agencies (as well as prudent bank risk management) regularly recognises the value of downside risk limitations for the rating of mortgage portfolios. With regard to forex lending products with high combined currency and interest rate volatility, caps could be made mandatory - in analogy to negative amortisation limits. Caps for short-term adjustable rate

mortgages could be required, at least during the initial phase of the loan when loan-to-value and debt service-to-income ratios are high. Problematic are also combinations of forex lending and short-term interest rates, here instalment caps are an option.

Arguments in favour of such a provision:

- A specific risky product problem, payment shock, is directly addressed. The cap principle can be applied to all payment shock products, e.g. forex or ARM or hybrid ARM.
- Caps are for theoretical reasons a less expensive form of protection than fixed rates since they share the risk between lenders and borrowers. We will discuss numerical examples in the quantitative analysis below.
- After some seasoning of the loan in combination with sufficient amortisation, consumers may bear the risk of future shocks, i.e. caps may not be needed for the lifetime of the loan.
- Lenders with only moderately sophisticated asset-liability management may be able to self-insure protection given to consumers, especially since they can internalise a potential benefit in the form or reduced credit risk.

Arguments against such a provision:

- Cap protection (as swap prices) bought on the interbank market may become temporarily very expensive if protection sellers are faced with increasing counterparty risk or own balance sheet constraints. This happened to the forex swap markets in currencies like Hungarian Forint or Polish Zloty during the financial crisis.[233]
- Danish lenders have attempted to overcome the problem of counterparty risk in the cap/swap market by issuing bonds with cap features directly to investors (with the cap rate playing the role of the fixed coupons in standard Danish FRM lending). However, the effort does not seem to have been very successful with investors.

[233] For example, Hungarian lenders hedged themselves against their Swiss Franc loan exposure by issuing bonds in Euro and purchasing Euro-Swiss Franc swaps. The latter became extremely expensive during the financial crisis, forcing the Hungarian Central Bank to open a swap line with the Swiss Central Bank. There have been no cases of cap protection purchases by Hungarian banks since the competitive situation did not allow the offering of capped forex loans (see discussion above). However, the supply problems in swap and cap markets are likely to be very similar.

Ban of certain products and practices

Historically, all jurisdictions without exception implicitly or explicitly have pre-empted certain financial products that over time have been considered as too risky for the financial system. This is quite recent for the EU, for example in the case of ARM Belgium has been the last EU Member State to abolish a legal ban on the product in the early 1990s.[234]

Yet, the liberalisation phase seems to come to an end in the aftermath of the financial crisis of 2007/8 as exemplified by the British FSA proposals as of October 2009 to ban risk layering practices ('toxic combinations') as well as self-certified income mortgages. Other European regulators can be expected to follow.

Absent legal bans, many European regulators make it very clear, and are likely to continue to do so, to lenders that they would discourage certain products with available means – e.g. signals have been sent by German BAFIN to lenders trying to import forex loans from Austria to Germany that the minimum requirements for the credit business would be used to pre-empt a proliferation.

The costs and benefits of such a strong interference into market force depends highly on the type of practice that is targeted, whether it indeed ranks high on some rather objective risk scale, or whether it is banned rather for the protection of the domestic product set or industry, and whether there is a viable alternative to consumers.

For example, Member States such as Hungary due to their high domestic currency interest rate levels and the absence of suitable products in local currency (that would capitalise the inflationary part of the interest rate) are not in the position to ban forex lending. However, they could decide to interdict certain risky combinations, such as the use of a preferred global carry trade currency (CHF, JPY) with the associated high liquidity risk, or the combination of forex lending with short-term interest rates.

Arguments in favour of such a provision:

- A prohibition will be the most effective form of deterrence of a mis-selling practice.

[234] Outside the EU, Turkey only in 2008 abolished a ban against adjustable-rate mortgages which still exists in many countries practicing Islamic Finance rules.

- A ban of certain highly risky activities – especially risk layering - may still leave a sufficiently wide and accessible (including cross-border) playing field. For example, transition countries could decide to ban only forex lending in highly volatile currencies (e.g. Swiss Franc and Japanese Yen, which are relatively illiquid and still widely used for speculation purposes), which still leaves consumers with a feasible alternative to a high-inflation local currency product.

Arguments against such a provision:

- Compared to taxation or insurance mechanisms such as capital requirements or mandatory caps, a prohibition has the highest potential opportunity costs for lenders and borrowers since prohibitions tend to maximise error of exclusion.

  An example may be the British FSA's intention to prohibit self-certification mortgages, whose presence – as we have shown – has structural and cyclical causes. Addressing the cyclical problem, especially risk-layering (e.g. with interest-only loans), could be well justified while removing a product altogether that is needed as a result of the structure of the labour market may not.

- Product and practices bans do not solve the underlying problem of excessive house price level and insufficient incomes, and the absence of alternatives to borrowing / homeownership for consumers.

9.6.3 Evaluation by impact

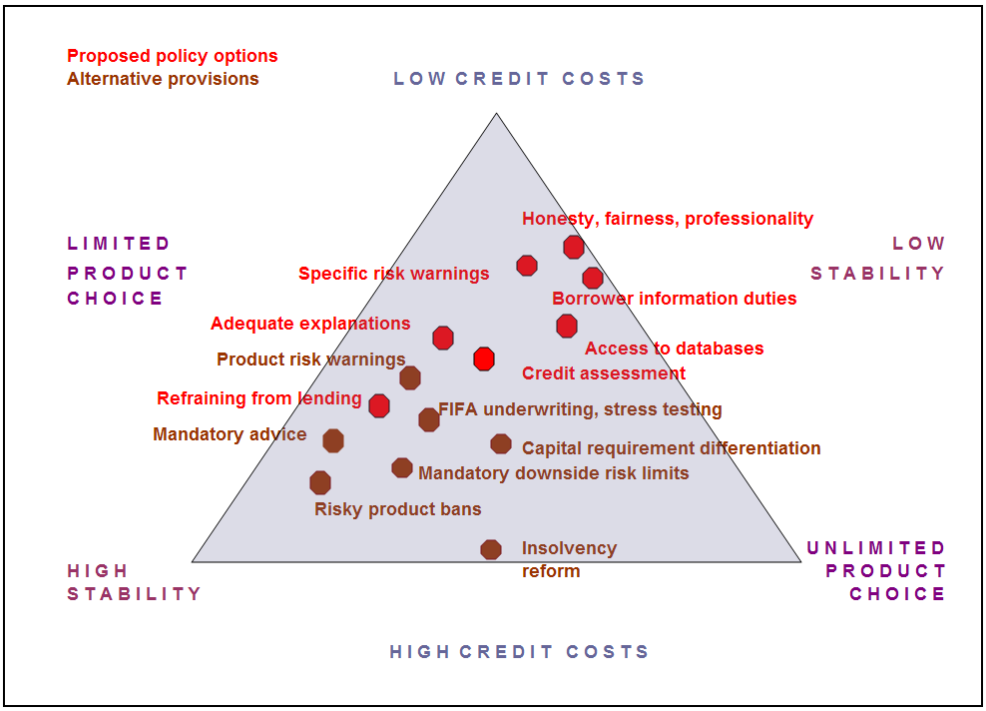
Impact on product choice vs. stability and price

Figure 90 summarises our evaluation of the policy options and alternatives in a three-dimensional diagram comparing stability impact, price impact and product choice impact. The presentation is highly stylised – the intention is to clarify the trade-offs discussed before in detail.

The diagram reflects the perspective of a social planner intending to optimise consumer and government cost-benefit simultaneously while treating lender cost-benefit as unaffected by the policy options (e.g. by assuming that all allocations chosen by a policy option can be produced by lenders under the zero profit condition prevailing under perfect competition).

The diagram highlights our finding that the primary impact of the large majority of the responsible lending policy options is a more limited product choice for consumers. The options mostly differ by the degree to which stability goals are furthered and costs of credit are being increased.

Figure 90 Summary assessment: proposed policy options and alternative responsible lending provisions and impact on conflicting policy goals of stability, product choice and credit costs



Notes: FIFA – fully-indexed-fully-amortising
Source: Finpolconsult.

- Provisions strengthening general lender covenants such as honesty, fairness and professionalism or providing access to databases or insolvency reforms will have a lesser impact on product choice than provisions focused on limiting loan underwriting such as adequate explanations, product risk warnings, refraining from lending, mandatory advice or risky product bans.

- In terms of the stability dimension only, we arrive at an even clearer ranking, as some of the proposed policy options - those focused on general principles and transparency, such as honesty, fairness and professionalism or access to databases - will have only a very limited impact while others – such as refraining from lending or mandatory advice or mandatory downside risk limits - will directly address problems with products and covenants.

- The more operational and specific policy options (and alternatives) are in addressing potentially destabilising practices, however, the larger will be their cost of credit impact. There are two channels raising

potentially credit costs: direct (capital requirements, fully-indexed-fully-amortising loans) and indirect (via reduction of product choice).

Based on this analysis we see the proposed menu of policy options (marked in red in the chart) mostly on the less interventionist side, resulting in lower additional costs of credit and a moderate to low stability impact.

- The clear exceptions are policy option A3 - adequate explanations - and especially policy option B4 - refraining from lending-, where the material consumer protection impact is higher as certain transactions with high consumer detriment are discouraged.

It is not very clear a priori where the differences and alignments in stakeholder interests concerning the weighting of the conflicting policy goals lie. Lenders, consumers and government alike should have a joint interest in optimising over all dimensions of the magic triangle shown in Figure 90 (as well as additional ones, such as mobility and macroeconomic): lenders and consumers if they are not myopic, and the government ex-officio. In many European Member States there is some form of social consensus concerning the limits of the product set and acceptable covenants (e.g. France, Germany), in others – primarily in transition countries, but also in countries that roll back earlier liberalisation (e.g. UK) – it is developing.

Yet, individual optimisation plans may differ from social planning as the one presented, substantially, for example if a consumer is speculating or a lender is of the short-term nature described above. It would seem in that regard that a lender's interest in the short-term lies in optimising their position primarily in terms of the price-product choice trade-off, as does the consumers', with the government as regulator playing the arbiter with regard to stability.

Impact on consumer confidence

As we showed in the earlier empirical section, consumer confidence is likely to be correlated with the expansion or contraction of credit and housing markets stability. However, any precise empirical evaluation of the relationship between these factors will need to assess multiple filters and disentangle general market and economic effects from malpractice.

Moreover, the negative impact of such practices on consumer confidence in crisis times will be balanced by the positive impact in boom times. The British FSA in the motivation of their October 2009 proposals points out the problem of excessive consumer (and lender) confidence in boom times:[235]

"The paper sets out the main findings of the FSA's comprehensive analysis of the mortgage market. It clearly shows a rapid explosion in mortgage products; the

[235] Source: FSA press notice number: FSA/PN/140/2009.

emergence of high risk lending strategies which typically focused on higher risk borrowers; relaxed credit standards; and a mutual assumption by too many borrowers and lenders that the good times could not end."

Short of isolated cases involving fraud or abuses (e.g. of the foreclosure system, of rate adjustments) we therefore see only a mildly negative correlation between regulation intending to curb non-responsible lending practices and consumer confidence.

- Again, the strongest positive impact on consumer confidence should be expected from policy option B4 – refrain from lending and similar rules outside the current proposal set such as bans of risky practices. Application of these rules will dampen consumer confidence in the short-term, by reducing house price and credit market dynamics in boom times, but moderately increase it in the long-term – seen over the entire credit cycle. They may help to reduce cycle amplitude and the associated financial instability. B4 is followed in impact by policy option A2 – lender requirement to proper credit assessment.

  In order to reap a positive impact result for both rules on consumer confidence, a number of fringe conditions need to be in place, most prominently an alternative for consumers to borrowing in the form of rental housing, alternatively public mortgagor support that may allow lenders to lend safely, or alternative safer lending products and practices. In the absence of aligned European housing and social policies these conditions are highly idiosyncratic and local.[236]

- More specific underwriting constraints such as fully-indexed-fully-amortising underwriting, stress tests or changing capital requirements will have a milder corrective impact, via an implicit taxation mechanism, and should have proportionally lower effects – considering also all other caveats. However, a comprehensive rationalisation of underwriting along these lines might – if successful and properly communicated – lead to the impression of a 'model change' with consumers and bolster confidence.

- Adequate explanations (policy option A3) and specific risk warnings (policy option B3) and borrower information duties (policy option B2) may have arbitrary effects – decrease (alerting of default risk) or

[236] For example, a ban or 'refrain from lending' rule for CHF lending might imply that Hungarian lenders switch from CHF to EUR lending, offer HUF loans with government support (a program existed between 2001 and 2005), or government revive the rental sector, which has been reduced to close to nil in the aftermath of the privatisations of the 1990s and through rent controls. The situation is vastly different in Poland, in contrast, where safer CHF lending practices were applied and government has put substantial resources since the 1990s into developing the social rental housing system.
Similarly, a ban of EUR lending might help to avoid confidence crisis for the UK, which runs a flexible exchange rate regime, but not for Denmark, which runs a fixed-exchange rate regime bolstered by high credibility.

increase (transparency) confidence and especially uncertainty about the borrowing decision.

- Honesty, fairness and professionalism requirements (policy option B1) – especially in the form of Codes of Conduct seem to lack credibility during crises of the current magnitude and hence have limited impact.

- Greater access to databases for lenders across borders – policy option A1 – is likely to have a neutral impact on consumer confidence, unless such data access is abused to support non-responsible lending practices and violate data protection.

Impact on customer mobility

Greater product choice in mortgage markets is typically associated with market entry, which, everything else being equal, provides for more switching options. An example here is mortgage finance companies as entrants in the UK market that dominated the non-conforming market. However, since riskier products and practices tend to disappear in crisis, often together with their lenders, and moreover their use may increase the depth of a crisis, the inter-temporal perspective matters greatly. In a long-term perspective, the positive correlation appears to be therefore weaker.

However, absent regulatory intervention, unsound practices that bring in new lenders tend to return either in the same form or variants with improved credit market conditions. Hence the net impact of intervention on customer mobility should be a negative function of the strength of the intervention into such practices.

We obtain a broadly similar ranking of the proposed policy options and alternatives concerning their impact on customer mobility as with regard to the case of product choice:

- Refraining from lending (policy option B4) and risky product bans will have the most direct impact on lender switching by closing market entry options for short-term oriented lenders focused on risky products during credit booms and limiting the product set for incumbents.

- Fully-indexed-fully-amortising underwriting, changing capital requirements and to a lesser extent the credit assessment requirement (policy option A2) will limit switching options for borrowers by altering the financial incentive for switching rather than removing a product.

- Adequate explanations (policy option A3) and specific risk warnings (policy option B3) will have lesser impact on customer mobility if financial incentives for switching remain unaffected.

- The least impact on restraining customer mobility will be exercised by honesty, fairness and professionalism requirements (policy option B1) as well as borrower information duties (policy option B2), unless the latter would be rendered far more operational – e.g. by interdicting self-certification mortgages as proposed by the UK FSA.

- Greater access to databases for lenders across borders – policy option A1 – should ceteris paribus tend to increase customer mobility since it enhances the contestability of markets across borders.

Impact on cross-border lending

We see from the empirical discussion above a close empirical link between responsible lending issues and cross-border lending in transition countries, which is however less pronounced in Western Europe. Moreover, in Western Europe next to the widely discussed cases where consumer protection rules do restricts cross-border lending (e.g. British reviewable rate mortgages to Spain; German non-callable FRM with asymmetric fair value compensations to France) there seem to be as many instances where cross-border lenders simply adjust to the local product set, or try less radical variations. However, also here we observe cross-border lending as a function of cyclical credit market conditions allowing foreign lenders to participate in a credit expansion, and product innovation is a key channel.

The balance for the impact of regulation in general, and regulation limiting the product set in particular, is therefore clearly restrictive on cross-border lending.

- Regulation that directly targets credit expansion and risk-taking, e.g. policy option B4 – refraining from lending –, risky product bans, mandatory caps etc also implicitly targets cross-border entry, at least in terms of a first mover advantage when offering a new product.

  For example, would the Hungarian sovereign have imposed caps on the CHF appreciation for all CHF mortgage products – a product that OTP, the incumbent domestic lender had offered while the entrant Erste Bank had offered only CHF lending without caps – Erste Bank would have been forced to gain market share more slowly.

- Regulation focusing on affordability and avoidance of risk layering, such as policy option A2 – requiring creditworthiness assessment, or more strongly stress tests, will leave technically somewhat greater room for cross-border entry based on product innovation, but the

impact may be similar.

For instance, Polish regulation S imposed a stress test on forex loans that resulted in limiting risk layering – lower numbers of low-income households subsequently borrowed in CHF. This seems to have reduced the entry dynamics of foreign banks in this client segment.

- Efforts to educate consumers about lending risks in general, such as adequate explanations (policy option A3) and specific risk warnings (policy option B3) can be assumed to have a lower negative impact on cross-border lending. We also see a very limited impact of honesty, fairness and professionalism requirements (policy option B1).

- Increased borrower information duties (policy option B2) may have a certain positive impact on the likelihood of cross-border lending if foreign lenders fear to be adversely selected against due to fraud. This holds in particular where credit bureaus have not yet been fully developed, or such databases only contain limited information. Similarly, greater access to databases for lenders across borders – policy option A1 – should ceteris paribus tend to increase cross-border lending.

Table 64: Qualitative assessment of policy options in the dimensions of price, stability, product diversity consumer confidence, customer mobility, and cross-border lending

Area	A1 Access to credit databases	A2 Credit assessment	A3 Adequate explanations	B1 Honesty, fairness, professionalism	B2 Borrower information requirements	B3 Specific risk warnings	B4 Refrain from lending
Price / costs	+	o	o	o	+	o	o
Stability	o	+	+	o	o	o	+ +
Product diversity	o	-	-	o	o	o	-
Consumer confidence	o	+	o	o	o	o	+ +
Customer mobility	+	-	o	o	o	o	- -
Cross-border lending	+	-	o	o	+	o	- -

Note: no negative signs used for stability

contribution, consumer confidence – see text for greater differentiation of assessment
Source: Finpolconsult analysis.

Operability and legal implications, other limits of the proposed policy options

Lenders have told the authors repeatedly in the surveys Annex 3 that their perspective of the proposed policy options hinges crucially on the legal implications.

In this regard legal risk seems to be increased and operability appears to be limited through a lack of specificity: for example the absence of stress testing specification which is pivotal to guide the credit assessment of a long-term loan, or the unclear and for the consumer non-transparent connection between personalised risk warnings and explanations on the one hand and the risk-price (APRC) production trade-off that clearly exists on the other hand.

Assuming for the moment that the lack of specificity can be sufficiently addressed, we consider the set of proposals still as only moderately addressing current issues in responsible lending, i.e. producing only modest consumer and government benefits and lender costs. They are basically a set of options focused on improving transparency for the consumer.

Clearly, after the financial crisis most EU Member States – as well as the US - are tendering more stability-oriented interventions into products and covenants in the mortgage sector. We listed a few of these above, which have mostly price and in some cases also product choice implications.

The idea of pricing tools is to impose a tax on risky products and practices (or in an insurance context, such as risk-based capital requirements, raise the deductible – equity capital). Taxing practices carries both greater promise and greater risk compared to a transparency approach, the promise it that it works and deters or contains risky behaviour, the risk is that a valid product or covenant disappears from the market.

A more stability-oriented approach to a CCD transposition to mortgage lending, which already entails the policy options of Policy area A, could thus entail additional rules geared towards long-term credit, such as fully-indexed-fully-amortising loan underwriting (already law in the US), specific product risk warnings – to the extent they are not already part of a new ESIS, and mandatory downside risk limits for certain types of products (ARM, including forex). The necessary Basel II revision could bring differentiation of risk-based capital by mortgage products (which also would support the European fixed-rate market that has gotten into the defensive empirically as we show in the early repayment chapter). Refraining from lending in certain circumstances – policy option B4 - could add a moderate quantitative constraint to these additional taxation/insurance mechanisms and render the current provisions of Policy area A more effective, as discussed above.

A problem with stricter rules – as part of a more mortgage-specific version of the CCD – would be maximum harmonisation. Yet, with probably one exception – foreign currency loans - we do not see that any of the discussed measures would entail that current core products – i.e. those predominantly used in a Member States – could not be traded across borders in the EU if additional 'taxation' or 'insurance' measures was adopted. Yet, when pursuing such a strategy, regular reviews would have to be adopted that show that the mechanisms chosen to demine risky products and practices are empirically justified. A well-defined regular empirical review strategy could also clear obstacles for the common market that will almost certainly arise from re-regulation on the national level after the financial crisis.

9.6.4 Evaluation by implementation form: recommendation, code of conduct or law

A simple reputation game framework

The implementation form of responsible lending rules can be analysed with the help of a multiple-stage reputation-penalty game and lenders, consumers, intermediaries and investors/government as stakeholders.

- In the first stage, lenders decide about their strategies: say, a short-term or a long-term oriented strategy. The first type maximises short-term profitability of his capital position and runs a moral hazard strategy with investors and government who bear the losses when credit crisis hits. The second type maximises jointly long-term profitability of his capital position and safeguards the capital value of the exposures of investors and government.

- In the second stage, consumers decide with which lender type to shop. Consumers are homogenous in trying to avoid a default while minimising their borrowing costs. When they are information-constrained about the impact of a product, they will perceive to get the more advantageous offer from the short-term oriented lender (say, an ARM with teaser rate instead of an FRM). Yet – depending on the policy options adopted and the role of intermediaries – they will understand or will not understand the default implications of their decision.

- In the third stage of the game, as outcomes have materialised in proportion to the number of lenders of each type receiving business, government and investors act in the form of imposing penalties for lenders and intermediaries for malpractices: either through legal liability (with government acting on behalf of consumers through the court system or regulators) or withdrawal of financing (investors, government bailout vs. bankruptcy). We do not assume criminal penalties or civil liability for managers of short-term oriented lenders into their private wealth here, although these are clearly options in the extreme case (and practiced in the aftermath of the US mortgage crisis as mortgage fraud). Moreover, in stage three, government subsidises defaulting borrowers in restructuring their debt.

- The fourth to sixth stages repeat the game – the going concern, and so forth. A learning curve of consumers can be assumed as a fresh wave of short-term oriented lenders hits the markets, or not.

The general outcomes of the game in terms of likelihood of appearance of short-term lenders and risky products in the market depend on the supply and demand calibrations:

- A higher amount of short-term vs. long-term profit – approximated by the mortgage yield curve – will reduce the incentives for a short-term oriented lender switching to a long-term strategy and thereby avoiding penalties, e.g. a withdrawal of license by the regulator.

- Lower long-term mortgage market growth perspectives compared to the short-term - typical for credit boom phases - will similarly increase incentives to adopt short-term lending strategies and increase the market share of short-term lenders.

- Higher intermediary fee levels received from short-term lenders than from long-term lenders – or consumers – as a result of the discussed economics will enhance the distribution bias towards riskier products.

- A higher elasticity of consumer demand to the price signal sent by the short-term lender (offering e.g. a payment shock product with lower initial rates) will raise the share of both short-term lenders and riskier products. The elasticity will likely depend on the phase in the house price cycle.

- A lower social shame factor for short-term oriented lender post-penalties will contribute to greater market shares.

Within certain limits, determined primarily by yield curve, house price inflation and demand preferences, the legal regime however can be clearly corrective. The two main channels are the size of penalties and the credibility of penalty actions. The latter is stronger under a binding European law than

under a Recommendation to Member States, which some may not decide to implement. We discuss the typical predictions of a reputation game by implementation form:

- The Recommendation can be seen in those countries not taking further implementation steps as a game without penalty in stage 3 in which as a result only litigation based on existing law (assumed to not contain the three options) and the threat of reputation loss in stage 4 for the going concern matters for lenders. Clearly, this structure depends on the strengths of existing civil and penal law, and can be seen as a version of mutual recognition. In jurisdictions with weak existing law when not adopting the Recommendation the share of lenders attempting short-term strategies will balloon when conditions are right: house prices are rising fast and consumers are willing to take risk for lower initial payment to afford rising house prices. Yet, in the same jurisdictions with moderate house price cycles (i.e. a greater balance between long-term and short-term profit) and greater consumer preferences for stability, the outcome might be benign, only a small proportion of lenders will try strategy 2. In the first case there is also risk that lenders with short-term strategies export their business models to other Member States that have not adopted the Recommendation.

- A European Code of Conduct can be seen as an attempt to create penalties within the lender (or intermediary) industry. In fact, a Code is nothing else than the attempt by long-term lenders to capture short-term lenders, for fear that consumer might tar all lenders in stage 4 – when reputation risk materialises - with the same brush (of government or investors in stage 3, for that matter).

  What levers would long-term oriented lenders possess to discipline short-term oriented lenders? The answer depends first on the distribution of lender characteristics: there might be a surprisingly large number of short-term lenders that dominate both terms and penalties imposed by the Code. In other words, jurisdictions already plagued by unsafe lending practices will get Codes 'light', with few material protection rules. Secondly, while reputation loss is the consequence in stage 4, specific penalty levels still matter, and here even when dominated by long-term lenders the options of a Code are limited. Non-adhering lenders might lose access to system facilities as associations or market making arrangements, but hardly penalties ever will be larger than reputation loss - within the industry, unless government links other benefits or penalties to adherence to the Code (see Box 2 on UK experiences).

- In the law version, harder versions of penalties and reputation risk cumulate and – depending on scales – will alter the perspective of short-term lenders more materially. The difficulty with law it that it will regulate only automatic reaction; however, the government and investors still have other ad-hoc reaction options that might impair the intention of the law. For example, the goal of protecting the reputation of long-term lenders might be impaired if penalties imposed on short-term lender management and their investors are too low, for example because government is fearful of 'systemic' risk and protects these agents from losses. This will increase the likelihood of a repetition of the game. As a result, a legal strategy should try to be comprehensive and address other strategy determinants of short-term lenders, for example capital levels or manager liability.

Policy area A – Recommendation or law

We analyse the implementation form of the three policy options A1 – A3 in combination.

We have argued above that especially in the light of the financial crisis – i.e. increasing shares of short-term oriented lenders in the market and relatively light penalties – the provisions can be seen as low- to moderate-impact on cost-benefit relations of lenders. We secondly also see a broader trend of regulatory measures that would be more far-reaching than the proposals made here, trying to alter the outcomes of the reputation-penalty game discussed so far.

Thirdly, there is very little - except for the scale of potential litigation - that speaks against transferring these provisions from the ambit of consumer loans to mortgages. To the contrary, the fact that mortgage finance has greater implications for long-term financial stability speaks in favour of a more forceful approach, considering the peculiarities of the sector.

Box 3 Beefing up a mortgage industry code – UK experiences

This business code is called the Mortgage Conduct of Business in the (MCOB) UK and replaces the Mortgage Code as of 1 October 2004. The key element of the MCOB is its section 4.7 that states that mortgage advice must be "suitable for that customer" and that advisers "must make and retain a record" of it being suitable.

A recent development offering more power to this code is the ruling of the Financial Ombudsman Service (FOS) in the UK according to which home owners can obtain financial compensation from mortgage lenders/brokers if they have failed to provide the borrower with suitable advice. In particular, home owners who begin such claims early may be able to avoid repossession.[237]

This ruling is supported by the Financial Services & Markets Act 2000 that provides that breaches of the MCOB rules are actionable at the suit of a private person who suffers loss as a result.

The greatest lender concern from the proposals being clad into a law appears then also to be litigation risk, and associated capital risk. It would seem that such concern could be met with greater operability precision and linkage to existing and forthcoming bank regulation strategies. We are uncertain about the outcome, but it is likely, given lender resistance recorded in the surveys, that both will be left to national regulators and policymakers (the principle of subsidiarity) rather than regulation at the European level. Great progress could potentially be made though if the principles of credit risk modelling could be reworked at the European level – including the necessary changes with regard to products and lender covenants of different risk contents. An addition to the Basel framework could look at the risk of different products by differentiating products on the basis of LTVs, risk layering (second mortgage), etc.

The greatest changes of a legal solution would certainly be imposed on intermediaries, if they were included in the provision of adequate explanations. Yet, we feel that considering the role that the industry played in the US mortgage market crisis - and this despite the ubiquitous existence of Codes of Conduct in US states, given that insurance intermediaries are already satisfactorily regulated in Europe, and given the European problems

[237] http://www.financial-ombudsman.org.uk/about/index.html

with intermediaries discussed before and in earlier studies[238], a rationalisation of the intermediary industry is on the European agenda. Intermediaries will also benefit from greater protection against unfair competition from within their own industry.

The greatest concern for consumers is probably if provisions stay at a Recommendation level. But that even in the form of a law, operability and onus issues are still not satisfactorily addressed. The latter issue is difficult to address as lenders need to stay protected against frivolous liability lawsuits and some standardised procedure to demonstrate that the consumer has been given adequate explanations is justified.

Policy area B – Recommendation or law or Code of Conduct (self-regulation)

The arguments made previously about the different implementation forms also apply to policy area B.

With regard to the specific set of rules proposed in policy area B, apart from the requirement imposed on the borrower to disclose information, we see a language which is common in both lender and, in particular, intermediary Codes of Conduct internationally.[239] For example, comparable Codes have been in place since before the mortgage market crises in the US and Ireland.

Policy options B1 and B2 probably raise legal technical questions. A general honesty, fairness and professionalism appeal seems redundant at best and potentially in conflict with civil code provisions in Roman law countries. An appeal made to the borrowers' to disclose all relevant information to lenders would not make sense as part of an industry Code of Conduct. Therefore, a Code would probably be limited to policy options B1, B3 and B4.

With regard to the requirement to refrain from lending in certain circumstances policy option B4, we see a legal analogy in bank regulation and complementarities with the creditworthiness assessment and adequate explanation requirements in policy area A. If policy area A became law under a transposed CCD, we would see little value added in implementing policy area B. One could consider transferring B4 to policy area A as an additional element to policy area A.

Yet, if policy area A should stay at a recommendation level, we would suggest picking additional provisions of policy area B, except the appeal on

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[238] See European Commission (2009a) for an empirical overview with separate section on mortgage intermediaries. Douna, Dübel and Low (2007) discuss the impact of the rise of mortgage intermediaries on banks and discuss the effectiveness of different regulatory approaches.

[239] For a sample currently in force, see Ireland: http://www.bankofireland.ie/html/gws/about_us_new/guidelines_and_standards/ibf_codes/IBF_code_of_ethics_and_practice/, California: http://www.cambweb.org/main/page/BestPractices, New York: http://www.nyamb.org/Default.aspx?tabid=702.

borrowers to disclose information, for an extended revised recommendation. This would also be a relevant strategy if Policy area A were implemented for lenders only, so that a revised set of rules could become a recommendation for intermediaries (it is doubtful, given their organisation status at the European level at this stage, that intermediaries alone could organise a Europe-wide Code of Conduct).

When confronted with such a revised set applicable to lenders that is not bound to become law with the choice between recommendation and Code of Conduct, we would prefer the Code of Conduct, given its more universal application and that governments historically have developed Codes rather seamlessly into law, as for example in the UK where the Mortgage Code preceded the legislation which came in force in November 2004.

A recommendation will lead to a very similar outcome compared to the status quo since it is not likely to achieve political arbitration in countries where stakeholders are far apart, e.g. on compensation (Italy, Belgium, Spain, Germany) while cases with greater stakeholder consensus will remain unaffected. A recommendation might provide direction to jurisdictions where legislation is under development, i.e. transition countries and Cyprus, but the impact for the European market as a whole will be minor.

A law will in contrast alter the status quo substantially in both new and established markets, as we further explore in the quantitative analysis below. We note from our survey that even where stakeholders, especially lenders, are wary of such changes they prefer a law over a recommendation, given the material relevance of the subject for mortgage lending.

9.7 Quantitative evaluation of the policy options

9.7.1 Limitations of the quantitative analysis in the area of responsible lending

The proposed policy options are very heterogeneous. For those that seriously constrain lender or intermediary behaviour, costs and benefits depend crucially on so far unspecified consequences, especially whether lenders or intermediaries face additional liability and consumers (and potentially government) hence may benefit from settlements or not.

Our identification problem is exacerbated by the fact that in many Member States the general responsible lending principles are already enshrined in law or regulation, at least with regards to overall conduct and behaviour by credit institutions.

Therefore, we cannot undertake a detailed quantitative cost- benefit analysis as the mortgage market conditions would not materially change as a result of the proposals in their current status.

Finally, we are seriously limited by the very recent nature of the responsible lending discussion in Europe that has still to produce meaningful quantitive analysis of the micro issues needed to support more far-reaching cost-benefit conclusions. This affects in particular the ability to perform quantitative analysis on the impact of the proposed policy options on consumer confidence, customer mobility, and cross-border activity, but also core stakeholder questions such as costs of a mortgage default crisis to government and lenders.

We therefore pursue a two-pronged approach to approximate a quantification:

1. In addition to the illustrative case studies and qualitative evaluations provided above, the costs of the various policy options are quantified based on the limited information provided by stakeholders. We have been able to do so for regulators and for credit registers for the proposed case countries.

2. In the subsequent section 9.7 we will perform with the help of a simulation an illustrative quantitative evaluation of a specification of two of the proposed policy options as well as one alternative option for consumers, lenders and government for the case of an ARM country. By assuming that consumers and lenders will change the product menu in response to policies adopted, we also cover the aspect of impact on product choice for the chosen constellation.

9.7.2 Cost analysis for the case countries and EU-27

Cost to regulators

The assumed one-off and on-going costs faced by regulators are shown in Table 65 and are based on the responses to the stakeholder surveys.[240] As relatively few quantitative responses were received, we apply the highest figures received to all countries to generate an upper bound of the likely cost.

The fixed and on-going costs faced by regulators are largely independent of the economic cycle with only inflation likely to introduce a wedge between the different scenarios. Therefore, we present a single set of cost estimates adjusted for inflation. Because the cost estimates are adjusted for inflation, to derive the NPV, the annual cost estimates were discounted using a real interest rate of 4%.

Overall, at the EU-27 level, the cost (in terms of NPV) ranges from €0.5 million to €10.5 million, depending on the policy option.

[240] See Annex 3.

Table 65: Cost assumptions for responsible lending policy options (€, 2009 prices)														
	Policy Options													
	Option A1		Option A2		Option A3		Option B1		Option B2		Option B3		Option B4	
Cost	(i)	(ii)	(i)	(ii)	(i)	(ii)	(i)	(ii)	(i)	(ii)	(i)	(ii)	(i)	(ii)
One-off cost	0	0	0	23,529	0	23,529	0	23,529	0	0	0	23,529	0	23,529
On-going cost	0	0	30,000	30,000	0	30,000	0	0	0	0	0	0	30,000	30,000

Source: Assumptions based on survey responses.

Table 66: NPV of regulator costs for responsible lending policy options (€ million)														
	Policy Options													
	Option A1		Option A2		Option A3		Option B1		Option B2		Option B3		Option B4	
Cost	(i)	(ii)	(i)	(ii)	(i)	(ii)	(i)	(ii)	(i)	(ii)	(i)	(ii)	(i)	(ii)
BE	0	0	0.36	0.39	0	0.39	0	0.02	0	0	0	0.02	0.36	0.39
DE	0	0	0.36	0.39	0	0.39	0	0.02	0	0	0	0.02	0.36	0.39
ES	0	0	0.36	0.39	0	0.39	0	0.02	0	0	0	0.02	0.36	0.39
FR	0	0	0.36	0.39	0	0.39	0	0.02	0	0	0	0.02	0.36	0.39
HU	0	0	0.36	0.39	0	0.39	0	0.02	0	0	0	0.02	0.36	0.39
IE	0	0	0.36	0.39	0	0.39	0	0.02	0	0	0	0.02	0.36	0.39
UK	0	0	0.36	0.39	0	0.39	0	0.02	0	0	0	0.02	0.36	0.39
Total	0	0	2.52	2.73	0	2.73	0	0.14	0	0	0	0.14	2.52	2.73
EU-27	0	0	9.72	10.53	0	10.53	0	0.54	0	0	0	0.54	9.72	10.53

Source: London economics analysis.

Cost to credit registers

The approach adopted to assess the cost to credit registers is as the same as for regulators.

First, based on the information received from some credit registers (see Annex 3), per credit register one-off and recurring costs estimates (in constant prices) were derived (see Table 67).

Next, the NPV of the combined annual one-off and recurring costs (at 2009 prices) were computed over a 15-year period using a discount rate in real terms of 4%.

The results reported in Table 68 take account of the fact that the number of credit registers per Member State varies across Member States. For all credit registers in the EU-27, the aggregate cost in NPV terms ranges from 0 million to €115 million.

Table 67: Credit register cost assumptions (€, 2009 prices)

One-off/on-going cost	Self-regulated		Legislated	
	Direct access	Indirect access	Direct access	Indirect access
One-off cost	150,539	123,333	300,000	160,000
On-going cost	114,000	109,333	200,000	150,000

Source: Assumptions based on survey responses.

Table 68: NPV of total costs to credits registers (€ million)					
	Number of credit registers	Self-regulated		Legislated	
		Direct Access	Indirect Access	Direct Access	Indirect Access
AT	3	4.6	4.3	8.2	5.9
BE	1	1.5	1.4	2.7	2.0
BG	2	3.1	2.9	5.4	4.0
CZ	2	3.1	2.9	5.4	4.0
DK	2	3.1	2.9	5.4	4.0
EE	1	1.5	1.4	2.7	2.0
FR	1	1.5	1.4	2.7	2.0
DE	4	6.1	5.8	10.9	7.9
EL	1	1.5	1.4	2.7	2.0
HU	1	1.5	1.4	2.7	2.0
IT	5	7.7	7.2	13.6	9.9
LV	5	7.7	7.2	13.6	9.9
NL	1	1.5	1.4	2.7	2.0
PL	1	1.5	1.4	2.7	2.0
PT	2	3.1	2.9	5.4	4.0
RO	2	3.1	2.9	5.4	4.0
SK	6	9.2	8.7	16.3	11.9
SL	2	3.1	2.9	5.4	4.0
Total	42	64.4	60.4	113.9	83.5

Source: London economics analysis.

9.7.3 Illustrative quantitative evaluation of a specification of the policy options for core stakeholder cost-benefits in an ARM country

Introduction

Further to the discussion of limitations above, in the following discussion we take two of the most specific, and potentially most material, elements of the proposed policy options as well as one additional policy measure discussed in the evaluation of alternatives and render them operational for our cost-

benefit simulation model. This will give the reader an insight into the mechanics of three sufficiently distinct policy options under the assumption of clearly defined consequences.

For this illustrative quantitative analysis, we will consider only one anonymous country case dominated pre-reform by uncapped ARM that illustrates any EU-27 market dominated by products conveying significant payment shock risk. Traditional examples for ARM countries are Spain, Portugal, the UK and Ireland; however, as demonstrated in the early repayment chapter, numerous Member States with previously fixed-rate markets are experiencing at least temporarily high ARM shares or a trend towards an ARM system (e.g. Denmark and Italy). We hasten to add, however, that responsible lending issues go beyond the payment shock problems characteristic for those markets and that we do not intend to draw quantitative conclusions for the EU-27, or the entire policy area of responsible lending. The constraints will become clearer in the discussion below.

Further specification of the policy options

We define three policy options, two of which are borrowed from policy area B:

- Policy area B spells out a requirement for lenders to provide borrowers with specific "risk warnings" concerning default consequences (B3).

  We translate this into a policy option 1, where such measure affects the risk preferences of consumers in favour of products with lower payment shock risk but higher initial payment. This translates into changes of consumer product choice between ARM and FRM, specifically a higher FRM demand. We hence relax the assumption made in the early repayment chapter that the product menu remains constant over time.

  We note here that the conservativeness of product choice by the consumer may also be affected by other measures, such as provision of 'adequate explanations' (Policy area A) or by forcing lenders or intermediaries to accept legal liability for the explanations (or advice) given.

  So policy option 1 can be seen as a passepartout for measures intended to influence the quantitative composition of mortgage demand between products of differing risk content.

- Policy area B also entails a requirement for lenders to 'refrain from lending' if doing so would be deemed too risky (B4).

  We translate this provision into a policy option 2, where credit is

denied to a consumer (cohort) when a certain debt-service-to-income threshold value is surpassed. This consumer is then confined to remain a rental tenant.

We note here that we do not discuss a lender contract termination option where credit covenants such as debt-service-to-income ratio are violated – such covenants exists e.g. in corporate finance - so the credit denial only applies to the initial underwriting situation. This somewhat limits the applicability of the option to the payment shock problem.

However, with policy option 2 we have a suitable passepartout for measures leading to a quantitative change in the portfolio composition of mortgage lenders between borrower cohorts of different risk content, i.e. we can model quantitative changes in mortgage supply.

- In order to directly address the payment shock problem, we formulate policy option 3 (currently not in the two proposed policy areas), namely the imposition of mandatory caps on all ARM contracts. The type, level and maturity of mandatory caps can be quite arbitrary, we assume for simplicity here the French standard product of "x+2%" with the 2% cap applicable to the first 5 years of the financing.

Calibration of model parameters

As in the early repayment chapter we start with calibrating a pricing matrix for our set of products and consumer groups. Table 69 now features eight products instead of six, as capped ARM become available to both prime and sub-prime consumers. More precisely, the product set remains limited to six as the uncapped ARM disappears post reform in policy option 3 while it remains the only ARM product in policy options 1 and 2.

In our model world credit spreads change when material credit risk is reduced. We operate again with pricing ratios – here credit risk pricing ratios that are normed to the product shifting the highest interest rate risk to the borrower (uncapped ARM product). The next safer product, with a lower pricing ratio/credit risk, is the capped ARM (for which the borrower pays a cap premium in excess of the uncapped ARM rate). Then follows the non-callable FRM (for which the borrower pays a premium in the form of the yield curve). To make both latter products comparable we assume a 5-year cap or (initial) fixed-rate period. Finally, we could hypothetically use a callable FRM for the simulation as the lowest interest rate risk and credit risk product available; it suffices for our purpose to limit the simulation to non-callable FRM.

Table 69 Responsible lending: parameter assumption for country cases and policy options

PRIME

Product	Cap level	Credit risk pricing ratio	Credit costs in basis points	Country cases	Policy options
Callable FRM		-35%	5.0		
Non-callable FRM		0%	17.0	(BE 1990)	
Capped ARM	X+2%	50%	33.5	FR	Option 2
Uncapped ARM		100%	50.0	UK, ES	Option 1, 3

SUBPRIME

Product	Cap level	Credit risk pricing ratio	Credit costs in basis points	Country cases	Policy options
Callable FRM		-55%	9.0		
Non-callable FRM		0%	40.0	(BE 1990)	
Capped ARM	X+2%	50%	70.0	FR	Option 2
Uncapped ARM		100%	100.0	UK, ES	Option 1, 3

Notes: X = underwriting ARM rate, X+2% = cap at underwriting ARM rate plus 2%, e.g. 3.5%+2% =5.5%, 5 year caps assumed. When cap =0%, the product becomes a non-callable FRM with fixed-rate period of 5 years. BE 1990 denotes Belgian legislation prior to ARM liberalisation in the early 1990s. Policy options 1 and 3 alter the demand for uncapped ARM, policy option 2 alters the pricing structure by imposing a cap (i.e. uncapped ARM disappears).
For the computation of credit losses, we assume a 1 year discharge period and legal foreclosure cost of 20% of the market price of the house. We also assume somewhat aggressive loan underwriting parameters typical for markets with high house price levels: prime LTV 90%, sub-prime LTV 95%, prime house-price-to-income ratio 5, sub-prime house-price-to-income ratio 7.
Source: Finpolconsult.

For most yield curve constellations, the capped ARM will turn out somewhat cheaper than the non-callable FRM, since the sum of adjustable reference rate, credit spread and cap price will be lower than the sum of fixed rate and credit spread.

We need to consider, however, that lenders will react to lower interest rate risk pass-through to consumers by reducing their credit spreads; our assumptions here are shown in Table 69.[241] In principle we arrive at two linear curves with different slopes – higher for sub-prime, where a reduction in interest rate risk leads to a higher relative reduction of credit risk than in the case of prime, where credit risk even for high interest rate risk products is far lower.

[241] The assumptions lean on findings on credit risk pricing of Mercer Oliver Wyman (2007) and Dübel, Low and Sebag-Montefiori (2003); data are not fully comparable since both studies generated national averages only. Moreover, both studies were written in a phase of depressed credit premia, so we assume somewhat higher values for our simulation.

Our anchor values for uncapped ARM for the two sub portfolios are 100 (sub-prime) and 50 (prime) basis points respectively, our anchor values for the non-callable FRM are 40 (sub-prime) and 17 (prime) basis points. These values broadly reflect industry policies in the European (and US) markets. However, it should be noted that ARM spreads vary significantly over the interest rate cycle as lenders 'skim' a steep yield curve in situations of high ARM demand, and vice versa reduce pricing when the yield curve and ARM demand drops. This feature does not appear in our model, so we take some average.

In policy options 1 and 2 we only have quantitative changes in the demand for ARM, either induced by consumer (changed preference, policy option 1) or lender (denial of credit, policy option 2), so the discussed anchor value for uncapped ARM is applied

In policy option 3 we turn the uncapped ARM into a capped ARM, which is assumed to reduce the credit spread by 50% in both sub-portfolios. This reduction compensates partly, but not fully, for the additional protection costs incurred by the borrower (by buying a cap).

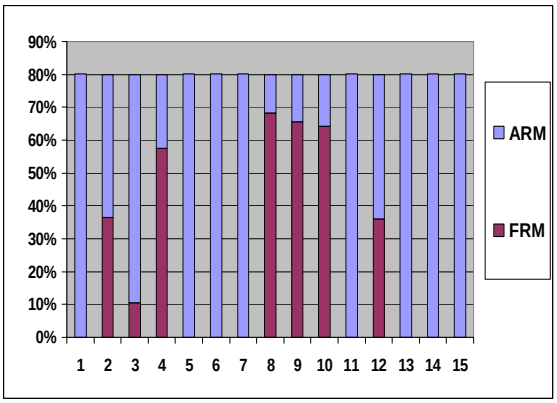
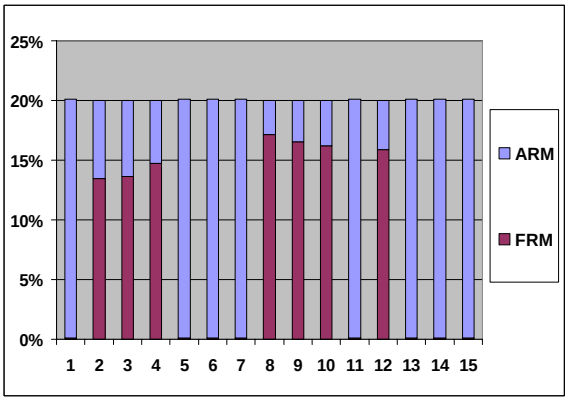
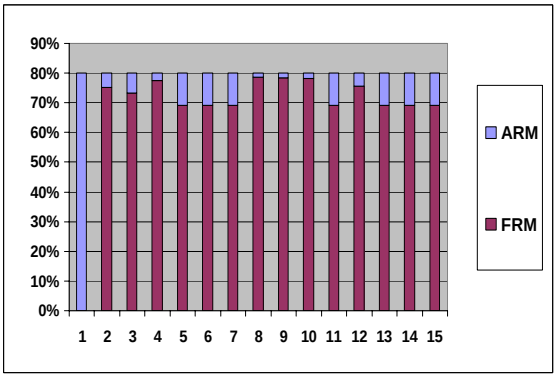
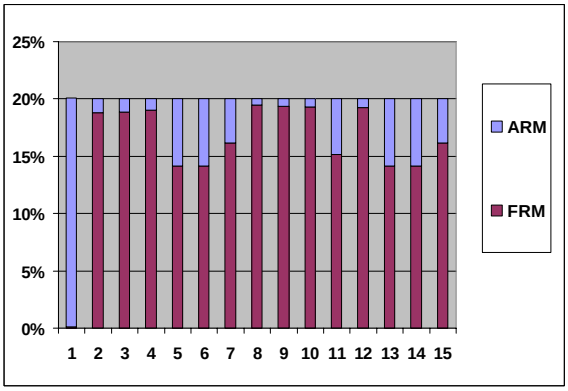
Stakeholder economics specific to the responsible lending sub-model

Consumers:

In the responsible lending sub-model consumer product choice is now influenced by the yield curve. When the yield curve steepens, new originations will thus have a higher share of ARM demand relative to FRM, and vice versa.

We take the credit risk premia, and in the case of capped ARM the cap price, into account when computing the yield curve, which hence becomes policy option-specific. This implies that product choice between capped ARM and non-callable FRM in policy option 3 is far less volatile than between uncapped ARM and non-callable FRM in policy options 1 and 2.

Figure 91 Policy option 1, model input: market share changes of FRM vs. ARM as a result of greater default warnings, consumer awareness by market segment, scenario 3, European ARM country case

	Prime	Sub-prime
Status quo		
Policy option 1		

Notes: product demand reacts to yield curve changes (including credit premia). FRM = 5 year non-callable FRM.
Source: Finpolconsult.

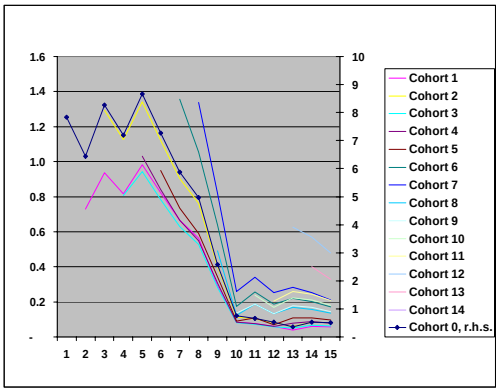
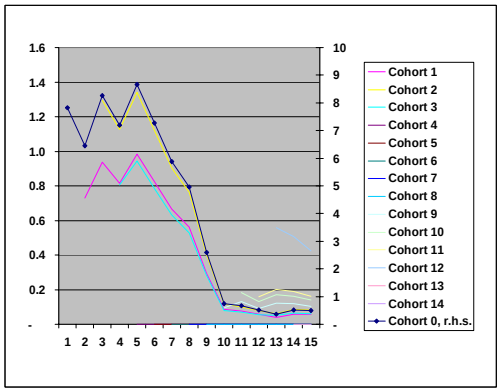
For simplicity we pool FRM products into one single non-callable product, reflecting empirical reality in EU-27 except Denmark. We also assume a 5 year non-callable to enhance realism (transition from an ARM market). We can vary the elasticity of relative product demand of consumers to the yield curves in order to model policy option 1.

Figure 91 shows the results for the European ARM country case and the volatility scenario (3) under the legal status quo and switch to a greater share of FRM.

Lenders:

Policy options 1 and 2 affect only the credit risk profit centre of the lender, which is explicitly modelled as the difference between credit premium revenues and credit costs.[242] The lender remains passive in policy option 1; but he reacts to a high debt-service to income ratio via credit denial in policy option 2. Policy option 2 leads to a zero new origination for the cohorts in question. We assume a statutory debt-service-to-income threshold of 35%, close to typical US figures.

Figure 92 Policy option 2, model input: cohort default indicator as a result of a 35% debt-service-to-income constraint, scenario 3, market segment sub-prime

Status quo	Policy option 2
	

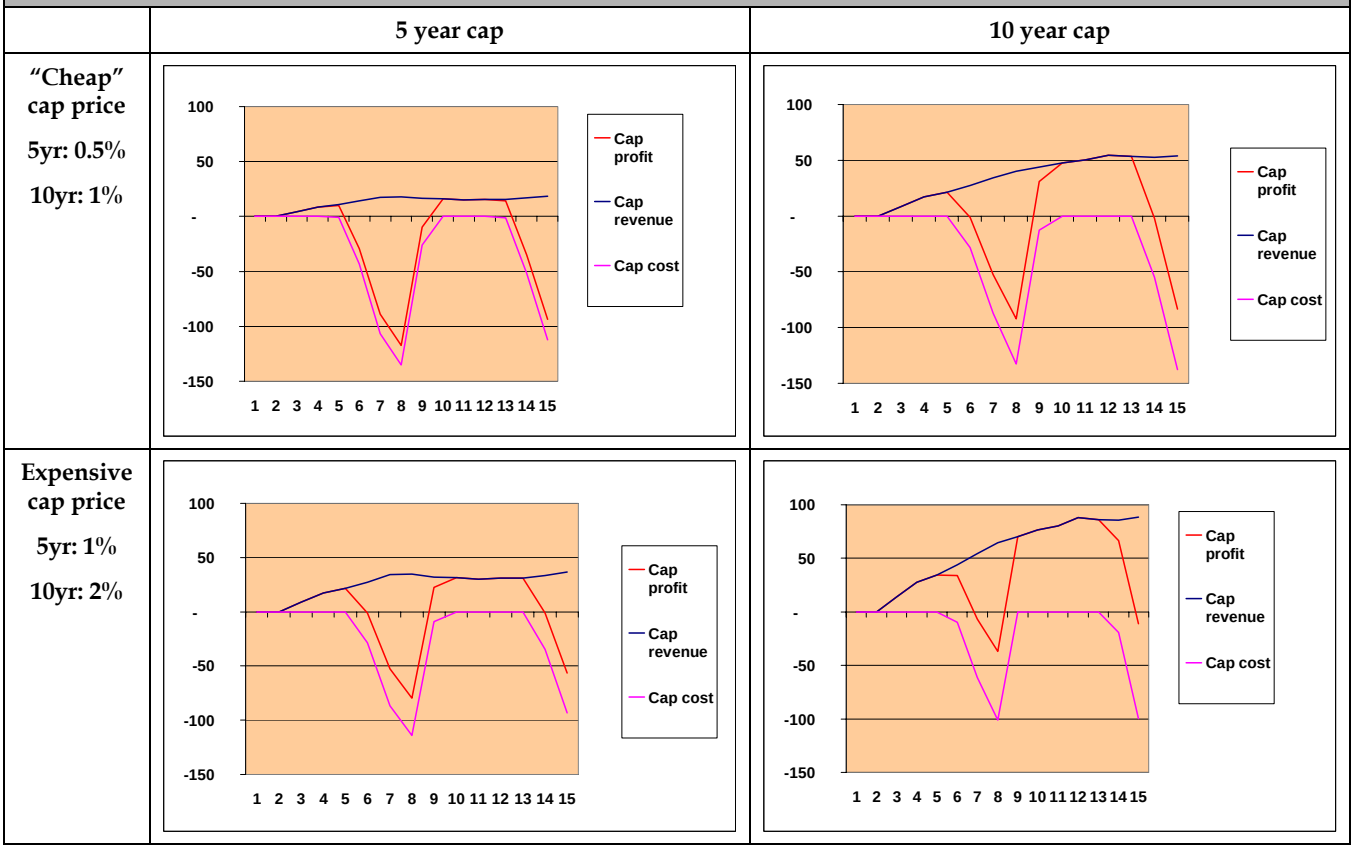
Notes: unscaled default indicators. For assumptions see Table 69.
Source: Finpolconsult.

Figure 92 shows the default (and lending) dynamics for the case of scenario 3 and the sub-prime ARM product. Credit applications made by cohorts during the house price bubble are not underwritten when the policy option is chosen, as a result of violation of the 35% debt-service-to-income constraint.

In policy option 3, the lender adds a new product 'capped ARM' to the menu and eliminates the ARM on Jan 1, of period 2. We model this by adding an additional profit centre for the interest rate cap, which generates revenue (cap price) and costs (losses incurred when the – now hypothetical ARM rate - exceeds the capped ARM rate, i.e. asset-asset comparison). In principle, both revenues and cap losses would have to be adjusted (downwards) by their relative default risks, however this means substantial additional programming work beyond the scope of this project.

[242] For assumptions see Table 69.

Figure 93 Policy option 3: lender profit centre for "x+2%" ARM interest rate caps: cap revenues, costs and profit in basis points, 5 year and 10 year (initial) caps, cheap and expensive cap prices, scenario 3



Notes: x ~ uncapped ARM rate (corrected by risk premium difference), cap price approximated as p = t / (v*c). For t = 5 (years), c = 2% and v =25,000→ p = 1%, with v=50,000→p=0.5%. The cap price is charged as an interest-rate mark-up over the uncapped ARM, corrected by credit risk pricing differences (see Table 69). Interest terms turn back to uncapped ARM after initial cap term expires.
Source: Finpolconsult.

It is instructive to consider the profitability dynamics for the caps for two of our economic scenarios as shown in Figure 93. We limit the discussion to caps defined over the uncapped ARM rate at origination, x, and here to 2%, so the interest rate ceiling "x+2%" minus the applicable credit spread difference between capped and uncapped ARM (see Table 69). The cap price is determined as a positive function of the length of the cap period and a negative function of the cap level (the higher, the cheaper). For instance, Spanish Euribor caps usually are fixed at double-digit levels that do not produce noticeable cap costs for the lender; however, the French 2% caps already significantly do so, and lower caps produce even higher prices.

We cannot properly model volatility differences between the scenarios within the context of this simulation. However, we use two proxies for volatility in

the formula whose results can be seen in Figure 93 in the form of a 'cheap' and an 'expensive' cap price. The 'expensive' price is broadly break even for the high volatility scenarios 2 and 3, and it will produce considerable profit in scenarios 1 and 4. The 'cheap' price is loss-making for scenarios 2 and 3 and will yield a slight profit for the lender in scenarios 1 and 4. We will use both varieties below, but only the cheap cap for the final simulations.

Intermediaries:

We assume intermediary profit now to be made in proportion to credit spreads as determined in Table 69, i.e. we lift the assumption made before that intermediaries have a constant profit over all products. We assume here that intermediary profit is equal to one year of credit spread paid by the borrower for a particular product. This means that riskier products provide intermediaries with higher profit levels, as does sub-prime credit compared to prime credit. This structure mimics the incentive structure seen during the mortgage market bubble in the US. While intermediary profits are not large in volume, we expect to see significant percentage deviations when implementing the policy options.

Government:

Government is assumed to absorb 50% of credit losses (bad bank) and receive corporate income tax from lenders and intermediaries.

Grandfathering:

The pre-reform loan cohorts are grandfathered in all computations. No grandfathering would in any event only apply to policy option 3, where there is only a small difference between either implementation form.

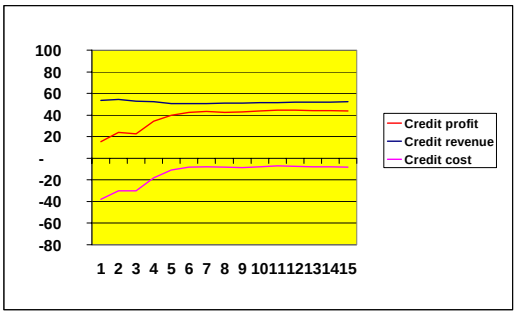
Key results, winners and losers

Credit profit centre in an ARM country by scenario in the status quo

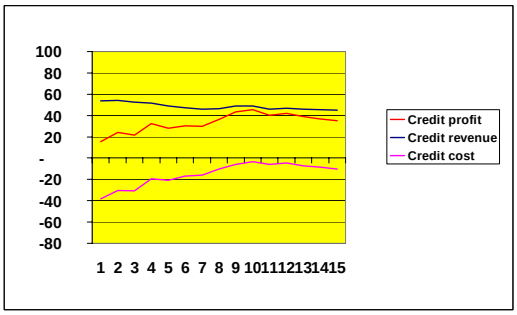
It is useful as an introduction to consider the typical default dynamics for an ARM country by scenario. Defaults are highest in the depression scenario followed by the two volatility scenarios. They are lowest in the stability scenario. Figure 94 shows the development of credit premium revenues, credit costs and the net – credit profit over our 15 year horizon.

Figure 94 Credit profit centre dynamics by scenario, European ARM country case: revenue, cost and profit in basis points

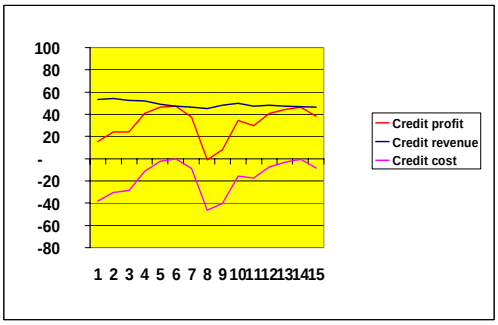
Scenario 1 - Stability



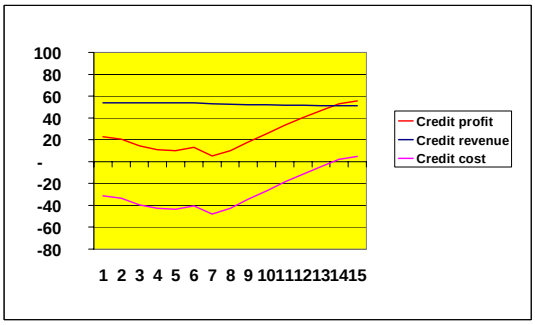
Scenario 2 – Mixed volatility



Scenario 3 - Volatility



Scenario 4 - Depression



Note: For assumptions see Table 69.
Source: Finpolconsult.

Clearly, the synchronisation of house price and interest rate profile matters. In our volatility scenario, house prices fall as interest rates do. This creates a partial hedge for ARM borrowers: when his market LTV rises his debt service to income ratio falls (as a result of central bank policy).

Dynamics of policy options

We start by discussing the quantitative constraints generated or imposed by policy options 1 and 2, i.e. changes in consumer risk preference vs. lender credit denials, together.

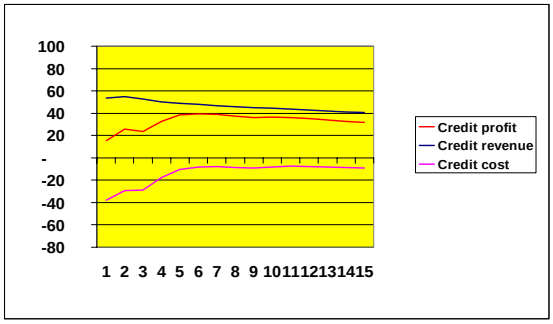
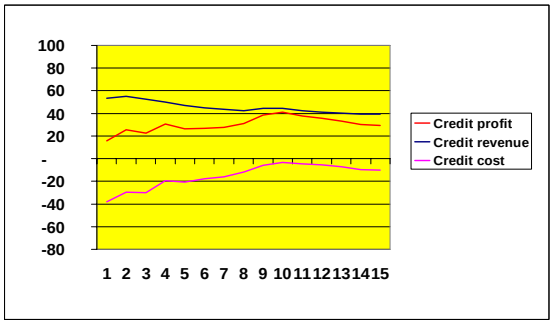
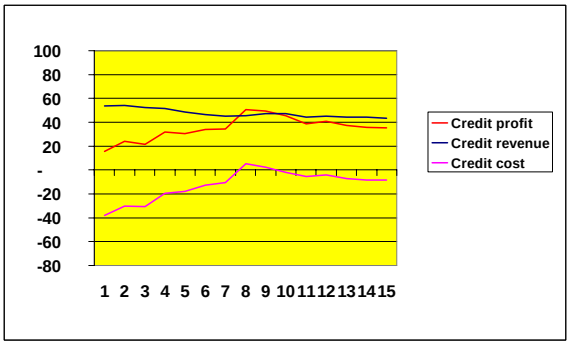
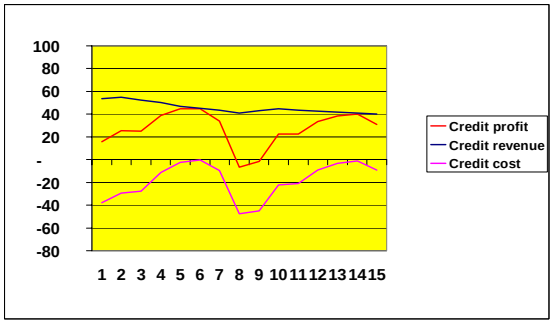
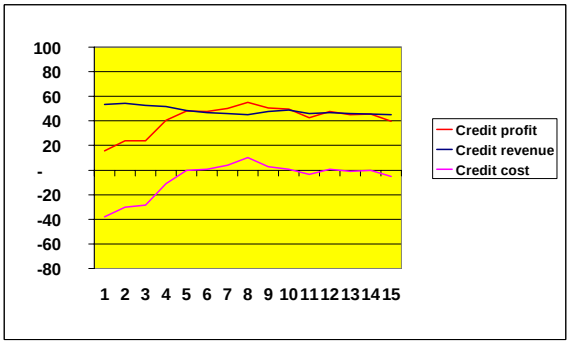
- **Scenario 1:** policy option 1 shows a small impact of change in consumer risk preference, for the low-interest rate phase where rates are now locked in. Otherwise, broadly, a greater FRM share and hence protection against payment shock is neutralised by the default impact of higher debt service, especially in the sub-prime portfolio. There is no impact of policy option 2 since in the stability scenario there is no violation of underwriting constraints.

- **Scenario 2:** shows similarly no noticeable impact of policy option 1 where protection value and additional pricing burden of the protection trade against each other. There is, however, already a significant reduction of credit losses through credit denial, i.e. policy option 2, as the high-interest rate cohorts of the first large interest rate peak following the initial trough disappear.

- **Scenario 3:** here we actually record a slight *increase* in credit costs through policy option 1; the reason appears to be that absent further underwriting constraints high house price levels and high FRM interest rates coincide and leave their trace in defaults and credit losses. The volatility scenario, in contrast, shows a considerable reduction of credit losses through a credit denial policy – the present value of losses is half the status quo level and the level of policy option 1. In particular, the pronounced credit loss peak following house price and interest rate peak has disappeared.

- **Scenario 4:** in the depression scenario there is no credit risk impact of either policy. With regard to policy option 1, the yield curve remains deeply positive throughout the scenario, so even higher awareness will not bring greater FRM demand. Without input change, no change of credit costs. There is also no impact of policy option 2 as there are no credit denials absent much interest rate and house price volatility.

Figure 95 Credit profit centre by scenario and policy option 1 and 2, European ARM country case: revenue, cost and profit in basis points

	Policy option 1	Policy option 2
Scenario 1		No change over status quo since statutory underwriting debt-service-to-income constraint is never violated.
Scenario 2		
Scenario 3		
Scenario 4	No change over status quo since no change of product demand.	No change over status quo since statutory underwriting debt-service-to-income constraint is never violated.

Notes: For assumptions see Table 69.
Source: Finpolconsult.

More generally, the failure of policy option 1 to generate lower credit losses should be seen in context with the assumptions of Table 69 and the generally positive yield curve, which implies on net higher debt service for FRM. Higher debt service, however, leads ceteris paribus in our model to higher default. The highly adverse outcome, i.e. the second credit crisis in scenario 3, cannot be avoided by the policy option alone; for that to happen, credit would have to be quantitatively constrained.

At this juncture we need to add two qualifications:

- the picture should change if interaction effects from the product choice of the consumer on house price dynamics, which are the main driver of credit problems in the scenario, were modelled.

- the relatively positive performance of the null – uncapped ARM – must be seen against our assumption of the ARM being an index tracker allowing for fast downward adjustment of interest rates and thus fast reaction of debt service to another policy intervention, monetary policy. This creates a 'policy hedge' for uncapped ARM borrowers.

  If the uncapped ARM was a reviewable rate product, it would be likely that interest rates would only sluggishly adjust downwards, leading to considerably higher default (see also our discussion on forex loans in Hungary and Poland above, with different adjustment mechanisms).

Policy option 2 – rejection of credit applications – turns out to be far more effective compared to policy option 1, concerning the lender profit centre, but also other indicators (see below). The reason for improved profitability is that all high interest rate and in particular high house price cohorts are eliminated. Such constellations are highly likely to provoke early defaults, as seen during the US sub-prime crisis.

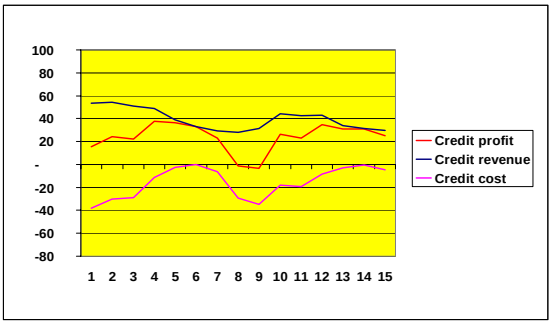
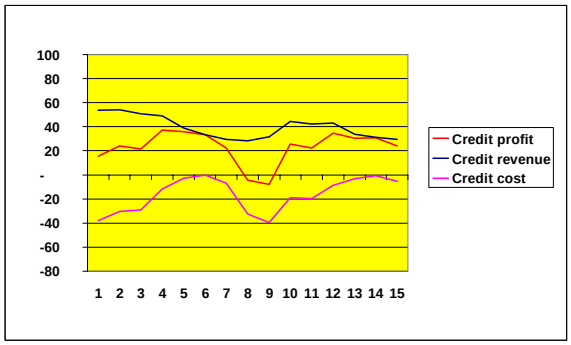
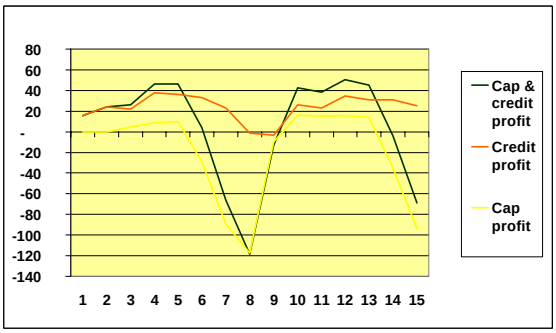
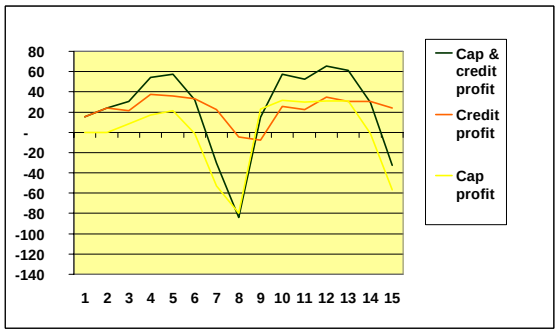
The drawback is that policy option 2 cannot really address the payment shock problem, i.e. risk remains that the lender denies credit to the wrong cohorts from an expected credit loss perspective. This could be the case because such cohorts are eliminated that have high *initial* debt-service-to-income ratios, and those cohorts usually face less payment shock risk within the life of the loan than ARM underwritten at low initial debt service.

We continue with policy option 3, a mandated use of interest rate caps for all ARM. It is not hard to see from the discussion so far, especially on policy option 1 (which introduced a higher share of FRM into the market by stimulating consumer demand), that the credit loss impact of mandatory caps depends crucially on its pricing, i.e. the assumption made in Table 69 and Figure 93. The higher credit costs are in the volatility scenarios as the interest rate peak materialises, the higher are subsequent default levels; this works against the default protection impact of caps provided during the interest rate trough.

We therefore slightly change strategy and focus the discussion on managing this trade-off – between early defaults and payment shock defaults - and stressing the pricing assumptions made in Figure 93.

Clearly, a material reduction of credit losses is achieved if and when the lender takes interest rate risk on behalf of the consumer. This is the case in scenario 3 when he offers the cheap cap (0.5% in case of a 5 year x+2% cap).

Figure 96 Credit and interest rate cap profit centres by scenario for policy option 3, European ARM country case: revenue, cost and profit in basis points differentiated by price of cap

	Cheap cap	Expensive cap
Credit profit centre		
Combined profit centre cap and credit		

Notes: for assumptions see Table 69 and Figure 93.
Source: Finpolconsult.

However, the improved credit protection comes at a price – of higher exposure to interest rate risk for the lender. This is visualised by a comparison of the credit and cap profit centres in Figure 96.

When the cap is priced expensively, credit losses are just slightly smaller than in the status quo, some 3% in net present value terms. However, the lender has lower cap losses in the high volatility scenario and makes almost the same profit compared to the status quo (of not offering the cap). When the cap is priced cheaply, credit losses drop by some 9% vs. the status quo without cap; however, the price to be paid in the volatility scenario is a high loss from the cap profit centre. We will see below whether the average taken over all scenarios is positive or negative.

The results presented here suggest that for a material attack on the credit loss problem probably several policy options should be implemented in parallel – options 1 and 3 in order to reduce default risk due to payment shocks, and option 2 in order to address early default risk. This, in short, is the strategies of most public housing finance agencies around the world; however, they usually have interest rate subsidies or some other form of public support at their disposal to reduce the additional default risk coming from higher interest payments as a result of interest rate risk protection pricing.

NPV results by stakeholders, winners and losers

We now present the results for our ARM country case in this simulation for all four scenarios and averages. The caveats discussed before concerning the scenario nature and taking averages should be borne in mind. We differentiate the cap pricing for policy option 3.

Table 70 Economy-wide NPV of benefits / costs of policy intervention in the area of responsible lending (€ million) – European ARM country case, grandfathering of pre-reform loan cohorts, deviation from status quo

		Consumers			Lenders				Interme-	Govern-	Society
		Prime	Subprime	Total	*Credit loss*	Credit	Cap	Total	diaries	ment	
Policy option 1 Preference change	Scenario 1	-3088	-260	-3348	*-33*	-1043	0	2386	-56	469	-548
	Scenario 2	1666	370	2036	*-13*	-466	0	-1292	-35	-273	436
	Scenario 3	2186	849	3036	*-233*	-711	0	-1621	-37	-472	905
	Scenario 4	-359	-43	-402	*0*	-110	0	299	-28	61	-70
	Average	101	229	331	*-70*	-583	0	-57	-39	-54	181
Policy option 2 Credit denial	Scenario 1	0	0	0	*0*	-1497	0	0	0	0	0
	Scenario 2	3774	4737	8511	*553*	-1373	0	-2898	-1	-261	5351
	Scenario 3	9037	5201	14237	*1939*	-1566	0	-4387	-2	270	10119
	Scenario 4	0	6	6	*2*	-900	0	-2	0	1	5
	Average	3203	2486	5688	*623*	-1334	0	-1822	-1	2	3869
Policy option 3a) Low cap price	Scenario 1	-2539	-434	-2973	*-140*	-1297	2842	2020	0	329	-623
	Scenario 2	2282	432	2714	*248*	-1220	-2859	-837	0	-22	1854
	Scenario 3	3199	546	3744	*230*	-1379	-3451	-1116	0	-90	2538
	Scenario 4	-541	-71	-612	*-61*	-780	1217	481	0	62	-69
	Average	600	118	718	*69*	-1169	-563	137	0	70	925
Policy option 3b High cap price	Scenario 1	-5032	-913	-5945	*-276*	0	5630	4037	0	660	-1247
	Scenario 2	866	253	1119	*143*	-76	242	59	0	98	1276
	Scenario 3	1779	388	2167	*101*	1001	-31	-265	0	7	1909
	Scenario 4	-1561	-213	-1775	*-157*	1	2415	1353	0	183	-239
	Average	-987	-121	-1108	*-47*	232	2064	1296	0	237	425

Notes: for assumptions see Table 69 and Figure 93. 20% sub-prime share assumed. Total lender profit includes other interest rate risk profit.
Source: Finpolconsult.

The main outcome of the analysis – in short – is that credit denial, policy option 2, is the most effective option to increase society welfare in the presence of strong interest rate and house price cycles, which dominate our scenarios. Credit denial in critical constellations of interest rates and house prices is by far the most effective protection against credit losses. Note that this result is obtained against the null of renting as the basic alternative for borrowers.

The result is intuitive, although not very realistic. Part of the reason for the lack of realism is that lenders forego profit which they can still make in high volatility scenarios due to mismatch (the simulation assumed a universal bank funding structure), even if the credit profit centre is loss-making. In other words: profits from mismatched funding of performing portfolio exceed the losses from non-performing portfolio.

We add here, however, that we have not modelled lenders in their alternative function of financing rental housing for the denied borrowers. Once a rental housing finance system is in place, especially one that is not completely government dominated, lenders will be attracted back into the credit denial policy option and prefer to finance rental investors.

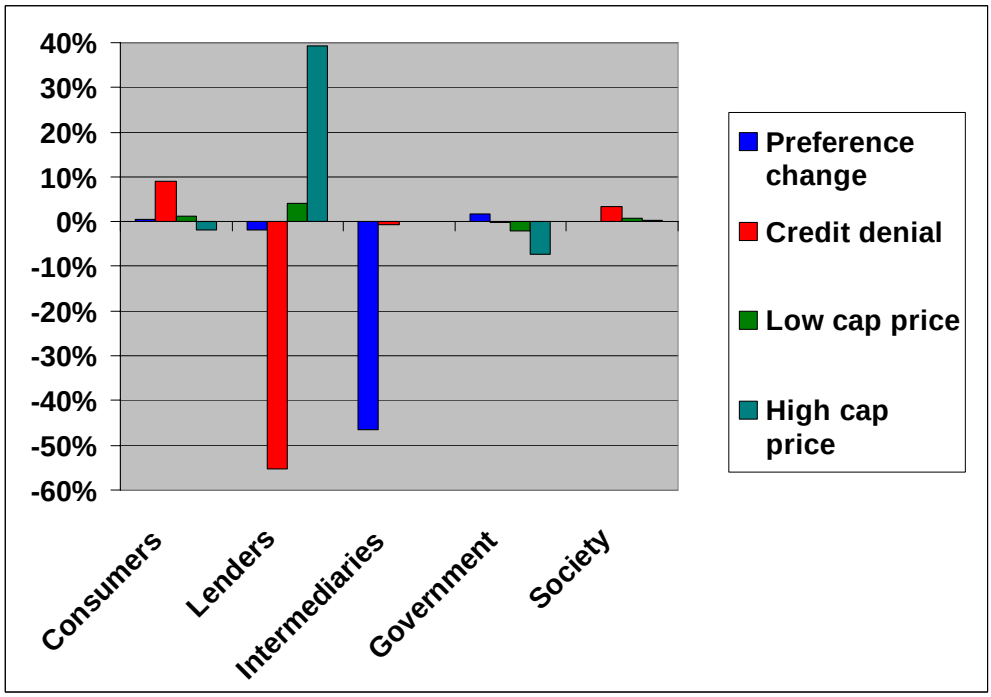
Because credit denial is not popular with lenders when we focus on retail lending to consumers, and rental finance systems need time to develop, it is interesting to consider that mandatory caps fare a reasonable second in comparison. As we have seen, lenders offering caps take additional interest rate risk, so they might decide to charge a high cap price in the presence of high volatility. This reduces consumer utility vs. the status quo (90% uncapped ARM) while giving lenders an almost identical profit. The preferable alternative from the social return perspective are lower cap prices that have some credit risk protection impact and leave lenders break even.

Again, the caveats made above apply: in particular a combination of policy options, especially credit denial with caps, should be preferable since it takes the highest risk cohorts out of the market. Also, the cap analysis is highly sensitive to the credit risk price assumptions made in Table 69.

This leads to the impact of preference change, which will give rise to greater FRM demand. While we note a low overall social return difference to the status quo, we also observe that the protection impact in case of high volatility for consumers remains fully intact as in the case of caps, especially those with low prices. The relative advantage of the preference change for consumers as in the case of ARM caps hinges crucially on the pricing of FRM – if the fixed-rate product becomes too expensive, it will defeat its main purpose of providing credit risk protection by triggering high levels of early defaults. Here the subject of responsible lending is closely linked to the subject of early repayment and the overall costs of FRM to the consumer.

Unequivocal losers of the policy option are intermediaries, whose profit level is cut by half when consumers turn to a product with a lower embedded credit spread. Figure 97 summarises the results in terms of percentage deviations from status quo.

Figure 97 Economy-wide NPV of benefits / costs of policy intervention in the area of responsible lending (€ million) – European ARM country case, grandfathering of pre-reform loan cohorts, deviation from status quo in %



Source: Finpolconsult.

Dynamic dimensions

The results obtained are very sensitive to the economic scenarios assumed and in particular the amount of interest rate and house price risk. For example, interest rates might continue to rise while house prices fall – a particular scenario not in our list that might be dubbed 'stagflation'. In this case, defaults would continue to rise even in a capped ARM portfolio as borrowers suffer from negative equity, while lenders would suffer high losses through risking opportunity costs of the caps written.

A second unknown are the supply dynamics during such 'fat tails'. As the financial crisis has shown, hedge counterparties helping lenders to produce the cap might disappear, or cap prices might become very high. This happens already when interest rate volatility increases (which suggests that cap prices should be adjusted between scenarios).

As in the early repayment case, a loss-making of either credit or cap profit centre will lead to a pricing adjustment ex-post, so the new initial conditions in 5 or 10 years, after sufficient data have been collected, might differ.

Policy options 1 and 2 adjust demand and supply quantities directly, and thus can be subjected to the risk of reversion of the behavioural effects they were intending to.

- For example, with regard to policy option 1, risk warnings may improve borrower conservativeness in product choice, while a continued increase in the role of brokers and other intermediaries without imposing a higher legal liability than at the present time in many European jurisdictions for mis-selling on those agents would work in the other direction.

- Similarly, with regard to policy option 2 lenders after a crisis might be frightened to underwrite even moderately risky borrowers (credit crunch) while the same borrowers will appear perfectly creditworthy a year or two later.

Such effects cannot be perfectly modelled, however, it is clear that any social gains in the responsible lending arena through a particular policy action is in jeopardy without a rather comprehensive approach to change behaviour, and possibly also limit the playing field with regard to product sets and covenants.

9.8 Conclusions

9.8.1 Legal baseline

While in the detailed discussion of the legal baselines for each policy option, Member States have been classified by their distance from the policy frontier, for the assessment of the costs and benefits, the issue is more complex in the present case. This is due the fact that, with the exception of the policy option concerning the access to credit registers, the responsible lending options are of a general nature and are already applied to lending in general. We have observed from the legal baseline survey that lenders, in practice, in all Member States follow the responsible lending principles (that are to be assessed as part of our analysis) either because of specific legal requirements or more generally good banking practices. The extensive stakeholder consultations that we undertook and the results of the different surveys confirm this broad conclusion. This does not mean that certain irresponsible practices did not occur in the past. Indeed, in this chapter, we discuss a number of such practices. But the prevention of such practices would have required very specific rules as to what constitutes an irresponsible practice.

9.8.2 Conceptual framework and empirical review

We start the cost-benefit analysis by reviewing the main concepts of mortgage default – option-theoretic and cash-flow – and by discussing the interaction of default risk with interest rate risk – or more broadly payment shock risk -

protection. Stable house prices, moderate leverage (loan-to-value ratio) and debt service burden and payment shock protection can be identified as contributing to low default rates.

We proceed in the empirical review of non-responsible practices to show that these conditions are often violated in some European mortgage markets. This is partly due to necessity – where no alternative affordable product is available, as in high inflation countries such as Hungary, enforcing the use of forex loans – and partly due to idiosyncratic market practice – such as the wide use of teaser rate products in the UK already since the 1990s. The much increased use of uncapped ARM in EU Member States which switched their systems from FRM lending in the 1990s carries both elements.

A paramount factor driving non-responsible practices, however, is house price inflation. Lowering amortisation and increasing the use of teaser rates and discounts as a consequence of a fundamental lack of affordability are phenonmena that are not only observed in the US but are widely present also in the relevant European jurisdictions. In contrast, the genuine European non-prime market is small. Where it exists, it faces similar problems of risk-layering as in the US, for example a cumulation of low amortisation and income self-certification in the UK.

We also see scope for non-responsible practices in the incentive structures of lenders, intermediaries and consumers. With the standardised approach permissible Basel II in particular smaller lenders received an escape route from modernising their credit assessment techniques in mortgage finance. While US experience raises questions about purely quantitative approaches, gaps in the use of models and the associated data generation remain a particular European infrastructure issue hampering also consumer protection efforts such as enforcing better credit assessments. Other incentive problems can be identified in broker-lender fee arrangements and through adverse selection of lenders by brokers, at least in some corners of the European market. Compared to the US, European consumers tend to face stricter insolvency legislation which may or may not help to rationalise their borrowing decision-making.

9.8.3 Qualitative evaluation of policy options

Against this background, necessarily the effectiveness of consumer protection rules faces limitations. Consumer protection needs to interact with macro policies such as monetary policy and fiscal policy (e.g. credit guarantees) and bank regulation. We see some of the policy options presented – A2 (credit assessment), A3 (adequate explanations) and B4 (refrain from lending) – nevertheless as potentially powerful instruments to address a wide range of the issues identified above. But we also note operability problems due to lack of specificity, questions of legal consequences and implementation that might limit their effectiveness. In particular, implementation as law is found as the preferred route in order to reach sufficient impact.

Broadening our analysis, we note that the Consumer Credit Directive, from which the formulation of policy area A were borrowed, and the typical Codes of Conduct, which lent formulations for policy area B, were pieces of law created during normal mortgage market times. National regulators such as the British FSA are proceeding with more far-reaching measures, of which we evaluate some in this study as alternative measures in order to put the proposed options into context. Such measures could include mandatory stress tests, fully-indexed-fully-amortising loan underwriting, mandatory downside limits on risk shifted to borrowers in payment shock products, and in the isolated case product bans (or bans of risk layering practices).

Our conclusion is that the proposed options, unless greater specification and effectiveness is reached and additional measures are adopted, are unlikely to reach the stated goal of greater responsible lending impact, even where they are not already legally required.

9.8.4 Cost-benefit analysis results

Overall, the evidence gathered for the purpose of the present study and the detailed analysis of the policy options, the legal baseline and recent developments in the mortgage market in a number of EU Member States and in the US suggest that the adoption of the various principles for lenders will not impose immediate costs on the mortgage lending industry except for possibly some unquantifiable increased risk of litigation, and, according to the responses obtained from the survey of lenders and the extensive stakeholder consultations, is unlikely to result in any behavioural changes.

Due to lack of data in Europe, we have discussed the benefits of the proposed policy options within the context of the broader set of potential policy responses to the problems seen primarily in a qualitative way.

However, for illustration purposes we have tested two proposed policy options – forcing lender to provide specific risk warnings (policy option B3) and asking lenders to refrain from lending (policy option B4), as well as an additional material protection rule mandating interest rate caps on ARMs - for the case of a fictive 'ARM country' with the help of our comprehensive simulation module.

Our result broadly is that credit denial, policy option B4 – especially in the presence of interest rate and house price volatility – has the strongest positive cost-benefit impact on society and consumers. Provided, that is, that the alternative of rental housing can be produced at reasonable costs. Lenders are found to lose from this policy option, but might find the alternative of financing more rental housing investment attractive.

Mandatory ARM caps or preference shifts towards FRM as could be engineered by specific risk warnings – policy option B3 - are less beneficial if the price to be paid by consumers for the interest rate risk protection coming

with an FRM is taken into consideration. Such protection cost may also shift default risk from payment shock to early payment default. Rendering the pricing of interest rate protection efficient is thus key to greater mortgage sector stability, and obviously risk-based capital requirements acknowledging the lower credit risk embedded in these products could play a role in this.

The mortgage credit intermediary industry as modelled here would be negatively affected by a shift in consumer preference towards safer product, which allows lenders to charge lower credit margins only as a result of higher interest rates already paid for greater interest rate risk protection. We have not modelled the impact of greater liability imposed on intermediaries, which may work in the same direction as credit denial.

10 Conclusions

The key conclusions emerging from the analysis of the costs and benefits of the different policy proposals in the four policy areas of interest are the following.

Pre-contractual information

The quantitative analysis reported in the present study shows that overall the proposed policy of either a continuation of the voluntary approach with a strengthened monitoring and enforcement mechanisms or a legal requirement to provide a revamped, more informative and simplified ESIS would have beneficial effects for consumers across the EU except Germany, where the provision of an ESIS will soon be a legal requirement and the UK where consumers would neither gain nor loose as a result of replacing the KFI with an ESIS.

At the level of the economy as whole, the situation is more varied. Countries with a high compliance rate in the provision of an ESIS would face higher net cost as the main effect would be consumers seeking to obtain an ESIS from more lenders in the post policy intervention environment while in the low compliance countries, consumers would also benefit from significant saving in searching for information as, in the post policy intervention period, the likelihood of obtaining an ESIS when contacting a lender increases sharply.

The analysis also shows that increased provision of an ESIS strengthens consumer confidence in mortgage markets, encourages customer mobility and cross-border lending.

APRC

The qualitative and quantitative CBA analysis of the three policy options regarding the definition of the APRC suggests that the adoption of an APRC will benefit consumers while imposing some costs on lenders.

The benefits, and the costs, grow with the broadness of the APRC and the aggregate combined impact on consumers and lenders cannot be predicted a priori as it depends on a wide range of factors.

At the present time, of the 24 Member States for which information is available, all but four (Latvia, Lithuania, Luxembourg and Slovakia) use a specified APRC. Moreover, in all but one of the 19 Member

States a narrow APRC has been adopted. The exception is France where a broad APRC has been adopted.

The implementation of an APRC is also likely to boost consumer confidence in mortgage products and stimulate consumer mobility. Moreover, the broader the APRC, the larger the likely impact on confidence and mobility.

However, the impact on product choice and market development is likely to be small or nil.

In contrast, cross-border mortgage lending may grow somewhat as a result of the adoption of an APRC.

Early repayment

We use a detailed empirical review to derive an option cost pricing – compensation or fee level curve that is the basis for the cost benefit analysis. We conclude from this that the early repayment option at zero compensation or fee level can be assumed to lead to additional interest rate costs on fixed-rate mortgages in the range of 45 basis points in Europe, assuming Euro area conditions, a 10-year interest rate fixing period, and a functioning market of investors in products carrying the option. This figure contains only small costs for foregone intermediation profit – most early repayments in Europe do not involve switching - and is largely a result of reinvestment risk loss faced by long-term lenders or investors. Fixed-rate mortgage contracts subject to fair value compensations that eliminate the financial incentive to prepay can be assumed to carry zero option costs, adjustable-rate mortgages only the option costs associated with foregone intermediation profit.

We are able to rank the proposed policy options along this curve. For the case of the contractual option (i.e. no statutory early repayment right) we assume a negotiated (as opposed to contractually agreed and/or statutorily limited) compensation level above fair value and commensurate loan pricing discounts granted by lenders.

The comparative statics of shifting points on the curve via policy interventions are demonstrated with a simulation model: lenders can improve their profit levels when compensation is cut back statutorily if they are able to charge an options premium commensurable to rising costs. Consumers vice versa may benefit from removing tight caps and shifting towards a fair value compensation regime when options costs decline as a result. The practice of statutory fee caps, as opposed to caps imposed on fair value compensations, may lead to an increase in reinvestment profit of lenders when interest rates rise. Lender profit across the board declines and consumer benefit

increases when moving to symmetric fair value compensation that allows consumers to claw back lender profit when prepaying when interest rates have risen while still making them liable to reimburse lender loss when interest rates have fallen.

Our results for the full set of case countries and EU-27 aggregating these effects yield that any departure from a given point on the curve results primarily in a redistribution between lenders and consumers and net social effects of intervention are only small. The sign of the effects for lenders and consumers depends moreover strongly on the grandfathering rules adopted for pre-reform cohorts. The policy options located in the centre of the curve – symmetric and asymmetric fair value compensations - show the least aggregate swing of all policy options. These solutions also safeguard a continued existence of fixed-rate mortgages with pricing characteristics close to government bonds ('non-callable') and at the same time flexibility of consumers to prepay when they need to.

With regard to policy options at the extremes of the curve, contractual option / mutual recognition on the one hand and tightly capped compensation or fee on the other hand, some negative outcome in other dimensions of the analysis cannot be excluded. When prepayment is denied or made very expensive for consumers – e.g. those locked in high interest rate contracts or for consumers with unstable incomes – default and loss of consumer confidence and customer mobility can be the result. Similarly, when compensation is cut back to low levels, lenders may face high cash flow instability and asset-liability management risk while consumers will lose with the 'non-callable' fixed-rate mortgage a product that offers mezzanine levels of protection at low costs. The result of lower product diversity might be the unintended consequence of an increasing market share of adjustable-rate mortgages that pass all interest rate risk on to consumers.

Responsible lending

Our empirical review yields that responsible lending conditions are often violated in European mortgage markets, partly due to necessity – where no alternative affordable product is available as interest rates or house prices are high – and partly due to idiosyncratic market practice. A paramount factor driving non-responsible practices is house price inflation, which prompts lenders to reduce amortisation and increase the use of teaser rates and discounts. While the genuine European non-prime market is small, it faces similar problems of risk-layering as in the US.

We also see scope for non-responsible practices in incentive structures of agents, such as insufficient pressure to modernise credit assessment

techniques of lenders, broker-lender fee arrangements and adverse selection issues of lenders by brokers, and investors by lenders. Compared to the US, European consumers face stricter insolvency legislation, but the net disciplining effect on borrowing behaviour is unclear.

Against this background, necessarily the effectiveness of consumer protection rules faces limitations. We see some of the policy options presented – A2 (credit assessment), A3 (adequate explanations) and B4 (refrain from lending) – as potentially powerful instruments to address a wide range of the issues identified above. In fact, in a simulation we find that option B4 could generate substantial social benefits if truly leading to credit denial, especially during spells of inflated house prices. But we also note operability problems due to lack of specificity in the current formulations, questions of legal consequences and implementation that might limit their effectiveness.

Potentially more effective, or at least specific, measures currently part of national reform efforts include mandatory stress tests, fully-indexed-fully-amortising loan underwriting, mandatory downside limits on risk shifted to borrowers in payment shock products, and in the isolated case product bans (or bans of risk layering practices).

Our conclusion is that the proposed options, unless greater specification and effectiveness is reached and additional measures are adopted, are unlikely to reach the stated goal of greater responsible lending impact, even where they are not already legally required. Also the adoption of the various principles for lenders will not impose immediate costs on the mortgage lending industry except for possibly some unquantifiable increased risk of litigation.

11 References

Agarwal, S., Amromin, G., Ben-David, I., Chomsisengphets, S. and Evanoff, D. (2009). "Do Financial Counseling Mandates Improve Mortgage Choice and Performance? Evidence from a Natural Experiment." Ohio State University, College of Business. Mimeo.

Armour, J. and Cumming, D. (2008). "Bankruptcy Law and Entrepreneurship". *ECGI - Law Working Paper* No. 105/2008.

Bank of America Merrill Lynch. (2009). "UK non-conforming RMBS snapshot". European Structured Finance – RMBS. October.

Banka Nationala Romaniei (2008). "Analyzing the risks stemming from the Romanian household sector". September.

Batchvarov, A., Collins, J., De Pauw, X., Spencer, J. and Davies, W. (2003). "Merrill Lynch Guide to International Mortgage Markets and Mortgage Backed Securities". *Merrill Lynch*. London.

Batchvarov, A., Davies, W., Davletova, A., Rusconi, F., Martin, J. and Winkler, S. (2007). "Merrill Lynch Guide to Emerging Mortgage and Consumer Credit Markets, Volume 2: Central & Eastern Europe, Middle East and North Africa". *Merrill Lynch*. London.

Barker, K. (2005), "Barker Review of Housing Supply – Final Report".

Baz, J. and Chacko, G. (2004). "Financial Derivatives: Pricing, Applications and Mathematics". *Cambridge University Press*.

Brito, D., Pereira, P. and Ribeiro, T. (2008). "Merger Analysis in the Banking Industry: The Short-Term Corporate Credit Market."

Brito, D., Pereira, P. and Ribeiro, T. (2009). "Estimating the Demand for Mortgage Loans with an Application to Merger Analysis". *Working Paper* Preliminary Version, March 2009.

Calza A., Monacelli, T. and Stracca, L. (2009). "Housing Finance and Monetary Policy", *ECB Working Paper Series*, No. 1069.

Calza A., Manrique M. and Sousa J. (2003). "Aggregate loans to the euro area private sector". *ECB Working Paper Series* No. 202.

Carstensen, K., Hülsewig, O. and Wollmershäuser, T. (2009). "Monetary Policy Transmission and House Prices : European Cross Country Evidence". *Working Paper / FINESS 7.4, DIW Berlin*, German Institute for Economic Research.

Chinloy, P. (1991). "The Option Structure of a Mortgage Contract". *Journal of Housing Research*, Vol. 2 Issue 1.

Coco, J. (2006). "Mortgage market integration in Europe". Presentation prepared for the June 19th 2006 ECB CFI Meeting. Frankfurt.

Council of Mortgage Lenders. (2006). "Mortgage Payment Protection Insurance - Response by the Council of Mortgage Lenders to the OFT Report on the Payment Protection Insurance Market Study".

Darracq Paries, M. and Notarpietro. A. (2008). "Monetary Policy and Housing Prices in an Estimated DSGE for the US and the Euro Area". *ECB Working Paper Series* No. 972.

Delbrouck, M. (2009). "Prepayment risk within KBC Bank Belgium". Internal memo. Brussels.

Deloitte. (2009). "Firm behaviour and incremental compliance costs", Research for the Financial Services Authority. May.

Deloitte. (2008). "Costing Intermediary Services. Financial Assessment of Investment Intermediaries". Report for the Financial Services Authority. July.

Deng, Y., Quigley, J. and Van Order, R. (2000). "Mortgage Terminations, Heterogeneity and the Exercise of Mortgage Options". *Econometrica*, Vo. 68, No.2.

Devereux, M. P. and Lanot G. (1998). "Measuring Tax Incidence: An Application to UK Mortgage Interest Tax Relief". *Keele Department of Economics Discussion Papers* (1995-2001) 98/05, Department of Economics, Keele University, revised May 2000.

Diamond, D. B. and Lea, M. (1992). "Housing Finance in Developed Countries: An International Comparison of Efficiency". *Journal of Housing Research*, 3, 1, 1992.

Douna, H., Dübel, A. and Low, S. (2007). "European Mortgage Distribution: Changing Channel Choices". Study commissioned by EFMA/Fortis Group from Mercer Oliver Wyman. Brussels / London.

Dübel, A. (2007a). "Die Marktkrise am Hypothekarkreditmarkt der USA – empirische Analyse und Schlussfolgerungen für Deutschland". Studie im Auftrag des Verbands der privaten Bausparkassen. *Domus-Verlag*. Berlin. ISBN 978-3-87169-545-2.

Dübel, A. (2007b). "Empirical Dimensions of Prepayment Risk in Europe – A Brief Update per mid-2007". Study commissioned by Verband deutscher Pfandbriefbanken. Berlin.

Dübel, A. (2007c). "US Subprime Market Crisis – Structural Causes and Issues for Emerging European Mortgage Markets". Presentation to European Federation of Building Societies, October.

Dübel, A. (2006). "Fixed-rate Mortgages and Prepayment in Europe". Study commissioned by Verband deutscher Hypothekenbanken. Berlin. Download from www.hypverband.de.

Dübel, A. (2003). "Financial, fiscal and housing policy aspects of Contract Savings for Housing (CSH) in Transition Countries – the Cases of Czech Republic and Slovakia". Study commissioned by the Financial Sector Development Department of the World Bank.

Dübel, A. and Lea, M. (2000). "Micro- and Macroeconomic Consequences of Residential Mortgage Prepayment, Evidence from Denmark, France, Germany, the United Kingdom and the United States". Schriftenreihe des Verbandes Deutscher Hypothekenbanken. *Fritz Knapp Verlag*. Frankfurt.

Dübel, A. and Pfeiffer, U. (1996). "Risk-based Capital Requirement and Commercial Mortgage Credit Risk". Schriftenreihe des Verbandes Deutscher Hypothekenbanken, Vol. 2. *Fritz Knapp Verlag*. Frankfurt.

Dübel, A., Lea, M., and R.Welter. (1997). "Study on Mortgage Credit in The European Economic Area Structure of the Sector and Application of the Rules in the Directives 87/102 and 90/88." Study commissioned by the Commission of the European Communities (DG XXIV).

EBIC - European Banking Industry Committee. (2009). "European Agreement on a Voluntary Code of Conduct on Pre-contractual information for Home Loans - Third Progress Report on Implementation in the European Union".

EBIC - European Banking Industry Committee. (2002). "European Agreement on a Voluntary Code of Conduct on Pre-contractual information for Home Loans – First Annual Progress Report on Implementation in the European Union".

Égert, B. and Mihaljek, D. (2007). "Determinants of House Prices in Central and Eastern Europe". *BIS Working Paper* No. 236.

EMF. (2006). "Study on the Cost of Housing in Europe". Brussels.

EMF. (2007). "Study on the Efficiency of the Mortgage Collateral in the European Union". Brussels.

Eurobarometer. (2009a). "Consumers' views on switching service providers: Analytical Report". *Flash Eurobarometer Series* #243.

Eurobarometer. (2009b). "Consumers' views on switching service providers: Annex tables" *Flash Eurobarometer Series* #243.

Eurobarometer. (2006). "Internal Market – Opinions and experiences of Citizens in EU25". *Special Eurobarometer Series* # 254.

Eurobarometer. (2004). "Public Opinion in Europe: Financial Services, Report B", *Standard Eurobarometer*, January.

Eurobarometer. (2003). "Public Opinion in Europe: Views on Financial Services", European Opinion Research Group 60.2, *Eurobarometer # 205*.

Eurobarometer (2001). "Public Opinion in Europe: Views on Financial Services", *Eurobarometer 56.0.*

Europe Economics. (2009). "Study on Credit Intermediaries in the Internal Market". Study commissioned by EC DG Internal Market and Services. October.

European Central Bank. (2009a). "Financial Integration in Europe", April.

European Central Bank. (2009b). Task Force of the Monetary Policy Committee of the European System of Central Banks. "Housing Finance in the Euro Area", *Occasional Paper*, No. 101.

European Central Bank. (2009c). Eurosystem Household Finance and Consumption Network. "Survey Data on Household Finance and Consumption: Research Summary and Policy Use". *Occasional Paper* No. 100.

European Central Bank. (2008). "EU Banking Structures". October.

European Commission. (2009a). "Economic Forecast – Spring 2009". DG Economic and Financial Affairs.

European Commission. (2009b). "Report of the Expert Group on Credit Histories". DG Internal Market and Services.

European Commission. (2009c). "Impact Assessment Guidelines".

European Commission. (2007a). "White Paper on the Integration of EU Mortgage Credit Markets".

European Commission. (2007b). "Commission Staff Working Document accompanying the White Paper on the Integration of EU Mortgage Credit Markets".

European Commission. (2007c). "Commission Staff Working Document accompanying the White Paper on the Integration of EU Mortgage Credit Markets, Impact Assessment, Annex 3: Impact assessment on specific issues".

European Commission. (2007d). "The Joint Harmonised EU Programme of Business and Consumer Surveys. User Guide". DG for Economic and Financial Affairs.

European Commission. (2006a). "Mortgage Industry and Consumers Expert Group Final Report". DG Internal Market and Services.

European Commission. (2006b). "Report of Mortgage Funding Expert Group". DG Internal Market and Services.

European Parliament and the Council of the European Union. (2008). "Directive 2008/48/EC on credit agreements for consumers and repealing Council Directive 87/102/EEC". *Official Journal of the European Union.*

Eurostat. (2009). "Consumers in Europe".

European Mortgage Federation (2007). "Study on the Efficiency of the Mortgage Collateral in the European Union".

Fabozzi, F. (1999). "Bond Markets, Analysis and Strategies". 4th edition. *Prentice Hall International Editions*: Englewood Cliffs, N.J.

Financial Services Authority. (2009a). "Mortgage Market Review". October.

Financial Services Authority. (2009b). "Mortgages Product Sales Data (PSD) Trend Report". August.

Financial Services Authority. (2008a). "Mortgage Product Sales Data (PSD) Trends Report - September".

Financial Services Authority (2008b) "Financial Capability: A behavioural economics perspective". July.

FitchRatings. (2009a). "Around the Houses - Quarterly European RMBS. August.

FitchRatings. (2009b). "Dutch Residential Mortgage Default Model Criteria". February 2.

FitchRatings. (2008). "UK Residential Mortgage Default Criteria". February 8.

FitchRatings. (2007a). "Adverse Credit Labels in UK Non-conforming RMBS". RMBS/UK Special Report. February 5.

FitchRatings. (2007b). "Diversity in Union. Prepayment Drivers in European RMBS. Update". October 11.

FitchRatings. (2007c). "Spanish Residential Mortgage Default Model Criteria". December 21.

FitchRatings. (2006). "Assessing Affordability in UK Non-conforming Residential Mortgage Market". Residential Mortgage/UK Special Report. June 6.

Follain, J. R. and Dunsky, R. M. (1997). "The Demand for Home Mortgage Debt and the Income Tax". *Journal of Housing Research,* Volume 8, 2, 155-200.

Foote, C. L., Gerardi, K., Goette, L. and Willen, P.S. (2008). "Subprime Facts: What (We Think) We Know About the Subprime Crisis and What We Don't" May, *Federal Reserve Bank of Boston Public Policy Discussion Papers*, No. 08-2.

Garratt, D. (2000). "Consumer confidence and UK house price inflation", *Housing Finance*, No 46, May.

Gary-Bobo, R. J. and Larribeau, S. (2004). "A structural econometric model of price discrimination in the French mortgage lending industry". *International Journal of Industrial Organization*, vol. 22(1), pages 101-134.

Gary-Bobo, R. J. and Larribeau, S. (2003). "The bank's market power and the interest rate elasticity of demand for housing: an econometric discrimination on French mortgage data". *Annales d'Economie et de Statistique*, ADRES, issue 71-72, pages 18, Juillet-D.

Georgarakos, D., Loschova, A. and Ward-Warmedinger, M. (2009). "Mortgage indebtedness and household financial distress", mimeo.

Girouard, N., Kennedy, M., van den Noord, P. and André, C. (2006). "Recent house price developments: the role of fundamentals". *OECD Economics Department Working Paper* No. 475.

Goodhart, C. and Hofmann, B. (2008). "House Prices, Money, Credit and the Macroeconomy". *ECB Working Paper Series* No. 888.

Graven Lasen, B. (1993). "The Yield Differential Between Mortgage-Credit and Government Bonds". *Monetary Review* - August, Danmarks Nationalbank

Gwinner, W.B. and Sanders, A. (2008). "The Sub Prime Crisis: Implications for Emerging Markets", mimeo, World Bank.

Hofer, T. (2006). "Financing Structures of Home Ownership Creation 2006". Association of German Pfandbrief Banks.

Hoffmaister, A. W., Banerji, A., Shi, H. and Hilbers, P. (2008). "House Price Developments in Europe: A Comparison". *IMF Working Papers*, Vol., pp. 1-64, 2008.

Hogarth, T. and Elias, P. (1994). "Unemployment and Housing Tenure". Joseph Roundtree Foundation Publications. December.

Iacoviello M. (2000). "House prices and the macroeconomy in Europe: Results from a structural Var analysis". *ECB Working Paper Series* No. 18.

Iff (2009). "Study on Equity Release Schemes in the EU". Study commissioned by EC DG Internal Market and Services. January

Iff (2007). "Erwerb von Kreditforderungen durch Private Equity-Unternehmen: Mögliche Gefahren für Verbraucher", Studie im Auftrag des Verbraucherzentrale Bundesverband e.V.

IMF (2008). "The Changing Housing Cycle and the Implications for Monetary Policy", Chapter 3, *World Economic Outlook*, April.

Jakobson, S. (1994). "Prepayment and the Valuation of Danish Mortgage-Backed Bonds". The Aarhus School of Business, Working Paper D 92-2. Jappelli, T., Pagano, M. and DiMaggio, M. (2008), "Households' Indebtedness and Financial Fragility", Paper presented at the 9th Jacques Polak Annual Research Conference, Hosted by the International Monetary Fund, Washington, DC ─ November 13-14.

Jappelli, T. and Pistaferri, L. (2002). "Incentives to Borrow and the Demand for Mortgage Debt: An Analysis of Tax Reforms". *CSEF Working Papers* 90, Centre for Studies in Economics and Finance (CSEF), University of Naples, Italy.

Jeanfils, P. (2000). "A model with explicit expectations for Belgium". Research series 2000 03-3, National Bank of Belgium.

Jian, W., Nelson, A., and Vytlacil, E. (2009). "Liar's Loan? Effects of Origination Channel and Information Falsification on Mortgage Delinquency." Forthcoming paper sponsored by National Science Foundation (NSF Grant #SES-0851428). August.

KfW Bankengruppe. (2005). "KfW's experience of 4 years of securitisation, an empirical analysis of the default behaviour of residential mortgage loans." *Rating aktuell* May.

Köndgen, J. (2000). "Vorzeitige Tilgung hypothekarisch gesicherter Festzinskredite: ein Rechtsvergleich" in Verband deutscher Hypothekenbanken (Hrsg.), *Die vorzeitige Rückzahlung von Festzinskrediten*, Frankfurt 2000 (Fritz Knapp), 1-148

Lacko. J.M., and Pappalardo. K.K. (2004). "The effect of mortgage broker disclosures on consumers and competition: A controlled experiment", Federal Trade Commission USA.

Latvijas Banka (2008). "Financial stability report".

Latvijas Banka (2007). "Financial stability report".

Leece, D. (2000). "Choice of Mortgage Instrument, Liquidity Constraints and the Demand for Housing Debt in the United Kingdom". *Applied Economics*, 1466-4283, Volume 32, Issue 9, 2000, Pages 1121 – 1132.

Leece, D. (2006). "Testing a theoretical model of mortgage demand on UK data". *Applied Economics*, 1466-4283, Volume 38, Issue 17, 2006, Pages 2037 – 2051.

Lietuvos bankas. (2009). "Financial Stability Report".

Lisardi.A and Tufano.P. (2009). "Debt Literacy, Financial Experiences, and Overindebtedness", *NBER Working Paper* No. w14808,

London Economics. (2008). "Role and regulation of non-credit institutions in EU mortgage markets". Study commissioned by EC DG Internal Market and Services.

London Economics. (2005). "The Costs and Benefits of Integration of EU Mortgage Markets". Study commissioned by EC DG Internal Market and Services.

Low, S., Dübel, A. and Sebag-Montefiore, M. (2003). "Study on the Financial Integration of European Mortgage Markets". Study commissioned by the European Mortgage Federation to Mercer Oliver Wyman. London/Brussels.

Martins, N. C. and Villanueva, E. (2006). "The impact of mortgage interest-rate subsidies on household borrowing." *Journal of Public Economics*, Elsevier, vol. 90(8-9), pages 1601-1623, September.

Mercer Oliver Wyman. (2007). "European mortgage markets – 2006 adjusted price analysis". Study commissioned by the European Mortgage Federation.

Mercer Oliver Wyman. (2005). "Risk and Funding in European Residential Mortgages". Study for the Mortgage Insurance Trade Association (MITA), April.

Miles, D. (2004). "The UK Mortgage Market: Taking a Longer-Term View – Final Report and Recommendations".

Miles, D. (1994). "Housing, Financial Markets, and the Wider Economy." *John Wiley & Sons*, Chichester, New York, Brisbane, Toronto, Singapore.

Ministry of Infrastructure of the Italian Republic and Federcasa, Italian Housing Federation. (2006). "Housing Statistics in the European Union 2005/06".

Mouillart, M. (1995). « SACHEM: Un Modèle d'Analyse de l'Encours des Crédits à l'Habitat versés aux Ménages". Mimeo. Université de Paris X Nanterre. Paris

Narodna Banka Slovenska. (2008). "Financial Stability Report".

National Bank of Poland. (2009). "Financial Stability Report", June.

National Bank of Poland. (2008). "Financial Stability Report", October.

National Board of Housing, Building and Planning, Sweden & Ministry for Regional Development of the Czech Republic. (2004). "Housing Statistics in the European Union 2004".

Northern Rock Plc. (2007). "Interim Results 6 Months Ended 30 June 2007".

OECD. (2005). "Housing finance markets in transition economies: trends and challenges".

O'Keefe, M. and Van Order, R. (1990), "Mortgage Pricing: Some Provisional Empirical Results", in: AREUEA Journal, Vol. 18, No. 3.

Paiella, M. and Pozzolo, A. F. (2007). "Choosing Between Fixed and Adjustable Rate Mortgages." *Economics & Statistics Discussion Papers* esdp07033, University of Molise, Dept. SEGeS.

Parex Bank (2009). "Latvian Macro Monitor", August.

Reifner,U. (2007). " Responsible Credit in the EU - National Law, the new EU-Directive and Beyond, in: Evolving Legislation on Consumer Credit and Trade Practices - Stimulus or Drag on Economic Activity?" *APS Bank Publication.* Malta, p. 53-97.

Reifner, U., Kiesilainen, J., Huls, N., Springeneer, H. (2003). "Consumer Overindebtedness and Consumer Law in the European Union". Institut für finanzdienstleistungen e.V. (iff).

Rossi, P. (2008). "L'offerta di mutui alle famiglie: caratteristiche, evoluzione e differenze territoriali. I risultati di un'indagine campionaria (The Italian mortgage market: Characteristics, evolution and regional differences. Evidence from a bank survey)". *Banca d'Italia: Questioni di economia e finanza (Occasional Papers)*, No. 13, June 2008.

Rothemund, M. (2008). "Consumer Credit in Europe (1995-2007) Statistical Package 2008". European Credit Research Institute (ECRI), Brussels, Belgium.

Sharpe, W. (1964). "Capital asset prices: A theory of market equilibrium under conditions of risk". *Journal of Finance*, 19 (3), 425-442.

Sheehan, G., Wilson, T. and Howell, N.(2008). " Coming to grips with credit contracts: Steps to protect vulnerable borrowers" Griffith University and the Brotherhood of St Lawrence.

Sigrist, D. (2006). "Implementing Basel II - The Swiss Experience". Presentation to the Risk Management and Supervision in the Americas IDB Conference, Washington, 30 June 2006.

Sørensen, C. K. and Lichtenberger, J-D. (2007). "Mortgage interest rate dispersion in the euro area". *ECB Working Paper Series* No. 733.

Tiffe, A. (2004). "Prepayment compensation in Europe". German consumer protection network VZBV.

Tsatsaronis, K. (2005). "What Drives House Price Dynamics – Cross-country Evidence". Presentation given at the EC Workshop on Housing and Mortgage Markets and the EU Economy. 21 November. Brussels.

United States Agency for International Development (2003). "Developing Secondary Mortgage Markets in Southeast Europe: Assessment of the Mortgage Market in Bulgaria". Southeast Europe Mortgage Financial. A report by S. Merhill, C. Rabenhorst, and P. Sacks.

Van Rooij, M., Lusardi, A. and Alessie R. (2007). "Financial literacy and stock market participation". *DNB Working Papers* 146, Netherlands Central Bank, Research Department.

Vansteenkiste, I. and Hiebert, P. (2009). "Do house price developments spill over across euro area countries? Evidence from a Global VAR". *ECB Working Paper Series* No. 1026.

Wolswijk, G. (2006). "Determinants of Mortgage Debt Growth in the EU Countries". *European Journal of Housing Policy* (Vol. VI), No. 2.

Annex 1 Consumer Credit Directive

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DIRECTIVES

DIRECTIVE 2008/48/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

of 23 April 2008

on credit agreements for consumers and repealing Council Directive 87/102/EEC

THE EUROPEAN PARLIAMENT AND THE COUNCIL OF THE EUROPEAN UNION,

Having regard to the Treaty establishing the European Community, and in particular Article 95 thereof,

Having regard to the proposal from the Commission,

Having regard to the opinion of the European Economic and Social Committee [1],

Acting in accordance with the procedure laid down in Article 251 of the Treaty [2],

Whereas:

(1) Council Directive 87/102/EEC of 22 December 1986 for the approximation of the laws, regulations and administrative provisions of the Member States concerning consumer credit [3] lays down rules at Community level concerning consumer credit agreements.

(2) In 1995, the Commission presented a report on the operation of Directive 87/102/EEC and undertook a broad consultation of the interested parties. In 1997, the Commission presented a summary report of reactions to the 1995 report. A second report was produced in 1996 on the operation of Directive 87/102/EEC.

(3) Those reports and consultations revealed substantial differences between the laws of the various Member States in the field of credit for natural persons in general and consumer credit in particular. An analysis of the national laws transposing Directive 87/102/EEC shows that Member States use a variety of consumer protection mechanisms, in addition to Directive 87/102/EEC, on account of differences in the legal or economic situation at national level.

(4) The *de facto* and *de jure* situation resulting from those national differences in some cases leads to distortions of competition among creditors in the Community and creates obstacles to the internal market where Member States have adopted different mandatory provisions more stringent than those provided for in Directive 87/102/EEC. It restricts consumers' ability to make direct use of the gradually increasing availability of cross-border credit. Those distortions and restrictions may in turn have consequences in terms of the demand for goods and services.

(5) In recent years the types of credit offered to and used by consumers have evolved considerably. New credit instruments have appeared, and their use continues to develop. It is therefore necessary to amend existing provisions and to extend their scope, where appropriate.

(6) In accordance with the Treaty, the internal market comprises an area without internal frontiers in which the free movement of goods and services and freedom of establishment are ensured. The development of a more transparent and efficient credit market within the area without internal frontiers is vital in order to promote the development of cross-border activities.

(7) In order to facilitate the emergence of a well-functioning internal market in consumer credit, it is necessary to make provision for a harmonised Community framework in a number of core areas. In view of the continuously developing market in consumer credit and the increasing mobility of European citizens, forward-looking Community legislation which is able to adapt to future forms of credit and which allows Member States the appropriate degree of flexibility in their implementation should help to establish a modern body of law on consumer credit.

[1] OJ C 234, 30.9.2003, p. 1.

[2] Opinion of the European Parliament of 20 April 2004 (OJ C 104 E, 30.4.2004, p. 233), Council common position of 20 September 2007 (OJ C 270 E, 13.11.2007, p. 1) and Position of the European Parliament of 16 January 2008 (not yet published in the Official Journal). Council Decision of 7 April 2008.

[3] OJ L 42, 12.2.1987, p. 48. Directive as last amended by Directive 98/7/EC of the European Parliament and of the Council (OJ L 101, 1.4.1998, p. 17).

(8) It is important that the market should offer a sufficient degree of consumer protection to ensure consumer confidence. Thus, it should be possible for the free movement of credit offers to take place under optimum conditions for both those who offer credit and those who require it, with due regard to specific situations in the individual Member States.

(9) Full harmonisation is necessary in order to ensure that all consumers in the Community enjoy a high and equivalent level of protection of their interests and to create a genuine internal market. Member States should therefore not be allowed to maintain or introduce national provisions other than those laid down in this Directive. However, such restriction should only apply where there are provisions harmonised in this Directive. Where no such harmonised provisions exist, Member States should remain free to maintain or introduce national legislation. Accordingly, Member States may, for instance, maintain or introduce national provisions on joint and several liability of the seller or the service provider and the creditor. Another example of this possibility for Member States could be the maintenance or introduction of national provisions on the cancellation of a contract for the sale of goods or supply of services if the consumer exercises his right of withdrawal from the credit agreement. In this respect Member States, in the case of open-end credit agreements, should be allowed to fix a minimum period needing to elapse between the time when the creditor asks for reimbursement and the day on which the credit has to be reimbursed.

(10) The definitions contained in this Directive determine the scope of harmonisation. The obligation on Member States to implement the provisions of this Directive should therefore be limited to its scope as determined by those definitions. However, this Directive should be without prejudice to the application by Member States, in accordance with Community law, of the provisions of this Directive to areas not covered by its scope. A Member State could thereby maintain or introduce national legislation corresponding to the provisions of this Directive or certain of its provisions on credit agreements outside the scope of this Directive, for instance on credit agreements involving amounts less than EUR 200 or more than EUR 75 000. Furthermore, Member States could also apply the provi sions of this Directive to linked credit which does not fall within the definition of a linked credit agreement as contained in this Directive. Thus, the provisions on linked credit agreements could be applied to credit agreements that serve only partially to finance a contract for the supply of goods or provision of a service.

(11) In the case of specific credit agreements to which only some provisions of this Directive are applicable, Member States should not be allowed to adopt national legislation implementing other provisions of this Directive. However, Member States should remain free to regulate, in their national legislation, such types of credit agreements as regards other aspects not harmonised by this Directive.

(12) Agreements for the provision on a continuing basis of services or for the supply of goods of the same kind, where the consumer pays for them for the duration of their provision by means of instalments, may differ considerably, in terms of the interests of the contractual parties involved, and the modalities and performance of the transactions, from credit agreements covered by this Directive. Therefore, it should be clarified that such agreements are not regarded as credit agreements for the purposes of this Directive. Such types of agreement include, for example, an insurance contract where the insurance is paid for in monthly instalments.

(13) This Directive should not apply to certain types of credit agreement, such as deferred debit cards, under the terms of which the credit has to be repaid within three months and only insignificant charges are payable.

(14) Credit agreements covering the granting of credit secured by real estate should be excluded from the scope of this Directive. That type of credit is of a very specific nature. Also, credit agreements the purpose of which is to finance the acquisition or retention of property rights in land or in an existing or projected building should be excluded from the scope of this Directive. However, credit agreements should not be excluded from the scope of this Directive only because their purpose is the renovation or increase of value of an existing building.

(15) The provisions of this Directive apply irrespective of whether the creditor is a legal person or a natural person. However, this Directive does not affect the right of Member States to limit, in conformity with Community law, the provision of credit for consumers to legal persons only or to certain legal persons.

(16) Certain provisions of this Directive should apply to natural and legal persons (credit intermediaries) who, in the course of their trade, business or profession, for a fee, present or offer credit agreements to consumers, assist consumers by undertaking preparatory work in respect of credit agree ments or conclude credit agreements with consumers on behalf of the creditor. Organisations which allow their identity to be used in promoting credit products, such as credit cards, and which may also recommend those products to their members should not be regarded as credit intermediaries for the purposes of this Directive.

(17) This Directive regulates only certain obligations of credit intermediaries in relation to consumers. Member States should therefore remain free to maintain or introduce

additional obligations incumbent on credit intermediaries, including the conditions under which a credit intermediary may receive fees from a consumer who has requested his service.

(18) Consumers should be protected against unfair or misleading practices, in particular with respect to the disclosure of information by the creditor, in line with Directive 2005/29/EC of the European Parliament and of the Council of 11 May 2005 concerning unfair business-to-consumer commercial practices in the internal market ('Unfair Commercial Practices Directive') [1]. However, this Directive should contain specific provisions on advertising concerning credit agreements as well as certain items of standard information to be provided to consumers in order to enable them, in particular, to compare different offers. Such information should be given in a clear, concise and prominent way by means of a representative example. A ceiling should be provided where it is not possible to indicate the total amount of credit as the total sums made available, in particular where a credit agreement gives the consumer freedom of drawdown with a limitation with regard to the amount. The ceiling should indicate the upper limit of credit which can be made available to the consumer. In addition, Member States should remain free to regulate information requirements in their national law regarding advertising which does not contain information on the cost of the credit.

(19) In order to enable consumers to make their decisions in full knowledge of the facts, they should receive adequate information, which the consumer may take away and consider, prior to the conclusion of the credit agreement, on the conditions and cost of the credit and on their obligations. To ensure the fullest possible transparency and comparability of offers, such information should, in particular, include the annual percentage rate of charge applicable to the credit, determined in the same way throughout the Community. As the annual percentage rate of charge can at this stage be indicated only through an example, such example should be representative. Therefore, it should correspond, for instance, to the average duration and total amount of credit granted for the type of credit agreement under consideration and, if applicable, to the goods purchased. When determining the representative example, the frequency of certain types of credit agreement in a specific market should also be taken into account. As regards the borrowing rate, the frequency of instalments and the capitalisation of interest, creditors should use their conventional method of calculation for the consumer credit concerned.

(20) The total cost of the credit to the consumer should comprise all the costs, including interest, commissions, taxes, fees for credit intermediaries and any other fees which the consumer has to pay in connection with the credit agreement, except for notarial costs. Creditors' actual knowledge of the costs should be assessed objectively, taking into account the requirements of professional diligence.

(21) Credit agreements in which a borrowing rate is periodically revised in line with changes occurring in a reference rate referred to in the credit agreement should not be regarded as credit agreements with a fixed borrowing rate.

(22) Member States should remain free to maintain or introduce national provisions prohibiting the creditor from requiring the consumer, in connection with the credit agreement, to open a bank account or conclude an agreement in respect of another ancillary service, or to pay the expenses or fees for such bank accounts or other ancillary services. In those Member States where such combined offers are allowed, consumers should be informed before the conclusion of the credit agreement about any ancillary services which are compulsory in order for the credit to be obtained in the first place or on the terms and conditions marketed. The costs payable in respect of those ancillary services should be included in the total cost of the credit; alternatively, if the amount of such costs cannot be determined in advance, consumers should receive adequate information about the existence of costs at a pre-contractual stage. The creditor must be presumed to have knowledge of the costs of the ancillary services which he offers to the consumer himself, or on behalf of a third party, unless the price thereof depends on the specific characteristics or situation of the consumer.

(23) For specific types of credit agreements, however, it is appropriate, in order to ensure an adequate level of consumer protection without placing an excessive burden on creditors or, where applicable, credit intermediaries, to restrict the pre-contractual information requirements of this Directive, taking into account the specific character of such types of agreements.

(24) The consumer needs to be given comprehensive information before he concludes the credit agreement, regardless of whether or not a credit intermediary is involved in the marketing of the credit. Therefore, in general, the pre-contractual information requirements should also apply to credit intermediaries. However, where suppliers of goods and services act as credit intermediaries in an ancillary capacity, it is not appropriate to burden them with the legal obligation to provide the pre-contractual information in accordance with this Directive. Suppliers of goods and services may be deemed, for example, to be acting as credit intermediaries in an ancillary capacity if their activity as credit intermediaries is not the main purpose of their trade, business or profession. In those cases, a sufficient level of consumer protection is still achieved since the creditor is responsible for ensuring that the consumer receives the full pre-contractual information, either from the intermediary, if the creditor and the intermediary so agree, or in some other appropriate manner.

(25) The potentially binding character of the information to be provided to the consumer prior to the conclusion of the credit agreement and the period of time during which the creditor is to be bound by it may be regulated by the Member States.

(26) Member States should take appropriate measures to promote responsible practices during all phases of the

[1] OJ L 149, 11.6.2005, p. 22.

credit relationship, taking into account the specific features of their credit market. Those measures may include, for instance, the provision of information to, and the education of, consumers, including warnings about the risks attaching to default on payment and to over-indebtedness. In the expanding credit market, in particular, it is important that creditors should not engage in irresponsible lending or give out credit without prior assessment of creditworthiness, and the Member States should carry out the necessary supervision to avoid such behaviour and should determine the necessary means to sanction creditors in the event of their doing so. Without prejudice to the credit risk provisions of Directive 2006/48/EC of the European Parliament and of the Council of 14 June 2006 relating to the taking up and pursuit of the business of credit institutions ([1]), creditors should bear the responsibility of checking individually the creditworthiness of the consumer. To that end, they should be allowed to use information provided by the consumer not only during the preparation of the credit agreement in question, but also during a long-standing commercial relationship. The Member States' authorities could also give appropriate instructions and guidelines to creditors. Consumers should also act with prudence and respect their contractual obligations.

(27) Despite the pre-contractual information to be provided, the consumer may still need additional assistance in order to decide which credit agreement, within the range of products proposed, is the most appropriate for his needs and financial situation. Therefore, Member States should ensure that creditors provide such assistance in relation to the credit products which they offer to the consumer. Where appropriate, the relevant pre-contractual information, as well as the essential characteristics of the products proposed, should be explained to the consumer in a personalised manner so that the consumer can understand the effects which they may have on his economic situation. Where applicable, this duty to assist the consumer should also apply to credit intermediaries. Member States could determine when and to what extent such explanations are to be given to the consumer, taking into account the particular circumstances in which the credit is offered, the consumer's need for assistance and the nature of individual credit products.

(28) To assess the credit status of a consumer, the creditor should also consult relevant databases; the legal and actual circumstances may require that such consultations vary in scope. To prevent any distortion of competition among creditors, it should be ensured that creditors have access to private or public databases concerning consumers in a Member State where they are not established under non discriminatory conditions compared with creditors in that Member State.

(29) Where a decision to reject an application for credit is based on the consultation of a database, the creditor should inform the consumer of this fact and of the particulars of the database consulted. However, the creditor should not be obliged to give such information when this is prohibited by other Community legislation, for example legislation on money laundering or the financing of terrorism. Furthermore, such information should not be given if this would be contrary to objectives of public policy or public security, such as the prevention, investigation, detection or prosecution of criminal offences.

(30) This Directive does not regulate contract law issues related to the validity of credit agreements. Therefore, in that area, the Member States may maintain or introduce national provisions which are in conformity with Community law. Member States may regulate the legal regime governing the offer to conclude the credit agreement, in particular when it is to be given and the period during which it is to be binding on the creditor. If such an offer is made at the same time as the pre-contractual information provided for by this Directive is given, it should, like any additional information the creditor may wish to give to the consumer, be provided in a separate document which may be annexed to the Standard European Consumer Credit Information.

(31) In order to enable the consumer to know his rights and obligations under the credit agreement, it should contain all necessary information in a clear and concise manner.

(32) In order to ensure full transparency, the consumer should be provided with information concerning the borrowing rate, both at a pre-contractual stage and when the credit agreement is concluded. During the contractual relationship, the consumer should further be informed of changes to the variable borrowing rate and changes to the payments caused thereby. This is without prejudice to provisions of national law not related to consumer information which lay down conditions for, or prescribe the consequences of, changes, other than changes concerning payments, in borrowing rates and other economic conditions governing the credit, for instance rules providing that the creditor may change the borrowing rate only where there is a valid reason for such change or that the consumer may terminate the contract should there be a change in the borrowing rate or in some other economic condition concerning the credit.

(33) The contracting parties should have the right to effect a standard termination of an open-end credit agreement. In addition, if agreed in the credit agreement, the creditor should have the right to suspend the consumer's right to draw down on an open-end credit agreement for objectively justified reasons. Such reasons may include, for instance, suspicion of an unauthorised or fraudulent use of the credit or a significantly increased risk of the consumer being unable to fulfil his obligation to repay the credit. This Directive does not affect national law in the area of contract law regulating the rights of the contracting parties to terminate the credit agreement on the basis of a breach of contract.

([1]) OJ L 177, 30.6.2006, p. 1. Directive as last amended by Directive 2008/24/EC (OJ L 81, 20.3.2008, p. 38).

(34) In order to approximate the procedures for exercising the right of withdrawal in similar areas, it is necessary to make provision for a right of withdrawal without penalty and with no obligation to provide justification, under conditions similar to those provided for by Directive 2002/65/EC of the European Parliament and of the Council of 23 September 2002 concerning the distance marketing of consumer financial services ([1]).

(35) Where a consumer withdraws from a credit agreement in connection with which he has received goods, in particular from a purchase in instalments or from a hiring or leasing agreement providing for an obligation to purchase, this Directive should be without prejudice to any regulation by Member States of questions concerning the return of the goods or any related questions.

(36) In some cases, national legislation already provides that funds cannot be made available to the consumer before the expiry of a specific deadline. In these cases, consumers may wish to ensure that they receive the goods or services purchased early. Therefore, in the case of linked credit agreements, Member States may exceptionally provide that, if the consumer explicitly wishes early receipt, the deadline for the exercise of the right of withdrawal could be reduced to the same deadline before which funds cannot be made available.

(37) In the case of linked credit agreements, a relationship of interdependence exists between the purchase of goods or services and the credit agreement concluded for that purpose. Therefore, where the consumer exercises his right of withdrawal in respect of the purchase agreement, based on Community law, he should no longer be bound by the linked credit agreement. This should not affect national law applicable to linked credit agreements in cases where a purchase agreement has been voided or where the consumer has exercised his right of withdrawal based on national law. Nor should this affect the rights of consumers granted by national provisions according to which no commitment may be entered into between the consumer and a supplier of goods or services, nor any payment made between those persons, as long as the consumer has not signed the credit agreement to finance the purchase of the goods or services.

(38) Under certain conditions, the consumer should be allowed to pursue remedies against the creditor in the event of problems related to the purchase agreement. However, Member States should determine to what extent and under what conditions the consumer is required to pursue his remedies against the supplier, in particular by bringing an action against the latter, before being in a position to pursue them against the creditor. This Directive should not deprive consumers of their rights under national provisions attaching joint and several liability to the seller or supplier of services and to the creditor.

(39) The consumer should have the right to discharge his obligations before the date agreed in the credit agreement. In the case of early repayment, either in part or in full, the creditor should be entitled to compensation for the costs directly linked to the early repayment, taking into account also any savings thereby made by the creditor. However, in order to determine the method of calculating the compensation, it is important to respect several principles. The calculation of the compensation due to the creditor should be transparent and comprehensible to consumers already at the pre-contractual stage and in any case during the performance of the credit agreement. In addition, the calculation method should be easy for creditors to apply, and supervisory control of the compensation by the responsible authorities should be facilitated. Therefore, and due to the fact that consumer credit is, given its duration and volume, not financed by long-term funding mechanisms, the ceiling for the compensation should be fixed in terms of a flat-rate amount. This approach reflects the special nature of credits for consumers and should not prejudice the possibly different approach in respect of other products which are financed by long-term funding mechanisms, such as fixed-rate mortgage loans.

(40) Member States should have the right to provide that compensation for early repayment may be claimed by the creditor only on condition that the amount repaid over a 12-month period exceeds a threshold defined by Member States. When fixing that threshold, which should not exceed EUR 10 000, Member States should for instance take into account the average amount of consumer credits in their market.

(41) Assignment of the creditor's rights under a credit agreement should not have the effect of placing the consumer in a less favourable position. The consumer should also be properly informed when the credit agreement is assigned to a third party. However, where the initial creditor, in agreement with the assignee, continues to service the credit vis-à-vis the consumer, the consumer has no significant interest in being informed of the assignment. Therefore, a requirement at EU level that the consumer be informed of the assignment in such cases would be excessive.

(42) Member States should remain free to maintain or introduce national rules providing for collective forms of communication when this is necessary for purposes relating to the effectiveness of complex transactions such as securitisations or liquidation of assets that take place in the compulsory administrative liquidation of banks.

(43) In order to promote the establishment and functioning of the internal market and to ensure a high degree of protection for consumers throughout the Community, it is necessary to ensure the comparability of information relating to annual percentage rates of charge throughout the Community. Despite the uniform mathematical formula for its calculation, the annual percentage rate of charge provided for in Directive 87/102/EEC is not yet fully

([1]) OJ L 271, 9.10.2002, p. 16. Directive as last amended by Directive 2007/64/EC (OJ L 319, 5.12.2007, p. 1).

comparable throughout the Community. In individual Member States different cost factors are taken into account in the calculation thereof. This Directive should therefore clearly and comprehensively define the total cost of a credit to the consumer.

(44) In order to ensure market transparency and stability, and pending further harmonisation, Member States should ensure that appropriate measures for the regulation or supervision of creditors are in place.

(45) This Directive respects fundamental rights and observes the principles recognised in particular by the Charter of Fundamental Rights of the European Union. In particular, this Directive seeks to ensure full respect for the rules on protection of personal data, the right to property, non discrimination, protection of family and professional life, and consumer protection pursuant to the Charter of Fundamental Rights of the European Union.

(46) Since the objective of this Directive, namely the establish ment of common rules for certain aspects of the laws, regulations and administrative provisions of the Member States concerning consumer credit, cannot be sufficiently achieved by the Member States and can therefore be better achieved at Community level, the Community may adopt measures, in accordance with the principle of subsidiarity as set out in Article 5 of the Treaty. In accordance with the principle of proportionality, as set out in that Article, this Directive does not go beyond what is necessary in order to achieve that objective.

(47) Member States should lay down rules on penalties applicable to infringements of the national provisions adopted pursuant to this Directive and ensure that they are implemented. While the choice of penalties remains within the discretion of the Member States, the penalties provided for should be effective, proportionate and dissuasive.

(48) The measures necessary for the implementation of this Directive should be adopted in accordance with Council Decision 1999/468/EC of 28 June 1999 laying down the procedures for the exercise of implementing powers conferred on the Commission [1].

(49) In particular, the Commission should be empowered to adopt additional assumptions for the calculation of the annual percentage rate of charge. Since those measures are of general scope and are designed to amend non-essential elements of this Directive, they must be adopted in accordance with the regulatory procedure with scrutiny provided for in Article 5a of Decision 1999/468/EC.

(50) In accordance with point 34 of the Interinstitutional Agreement on better law-making [2], Member States are encouraged to draw up, for themselves and in the interests of the Community, their own tables illustrating, as far as possible, the correlation between this Directive and the transposition measures, and to make them public.

(51) Accordingly, taking account of the number of amendments that need to be made to Directive 87/102/EEC due to the evolution of the consumer credit sector and in the interests of the clarity of Community legislation, that Directive should be repealed and replaced by this Directive,

HAVE ADOPTED THIS DIRECTIVE:

CHAPTER I

SUBJECT MATTER, SCOPE AND DEFINITIONS

Article 1

Subject matter

The purpose of this Directive is to harmonise certain aspects of the laws, regulations and administrative provisions of the Member States concerning agreements covering credit for consumers.

Article 2

Scope

1. This Directive shall apply to credit agreements.

2. This Directive shall not apply to the following:

(a) credit agreements which are secured either by a mortgage or by another comparable security commonly used in a Member State on immovable property or secured by a right related to immovable property;

(b) credit agreements the purpose of which is to acquire or retain property rights in land or in an existing or projected building;

(c) credit agreements involving a total amount of credit less than EUR 200 or more than EUR 75 000;

(d) hiring or leasing agreements where an obligation to purchase the object of the agreement is not laid down either by the agreement itself or by any separate agreement; such an obligation shall be deemed to exist if it is so decided unilaterally by the creditor;

(e) credit agreements in the form of an overdraft facility and where the credit has to be repaid within one month;

(f) credit agreements where the credit is granted free of interest and without any other charges and credit agreements under the terms of which the credit has to be repaid within three months and only insignificant charges are payable;

(g) credit agreements where the credit is granted by an employer to his employees as a secondary activity free of interest or at annual percentage rates of charge lower than those prevailing on the market and which are not offered to the public generally;

[1] OJ L 184, 17.7.1999, p. 23. Decision as amended by Decision 2006/512/EC (OJ L 200, 22.7.2006, p. 11).
[2] OJ C 321, 31.12.2003, p. 1.

(h) credit agreements which are concluded with investment firms as defined in Article 4(1) of Directive 2004/39/EC of the European Parliament and of the Council of 21 April 2004 on markets in financial instruments [1] or with credit institutions as defined in Article 4 of Directive 2006/48/EC for the purposes of allowing an investor to carry out a transaction relating to one or more of the instruments listed in Section C of Annex I to Directive 2004/39/EC, where the investment firm or credit institution granting the credit is involved in such transaction;

(i) credit agreements which are the outcome of a settlement reached in court or before another statutory authority;

(j) credit agreements which relate to the deferred payment, free of charge, of an existing debt;

(k) credit agreements upon the conclusion of which the consumer is requested to deposit an item as security in the creditor's safe-keeping and where the liability of the consumer is strictly limited to that pledged item;

(l) credit agreements which relate to loans granted to a restricted public under a statutory provision with a general interest purpose, and at lower interest rates than those prevailing on the market or free of interest or on other terms which are more favourable to the consumer than those prevailing on the market and at interest rates not higher than those prevailing on the market.

3. In the case of credit agreements in the form of an overdraft facility and where the credit has to be repaid on demand or within three months, only Articles 1 to 3, Article 4(1), Article 4(2)(a) to (c), Article 4(4), Articles 6 to 9, Article 10(1), Article 10(4), Article 10(5), Articles 12, 15, 17 and Articles 19 to 32 shall apply.

4. In the case of credit agreements in the form of overrunning, only Articles 1 to 3, 18, 20 and 22 to 32 shall apply.

5. Member States may determine that only Articles 1 to 4, 6, 7 and 9, Article 10(1), points (a) to (h) and (l) of Article 10(2), Article 10(4) and Articles 11, 13 and 16 to 32 shall apply to credit agreements which are concluded by an organisation which:

(a) is established for the mutual benefit of its members;

(b) does not make profits for any other person than its members;

(c) fulfils a social purpose required by domestic legislation;

(d) receives and manages the savings of, and provides sources of credit to, its members only; and

(e) provides credit on the basis of an annual percentage rate of charge which is lower than that prevailing on the market or subject to a ceiling laid down by national law,

and whose membership is restricted to persons residing or employed in a particular location or employees and retired employees of a particular employer, or to persons meeting other qualifications laid down under national law as the basis for the existence of a common bond between the members.

Member States may exempt from the application of this Directive credit agreements concluded by such an organisation where the total value of all existing credit agreements entered into by the organisation is insignificant in relation to the total value of all existing credit agreements in the Member State in which the organisation is based and the total value of all existing credit agreements entered into by all such organisations in the Member State is less than 1 % of the total value of all existing credit agreements entered into in that Member State.

Member States shall each year review whether the conditions for the application of any such exemption continue to exist and shall take action to withdraw the exemption where they consider that the conditions are no longer met.

6. Member States may determine that only Articles 1 to 4, 6, 7, 9, Article 10(1), points (a) to (i), (l) and (r) of Article 10(2), Article 10(4), Articles 11, 13, 16 and Articles 18 to 32 shall apply to credit agreements which provide for arrangements to be agreed by the creditor and the consumer in respect of deferred payment or repayment methods, where the consumer is already in default on the initial credit agreement and where:

(a) such arrangements would be likely to avert the possibility of legal proceedings concerning such default; and

(b) the consumer would not thereby be subject to terms less favourable than those laid down in the initial credit agreement.

However, if the credit agreement falls within the scope of paragraph 3, only the provisions of that paragraph shall apply.

Article 3

Definitions

For the purposes of this Directive, the following definitions shall apply:

(a) 'consumer' means a natural person who, in transactions covered by this Directive, is acting for purposes which are outside his trade, business or profession;

(b) 'creditor' means a natural or legal person who grants or promises to grant credit in the course of his trade, business or profession;

[1] OJ L 145, 30.4.2004, p. 1. Directive as last amended by Directive 2008/10/EC (OJ L 76, 19.3.2008, p. 33).

(c) 'credit agreement' means an agreement whereby a creditor grants or promises to grant to a consumer credit in the form of a deferred payment, loan or other similar financial accommodation, except for agreements for the provision on a continuing basis of services or for the supply of goods of the same kind, where the consumer pays for such services or goods for the duration of their provision by means of instalments;

(d) 'overdraft facility' means an explicit credit agreement whereby a creditor makes available to a consumer funds which exceed the current balance in the consumer's current account;

(e) 'overrunning' means a tacitly accepted overdraft whereby a creditor makes available to a consumer funds which exceed the current balance in the consumer's current account or the agreed overdraft facility;

(f) 'credit intermediary' means a natural or legal person who is not acting as a creditor and who, in the course of his trade, business or profession, for a fee, which may take a pecuniary form or any other agreed form of financial consideration:

(i) presents or offers credit agreements to consumers;

(ii) assists consumers by undertaking preparatory work in respect of credit agreements other than as referred to in (i); or

(iii) concludes credit agreements with consumers on behalf of the creditor;

(g) 'total cost of the credit to the consumer' means all the costs, including interest, commissions, taxes and any other kind of fees which the consumer is required to pay in connection with the credit agreement and which are known to the creditor, except for notarial costs; costs in respect of ancillary services relating to the credit agreement, in particular insurance premiums, are also included if, in addition, the conclusion of a service contract is compulsory in order to obtain the credit or to obtain it on the terms and conditions marketed;

(h) 'total amount payable by the consumer' means the sum of the total amount of the credit and the total cost of the credit to the consumer;

(i) 'annual percentage rate of charge' means the total cost of the credit to the consumer, expressed as an annual percentage of the total amount of credit, where applicable including the costs referred to in Article 19(2);

(j) 'borrowing rate' means the interest rate expressed as a fixed or variable percentage applied on an annual basis to the amount of credit drawn down;

(k) 'fixed borrowing rate' means that the creditor and the consumer agree in the credit agreement on one borrowing rate for the entire duration of the credit agreement or on several borrowing rates for partial periods using exclusively a fixed specific percentage. If not all borrowing rates are determined in the credit agreement, the borrowing rate shall be deemed to be fixed only for the partial periods for which the borrowing rates are determined exclusively by a fixed specific percentage agreed on the conclusion of the credit agreement;

(l) 'total amount of credit' means the ceiling or the total sums made available under a credit agreement;

(m) 'durable medium' means any instrument which enables the consumer to store information addressed personally to him in a way accessible for future reference for a period of time adequate for the purposes of the information and which allows the unchanged reproduction of the information stored;

(n) 'linked credit agreement' means a credit agreement where

(i) the credit in question serves exclusively to finance an agreement for the supply of specific goods or the provision of a specific service, and

(ii) those two agreements form, from an objective point of view, a commercial unit; a commercial unit shall be deemed to exist where the supplier or service provider himself finances the credit for the consumer or, if it is financed by a third party, where the creditor uses the services of the supplier or service provider in connection with the conclusion or preparation of the credit agreement, or where the specific goods or the provision of a specific service are explicitly specified in the credit agreement.

CHAPTER II

INFORMATION AND PRACTICES PRELIMINARY TO THE CONCLUSION OF THE CREDIT AGREEMENT

Article 4

Standard information to be included in advertising

1. Any advertising concerning credit agreements which indicates an interest rate or any figures relating to the cost of the credit to the consumer shall include standard information in accordance with this Article.

This obligation shall not apply where national legislation requires the indication of the annual percentage rate of charge in advertising concerning credit agreements which does not indicate an interest rate or any figures relating to any cost of credit to the consumer within the meaning of the first subparagraph.

2. The standard information shall specify in a clear, concise and prominent way by means of a representative example:

(a) the borrowing rate, fixed or variable or both, together with particulars of any charges included in the total cost of the credit to the consumer;

(b) the total amount of credit;

(c) the annual percentage rate of charge; in the case of a credit agreement of the kind referred to in Article 2(3), Member States may decide that the annual percentage rate of charge need not be provided;

(d) if applicable, the duration of the credit agreement;

(e) in the case of a credit in the form of deferred payment for a specific good or service, the cash price and the amount of any advance payment; and

(f) if applicable, the total amount payable by the consumer and the amount of the instalments.

3. Where the conclusion of a contract regarding an ancillary service relating to the credit agreement, in particular insurance, is compulsory in order to obtain the credit or to obtain it on the terms and conditions marketed, and the cost of that service cannot be determined in advance, the obligation to enter into that contract shall also be stated in a clear, concise and prominent way, together with the annual percentage rate of charge.

4. This Article shall be without prejudice to Directive 2005/29/EC.

Article 5

Pre-contractual information

1. In good time before the consumer is bound by any credit agreement or offer, the creditor and, where applicable, the credit intermediary shall, on the basis of the credit terms and conditions offered by the creditor and, if applicable, the preferences expressed and information supplied by the consumer, provide the consumer with the information needed to compare different offers in order to take an informed decision on whether to conclude a credit agreement. Such information, on paper or on another durable medium, shall be provided by means of the Standard European Consumer Credit Information form set out in Annex II. The creditor shall be deemed to have fulfilled the information requirements in this paragraph and in Article 3, paragraphs (1) and (2) of Directive 2002/65/EC if he has supplied the Standard European Consumer Credit Information.

The information in question shall specify:

(a) the type of credit;

(b) the identity and the geographical address of the creditor as well as, if applicable, the identity and geographical address of the credit intermediary involved;

(c) the total amount of credit and the conditions governing the drawdown;

(d) the duration of the credit agreement;

(e) in the case of a credit in the form of deferred payment for a specific good or service and linked credit agreements, that good or service and its cash price;

(f) the borrowing rate, the conditions governing the application of the borrowing rate and, where available, any index or reference rate applicable to the initial borrowing rate, as well as the periods, conditions and procedure for changing the borrowing rate; if different borrowing rates apply in different circumstances, the abovementioned information on all the applicable rates;

(g) the annual percentage rate of charge and the total amount payable by the consumer, illustrated by means of a representative example mentioning all the assumptions used in order to calculate that rate; where the consumer has informed the creditor of one or more components of his preferred credit, such as the duration of the credit agreement and the total amount of credit, the creditor shall take those components into account; if a credit agreement provides different ways of drawdown with different charges or borrowing rates and the creditor uses the assumption set out in point (b) of Part II of Annex I, he shall indicate that other drawdown mechanisms for this type of credit agreement may result in higher annual percentage rates of charge;

(h) the amount, number and frequency of payments to be made by the consumer and, where appropriate, the order in which payments will be allocated to different outstanding balances charged at different borrowing rates for the purposes of reimbursement;

(i) where applicable, the charges for maintaining one or several accounts recording both payment transactions and drawdowns, unless the opening of an account is optional, together with the charges for using a means of payment for both payment transactions and drawdowns, any other charges deriving from the credit agreement and the conditions under which those charges may be changed;

(j) where applicable, the existence of costs payable by the consumer to a notary on conclusion of the credit agreement;

(k) the obligation, if any, to enter into an ancillary service contract relating to the credit agreement, in particular an insurance policy, where the conclusion of such a contract is compulsory in order to obtain the credit or to obtain it on the terms and conditions marketed;

(l) the interest rate applicable in the case of late payments and the arrangements for its adjustment, and, where applicable, any charges payable for default;

(m) a warning regarding the consequences of missing payments;

(n) where applicable, the sureties required;

(o) the existence or absence of a right of withdrawal;

(p) the right of early repayment, and, where applicable, information concerning the creditor's right to compensation and the way in which that compensation will be determined in accordance with Article 16;

(q) the consumer's right to be informed immediately and free of charge, pursuant to Article 9(2), of the result of a database consultation carried out for the purposes of assessing his creditworthiness;

(r) the consumer's right to be supplied, on request and free of charge, with a copy of the draft credit agreement. This provision shall not apply if the creditor is at the time of the request unwilling to proceed to the conclusion of the credit agreement with the consumer; and

(s) if applicable, the period of time during which the creditor is bound by the pre-contractual information.

Any additional information which the creditor may provide to the consumer shall be given in a separate document which may be annexed to the Standard European Consumer Credit Information form.

2. However, in the case of voice telephony communications, as referred to in Article 3(3) of Directive 2002/65/EC, the description of the main characteristics of the financial service to be provided pursuant to the second indent of Article 3(3)(b) of that Directive shall include at least the items referred to in points (c), (d), (e), (f) and (h) of paragraph (1) of this Article, together with the annual percentage rate of charge illustrated by means of a representative example and the total amount payable by the consumer.

3. If the agreement has been concluded at the consumer's request using a means of distance communication which does not enable the information to be provided in accordance with paragraph 1, in particular in the case referred to in paragraph 2, the creditor shall provide the consumer with the full pre-contractual information using the Standard European Consumer Credit Information form immediately after the conclusion of the credit agreement.

4. Upon request, the consumer shall, in addition to receiving the Standard European Consumer Credit Information, be supplied free of charge with a copy of the draft credit agreement. This provision shall not apply if the creditor is at the time of the request unwilling to proceed to the conclusion of the credit agreement with the consumer.

5. In the case of a credit agreement under which payments made by the consumer do not give rise to an immediate corresponding amortisation of the total amount of credit, but are used to constitute capital during periods and under conditions laid down in the credit agreement or in an ancillary agreement, the pre-contractual information required under paragraph 1 shall include a clear and concise statement that such credit agreements do not provide for a guarantee of repayment of the total amount of credit drawn down under the credit agreement, unless such a guarantee is given.

6. Member States shall ensure that creditors and, where applicable, credit intermediaries provide adequate explanations to the consumer, in order to place the consumer in a position enabling him to assess whether the proposed credit agreement is adapted to his needs and to his financial situation, where appropriate by explaining the pre-contractual information to be provided in accordance with paragraph 1, the essential characteristics of the products proposed and the specific effects they may have on the consumer, including the consequences of default in payment by the consumer. Member States may adapt the manner by which and the extent to which such assistance is given, as well as by whom it is given, to the particular circumstances of the situation in which the credit agreement is offered, the person to whom it is offered and the type of credit offered.

Article 6

Pre-contractual information requirements for certain credit agreements in the form of an overdraft facility and for certain specific credit agreements

1. In good time before the consumer becomes bound by any credit agreement or offer concerning a credit agreement as referred to in Article 2(3), (5) or (6), the creditor and, where applicable, the credit intermediary shall, on the basis of the credit terms and conditions offered by the creditor and, if applicable, the preferences expressed and information supplied by the consumer, provide the consumer with the information needed to compare different offers in order to take an informed decision on whether to conclude a credit agreement.

The information in question shall specify:

(a) the type of credit;

(b) the identity and geographical address of the creditor as well as, if applicable, the identity and geographical address of the credit intermediary involved;

(c) the total amount of credit;

(d) the duration of the credit agreement;

(e) the borrowing rate; the conditions governing the application of that rate, any index or reference rate applicable to the initial borrowing rate, the charges applicable from the time the credit agreement is concluded, and, where applicable, the conditions under which those charges may be changed;

(f) the annual percentage rate of charge, illustrated by means of representative examples mentioning all the assumptions used in order to calculate that rate;

(g) the conditions and procedure for terminating the credit agreement;

(h) in the case of credit agreements as referred to in Article 2(3), where applicable, an indication that the consumer may be requested to repay the amount of credit in full at any time;

(i) the interest rate applicable in the case of late payments and the arrangements for its adjustment, and, where applicable, any charges payable for default;

(j) the consumer's right to be informed immediately and free of charge, pursuant to Article 9(2), of the result of a database consultation carried out for the purposes of assessing his creditworthiness;

(k) in the case of credit agreements as referred to in Article 2(3), information about the charges applicable from the time such agreements are concluded and, if applicable, the conditions under which those charges may be changed;

(l) if applicable, the period of time during which the creditor is bound by the pre-contractual information.

Such information shall be provided on paper or on another durable medium and all information shall be equally prominent. It may be provided by means of the European Consumer Credit Information form set out in Annex III. The creditor shall be deemed to have fulfilled the information requirements in this paragraph and in Article 3(1) and (2) of Directive 2002/65/EC if he has supplied the European Consumer Credit Information.

2. In the case of a credit agreement of the kind referred to in Article 2(3), Member States may decide that the annual percentage rate of charge need not be provided.

3. In the case of a credit agreement as referred to in Article 2(5) and (6), the information provided to the consumer in accordance with paragraph 1 of this Article shall also include:

(a) the amount, number and frequency of payments to be made by the consumer and, where appropriate, the order in which payments will be allocated to different outstanding balances charged at different borrowing rates for the purposes of reimbursement; and

(b) the right of early repayment, and, where applicable, information concerning the creditor's right to compensation and the way in which that compensation will be determined.

However, if the credit agreement falls within the scope of Article 2(3), only the provisions of paragraph 1 of this Article shall apply.

4. However, in the case of voice telephony communications and where the consumer requests that the overdraft facility be made available with immediate effect, the description of the main characteristics of the financial service shall include at least the items referred to in points (c), (e), (f) and (h) of paragraph 1. In addition, in credit agreements of the kind referred to in paragraph 3, the description of the main characteristics shall include a specification of the duration of the credit agreement.

5. Notwithstanding the exclusion provided for in Article 2(2)(e), the Member States shall apply at least the requirements of the first sentence of paragraph 4 of this Article to credit agreements in the form of an overdraft facility and where the credit has to be repaid within one month.

6. Upon request, the consumer shall, in addition to receiving the information referred to in paragraphs 1 to 4, be supplied free of charge with a copy of the draft credit agreement containing the contractual information provided for by Article 10 insofar as that Article is applicable. This provision shall not apply if the creditor is at the time of the request unwilling to proceed to the conclusion of the credit agreement with the consumer.

7. If the agreement has been concluded at the consumer's request using a means of distance communication which does not enable the information to be provided in accordance with paragraphs 1 and 3, including in the cases referred to in paragraph 4, the creditor shall immediately after the conclusion of the credit agreement fulfil his obligations under paragraphs 1 and 3 by providing the contractual information pursuant to Article 10 insofar as that Article is applicable.

Article 7

Exemptions from the pre-contractual information requirements

Articles 5 and 6 shall not apply to suppliers of goods or services acting as credit intermediaries in an ancillary capacity. This is without prejudice to the creditor's obligation to ensure that the consumer receives the pre-contractual information referred to in those Articles.

Article 8

Obligation to assess the creditworthiness of the consumer

1. Member States shall ensure that, before the conclusion of the credit agreement, the creditor assesses the consumer's creditworthiness on the basis of sufficient information, where appropriate obtained from the consumer and, where necessary, on the basis of a consultation of the relevant database. Member States whose legislation requires creditors to assess the creditworthiness of consumers on the basis of a consultation of the relevant database may retain this requirement.

2. Member States shall ensure that, if the parties agree to change the total amount of credit after the conclusion of the credit agreement, the creditor updates the financial information at his disposal concerning the consumer and assesses the consumer's creditworthiness before any significant increase in the total amount of credit.

CHAPTER III

DATABASE ACCESS

Article 9

Database access

1. Each Member State shall in the case of cross-border credit ensure access for creditors from other Member States to databases used in that Member State for assessing the creditworthiness of consumers. The conditions for access shall be non-discriminatory.

2. If the credit application is rejected on the basis of consultation of a database, the creditor shall inform the consumer immediately and without charge of the result of such consultation and of the particulars of the database consulted.

3. The information shall be provided unless the provision of such information is prohibited by other Community legislation or is contrary to objectives of public policy or public security.

4. This Article shall be without prejudice to the application of Directive 95/46/EC of the European Parliament and of the Council of 24 October 1995 on the protection of individuals with regard to the processing of personal data and on the free movement of such data (1).

CHAPTER IV

INFORMATION AND RIGHTS CONCERNING CREDIT AGREEMENTS

Article 10

Information to be included in credit agreements

1. Credit agreements shall be drawn up on paper or on another durable medium.

All the contracting parties shall receive a copy of the credit agreement. This Article shall be without prejudice to any national rules regarding the validity of the conclusion of credit agreements which are in conformity with Community law.

2. The credit agreement shall specify in a clear and concise manner:

(a) the type of credit;

(b) the identities and geographical addresses of the contracting parties as well as, if applicable, the identity and geographical address of the credit intermediary involved;

(c) the duration of the credit agreement;

(d) the total amount of credit and the conditions governing the drawdown;

(e) in case of a credit in the form of deferred payment for a specific good or service or in the case of linked credit agreements, that good or service and its cash price;

(f) the borrowing rate, the conditions governing the application of that rate and, where available, any index or reference rate applicable to the initial borrowing rate, as well as the periods, conditions and procedures for changing the borrowing rate and, if different borrowing rates apply in different circumstances, the abovementioned information in respect of all the applicable rates;

(g) the annual percentage rate of charge and the total amount payable by the consumer, calculated at the time the credit agreement is concluded; all the assumptions used in order to calculate that rate shall be mentioned;

(h) the amount, number and frequency of payments to be made by the consumer and, where appropriate, the order in which payments will be allocated to different outstanding balances charged at different borrowing rates for the purposes of reimbursement;

(i) where capital amortisation of a credit agreement with a fixed duration is involved, the right of the consumer to receive, on request and free of charge, at any time throughout the duration of the credit agreement, a statement of account in the form of an amortisation table.

The amortisation table shall indicate the payments owing and the periods and conditions relating to the payment of such amounts; the table shall contain a breakdown of each repayment showing capital amortisation, the interest calculated on the basis of the borrowing rate and, where applicable, any additional costs; where the interest rate is not fixed or the additional costs may be changed under the credit agreement, the amortisation table shall indicate, clearly and concisely, that the data contained in the table will remain valid only until such time as the borrowing rate or the additional costs are changed in accordance with the credit agreement;

(j) if charges and interest are to be paid without capital amortisation, a statement showing the periods and conditions for the payment of the interest and of any associated recurrent and non-recurrent charges;

(k) where applicable, the charges for maintaining one or several accounts recording both payment transactions and drawdowns, unless the opening of an account is optional, together with the charges for using a means of payment for both payment transactions and drawdowns, and any other charges deriving from the credit agreement and the conditions under which those charges may be changed;

(l) the interest rate applicable in the case of late payments as applicable at the time of the conclusion of the credit agreement and the arrangements for its adjustment and, where applicable, any charges payable for default;

(1) OJ L 281, 23.11.1995, p. 31. Directive as amended by Regulation (EC) No 1882/2003 (OJ L 284, 31.10.2003, p. 1).

(m) a warning regarding the consequences of missing payments;

(n) where applicable, a statement, that notarial fees will be payable;

(o) the sureties and insurance required, if any;

(p) the existence or absence of a right of withdrawal, the period during which that right may be exercised and other conditions governing the exercise thereof, including information concerning the obligation of the consumer to pay the capital drawn down and the interest in accordance with Article 14(3)(b) and the amount of interest payable per day;

(q) information concerning the rights resulting from Article 15 as well as the conditions for the exercise of those rights;

(r) the right of early repayment, the procedure for early repayment, as well as, where applicable, information concerning the creditor's right to compensation and the way in which that compensation will be determined;

(s) the procedure to be followed in exercising the right of termination of the credit agreement;

(t) whether or not there is an out-of-court complaint and redress mechanism for the consumer and, if so, the methods for having access to it;

(u) where applicable, other contractual terms and conditions;

(v) where applicable, the name and address of the competent supervisory authority.

3. Where paragraph 2(i) applies, the creditor shall make available to the consumer, free of charge and at any time throughout the duration of the credit agreement, a statement of account in the form of an amortisation table.

4. In the case of a credit agreement under which payments made by the consumer do not give rise to an immediate corresponding amortisation of the total amount of credit, but are used to constitute capital during periods and under conditions laid down in the credit agreement or in an ancillary agreement, the information required under paragraph 2 shall include a clear and concise statement that such credit agreements do not provide for a guarantee of repayment of the total amount of credit drawn down under the credit agreement, unless such a guarantee is given.

5. In the case of credit agreements in the form of overdraft facilities as referred to in Article 2(3), the following shall be specified in a clear and concise manner:

(a) the type of credit;

(b) the identities and geographical addresses of the contracting parties as well as, if applicable, the identity and geographical address of the credit intermediary involved;

(c) the duration of the credit agreement;

(d) the total amount of the credit and the conditions governing the drawdown;

(e) the borrowing rate, the conditions governing the application of the borrowing rate and, where available, any index or reference rate applicable to the initial borrowing rate, as well as the periods, conditions and procedure for changing the borrowing rate and, if different borrowing rates apply in different circumstances, the abovementioned information in respect of all the applicable rates;

(f) the annual percentage rate of charge and the total cost of the credit to the consumer, calculated at the time the credit agreement is concluded; all the assumptions used in order to calculate that rate as referred to in Article 19(2) in conjunction with Article 3(g) and (i) shall be mentioned; Member States may decide that the annual percentage rate of charge need not be provided;

(g) an indication that the consumer may be requested to repay the amount of credit in full on demand at any time;

(h) conditions governing the exercise of the right of withdrawal from the credit agreement; and

(i) information concerning the charges applicable from the time such agreements are concluded and, if applicable, the conditions under which those charges may be changed.

Article 11

Information concerning the borrowing rate

1. Where applicable, the consumer shall be informed of any change in the borrowing rate, on paper or another durable medium, before the change enters into force. The information shall state the amount of the payments to be made after the entry into force of the new borrowing rate and, if the number or frequency of the payments changes, particulars thereof.

2. However, the parties may agree in the credit agreement that the information referred to in paragraph 1 is to be given to the consumer periodically in cases where the change in the borrowing rate is caused by a change in a reference rate, the new reference rate is made publicly available by appropriate means and the information concerning the new reference rate is also kept available in the premises of the creditor.

Article 12

Obligations in connection with credit agreement in the form of an overdraft facility

1. Where a credit agreement covers credit in the form of an overdraft facility, the consumer shall be kept regularly informed

by means of a statement of account, on paper or on another durable medium, containing the following particulars:

(a) the precise period to which the statement of account relates;

(b) the amounts and dates of drawdowns;

(c) the balance from the previous statement, and the date thereof;

(d) the new balance;

(e) the dates and amounts of payments made by the consumer;

(f) the borrowing rate applied;

(g) any charges that have been applied;

(h) where applicable, the minimum amount to be paid.

2. In addition, the consumer shall be informed on paper or another durable medium of increases in the borrowing rate, or in any charges payable, before the change in question enters into force.

However, the parties may agree in the credit agreement that information concerning changes in the borrowing rate is to be given in the manner provided for in paragraph 1 in cases where the change in the borrowing rate is caused by a change in a reference rate, the new reference rate is made publicly available by appropriate means and the information concerning the new reference rate is also kept available in the premises of the creditor.

Article 13

Open-end credit agreements

1. The consumer may effect standard termination of an open-end credit agreement free of charge at any time unless the parties have agreed on a period of notice. Such a period may not exceed one month.

If agreed in the credit agreement, the creditor may effect standard termination of an open-end credit agreement by giving the consumer at least two months' notice drawn up on paper or on another durable medium.

2. If agreed in the credit agreement, the creditor may, for objectively justified reasons, terminate the consumer's right to draw down on an open-end credit agreement. The creditor shall inform the consumer of the termination and the reasons for it on paper or on another durable medium, where possible before the termination and at the latest immediately thereafter, unless the provision of such information is prohibited by other Community legislation or is contrary to objectives of public policy or public security.

Article 14

Right of withdrawal

1. The consumer shall have a period of 14 calendar days in which to withdraw from the credit agreement without giving any reason.

That period of withdrawal shall begin

(a) either from the day of the conclusion of the credit agreement, or

(b) from the day on which the consumer receives the contractual terms and conditions and information in accordance with Article 10, if that day is later than the date referred to in point (a) of this subparagraph.

2. Where in the case of a linked credit agreement, as defined in Article 3(n), national legislation at the time of the entry into force of this Directive already provides that funds cannot be made available to the consumer before the expiry of a specific period, Member States may exceptionally provide that the period referred to in paragraph 1 of this Article may be reduced to this specific period at the explicit request of the consumer.

3. If the consumer exercises his right of withdrawal, he shall:

(a) in order to give effect to the withdrawal before the expiry of the deadline referred to in paragraph 1, notify this to the creditor in line with the information given by the creditor pursuant to Article 10(2)(p) by means which can be proven in accordance with national law. The deadline shall be deemed to have been met if that notification, if it is on paper or on another durable medium that is available and accessible to the creditor, is dispatched before the deadline expires; and

(b) pay to the creditor the capital and the interest accrued thereon from the date the credit was drawn down until the date the capital is repaid, without any undue delay and no later than 30 calendar days after the despatch by him to the creditor of notification of the withdrawal. The interest shall be calculated on the basis of the agreed borrowing rate. The creditor shall not be entitled to any other compensation from the consumer in the event of withdrawal, except compensation for any non-returnable charges paid by the creditor to any public administrative body.

4. If an ancillary service relating to the credit agreement is provided by the creditor or by a third party on the basis of an agreement between the third party and the creditor, the consumer shall no longer be bound by the ancillary service contract if the consumer exercises his right of withdrawal from the credit agreement in accordance with this Article.

5. If the consumer has a right of withdrawal under paragraphs 1, 3 and 4, Articles 6 and 7 of Directive 2002/65/EC and Article 5 of Council Directive 85/577/EEC of 20 December 1985 to protect the consumer in respect of contracts negotiated away from business premises [1] shall not apply.

6. Member States may provide that paragraphs 1 to 4 of this Article shall not apply to credit agreements which by law are required to be concluded through the services of a notary, provided that the notary confirms that the consumer is guaranteed the rights provided for under Articles 5 and 10.

7. This Article shall be without prejudice to any rule of national law establishing a period of time during which the performance of the contract may not begin.

Article 15

Linked credit agreements

1. Where the consumer has exercised a right of withdrawal, based on Community law, concerning a contract for the supply of goods or services, he shall no longer be bound by a linked credit agreement.

2. Where the goods or services covered by a linked credit agreement are not supplied, or are supplied only in part, or are not in conformity with the contract for the supply thereof, the consumer shall have the right to pursue remedies against the creditor if the consumer has pursued his remedies against the supplier but has failed to obtain the satisfaction to which he is entitled according to the law or the contract for the supply of goods or services. Member States shall determine to what extent and under what conditions those remedies shall be exercisable.

3. This Article shall be without prejudice to any national rules rendering the creditor jointly and severally liable in respect of any claim which the consumer may have against the supplier where the purchase of goods or services from the supplier has been financed by a credit agreement.

Article 16

Early repayment

1. The consumer shall be entitled at any time to discharge fully or partially his obligations under a credit agreement. In such cases, he shall be entitled to a reduction in the total cost of the credit, such reduction consisting of the interest and the costs for the remaining duration of the contract.

2. In the event of early repayment of credit the creditor shall be entitled to fair and objectively justified compensation for possible costs directly linked to early repayment of credit provided that the early repayment falls within a period for which the borrowing rate is fixed.

Such compensation may not exceed 1 % of the amount of credit repaid early, if the period of time between the early repayment and the agreed termination of the credit agreement exceeds one year. If the period does not exceed one year, the compensation may not exceed 0,5 % of the amount of credit repaid early.

3. Compensation for early repayment shall not be claimed:

(a) if the repayment has been made under an insurance contract intended to provide a credit repayment guarantee;

(b) in the case of overdraft facilities; or

(c) if the repayment falls within a period for which the borrowing rate is not fixed.

4. Member States may provide that:

(a) such compensation may be claimed by the creditor only on condition that the amount of the early repayment exceeds the threshold defined by national law. That threshold shall not exceed EUR 10 000 within any period of 12 months;

(b) the creditor may exceptionally claim higher compensation if he can prove that the loss he suffered from early repayment exceeds the amount determined under paragraph 2.

If the compensation claimed by the creditor exceeds the loss actually suffered, the consumer may claim a corresponding reduction.

In this case, the loss shall consist of the difference between the initially agreed interest rate and the interest rate at which the creditor can lend out the amount repaid early on the market at the time of early repayment, and shall take into account the impact of early repayment on administrative costs.

5. Any compensation shall not exceed the amount of interest the consumer would have paid during the period between the early repayment and the agreed date of termination of the credit agreement.

Article 17

Assignment of rights

1. In the event of assignment to a third party of the creditor's rights under a credit agreement or the agreement itself, the consumer shall be entitled to plead against the assignee any

[1] OJ L 372, 31.12.1985, p. 31.

defence which was available to him against the original creditor, including set-off where the latter is permitted in the Member State concerned.

2. The consumer shall be informed of the assignment referred to in paragraph 1 except where the original creditor, by agreement with the assignee, continues to service the credit vis-à-vis the consumer.

Article 18

Overrunning

1. In the case of an agreement to open a current account, where there is a possibility that the consumer is allowed an overrun, the agreement shall contain in addition the information referred to in Article 6(1)(e). The creditor shall in any case provide that information on paper or another durable medium on a regular basis.

2. In the event of a significant overrunning exceeding a period of one month, the creditor shall inform the consumer without delay, on paper or on another durable medium,

(a) of the overrunning;

(b) of the amount involved;

(c) of the borrowing rate;

(d) of any penalties, charges or interest on arrears applicable.

3. This Article shall be without prejudice to any rule of national law requiring the creditor to offer another kind of credit product when the duration of the overrunning is significant.

CHAPTER V

ANNUAL PERCENTAGE RATE OF CHARGE

Article 19

Calculation of the annual percentage rate of charge

1. The annual percentage rate of charge, equating, on an annual basis, to the present value of all commitments (drawdowns, repayments and charges), future or existing, agreed by the creditor and the consumer, shall be calculated in accordance with the mathematical formula set out in Part I of Annex I.

2. For the purpose of calculating the annual percentage rate of charge, the total cost of the credit to the consumer shall be determined, with the exception of any charges payable by the consumer for non-compliance with any of his commitments laid down in the credit agreement and charges other than the purchase price which, for purchases of goods or services, he is obliged to pay whether the transaction is effected in cash or on credit.

The costs of maintaining an account recording both payment transactions and drawdowns, the costs of using a means of payment for both payment transactions and drawdowns, and other costs relating to payment transactions shall be included in the total cost of credit to the consumer unless the opening of the account is optional and the costs of the account have been clearly and separately shown in the credit agreement or in any other agreement concluded with the consumer.

3. The calculation of the annual percentage rate of charge shall be based on the assumption that the credit agreement is to remain valid for the period agreed and that the creditor and the consumer will fulfil their obligations under the terms and by the dates specified in the credit agreement.

4. In the case of credit agreements containing clauses allowing variations in the borrowing rate and, where applicable, charges contained in the annual percentage rate of charge but unquantifiable at the time of calculation, the annual percentage rate of charge shall be calculated on the assumption that the borrowing rate and other charges will remain fixed in relation to the initial level and will remain applicable until the end of the credit agreement.

5. Where necessary, the additional assumptions set out in Annex I may be used in calculating the annual percentage rate of charge.

If the assumptions set out in this Article and in Part II of Annex I do not suffice to calculate the annual percentage rate of charge in a uniform manner or are not adapted any more to the commercial situation at the market, the Commission may determine the necessary additional assumptions for the calcula tion of the annual percentage rate of charge, or modify existing ones. These measures, designed to amend non-essential elements of this Directive, shall be adopted in accordance with the regulatory procedure with scrutiny referred to in Article 25(2).

CHAPTER VI

CREDITORS AND CREDIT INTERMEDIARIES

Article 20

Regulation of creditors

Member States shall ensure that creditors are supervised by a body or authority independent from financial institutions, or regulated. This shall be without prejudice to Directive 2006/48/EC.

Article 21

Certain obligations of credit intermediaries vis-à-vis consumers

Member States shall ensure that:

(a) a credit intermediary indicates in advertising and docu mentation intended for consumers the extent of his powers, in particular whether he works exclusively with one or more creditors or as an independent broker;

(b) the fee, if any, payable by the consumer to the credit intermediary for his services is disclosed to the consumer, and agreed between the consumer and the credit intermediary on paper or another durable medium before the conclusion of the credit agreement;

(c) the fee, if any, payable by the consumer to the credit intermediary for his services is communicated to the creditor by the credit intermediary, for the purpose of calculation of the annual percentage rate of charge.

CHAPTER VII

IMPLEMENTING MEASURES

Article 22

Harmonisation and imperative nature of this Directive

1. Insofar as this Directive contains harmonised provisions, Member States may not maintain or introduce in their national law provisions diverging from those laid down in this Directive.

2. Member States shall ensure that consumers may not waive the rights conferred on them by the provisions of national law implementing or corresponding to this Directive.

3. Member States shall further ensure that the provisions they adopt in implementation of this Directive cannot be circumvented as a result of the way in which agreements are formulated, in particular by integrating drawdowns or credit agreements falling within the scope of this Directive into credit agreements the character or purpose of which would make it possible to avoid its application.

4. Member States shall take the necessary measures to ensure that consumers do not lose the protection granted by this Directive by virtue of the choice of the law of a third country as the law applicable to the credit agreement, if the credit agreement has a close link with the territory of one or more Member States.

Article 23

Penalties

Member States shall lay down the rules on penalties applicable to infringements of the national provisions adopted pursuant to this Directive and shall take all measures necessary to ensure that they are implemented. The penalties provided for must be effective, proportionate and dissuasive.

Article 24

Out-of-court dispute resolution

1. Member States shall ensure that adequate and effective out-of-court dispute resolution procedures for the settlement of consumer disputes concerning credit agreements are put in place, using existing bodies where appropriate.

2. Member States shall encourage those bodies to cooperate in order to also resolve cross-border disputes concerning credit agreements.

Article 25

Committee procedure

1. The Commission shall be assisted by a Committee.

2. Where reference is made to this paragraph, Article 5a(1) to (4) and Article 7 of Decision 1999/468/EC shall apply, having regard to the provisions of Article 8 thereof.

Article 26

Information to be supplied to the Commission

Where a Member State makes use of any of the regulatory choices referred to in Article 2(5) and 2(6), Article 4(1), Article 4(2)(c), Article 6(2), Article 10(1), Article 10(2)(g), Article 14(2) and Article 16(4), it shall inform the Commission thereof as well as of any subsequent changes. The Commission shall make that information public on a website or in another easily accessible way. Member States shall take the appropriate measures to diffuse that information amongst national creditors and consumers.

Article 27

Transposition

1. Before 12 May 2010 Member States shall adopt and publish the provisions necessary to comply with this Directive. They shall forthwith inform the Commission thereof.

They shall apply those provisions from 12 May 2010.

When Member States adopt these provisions, they shall contain a reference to this Directive or be accompanied by such reference on the occasion of their official publication. The methods of making such reference shall be laid down by Member States.

2. The Commission shall undertake, every five years and for the first time 12 May 2013, a review of the thresholds laid down in this Directive and its annexes and the percentages used to calculate the compensation payable in the event of early repayment, assessing them in the light of economic trends in the Community and the situation of the market concerned. The Commission shall also monitor the effect of the existence of the regulatory choices referred to in Article 2(5) and 2(6), Article 4(1), Article 4(2)(c), Article 6(2), Article 10(1), Article 10(2)(g), Article 14(2) and Article 16(4) on the internal market and consumers. The results shall be made known to the European Parliament and the Council, accompanied where appropriate by a proposal to modify the thresholds and percentages as well as the abovementioned regulatory choices accordingly.

Article 28

Conversion of amounts expressed in euro into national currency

1. For the purposes of this Directive, those Member States who convert the amounts expressed in euro into their national currency shall initially use in the conversion the exchange rate prevailing on the date of adoption of this Directive.

2. Member States may round off the amounts resulting from the conversion provided that such rounding off does not exceed EUR 10.

CHAPTER VIII

TRANSITIONAL AND FINAL PROVISIONS

Article 29

Repeal

Directive 87/102/EEC shall be repealed with effect from 12 May 2010.

Article 30

Transitional measures

1. This Directive shall not apply to credit agreements existing on the date when the national implementing measures enter into force.

2. However, Member States shall ensure that Articles 11, 12, 13 and 17, the second sentence of Article 18(1), and Article 18(2) are applied also to open-end credit agreements existing on the date when the national implementing measures enter into force.

Article 31

Entry into force

This Directive shall enter into force on the 20th day following its publication in the *Official Journal of the European Union*.

Article 32

Addressees

This Directive is addressed to the Member States.

Done at Strasbourg, 23 April 2008.

For the European Parliament	*For the Council*
The President	*The President*
H.-G. PÖTTERING	J. LENARČIČ

L 133/84 EN Official Journal of the European Union 22.5.2008

ANNEX I

I. The basic equation expressing the equivalence of drawdowns on the one hand and repayments and charges on the other.

The basic equation, which establishes the annual percentage rate of charge (APR), equates, on an annual basis, the total present value of drawdowns on the one hand and the total present value of repayments and payments of charges on the other hand, i.e.:

$$\sum_{k=1}^{m} C_k (1+X)^{-t_k} = \sum_{l=1}^{m'} D_l (1+X)^{-s_l}$$

where:

— X is the APR,

— m is the number of the last drawdown,

— k is the number of a drawdown, thus $1 \leq k \leq m$,

— C_k is the amount of drawdown k,

— t_k is the interval, expressed in years and fractions of a year, between the date of the first drawdown and the date of each subsequent drawdown, thus $t_{1=0}$,

— m' is the number of the last repayment or payment of charges,

— l is the number of a repayment or payment of charges,

— D_l is the amount of a repayment or payment of charges,

— s_l is the interval, expressed in years and fractions of a year, between the date of the first drawdown and the date of each repayment or payment of charges.

Remarks:

(a) The amounts paid by both parties at different times shall not necessarily be equal and shall not necessarily be paid at equal intervals.

(b) The starting date shall be that of the first drawdown.

(c) Intervals between dates used in the calculations shall be expressed in years or in fractions of a year. A year is presumed to have 365 days (or 366 days for leap years), 52 weeks or 12 equal months. An equal month is presumed to have 30,41666 days (i.e. 365/12) regardless of whether or not it is a leap year.

(d) The result of the calculation shall be expressed with an accuracy of at least one decimal place. If the figure at the following decimal place is greater than or equal to 5, the figure at that particular decimal place shall be increased by one.

(e) The equation can be rewritten using a single sum and the concept of flows (A_k), which will be positive or negative, in other words either paid or received during periods 1 to k, expressed in years, i.e.:

$$S = \sum_{k=1}^{n} A_k (1+X)^{-t_k},$$

S being the present balance of flows. If the aim is to maintain the equivalence of flows, the value will be zero.

II. Additional assumptions for the calculation of the annual percentage rate of charge

(a) if a credit agreement gives the consumer freedom of drawdown, the total amount of credit shall be deemed to be drawn down immediately and in full;

(b) if a credit agreement provides different ways of drawdown with different charges or borrowing rates, the total amount of credit shall be deemed to be drawn down at the highest charge and borrowing rate applied to the most common drawdown mechanism for this type of credit agreement;

(c) if a credit agreement gives the consumer freedom of drawdown in general but imposes, amongst the different ways of drawdown, a limitation with regard to the amount and period of time, the amount of credit shall be deemed to be drawn down on the earliest date provided for in the agreement and in accordance with those drawdown limits;

(d) if there is no fixed timetable for repayment, it shall be assumed:

(i) that the credit is provided for a period of one year; and

(ii) that the credit will be repaid in 12 equal instalments and at monthly intervals;

(e) if there is a fixed timetable for repayment but the amount of such repayments is flexible, the amount of each repayment shall be deemed to be the lowest for which the agreement provides;

(f) unless otherwise specified, where the credit agreement provides for more than one repayment date, the credit is to be made available and the repayments made on the earliest date provided for in the agreement;

(g) if the ceiling applicable to the credit has not yet been agreed, that ceiling is assumed to be EUR 1 500;

(h) in the case of an overdraft facility the total amount of credit shall be deemed to be drawn down in full and for the whole duration of the credit agreement. If the duration of the credit agreement is not known the annual percentage rate of charge shall be calculated on the assumption that the duration of the credit is three months;

(i) if different interest rates and charges are offered for a limited period or amount, the interest rate and the charges shall be deemed to be the highest rate for the whole duration of the credit agreement;

(j) for consumer credit agreements for which a fixed borrowing rate is agreed in relation to the initial period, at the end of which a new borrowing rate is determined and subsequently periodically adjusted according to an agreed indicator, the calculation of the annual percentage rate shall be based on the assumption that, at the end of the fixed borrowing rate period, the borrowing rate is the same as at the time of calculating the annual percentage rate, based on the value of the agreed indicator at that time.

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ANNEX II

STANDARD EUROPEAN CONSUMER CREDIT INFORMATION

1. **Identity and contact details of the creditor/credit intermediary**

Creditor Address Telephone number (*) E-mail address (*) Fax number (*) Web address (*)	[Identity] [Geographical address to be used by the consumer]
If applicable Credit intermediary Address Telephone number (*) E-mail address (*) Fax number (*) Web address (*)	 [Identity] [Geographical address to be used by the consumer]

(*) This information is optional for the creditor.

Wherever 'if applicable' is indicated, the creditor must fill in the box if the information is relevant to the credit product or delete the respective information or the entire row if the information is not relevant for the type of credit considered.

Indications between square brackets provide explanations for the creditor and must be replaced with the corresponding information.

2. **Description of the main features of the credit product**

The type of credit	
The total amount of credit *This means the ceiling or the total sums made available under the credit agreement.*	
The conditions governing the drawdown *This means how and when you will obtain the money.*	
The duration of the credit agreement	
Instalments and, where appropriate, the order in which instalments will be allocated	You will have to pay the following: [The amount, number and frequency of payments to be made by the consumer] Interest and/or charges will be payable in the following manner:
The total amount you will have to pay *This means the amount of borrowed capital plus interest and possible costs related to your credit.*	[Sum of total amount of credit and total cost of credit]
If applicable The credit is granted in the form of a deferred payment for a good or service or is linked to the supply of specific goods or the provision of a service Name of good/service Cash price	

If applicable Sureties required *This is a description of the security to be provided by you in relation to the credit agreement.*	[Kind of sureties]
If applicable *Repayments do not give rise to immediate amortisation of the capital.*	

3. **Costs of the credit**

The borrowing rate or, if applicable, different borrowing rates which apply to the credit agreement	[% — fixed or, — variable (with the index or reference rate applicable to the initial borrowing rate), — periods],
Annual Percentage Rate of Charge (APR) *This is the total cost expressed as an annual percentage of the total amount of credit.* *The APR is there to help you compare different offers.*	[% A representative example mentioning all the assumptions used for calculating the rate to be set out here]
Is it compulsory, in order to obtain the credit or to obtain it on the terms and conditions marketed, to take out — an insurance policy securing the credit, or — another ancillary service contract, *If the costs of these services are not known by the creditor they are not included in the APR.*	 Yes/no [if yes, specify the kind of insurance] Yes/no [if yes, specify the kind of ancillary service]
Related costs	
If applicable Maintaining one or more accounts is required for recording both payment transactions and drawdowns	
If applicable Amount of costs for using a specific means of payment (e.g. a credit card)	
If applicable Any other costs deriving from the credit agreement	
If applicable Conditions under which the abovementioned costs related to the credit agreement can be changed	
If applicable Obligation to pay notarial fees	
Costs in the case of late payments *Missing payments could have severe consequences for you (e.g. forced sale) and make obtaining credit more difficult.*	You will be charged [..... (applicable interest rate and arrangements for its adjustment and, where applicable, default charges)] for missing payments.

4. **Other important legal aspects**

Right of withdrawal *You have the right to withdraw from the credit agreement within a period of 14 calendar days.*	Yes/no

Early repayment *You have the right to repay the credit early at any time in full or partially.*	
If applicable The creditor is entitled to compensation in the case of early repayment	[Determination of the compensation (calculation method) in accordance with the provisions implementing Article 16 of Directive 2008/48/EC]
Consultation of a database *The creditor must inform you immediately and without charge of the result of a consultation of a database, if a credit application is rejected on the basis of such a consultation. This does not apply if the provision of such information is prohibited by European Community law or is contrary to objectives of public policy or public security.*	
Right to a draft credit agreement *You have the right, upon request, to obtain a copy of the draft credit agreement free of charge. This provision does not apply if the creditor is at the time of the request unwilling to proceed to the conclusion of the credit agreement with you.*	
If applicable The period of time during which the creditor is bound by the pre-contractual information	This information is valid from … until …

If applicable

5. **Additional information in the case of distance marketing of financial services**

(a) concerning the creditor	
If applicable Representative of the creditor in your Member State of residence Address Telephone number (*) E-mail address (*) Fax number (*) Web address (*)	[Identity] [Geographical address to be used by the consumer]
If applicable Registration	[The trade register in which the creditor is entered and his registration number or an equivalent means of identification in that register]
If applicable The supervisory authority	
(b) concerning the credit agreement	
If applicable Exercise of the right of withdrawal	[Practical instructions for exercising the right of with drawal indicating, *inter alia*, the period for exercising the right, the address to which notification of exercise of the right of withdrawal should be sent and the consequences of non-exercise of that right]
If applicable The law taken by the creditor as a basis for the establishment of relations with you before the conclusion of the credit contract	

If applicable Clause stipulating the governing law applicable to the credit agreement and/or the competent court	[Relevant clause to be set out here]
If applicable Language regime	Information and contractual terms will be supplied in [specific language]. With your consent, we intend to communicate in [specific language/languages] during the duration of the credit agreement.
(c) concerning redress	
Existence of and access to out-of-court complaint and redress mechanism	[Whether or not there is an out-of-court complaint and redress mechanism for the consumer who is party to the distance contract and, if so, the methods of access to it]

(*) This information is optional for the creditor.

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ANNEX III

EUROPEAN CONSUMER CREDIT INFORMATION FOR

(1) **overdrafts**

(2) **consumer credit offered by certain credit organisations (Article 2(5) of Directive 2008/48/EC)**

(3) **debt conversion**

1. **Identity and contact details of the creditor/credit intermediary**

Creditor Address Telephone number (*) E-mail address (*) Fax number (*) Web address (*)	[Identity] [Geographical address to be used by the consumer]
If applicable Credit intermediary Address Telephone number (*) E-mail address (*) Fax number (*) Web address (*)	[Identity] [Geographical address to be used by the consumer]

(*) This information is optional for the creditor.

Wherever 'if applicable' is indicated, the creditor must fill in the box if the information is relevant to the credit product or delete the respective information or the entire row if the information is not relevant for the type of credit considered.

Indications between square brackets provide explanations for the creditor and must be replaced with the corresponding information.

2. **Description of the main features of the credit product**

The type of credit	
The total amount of credit *This means the ceiling or the total sums made available under the credit agreement.*	
The duration of the credit agreement	
If applicable You may be requested to repay the amount of credit in full on demand at any time.	

3. **Costs of the credit**

The borrowing rate or, if applicable, different borrowing rates which apply to the credit agreement	[% — fixed or, — variable (with the index or reference rate applicable to the initial borrowing rate)],

If applicable The annual percentage rate of charge (APR) (*) *This is the total cost of credit expressed as an annual percentage of the total amount of credit. The APR is there to help you compare different offers.*	[% A representative example mentioning all the assumptions used for calculating the rate to be set out here]
If applicable Costs If applicable The conditions under which those costs may be changed	[The costs applicable from the time the credit agreement is concluded]
Costs in the case of late payments	You will be charged [..... (applicable interest rate and arrangements for its adjustment and, where applicable, default charges)] for missing payments.

(*) Not applicable to European Consumer Credit Information for overdrafts in those Member States which decide on the basis of Article 6(2) of Directive 2008/48/EC that the APR need not be provided for overdrafts.

4. **Other important legal aspects**

Termination of the credit agreement	[The conditions and procedure for terminating the credit agreement]
Consultation of a database *The creditor must inform you immediately and without charge of the result of a consultation of a database if a credit application is rejected on the basis of such a consultation. This does not apply if the provision of such information is prohibited by European Community law or is contrary to objectives of public policy or public security.*	
If applicable The period of time during which the creditor is bound by the pre-contractual information	This information is valid from ... until...

If applicable

5. **Additional information to be given where the pre-contractual information is provided by certain credit organisations (Article 2(5) of Directive 2008/48/EC or relates to a consumer credit for debt conversion**

Instalments and, where appropriate, the order in which instalments will be allocated	You will have to pay the following: [Representative example of an instalment table including the amount, number and frequency of payments to be made by the consumer]
The total amount you will have to pay	
Early repayment *You have the right to repay the credit early at any time in full or partially.* If applicable The creditor is entitled to compensation in the case of early repayment	[Determination of the compensation (calculation method) in accordance with the provisions implementing Article 16 of Directive 2008/48/EC]

If applicable

6. **Additional information to be given in the case of distance marketing of financial services**

(a) concerning the creditor	
If applicable Representative of the creditor in your Member State of residence	[Identity]
Address Telephone number (*) E-mail address (*) Fax number (*) Web address (*)	[Geographical address to be used by the consumer]
If applicable Registration	[The trade register in which the creditor is entered and his registration number or an equivalent means of identification in that register]
If applicable The supervisory authority	
(b) concerning the credit agreement	
Right of withdrawal *You have the right to withdraw from the credit agreement within a period of 14 calendar days.* If applicable Exercise of the right of withdrawal	Yes/no [Practical instructions for exercising the right of with drawal indicating, inter alia, the address to which notification of exercise of the right of withdrawal should be sent and the consequences of non-exercise of that right]
If applicable The law taken by the creditor as a basis for the establishment of relations with you before the conclusion of the credit contract	
If applicable Clause stipulating the law applicable to the credit agreement and/or the competent court	[Relevant clause to be set out here]
If applicable Language regime	Information and contractual terms will be supplied in [specific language]. With your consent, we intend to communicate in [specific language/languages] during the duration of the credit agreement.
(c) concerning redress	
Existence of and access to out-of-court complaint and redress mechanism	[Whether or not there is an out-of-court complaint and redress mechanism for the consumer who is party to the distance contract and, if so, the methods of access to it]

(*) This information is optional for the creditor.

Annex 2 Glossary

Member State abbreviations

BE	Belgium	LU	Luxembourg
BG	Bulgaria	HU	Hungary
CZ	Czech Republic	MT	Malta
DK	Denmark	NL	Netherlands
DE	Germany	AT	Austria
EE	Estonia	PL	Poland
EL	Greece	PT	Portugal
ES	Spain	RO	Romania
FR	France	SI	Slovenia
IE	Ireland	SK	Slovakia
IT	Italy	FI	Finland
CY	Cyprus	SE	Sweden
LV	Latvia	UK	United Kingdom
LT	Lithuania		

Terminology and abbreviations

ARM: Adjustable-rate Mortgage (fixed to term less than or equal to 1 year)

CBA: Cost-Benefit Analysis

CPR: Conditional Prepayment Rate (synonymous with Constant Prepayment Rate)

ERP: Early Repayment

FRM: Fixed-rate Mortgage (fixed to term less than 1 year, with roll-over intention and fixed to maturity)

GEGMC: Government Expert Group on Mortgage Credit

Hybrid ARM: Initial Fixed-rate followed by Adjustable-rate Mortgage

NPV: Net Present Value

Transposition: the processes to transfer the Directive to national law

Cross-border trade: The lender is located in country A, the borrower and the property on which the loan is secured or which the loan is intended to purchase are in country B, and the lender has no physical presence in country B, either through branches, subsidiary firms or distribution agreements with local brokers or other firms.

'Holiday-home' purchase: the lender is located in country A and the relevant property in country B. The borrower is normally resident in country A. The relevant property may not strictly be a holiday home.

Cross-border entry via branching: a lender with headquarters in country A opens branches in country B and conducts mortgage business through these branches.

Cross-border entry via establishment of subsidiaries: a lender with headquarters in country A establishes a subsidiary in country B, perhaps through a merger or acquisition. The lender then conducts mortgage business through the branches of this subsidiary.

Cross-border distribution agreements: a lender with headquarters in country A agrees with a broker or other financial institution in country B that the latter will sell the lender's mortgage products in country B.

Cross-border secondary-market transactions: a lender with headquarters in country A buys or sells mortgages, mortgage bonds or mortgage-backed securities originated or issued by a lender in country B.

Annex 3 Stakeholder surveys

This annex synthesises the views put forward by stakeholders that answered the cost benefit questionnaires. This included:

- 2 national consumer associations;
- 1 national association for credit intermediaries;
- 9 national mortgage lender associations including banking associations;
- 12 national policymakers;
- 17 national regulators; and
- 30 actual market participants: 28 lenders and 2 intermediaries.

The objective of the questionnaires was to collect stakeholder views on the costs and benefits that may be realised under the different policy options considered in this study.

These views are described below for each policy area in turn. First, views on pre-contractual information are presented, followed by the annual percentage rate of charge, early repayment and responsible lending and borrowing policy areas.

In line with the Commission's objectives for this study, the questionnaires focused on collecting stakeholders' views on:

- winners and losers within stakeholder groups;
- potential administrative costs; and,
- wider economic and financial consequences on: product diversity, cross-border activity and financial stability.

Details of the methodology used for the stakeholder analysis are described in chapter 4 of the report.

Policy area 1: pre-contractual information

In this section, stakeholder views on current pre-contractual information provision are presented. The effects of any future changes to pre-contractual information requirements are then compared to this current provision. Stakeholders views on product diversity, cross-border activity and administrative costs of a policy change are also described.

The stakeholder baseline: current pre-contractual information requirements

The current requirements and practices for pre-contractual information vary quite significantly across EU Member States, as described in the legal baseline for pre-contractual information (chapter **6**). In some countries such as Spain, no lenders or credit intermediaries have signed up to the voluntary Code of Conduct; in some other countries such as Malta, the voluntary Code of Conduct has been established by law; while in a third set of countries a timeline for making legislative changes has been set (e.g. in Germany).

Due to these differences, it is important to note that stakeholders were responding to questions on pre-contractual information from a variety of starting points. Questionnaire participants from Malta might see little impact resulting from changes in legislation, as they already have the Code of Conduct written in law, while participants from other countries (such as Spain) may perceive a large impact because no lenders or credit intermediaries have signed up to the Code.

Stakeholder views: suppliers and intermediaries of mortgage credit

With the majority of Member States applying the Code of Conduct on a voluntary basis, most lenders and credit intermediaries saw few differences between current practices and the proposed "self-regulated" policy options on pre-contractual information.

A Danish lender, for example, said "*[we] use the Code every time we offer a mortgage credit to a consumer*" and a Belgian lender commented, "*We are already providing pre-contractual information, so substantially there will be no change.*"

Stakeholder views: consumers of mortgage credit

Responses provided by consumer associations created a different impression. This group emphasised that the voluntary nature of the Code of Conduct disadvantaged consumers due to a lack of compliance by, and poor monitoring of, lenders.

In particular, consumer associations believed that borrowers or potential borrowers were given poor information by lenders and credit intermediaries. A UK consumer association, for instance, reported that the result of a "mystery shopper exercise" showed that 82% of suppliers / credit intermediaries did not provide adequate information.

A further area for concern was that consumers tend to consult a limited number of credit intermediaries. The UK consumer association (above) claimed that most UK consumers looked to only 2 or 3 lenders / credit intermediaries for advice. In Spain, a consumer association found that consumers tend to receive advice from only a single lender. This suggests that there is a high chance that any given borrower will receive inadequate advice.

Consumer associations also emphasised the importance of the timing with which information was provided. In Spain for example, consumers did not receive any written material in the early stages of negotiations. They were only provided with verbal advice.

Winners and losers

Against this backdrop, market participants and their representatives put forward their views on the impacts they expected from the pre-contractual policy options.

Stakeholder views: suppliers and intermediaries of mortgage credit

The observations provided by suppliers and intermediaries of mortgage credit suggest that market participants on the supply side of the market may incur few costs under self-regulation, as self-regulation is similar to current pre-contractual information provision. A Czech mortgage association for example contrasted self-regulation against legislating over pre-contractual information, stating that legislation would only lead to "*higher costs, increased administration, need of supervision etc.*"

Moreover, this group of stakeholders believe a self-regulated arrangement would be more effective than any legislated change because it provides greater flexibility. Respondents mentioned that financial products available on the market change quickly. This means that any concrete requirements put into legislation would just as quickly become outdated. If consumers become reliant on legally required documents such as the European Standard Information Sheet (ESIS), Key Facts Illustration document (KFI) and Standard European Consumer Credit Information (SECCI) form, consumers may miss important terms and conditions on new products that they wish to take up. An Austrian respondent pointed out that "[*There is] danger of misinterpretation – consumers assume that information is comparable because [it is] legally defined.*"

Stakeholder views: consumers of mortgage credit

Market participants on the demand side of the market however, may enjoy greater benefits through legislation as it would be mandatory for lenders and credit intermediaries to provide certain information by law. As a result, consumers may become better informed.

This could help to alleviate some problems that exist in particular Member States. The Spanish consumer association for example, discussed the particular weaknesses in their country. It was said that some lenders flooded consumers with complicated information (e.g. "strange indexes for the variable interest rate"). Legislation on pre-contractual information provision may reduce this problem by focusing consumers on key pieces of information for their decision-making.

Consumer associations' also observed that consumers are not reliant on documents such as the SECCI, KFI and ESIS, as hinted at above by an Austrian mortgage association. Instead they use various pieces of pre-contractual information in conjunction with one another. The ESIS sheet for example was quoted to "raise the level of interest" in aspects of financial products (e.g. on early repayment) rather than lead to reliance a single document.

Product diversity

Many respondents on the supply side of mortgage credit were "dubious" about the impact that a policy change would have on product diversity. It was argued by a Spanish mortgage association that "real estate and mortgage finance are mainly local" and by implication that a policy change would not lead to any new market entrants bringing new products.

Cross-border activity

Figure 98 below shows that opinion was split regarding whether a change in policy would have any impact on cross border trade. However, even those that believed a policy change would lead to some increase in lending across jurisdictions, thought that the impact would be small (at around 3% on average). That being said, one respondent expected cross-border trade to increase by between 6 and 10% (i.e. lender B, with a midpoint estimate of 8%).

Figure 98: Increase in cross-border activity resulting from a policy change (%)

Lender	State	(i)	(ii)
A	BE	Y	3
B	FI	Y	8
C	AT	N	0
D	AT	N	0
E	ES	Y	3
F	DK	Y	0
G	DK	Y	3
H	BE	N	0
I	BE	N	0
J	BE	N	0
K	IT	Y	3
L	FR	N	0

Key:
(i) Is cross-border trade important?
(ii) What percentage increase in cross-border trade do you expect as a result of the PCI?

Administrative costs

Legislative or self-regulatory policy administration

If a policy change is enacted there will be immediate administrative costs imposed on both private and public institutions.

Figure 99 provides a comparison of the costs that might be expected if the self-regulated pre-contractual policy option is implemented or if the legislated pre-contractual policy option is put in place. On the one hand, administrative costs would be borne by institutions such as mortgage associations in the case of self-regulation – these are covered by respondents J

to M. On the other hand, administrative costs would be borne by policymakers in the case of the legislated pre-contractual policy option – these are covered by respondents A to I.

Many of the legislators found it difficult to provide cost estimates without a more precise policy description. Instead, many chose to indicate the costs in terms of qualitative responses such as "high", "medium" or "low". One interesting data point provided by an Estonian policymaker in Figure 103 below indicated that a one-off cost of €0.02m was "high". This can be used as an anchor for the qualitative responses given.

The mortgage associations did provide some monetary estimates on the cost of self-regulation. Two respondents (from the UK and Italy) indicated that a self-regulatory system would incur no one-off costs, while the Belgian association indicated an initial cost of €0.4m. Neither the UK nor Italian associations saw an ongoing cost from a self-regulatory system, whereas the Belgian mortgage association anticipated a cost of €0.2m and the Danish mortgage association estimated an ongoing cost of €0.4m.

Figure 99: Administrative costs: legislation vs. self-regulation

		Passing Legislation		Self-Regulatory System	
Respondent	**State**	**One-off costs**	**Ongoing costs**	**One-off costs**	**Ongoing costs**
A	AT	M	M		
B	BG	?	?		
C	CY	L	L		
D	EE	0.1€m	0.1€m		
E	CZ	?	?		
F	LV	L	L		
G	NL	H	H		
H	SK	0	0		
I	SE	L	L		
J	UK			0	0
K	IT			0	0
L	BE			0.4€m	0.2€m
M	DK				0.4€m

Key:
Responses: low (L), medium (M), high (H) and (?) don't know

Lender administrative costs

Data collected from lenders is shown in Figure 100. A French respondent suggested that a two-hour training session on pre-contractual information for 100,000 advisers would cost €200m and that the ongoing cost of sending customers ESIS sheets would amount to at least €3m per year. A Spanish respondent observed that the cost of implementing internal monitoring for pre-contractual information would cost €0.1m.

Figure 100: Lender administrative costs									
		Systems				**Monitoring**			
		Self-regulated		**Legislated**		**Self-regulated**		**Legislated**	
Respondent	**State**	**(i)**	**(ii)**	**(i)**	**(ii)**	**(i)**	**(ii)**	**(i)**	**(ii)**
A	BE	0	0	-	-	0	0	0	0
B	ES	-	-	-	-	0.1€m	0.01€m	0.1€m	0.01€m
C	DK	M	M	M	M	M	M	M	M
D	BE	-	-	-	-	M	M	M	M
E	IT	0	-	M	-	0	-	M	-
F	FR	€200m	€3m	€200m	H	0	-	0	-

Key:
(i) One-off costs
(ii) Ongoing costs
Responses: low (L), medium (M) and high (H)

Credit intermediary administrative costs

Two individual credit intermediaries also responded about the costs of providing pre-contractual information under a revised system. The two respondents differed substantially in the magnitude of their estimates. This information is presented below in Figure 101.

Figure 101: Pre-contractual information: intermediary implementation costs					
		Self-regulated		Legislated	
Respondent	**State**	**One-off costs**	**Ongoing costs**	**One-off costs**	**Ongoing costs**
A	NL	0.15€m	0.005€m	0.015€m	0.005€m
B	SK	0	0	0.001€m	0.0015€m

Policy area 2: annual percentage rate of charge

This section elaborates responses on policy options for the annual percentage rate of charge (APRC).

APRC legal requirements

The legal requirements for the APRC are used as the point of comparison for policy changes. This is because market participants on both the supply and demand side agreed that policy changes must be enacted by legislation to be effective.

A Belgian mortgage association, for example, illustrated this point: "*if some lenders don't follow the recommendation, there is no possibility of comparing the APRC with the ones offered by other lenders*." The UK consumer association supported this contention listing many restrictive conditions necessary to make a self-regulated APRC policy work, including adequate "*monitoring and compliance*". These may be prohibitively costly. As such, *if* an APRC policy change is made, it should be a legislated system to be effective.

Winners and losers

Stakeholder views: suppliers and intermediaries of mortgage credit

Respondents on the supply side of mortgage credit believed that the narrow APRC definition was the best. The Czech mortgage association considered it to provide "comparable data" at "no additional costs".

They did not believe that the broad APRC definition was useful. The Czech mortgage association stated that it was "not transparent for clients". The Danish mortgage association responded in a similar fashion saying that "the objective of clarity and transparency could easily be lost".

Elaborating on this point, the Austrian mortgage association described how the broad APRC cannot be compared across Member States effectively because of differences in "tax and fee systems linked to the mortgage itself". The Danish mortgage association added that as the broad APRC is "more complicated to calculate, it is more susceptible to mistakes or different interpretations in the various Member States".

Stakeholder views: consumers of mortgage credit

Consumers of mortgage credit tended to agree with suppliers and intermediaries that a broader APRC has its costs. To facilitate comparability a Spanish consumer association, for example, pointed out that costs common to all lenders such as "*notary, registry, property appraisal and agency costs*" should

be shown separately to the APRC calculation. It further argued that a list of line item costs would allow consumers to make the best choices.

From a UK perspective it was noted that an APRC definition approximating the CCD might be useful. This is because consumers can compare unsecured and secured credit and see the costs and benefits of consolidating debt easily.

In sum, there was some agreement between the supply and demand side of the market over the important issues to both groups.

Product diversity

Most respondents did not believe a change in the definition of the APRC would have an impact on product diversity. For example, a Belgian respondent noted that if the "*narrow APRC was introduced the impact [would] be minimal: in Belgium the mortgage market is highly regulated, interest rates are already easy comparable*".

Cross-border activity

"*Cross border trade is negligible and likely to remain so over the medium time so direct benefits to consumers [are] essentially non-existent over [the] next 10 years at least*" claimed the UK mortgage association. Likewise, a German mortgage association stated that "*the currently small volume of cross-border housing financing [...] will remain small, in our estimate*".

These views given by mortgage associations were supported by perceptions given by lenders shown in Figure 102 below who did not think cross-border trade would be affected by changes to the APRC.

Figure 102: Expected cross-border trade resulting from an APRC policy change			
Lender	**State**	**(i)**	**(ii)**
A	BE	N	0
B	FI	N	0
C	AT	N	0
D	AT	N	0
E	ES	N	0
F	DK	Y	0
G	DK	Y	3
H	BE	Y	0
I	IT	Y	3
J	FR	N	0

Key:
(i) Is cross-border trade important
(ii) What percentage increase in cross-border trade do you expect as a result of the APRC?

Administrative costs

Figure 103-Figure 106 below show the costs to legislators, lenders and individual intermediaries that would result from changes in the APRC.

Figure 103: Costs to legislators						
	Narrow APRC		**Broad APRC**		**APRC ≈ revised CCD**	
State	**(i)**	**(ii)**	**(i)**	**(ii)**	**(i)**	**(ii)**
AT	0	0	0	0	0	0
BG	0	0	0	0	0	0
CY	L	L	L	L	L	L
EE	0.01€m	0.01€m	0.02€m	0.02€m	0.01€m	0.01€m
CZ	-	-	-	-	-	-
LV	L	L	L	L	L	L
NL	H	M	H	M	H	M
SL	0	0	0	0	L	0
SE	M	M	M	M	L	L

Response: low (L), medium (M), high (H) and don't know

Figure 104: Costs to lenders (under self-regulation)						
	Narrow APRC		**Broad APRC**		**APRC ≈ revised CCD**	
Lender	**(i)**	**(ii)**	**(i)**	**(ii)**	**(i)**	**(ii)**
A	0	0	-	-	-	-
B	0	0	-	0	-	0
C	0.1€m	0.01€m	0.1€m	0.01€m	0.2€m	0.02€m
D	0	0	0.5€m	0.05€m	0	0
E	L	L	0	0	M	M
F	-	-	-	-	-	-
G	M	M	H	H	H	H
H	L	L	0	0	-	-

Key:
(i) One-off costs
(ii) Ongoing costs
Response: low (L), medium (M), high (H) and don't know (-)

Figure 105: Costs to lenders (under legislation)						
	Narrow APRC		**Broad APRC**		**APRC ≈ revised CCD**	
Lender	**(i)**	**(ii)**	**(i)**	**(ii)**	**(i)**	**(ii)**
A	-	-	-	-	-	-
B	-	-	-	-	-	-
C	0.1€m	0.01€m	0.2€m	0.01€m	0.01€m	0.02€m
D	0	0.5€m	0	0	0.05€m	0
E	L	-	M	-	-	H
F	0.1€m	0.2€m	0.3€m	0	0	0
G	M	H	H	M	H	H
H	L	L	0	0	-	-

Key:
Response: low (L), medium (M), high (H) and don't know (-)

Figure 106: APRC implementation: individual intermediary costs under legislation / self-regulation							
		Narrow APRC		Broad APRC		APRC ≈ revised CCD	
Respondent	**State**	**(i)**	**(ii)**	**(i)**	**(ii)**	**(i)**	**(ii)**
A	NL	L	L	L	L	L	L
B	SK	0	0	0	0	0	0

Key:
Response: low (L), medium (M), high (H) and don't know (-)

Policy area 3: early repayment

This section sets out responses on policy options for early repayment (ERP). ERP volume data from lenders is described to understand the economic importance of a policy change to consumers. The stakeholders then provide a description of the current ERP regime, which serves as a point of comparison against which respondents discuss policy options. The cost benefit questionnaires collect information on winners and losers, product diversity, financial stability and the administrative costs of the policy options.

ERP volume

This section outlines information collected from stakeholders on the number of borrowers that might be affected by changes in the ERP regime. This evidence is suggestive of the *importance* of ERP policy options to consumers.

Data provided by lenders on the average percentage of borrowers that choose to early repay are shown in Figure 107. The number of borrowers repaying in full has generally been between 5% and 8%, with the exception of 2005, when it peaked at 12%. Notably also, the number of borrowers that repay early in full is consistently higher than the number of borrowers that repay early in part, which has consistently been at just over 2.5%.

Figure 107: Average early repayment volume among a sample of 6 lenders, 2003-8

	2003	2004	2005	2006	2007	2008
Early repayment in full	6.9%	4.9%	12%	7.2%	6.6%	6.6%
Early repayment in part	2.5%	2.6%	2.6%	2.6%	2.6%	2.7%

The figures are indicative of the proportion of people that may be affected by ERP policy changes. However, they underestimate the impact that policy changes can have on *particular* groups. On the one hand, three lenders claimed that on average, 58% of new originations early repay within the first year of taking out mortgage credit. If these groups represent a disproportionate number of "vulnerable people"[243] for example, the costs incurred through early repayment charges could be steep for this group. On

[243] Variables used to identify vulnerability are reported in the separate annex for the household questionnaire.

the other hand, high income sub-samples of borrowers could be the ones more likely to substitute mortgage credit products.[244]

Figure 108 shows the size of fees that early repayment generates for a sample of 4 large lenders, weighted by the total value of loans disbursed. This matches the pattern of early repayment in full, i.e., peaking in 2005. A "back of the envelope" calculation using data from Figure 107 and Figure 108 and the total number of loans disbursed by one lender shows that if early repayment fees are spread evenly across all borrowers that early repay then each would incur a cost of €550.

Figure 108: Early repayment fees, €m, 2003-8

	2003	2004	2005	2006	2007	2008
ERP fees (€m)	1.8	7.4	22.5	12	10.6	9.7

This information given by stakeholders provides a sense for the number of borrowers and the monetary significance that ERP policy changes may have if they are put into place.

In the following sections stakeholders discuss the ERP policy changes.

Competition and ERP

The starting point for stakeholders to provide responses on how effective they believe ERP policy *changes* might be is for them to set out how effective they believe the *current* ERP regime is. This provides a point of comparison for collecting responses about policy changes.

Stakeholders were asked about the prevailing level of *competition* over early repayment terms and conditions because this reflects how well the mortgage market is currently functioning / meeting the needs of borrowers and lenders in the marketplace.[245] In other words, this forms the point of comparison against which stakeholders can respond about ERP policy changes.

[244] Follain and Dunskey (1996) show that high income groups' demand for mortgage credit is more sensitive to changes in its price.

[245] Sufficient competition means that lenders are insured against the risks that arise due to extending mortgage credit and consumers are provided with a level of freedom to choose the most suitable mortgage product for their circumstances. Without a competitive ERP regime, this balance between lenders and borrowers may not be observed. For example, if there is no competition amongst lenders they can raise ERP charges freely. This may provide lenders more insurance than is "actuarially" fair. This in turn imposes a cost on borrowers of having to pay a larger early repayment charge than would be the case under competitive conditions. Conversely, if there is "too much" competition over ERP, borrowers benefit because they can easily early repay or switch between mortgage credit products. However, lenders are not

Winners and losers

In general, the perception amongst associations on both the demand and supply side of the market was that the ERP regime had little impact on stakeholder outcomes.

Stakeholder views: consumers of mortgage credit

Consumer decisions over mortgage products are largely driven by market interest rates and the size of monthly payments. To quote one respondent, "*[the] most important thing for the client [is] the interest rate and amount of instalments*". Consumer respondents did not value the option of a favourable early repayment clause because in general they did not envisage themselves exercising this option.[246]

This fits in with information gathered from consumer associations. In general, it was suggested that early repayment may be motivated by reasons such as "extra income or other cash windfall", "sale of house/move" or "use of inheritance". Given the *unexpected* nature of these payments it is difficult for consumers to incorporate these possibilities into their decision-making processes.[247] In general therefore, respondents did not see early repayment rules as an important factor in explaining competition in mortgage credit markets.

Further, a UK consumer association stated, "*consumers are unlikely to pay too much attention to their rights and costs of early repayment as they are only signing up for a short-term contract.*" At the end of a fixed rate, special terms or "teaser" period, borrowers are not subject to early repayment charges. As such, the precise nature of the early repayment clause is not an important variable for borrower decisions. Evidence from consumer focus groups confirmed this view.

In sum therefore, it is not clear how relevant early repayment clauses are to consumer outcomes. On the one hand, it is difficult for consumers to factor in the likelihood that they will want to exercise an early repayment option (and weigh this up against associated charges). On the other hand, in markets such as the UK, short-term contracts are so widespread that early repayment clauses have little relevance to the consumer, who sees top line terms and conditions (e.g. the size of monthly payments) as more important to final decisions.

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adequately insured against the risks of extending credit and as a result may cease to extend mortgage credit. This could have significant costs on many groups, particularly prospective homeowners.

[246] This view was drawn from the consumer focus groups.

[247] Consumers are faced with uncertainty over both the value of windfall gains and the probability of receiving these gains. This "Knightian uncertainty" therefore makes it difficult to value early repayment options. The lender on the other hand can use historical data to estimate the percentage of its portfolio that will early repay and therefore successfully calculate the value of early repayment options.

Stakeholder views: suppliers and intermediaries of mortgage credit

On the supply side a distinction was made between respondents from Member States where legislated rules were in place and where they were not.

Where legislated rules exist (e.g. in Belgium), it was clear that some ERP regimes involved low charges that are not too costly to consumers wishing to early repay. One respondent said that, "*the very tough competition between lenders doesn't affect the level / the amount (3 months of interest) of the indemnity asked for by the lenders. The fixed amount, legally binding for all kind of credit rates, is too low in most cases, prohibiting lenders to compete on this level (they all require 3 months)*".

Without legal requirements on early repayment, lenders could levy early repayment charges that may not be competitive, affecting consumer outcomes. However, *both sides of the market* argued that this is not the correct way to view early repayment charges.

One mortgage association respondent stated that "*the current system ensures maximum product diversity*". The point being made here is that ERP terms and conditions is a product characteristic that promotes product variety. This gives consumers the freedom to choose the products that suits them best. Those borrowers that do not expect to be making early repayments accept a contract with ERP fees and charges but are offered a lower interest rate, while those borrowers that expect to be making early repayments choose a contract without early ERP charges and accept a higher interest rate.

Although this section provides views from the supply side of the market it is important to note agreement on the demand side of the market regarding the current ERP regime. For example, one consumer association said that legislation over early repayment charges would result in "loss of competition in the mortgage market".

Consumer confidence

One Belgian lender remarked that a policy change would lead to "transparency and credibility", i.e., making it clear what ERP terms and conditions are in place.

Other respondents however, commented that creating a uniform set of early repayment rules would actually reduce transparency. At present, banks can compete over the price of a number of mortgage product characteristics (interest rate, term, caps and floors, etc.). As they are split out, it is clear on which features some contracts are competitive and which they are not. If competition is restricted then transparency over pricing is believed to become blurred. One Danish lender said, "*it (an ERP policy change) leads to an impairment of our prepayment model [and] it will lead to less transparency and flexibility for consumers. The reduced transparency will probably be beneficial for the*

ability of the financial sector to prop up revenues on products and lessen competition as transparencies on the price elements are blurred".

Product diversity

Related to the above point on transparency is the effect that the ERP policy options may have on product diversity and borrower type. The majority view was that legislating on ERP policy options reduces the number of products lenders can offer, as different early repayment terms could not be put to customers. This view should be held with caution however, given the large number of respondents supplying mortgage credit who answered this question (relative to few consumers).

Figure 109 below summarises views collected through the cost benefit questionnaires on this issue.

Figure 109: Product variety and borrower type, stylised responses from five lenders

	Option 1 with cap		Option 1 with actuarial compensation		Option 2 with cap		Option 2 with actuarial compensation		Option 3 with cap		Option 3 with actuarial compensation		Option 4		Option 5 with cap		Option 5 with actuarial compensation	
Lender	**(i)**	**(ii)**	**(i)**	**(ii)**	**(i)**	**(ii)**	**(i)**	**(ii)**	**(i)**	**(ii)**	**(i)**	**(ii)**	**(i)**	**(ii)**	**(i)**	**(ii)**	**(i)**	**(ii)**
A	+	0	+	0	+	0	-	0	+	0	+	0	+	0	+	0	+	0
B	+	+	+	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
D	-	0	-	0	?	0	-	0	?	0	-	0	-	0	-	0	-	0
E			+	+														

Policy impacts: product variety (i) or borrower type (ii)
Nature of responses: positive ('+'), negative ('-'), neutral ('0'), unsure ('?'), no response ('')

Vulnerable groups

Consumer associations also pointed out the winners and losers the ERP policy changes would create. "[ERP policy changes that help hardship cases] could be very beneficial for [these] consumers. However, lenders would be likely to introduce higher upfront costs for all borrowers which would lead to a cross-subsidy effect".

Financial Stability

One lender took the view that the early repayment regime should be stricter and indemnity charges levied on customers higher as this will prevent customers from taking on short-term mortgage contracts. "*More stability; no refinancing after one year if the ERP regime is stricter and the compensation is higher*".

A Danish lender, commenting on its domestic market noted that the structure of indemnity charges in Denmark created stability during the financial crisis, permitting it to lend when financial intermediation in other countries fell substantially.

A German lender highlighted the impact a policy change could have on early repayment behaviour. "*Even if banks are fully compensated for economic loss [due to early repayment], an increase in early repayment is to be expected [following liberalisation], with unforeseeable consequences for resources and funding. Such a step would represent an incalculable and hence indefensible risk for the whole property market. The consequences of instability in the property market can be partly seen in the current financial crisis*".

Administrative costs

Policymakers and regulators provided their perceptions on the administrative costs of enacting the various ERP policy options. As precise budgets were not prepared in response to these options, respondents tended to give their perceptions of administrative costs in terms of being "high", "medium" or "low". These are shown in Figure 110 and Figure 111 below.

Figure 110: One-off implementation costs		
Lender	**Legislation**	**Regulation**
BE	-	ML
CY	L	L
EE	-	M
FI	-	-
HU	-	M
AT	M	-
CZ	-	-
RO	-	L
BG	0	0
IE	-	-
LV	L	-
MT	-	-
SK	0	-
SE	M	-
NL	MH	-

Responses: low (L), medium (M) and high (H)

Figure 111: Ongoing implementation costs

	Monitoring and Enforcement																			
	Costs Today		Option 1 with cap		Option 1 with actuarial compensation		Option 2 with cap		Option 2 with actuarial compensation		Option 3 with cap		Option 3 with actuarial compensation		Option 4		Option 5 with cap		Option 5 with actuarial compensation	
State	**(i)**	**(ii)**	**(i)**	**(ii)**	**(i)**	**(ii)**	**(i)**	**(ii)**	**(i)**	**(ii)**	**(i)**	**(ii)**	**(i)**	**(ii)**	**(i)**	**(ii)**	**(i)**	**(ii)**	**(i)**	**(ii)**
BE	L	L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CY	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
EE	M	M	M	M	M	M	M	M	M	M	M	M	M	M	L	L	M	M	M	M
FI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HU	L	0.75	L	0.6	M	0.75	L	0.6	M	0.75	L	0.6	ML	0.75	H	0.75	H	0.75	H	0.75
AT	ML	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
CZ	0.01	0.075	0.01	0.075	0.01	0.075	0.01	0.075	0.01	0.075	0.01	0.075	0.01	0.075	0.01	0.075	0.01	0.075	0.01	0.075

Monitoring and enforcement costs: cost of monitoring residential mortgages as a whole (€m) (i) and proportionate cost of monitoring ERP (%) (ii)
Responses: low (L), medium (M) or high (H), don't know (-)

Regulators and policymakers commented on how they believed ERP policy options would affect consumer complaints. These results are presented in Figure 112 and Figure 113 below.

Figure 112: Present complaints data

State	ERP complaints (#)	ERP complaints (%)	Estimated admin. costs (2008)
AT	-	-	-
BE	1	2	L
CZ	0	0	0
RO	-	-	-
BG	-	-	-
CY	0	0	-
EE	0	0	-
FI	3	3	L
HU	40	6	-
IE	-	-	-
LV	-	-	L
MT	-	-	-

Responses: low (L), medium (M), high (H), don't know (-)

Figure 113: Expected complaints data

	Policy options																	
	Option 1 with cap		Option 1 with actuarial compensation		Option 2 with cap		Option 2 with actuarial compensation		Option 3 with cap		Option 3 with actuarial compensation		Option 4		Option 5 with cap		Option 5 with actuarial compensation	
State	(i)	(ii)	(i)	(ii)	(i)	(ii)	(i)	(ii)	(i)	(ii)	(i)	(ii)	(i)	(ii)	(i)	(ii)	(i)	(ii)
AT	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
BE	+	-	+	-	+	-	+	-	+	-	+	-	L	-	-	-	-	-
CZ	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RO	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BG	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HU	0.2	-	0.4	-	0.15	-	0.3	-	0.15	-	0.15	-	-	-	0.05	-	0.1	-
IE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LV	0.5	0.03	1	0.045	0	0.024	1	0.03	0	0.015	0	0.015	-	-	0.25	0.015	0.25	0.015
MT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Percentage change in ERP complaints (i) and percentage change in admin. costs (ii)
Responses: low (L), medium (M) or high (H)

Policy area 4: responsible lending and borrowing

This section describes stakeholders' views on policy options for responsible lending and borrowing. Given the diverse policy options under consideration, only a general discussion is provided from stakeholders on the demand and supply side of the market. However, information is presented on stakeholders' perceptions of the costs of administering these policy options.

Winners and losers

Stakeholder views: suppliers and intermediaries of mortgage credit

Option a1

Option a1: a requirement for each Member State to - in the case of cross-border credit - ensure access for creditors from other Member States to databases used in that Member State for assessing the creditworthiness of consumers and to ensure that the conditions for access are non-discriminatory

Respondents believed that legislation alone would not lead to effective cross-border sharing of consumer information. For example, an Austrian respondent commented that "*better functioning [of markets] will only be the consequence if the information of credit registers are complete, comparable and [regularly] updated*".

A German respondent questioned how well legislation would impact upon private credit registers. "Credit databases are operated by private sector enterprises. Foreign credit institutions are allowed access to the data after concluding corresponding agreements. Regulation is therefore unnecessary".

Options a2, a3, b1 and b2

Option a2: a requirement for Member States to ensure that, before the conclusion of the credit agreement, the creditor assesses the consumer's creditworthiness on the basis of sufficient information, where appropriate obtained from the consumer and, where necessary, on the basis of a consultation of the relevant database Option a3: a requirement for Member States to ensure that creditors and, where applicable, credit intermediaries provide adequate explanations to the consumer, in order to place the consumer in a position enabling him to assess whether the proposed credit agreement is adapted to his needs and to his financial situation, where appropriate by explaining the pre-contractual information to be provided in accordance with paragraph 1, the essential characteristics of the products proposed and the specific effects they may have on the consumer, including the consequences of default in payment by the consumer. Member States may adapt the manner by which and the extent to which such assistance is given, as well as by whom it is given, to the particular circumstances of the situation in which the credit agreement is offered, the person to whom it is offered and the type of credit offered Option b1: a requirement for the lender to act honestly, fairly and professionally in accordance with the best interests of the client Option b2: a requirement for the borrower to disclose – in good faith – all relevant information requested by the lender to perform a creditworthiness assessment

Lenders were unclear about how policy options a2, a3, b1 and b2 improved upon current practices. Below three representative responses are given. A Czech respondent noted that "*[credit checks are] already a common practice without any rules set up by self-regulation.*" A Belgian respondent commented extensively: "*Belgian lenders respect longstanding rules and practices on responsible lending, in accordance with the requirements of due diligence and the duty of care (Civil Code) and the Belgian Code on commercial practices and consumer protection. New self-regulatory dispositions or new legislation compelling the creditor to assess the consumer's creditworthiness on the basis of sufficient information, where appropriate obtained from the consumer and, mandatory, on the basis of a consultation of the credit database won't change the conduct of the lenders. Belgian lenders are legally obliged to consult the positive (newly granted credits) AND negative (defaults) credit database (Centrale des Crédits aux Particuliers of the Belgian National Bank). [This implies that] no new benefits [should be] expect[ed].*" While a French respondent pointed out that policy options b1 and b2 in particular would "*lower our standards of responsible lending*".

Option b3

Option b3: a requirement for the lender to provide specific "risk warnings" on the consequences attached to default on payment and to over-indebtedness in special situations (e.g. to financially vulnerable consumers) or upon the request of the consumer

Respondents felt that the provision of risk warnings on financial products could improve consumer protection. The UK mortgage association pointed out the benefits risk warnings could have for consumers taking up foreign currency products. However, it also pointed out that legislating over a *required* set of risk warnings might be counterproductive as warnings cannot be tailored to the individual circumstances of borrowers.

Option b4

Option b4: a requirement for the lender to refrain from lending to a consumer if doing so would be deemed too risky for the consumer in the light of the latter's specific situation.

The key point made by mortgage associations and credit intermediaries about this policy option was that making good lending decisions is part and parcel of financial intermediation and that setting requirements into legislation could incur substantial costs. In particular, respondents worried that borrowers defaulting on loans could lead to costly litigation as they could opt to take the lender to court for irresponsible lending. A German respondent said that "*as a matter of principle, credit institutions only [lend] if, in their assessment of the situation, such lending will be properly repaid during the life time of the contract. Any assessment as to whether this is the case is a discretionary decision made by the institutions. If the abovementioned legal provisions were adopted, this would ultimately mean that in cases of dispute the judgment to be made by the courts would take the place of the judgment of the institutions. This is not acceptable*".

Stakeholder views: suppliers and intermediaries of mortgage credit

A UK consumer association believed that non-discriminatory information access would have only very small benefits for consumer because cross-border activity is small in the market. It also believed that information sharing could pose a security risk and so the costs of this policy would outweigh the benefits.

In the case of both the Spanish and UK consumer associations it was found that information provided to consumers about financial products was rarely "above average". For instance, if income protection insurance was sold alongside mortgage credit, the terms under which mortgage payments would be covered was not provided.

In Spain particularly, it was believed that very poor information is provided on "penalties/action taken by lender when several monthly payments are missed" and "in the case of variable rate mortgages, the potential level of monthly payment if interest rates rise or fall".

Consumer associations observed that it takes a long time for lenders to make a decision to extend mortgage credit. This is difficult for consumers because the precise terms of the credit offered are only provided at the end of this review process. A Spanish consumer association observed that "normally the process is pushed [to] the final date to sign the [purchase] of the house." But the main problem lies in the impossibility of comparing real offers: as every bank requires a different appraisal under its control in order to settle the definite terms of the offer, the consumer will reach at the end of the process with just one offer".

Administrative costs: policymakers and regulators

Figure 114 to Figure 117 provide policymakers and regulators views on the costs of instituting responsible lending policy options.

Figure 114: Legislative costs														
	Policy options													
	Option a1		**Option a2**		**Option a3**		**Option b1**		**Option b2**		**Option b3**		**Option b4**	
State	**(i)**	**(ii)**	**(i)**	**(ii)**	**(i)**	**(ii)**	**(i)**	**(ii)**	**(i)**	**(ii)**	**(i)**	**(ii)**	**(i)**	**(ii)**
AT	-	0	0	0	0	0	0	0	H	H	M	M	H	H
BG	-	-	0	0	0	0	0	0	0	0	0	0	0	0
CY	L	L	L	L	L	L	L	L	L	L	L	L	L	L
LV	L	L	L	L	L	L	L	L	L	L	L	L	L	L
SE	0	0	0	0	0	0	0	0	L	L	L	L	0	0
BG	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EE	0.01€m	0.01€m	0.01 €m	0.01 €m	0.01 €m	0.01 €m	0.01 €m	0.01 €m	0.01 €m	0.01 €m	0.01 €m	0.01 €m	0.01 €m	0.01€m
CZ	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SL	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SE	L	L	0	0	0	0	0	0	0	0	L	L	0	0

Key: costs to the executive (i) and costs to the legislative (ii)
Responses: low (L), medium (M) and high (H), unsure/don't know (-)

Figure 115: Regulator costs: one-off monitoring and compliance

	Policy options													
	Option a1		Option a2		Option a3		Option b1		Option b2		Option b3		Option b4	
State	(i)	(ii)	(i)	(ii)	(i)	(ii)	(i)	(ii)	(i)	(ii)	(i)	(ii)	(i)	(ii)
CY	L	L	-	-	L	L	L	L	L	L	L	L	L	L
EE	L	M	-	0	-	L	-	M	L	M	-	M	-	L
HU	H	H	M	M	M	M	L	L	M	M	ML	ML	M	M
AT	0	0	0	0	0	0	0	0	H	H	M	M	H	H
CZ	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RO	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BG	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CY	L	L	0	0	L	L	L	L	L	L	L	L	L	L
EE	L	M	0	0	0	L	0	M	L	M	0	M	0	L
FI	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HU	H	H	M	M	M	M	L	L	M	M	ML	ML	M	M
IE	-	-	-	0	0	0	0	0	-	0	-	0	0	0
LV	L	L	€0.1m	0.02€m	L	0.01€m	L	L	L	L	L	L	L	L
MT	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UK	-	-	-	£0.02m	-	£0.02m	-	£0.02m			-	£0.02m	-	£0.02m

Key: self-regulation (i) and legislation (ii)
Responses: low (L), medium (M), high (H) or unsure/don't know (-)

Figure 116: Regulator costs: ongoing monitoring and compliance														
Policy options	**Option a1**		**Option a2**		**Option a3**		**Option b1**		**Option b2**		**Option b3**		**Option b4**	
State	**(i)**	**(ii)**	**(i)**	**(ii)**	**(i)**	**(ii)**	**(i)**	**(ii)**	**(i)**	**(ii)**	**(i)**	**(ii)**	**(i)**	**(ii)**
CY	L	L	-	-	L	L	L	L	L	L	L	L	-	L
EE	L	M	-	0	-	L	-	M	L	M	-	M	-	L
HU	M	M	L	L	L	L	L	L	L	L	L	Ml	L	L
AT	0	0	0	0	0	0	0	0	H	H	M	M	H	H
CZ	-	-	-	-	-	0.015€m	-	-	-	-	-	-	0.015€m	0.015€m
RO	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BG	L	0	-	0	-	0	-	-	-	-	-	-	-	-
CY	L	L	-	-	L	L	L	L	L	L	L	L	L	L
EE	L	M	-	-	-	L	-	M	L	M	-	M	-	L
FI	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HU	M	M	L	L	L	L	L	L	L	L	L	L	L	L
IE														
LV	L	L	0.03€m	0.06€m	L	0.03€m	L	L	L	L	L	L	L	L
MT	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UK			0	0			0	0			0	0	0	0
CY	L	L												
EE														
HU	52/365	52/365	12	12	12	12	12	12	12	12	12	12	12	12
AT		1	1	1	1	1	1	1	1	1	1	1	1	1
CZ														
RO														
BG		1												
CY	L	L												
EE	M													

Key: self-regulation (i) and legislation (ii)
Responses: low (L), medium (M), high (H), no change (0) or unsure/don't know (-)

Figure 117: Frequency of regulatory information collection (per year)

	Policy options													
	Option a1		Option a2		Option a3		Option b1		Option b2		Option b3		Option b4	
State	(i)	(ii)	(i)	(ii)	(i)	(ii)	(i)	(ii)	(i)	(ii)	(i)	(ii)	(i)	(ii)
FI														
HU	H	52/365	12	12	12	12	12	12	12	12	12	12	12	12
IE														
LV	L	365	52	365		365								
MT														

Self-regulation (i) or legislation (ii)

Private implementation costs: lenders and credit registers

Figure 118 and Figure 119 below show lenders views on the costs of complying with responsible lending laws and regulations.

Figure 118: One-off costs to lenders

		Policy options													
		Option a1		Option a2		Option a3		Option b1		Option b2		Option b3		Option b4	
Lender	State	(i)	(ii)	(i)	(ii)	(i)	(ii)	(i)	(ii)	(i)	(ii)	(i)	(ii)	(i)	(ii)
A	ES	-	-	-	-	0.1 €m	0.01 €m	0.1 €m	0.01 €m	-	-	0.1 €m	0.01 €m	0.1 €m	0.01€m
B	DK	-	-	-	-	-	-	-	-	-	-	1.2€m	0.2€m	H	H
C	BE	-	-	L	L	L	L	L	L	-	-	ML	ML	?	?

Self-regulation (i) or legislation (ii)
Responses: low (L), medium (M), high (H) or unsure/don't know (-)

Figure 119: Ongoing costs to lenders

		Option a1		Option a2		Option a3		Option b1		Option b2		Option b3		Option b4	
Lender	State	(i)	(ii)	(i)	(ii)	(i)	(ii)	(i)	(ii)	(i)	(ii)	(i)	(ii)	(i)	(ii)
A	ES	-	-	-	-	0.1 €m	0.01 €m	0.1 €m	0.01 €m	-	"Risk"	-	-	0.1 €m	0.01€m
B	DK	-	-	-	-	-	-	-	-	-	-	1.2 €m	0.2 €m	H	H
C	BE	-	-	L	L	L	L	L	L	-	-	ML	ML	?	?

Self-regulation (i) or legislation (ii)
Responses: low (L), medium (M), high (H) or unsure/don't know (-)

Figure 120 below shows the views of credit registers on the costs of providing non-discriminatory information access.

Figure 120: Cost of providing non-discriminatory information access (€m)

		Self-regulated				Legislated			
		One-off costs		Ongoing costs		One-off costs		Ongoing costs	
Respondent	State	Direct Access	Indirect Acc.	Direct Access	Indirect Acc.	Direct Access	Indirect Acc.	Direct Access	Indirect Acc.
A	IT	-	0	-	0	-	0	-	0
B	IT	0	0.02	0	0.1	0	0.02	0	0.1
C	NL	0	0	0	0	0	0	0	0
D	ES	0	0.2	0	0.05	0	0.2	0	0.05
E	UK	0	0	0	0	0	0	0	0
F	UK	-	-	-	-	-	-	-	-
G	PT	0.001077	0.05	0.028	0.028	-	-	-	-
H	RO	-	-	-	-	-	-	-	-
I	SI	0.3	0.3	0.2	0.2	0.3	0.3	0.2	0.2
J	SE	0	0	0	0	0	0	0	0

Key: unsure/don't know (-)

Annex 4 Stakeholder consultations

Legal baseline questionnaires

Table 71: National regulators

Country	Organisation	Response
Austria	Ministry of Finance	Participated
Belgium	Commission Bancaire, Financière et des Assurances (CBFA)	Participated
Bulgaria	Bulgarian National Bank	Participated
Cyprus	Ministry of Finance	Participated
Czech Republic	Czech National Bank	Participated
Denmark	Finanstilsynet / Ministry of Justice Data Protection Agency	Participated Declined
Estonia	Ministry of Finance	Participated
Finland	Financial Supervisory Authority	Participated
France	Treasury Department	Participated
Germany	BaFin / Ministry of Justice	Participated
Greece	Bank of Greece	Participated
Hungary	Ministry of Finance	Participated
Ireland	Financial Services Regulatory Authority	Participated
Italy	Banca d'Italia	Participated
Latvia	Ministry of Economics	Participated
Lithuania	Bank of Lithuania	Participated
Luxembourg	Ministry of Finance	Participated
Malta	Financial Services Authority Consumer & Competition Division	Participated Declined
Netherlands	Autoriteit Financiele Markten (AFM)	Participated
Poland	Financial Supervisory Authority / Ministry of Finance	Participated
Portugal	Banco de Portugal	Participated
Romania	National Bank of Romania	Participated
Slovakia	Ministry of Finance	Participated
Slovenia	Ministry of Finance	Participated
Spain	Treasury Department	Declined
Sweden	Ministry of Finance Financial Supervisory Authority	Participated Participated
United Kingdom	Financial Services Authority	Participated

Table 72: National mortgage associations		
Country	**Organisation**	**Response**
Austria	Verband der Oesterreichischen Landes-Hypothekenbanken Oesterreichischer Sparkassenverband	Declined to participate Participated
Belgium	Union Professionelle du Credit	Participated
Bulgaria	Association of Banks in Bulgaria	Declined
Cyprus	Association of Cyprus Commercial Banks (ACCB)	Participated
Czech Republic	Czech Banking Association ACSS	Participated Declined
Denmark	RealKreditradet	Participated
Estonia	Estonian Banking Association	Declined
Finland	Federation of Finnish Financial Services	Participated
France	ASF (French Financial Association) French Banking Association	Participated Participated
Germany	Gesamtverband der Deutschen Versicherungswirtschaft e.V) GDV Verband Deutscher Hypothekenbanken	Participated Participated
Greece	Hellenic Bank Association	Participated
Hungary	Association of Hungarian Mortgage Banks	Participated
Ireland	Irish Banking Federation	Participated
Italy	L'Associazione Bancaria Italiano	Participated
Latvia	Association of Latvian Commercial Banks	Declined
Lithuania	Association of Lithuanian Banks	Participated
Luxembourg	Association des Banques et Banquiers, Luxembourg (ABBL)	Participated
Malta	Association of Licensed Financial Institutions Malta Bankers Association	Declined
Netherlands	Nederlandse Vereniging van Banken (NVB)	Participated
Poland	Polish Banking Association	Participated
Portugal	Caixa Geral de Depositos Subsequently approached Portugese Bankers Association for Part Two	Declined
Romania	Romanian Banking Association (ARB) Financial Companies Association of Romania (ALB) Association of Leasing Companies of Romania (ASLR)	Declined
Slovakia	Slovakian Banking Association	Participated
Slovenia	Bank Association of Slovenia	Participated
Spain	Asociacion Hipotecaria Espanola	Participated
Sweden	Swedish Bankers Association	Participated
UK	Council of Mortgage Lenders	Participated

Cost-benefit questionnaires

Table 73: Individual mortgage lenders

Country	Number of Individual Lenders Contacted	Number of Questionnaires Received
Austria	2	2
Belgium	64 via Union Professionelle du Credit, 5 agreed to participate and were contacted directly	4
Bulgaria	After multiple requests to Mortgage Association of Bulgaria assumed declined to participate on members behalf	0
Cyprus	12 via Association of Cyprus Banks	0
Czech Republic	Association of ***Czech*** Buildings Savings Banks (ACSS) declined to participate on members behalf	0
Denmark	6 via RealKreditradet, 3 agreed to participate and were contacted directly	2
Estonia	After multiple requests to Estonian Banking Association assumed declined to participate on members behalf	0
Finland	6	0
France	6	1 (for group of lenders)
Germany	15 via EFBS to Verband der Privaten Bausparkassen 11 via EBBS to Landesbausparkassen 15 sent directly	15
Hungary	3 via Association of Hungarian Mortgage Banks. 6 distributed direct.	1
Ireland	67 via Irish Banking Federation	0
Italy	17	2
Latvia	Association of Latvian Banks declined to participate on behalf of members	0
Lithuania	11 via Association of Lithuanian Banks	0
Luxembourg	Association des Banques et Banquiers, Luxembourg (ABBL) declined to participate on behalf of members	0
Malta	After multiple requests to Association of Licensed Financial Institutions assumed declined to participate on members behalf	0
Netherlands	93 via Netherlands Bankers Association, 3 agreed to participate.	0
Poland	2 lenders via Polish Banking Association.	0
Portugal	1	0
Romania	After multiple requests to Financial Companies Association of Romania (ALB)	0
Slovakia	After multiple requests to Slovakian Banking Association assumed declined to participate on members behalf	0
Slovenia	Requested list of lenders or distribution via After multiple requests to Bank Association of Slovenia assumed declined to participate on members behalf	0
Spain	18	1
Sweden	Swedish Bankers Association declined on behalf of members assumed declined to participate on members behalf	0
UK	21	1 participated plus 1 interviewed

Table 73: Individual mortgage lenders		
Country	**Number of Individual Lenders Contacted**	**Number of Questionnaires Received**

Table 74: Individual Mortgage Credit Intermediaries		
Country	**Number of Individual Intermediaries Contacted**	**Number of Questionnaires Received**
Austria	1	0
Belgium	43	0
Bulgaria	2	0
Cyprus	0	0
Czech Republic	1	0
Denmark	0	0
Estonia	0	0
Finland	0	0
France	4700 via S.I.O.B.	8
Germany	4	0
Greece	0	0
Hungary	6	0
Ireland	60 via Independent Mortgage Advisors Federation	0
Italy	Requested contacts or distribution to members via Federazione Italiana Mediatori Creditizi (FIMEC). No response.	0
Latvia	0	0
Lithuania	0	0
Luxembourg	0	0
Malta	0	0
Netherlands	200 via OvfD	1
Poland	7	0
Portugal	1	0
Romania	0	0
Slovakia	1	1
Slovenia	0	0
Spain	0	0
Sweden	0	0
UK	6 via Association of Mortgage Intermediaries (the biggest 6 intermediaries, selected by AMI to represent approximately 40% of the 65% market share enjoyed by UK mortgage intermediaries)	0

Table 75: Credit Registers		
Country	**Number of Credit Registers Contacted**	**Number of Questionnaires Received**
Austria	2	0
Belgium	1	1
Bulgaria	2	2
Cyprus	We believe there is one private credit register[248] but no details available from regulator or national mortgage association.	0
Czech Republic	5	0
Denmark	2	1
Estonia	1	0
Finland	2	0
France	1	0
Germany	4	1
Greece	1	1
Hungary	1	0
Ireland	1	0
Italy	5	2
Latvia	5	0
Lithuania	2	0
Luxembourg	No credit databases or registers exist.[249]	0
Malta	We believe there is one private credit register[250] but no details available from regulator or national mortgage association.	0
Netherlands	2	1
Poland	2	0
Portugal	2	1
Romania	2	1
Slovakia	3	0
Slovenia	2	1
Spain	5	1
Sweden	1	1
UK	3	2

[248] See *Report of the Expert Group on Credit Histories 2009*
[249] Ibid
[250] Ibid

Table 76: Consumer Associations		
Country	**Organisation**	**Response**
Austria	Verein für Konsumenteninformation	No response
Belgium	Test Achats	No response
Bulgaria	Bulgarian National Consumer Association	No response
Cyprus	Cyprus Consumers Association	No response
Czech Republic	Consumers' Defence Organisation of the Czech Republic	No response
Denmark	Forbrugerradet	Interviewed
Estonia	Estonian Consumers' Union	No response
Finland	Kuluttajavirasto Konsumentverket	No response
France	ADIL	Interviewed
France	ANIL	Interviewed
France	INC (Institut National de la Consommation)	No response
France	UFC-Que Choisir	Declined
Germany	Verbraucherzentrale Bremen e.V.	Interviewed
Germany	Verbraucherzentrale Hamburg e. V	Interviewed
Greece	EKPIZO Consumers' Association "Quality of Life"	No response
Hungary	National Association for Consumer Protection in Hungary (NACPH)	No response
Ireland	Consumers' Association of Ireland (CAI)	No response
Italy	Adiconsum	Interviewed
Italy	Altroconsumo	No response
Italy	CTCU (Centro Tutela Consumatori e utenti)	No response
Latvia	Latvian National Consumer Association	No response
Lithuania	Lithuanian Consumer Institute (LCI)	Declined
Luxembourg	ULC (Union Luxembourgeoise des Consommateurs)	No response
Malta	Ghaqda tal-Konsumaturi	No response
Netherlands	NIBUD (National Instituut voor Budgetvoorlichting)	No response
Netherlands	Consumentenbond	No response
Poland	Association of Polish Consumers	No response
Portugal	DECO - Ass.Portuguesa para a Defesa do Consumidor	Declined
Romania	Association for the Protection of Consumers (APC)	No response
Slovakia	Association of Slovak Consumers (Zdruzenie slovenskych spotrebitelov)	No response
Slovenia	Slovene Consumers Association	No response
Spain	ADICAE	Participated plus interviewed
Sweden	Swedish Consumer Agency (Konsumentverket)	No response
Sweden	Swedish Consumers' Association	No response
UK	Which	Participated
EU	BEUC	Interviewed

Table 77: Mortgage Associations		
Austria	Austrian Mortgage Association	No response
Austria	Association of Austrian Building Societies	Participated

Table 77: Mortgage Associations		
Austria	Austrian Mortgage Association	No response
Austrian	Austrian Savings Bank Association	Participated
Belgium	Professional Credit Union	Participated
Bulgaria	Association of Banks in Bulgaria	Declined
Cyprus	Association of Cyprus Commercial Banks (ACCB)	Participated
Czech Republic	Czech Banking Association	Participated
Czech Republic	Association of Czech Building Savings Banks (ACSS)	Declined
Denmark	Realkreditradet	Participated
Denmark	Realkreditforeningen	Declined
Estonia	Estonian Banking Association	Declined
Finland	Federation of Finnish Financial Services	Declined
France	Association of Specialised Finance Companies (ASF)	Declined
Germany	Association of German Public Sector Banks (VOEB)	Participated
Germany	German Insurance Association (GDV)	Participated
Germany	Association of Public German Building Societies (DSGV)	Participated
Germany	Association of German Banks (BDB)	Participated
Germany	BVR	Participated
Germany	(DSGV)	Participated
Germany	Association of German Pfandbrief Banks	Participated
Germany	Association of Private Building Societies (VDPB)	Participated
Greece	Hellenic Bank Association	Declined
Hungary	Association of Hungarian Mortgage Banks	Declined
Ireland	Irish Banking Federation	Declined
Italy	Italian Banking Association	Participated
Latvia	Association of Latvian Commercial Banks	Declined
Lithuania	Association of Lithuanian Banks	Declined
Luxembourg	Association of Banks and Bankers (ABBL)	Declined
Malta	Association of Licensed Financial Institutions	Declined
Malta	Malta Bankers Association	Declined
Netherlands	Netherlands Bankers Association (NVB)	Declined
Poland	Polish Banking Association	Declined
Portugal	Portuguese Bankers Association	Declined
Romania	Romanian Banking Association (ARB)	Declined
Romania	Financial Companies Association of Romania (ALB)	Declined
Romania	Association of Leasing Companies of Romania (ASLR)	Declined
Slovakia	Slovakian Banking Association	Declined
Slovenia	Bank Association of Slovenia	Declined
Spain	Spanish Mortgage Association (AHE) & Spanish Bankers Association (Joint Response)	Participated (Joint Response)
Spain	Spanish Confederation of Savings Banks (CECA)	Participated
Sweden	Swedish Bankers Association	Declined
United Kingdom	Council of Mortgage Lenders	Participated

Table 78: National Associations of Credit Intermediaries

Country	Organisation	Response
France	Syndicat des Intermediairies en Operations de Banque (SIOB)	Participated
France	Association Francaise des Intermediaires Bancaires (AFIB)	Participated
Ireland	Independent Mortgage Association Federation	Declined
Italy	Federazione Italiana Mediatori Creditizi (FIMEC)	Declined
Netherlands	Nederlandse Vereniging Van Assurantieadviseurs En Financiële Dienstverleners (N.V.A.)	Participated
UK	Association of Independent Financial Advisors (AIFA)	Declined
UK	Association of Mortgage Intermediaries. (AMI)	Declined

Note: There is currently no European Association specifically for Mortgage Credit Intermediaries.[251] In those EU countries where insurers can provide mortgages[252] we therefore contacted members of the European Federation of Insurance Intermediaries (BIPAR) with an invitation to participate. Only one country, the Netherlands, accepted the invitation (see table above). We also consulted with the UK Association of Mortgage Intermediaries to identify national mortgage intermediary associations within the EU. (see responses in table above).

[251] Robert Sinclair, Association of Mortgage Intermediaries, UK, in phone discussion, 25 June 2009.
[252] *Study on the Role and Regulation of Non-Credit Institutions in EU Mortgage Markets, September 2008*

Table 79: National Policymakers		
Country	**Organisation**	**Response**
Austria	Federal Ministry of Finance	Participated
Belgium	Treasury Department	After multiple requests assumed declined to participate
Bulgaria	National Bank	Participated
Cyprus	Ministry of Finance	Participated
Czech Republic	Ministry of Finance	Participated
Denmark	Ministry of Justice	Participated
Estonia	Ministry of Finance	Participated
Finland	Ministry of Finance	After multiple requests assumed declined to participate
France	Treasury Department	Participated
Germany	Ministry of Justice	Participated
Greece	Ministry of Economy & Economics	After multiple requests assumed declined to participate
Hungary	Ministry of Finance	Declined
Ireland	Department of Finance	After multiple requests assumed declined to participate
Italy	Department of Treasury and Bank of Italy	Participate
Latvia	Ministry of Economics	Participated
Lithuania	Ministry of Finance	After multiple requests assumed declined to participate
Luxembourg	Ministry of Economics & Foreign Trade	After multiple requests assumed declined to participate
Malta	Treasury Department	After multiple requests assumed declined to participate
Netherlands	Ministry of Finance	Participated
Poland	Ministry of Finance	After multiple requests assumed declined to participate
Portugal	Bank of Portugal	Response pending – following up
Romania	Ministry of Public Finance	After multiple requests assumed declined to participate
Slovakia	Ministry of Finance	Participated
Slovenia	Ministry of Finance	Participated
Spain	Treasury Department	After multiple requests assumed declined to participate
Sweden	Ministry of Finance	Participated
United Kingdom	HM Treasury / FSA	Particpated

Table 80: National Regulators		
Country	**Organisation**	**Response**
Austria	Ministry of Finance	Participated
Belgium	CBFA (Banking, Finance and Insurance Commission)	Participated
Bulgaria	National Bank	Participated
Cyprus	Ministry of Finance	Participated
Czech Republic	Ministry of Finance	Participated
Denmark	Finanstilsynet	After multiple requests assumed declined to participate
Estonia	Ministry of Finance	Participated
Finland	Financial Supervisory Authority	Participated
France	Treasury Department	Participated
Germany	BaFin (Federal Financial Supervisory Authority)	After multiple requests assumed declined to participate
Greece	Ministry of Development	Participated
Hungary	Financial Supervisory Authority	Participated
Ireland	Financial Services Regulatory Authority	Participated
Italy	Bank of Italy	Participated
Latvia	Ministry of Economics	Participated
Lithuania	Bank of Lithuania	After multiple requests assumed declined to participate
Luxembourg	Ministry of Finance	After multiple requests assumed declined to participate
Malta	Financial Services Authority	Participated
Netherlands	Authority for Financial Markets	After multiple requests assumed declined to participate
Poland	Financial Supervision Authority	After multiple requests assumed declined to participate
Portugal	Bank of Portugal	Response pending – following up
Romania	National Bank	Participated
Slovakia	Ministry of Finance	Participated
Slovenia	Ministry of Finance	Participated
Sweden	Finansinspektionen	After multiple requests assumed declined to participate
UK	Financial Services Authority	Participated

In-depth face-to-face stakeholder meetings

Table 81: Face to Face meetings with national stakeholders		
Member State	**Mortgage lender association**	**Consumer Association**
Germany		
	Association of German Banks bdb	Verbraucherzentrale Bundesverband
	Deutscher Sparkassen- und Giroverband DSGV	Verbraucherzentrale Bremen
	Verband privater Bausparkassen VdPB	
	Münchener Hypothekenbank	
	Bundesverband deutscher Volks- und Raiffeisenbanken BVR	
	Verband deutscher Pfandbriefbanken vdp	
	Hypoport	
Denmark		
	RealKredit Foreningen	Danish Consumer Council
	Danish Bankers Assocn.	Danish Mortgage Credit Complaint Board
	RealKreditradet	
Spain		
	Spanish Mortgage Association	ADICAE Consumer Association
	BBVA	
	Banco Santander	
France		
	French Banking Association	ANIL
		ADIL
Hungary		
	Hungarian Mortgage Bank Association	
	FHB mortgage bank	
	Hungarian Banking Association	
	OTP Bank	
Italy		
	Italian Banking Association	Adiconsum
United Kingdom		
	Council for Mortgage Lenders	Which?

Table 82: European associations that the project team met with	
	European Mortgage Association
	European Savings Bank Group
	Eurofinas
	European Banking Federation
	European Federation of Building Societies
	European Association of Cooperative Banks
	European Consumer Organisation
	Association of Consumer Credit Information Suppliers (via phone)
	European Association of Public Banks

Annex 5 Response rate to the stakeholder surveys

Table 83: Summary of survey participation
● full or partial response received (1 ● per instance) ○ body was contacted, but no response /response pending (1 ○ per instance) x no contact/no response via association

Country	Policymakers	Regulators (Part 1)	Regulators (Part 2)	Consumer Associations	Credit registers	Associations of credit intermediaries	Credit Intermediaries*	Mortgage Associations (Part 1)	Mortgage Associations (Part 2)	Lenders*
BG	●	●	●	○	●●	x	x	○	○	x
BE	○	●	●	○	●	x	x	●	●	●●●●[3]
CZ	●	●	●	○	○○○○○	x	x	●○	●○	x
DK	●	●○	○	●	●○	x	x	●	●○	●●[4]
DE	●	●	○	●●	●○○○	x	x	●●	●●●●●●●●	●●●●●●●●●●●●●●●●[5]
EE	●	●	●	○	○	x	x	○	○	x
EL	○	●	●	○	●	x	x	●	○	x
ES	○	○	●	●	●○○○○	x	x	●	●●	●○○○○○○○○○○○○○○○○○[6]
FR	●	●	●	●●○○	○	●●	●●●●●●●●[1]	●	○	○○○○○○[7]
IE	○	●	●	○	○	○	x	●	○	x[8]
IT	○	●	●	●○○	●●○○○	○	x	●	●	x[9]
CY	●	●	●	○	-	x	x	●	○	x[4]
LV	●	●	●	○	○○○○○	x	x	○	○	x
LT	○	●	○	○	○○	x	x	●	○	x[10]
LU	○	●	○	○	-	x	x	●	○	x
HU	○	●	●	○	○	x	x	●	○	●○○○○[11]
MT	○	●○	●	○	-	x	x	○○	○○	x
NL	●	●	○	○	●○	●	●[2]	●	○	x[12]
AT	●	●	●	○	○○	x	x	●○	●● ○	●●
PL	○	●	○	○	○○	x	x	●	○	x[13]
PT	○	●	○	○	●○	x	x	○○	○	○[14]
RO	○	●	●	○	●○	x	x	○○○	○○○	x
SI	●	●	●	○	●○	x	x	●	○	x
SK	●	●	●	○	○○○	x	●	●○	○	x
FI	○	●	●	○	○○	x	x	●	○	○○○○○○[15]
SE	●	●	○	○○	●	x	x	●	○	x
UK	○	●	○	●	●●○	○○	x	●	●	●●○○○○○○○○○○○○○○○○○○
EU	x	x	x	●	x	x	x	x	x	x

Annex 6 Background information to the APRC assessment

In the APRC assessment (presented in the main report), the cost factors included in the APRC are shown, and these cost factors are used to assess whether a Member State has a narrow or broad APRC, or whether the APRC is along the lines of the CCD. In this annex, background information is provided for the EU-27. This information is not used to assess the APRC, but, as stated, is background information collected from the national regulators and industry associations.

First, the products and services usually associated with the establishment of the mortgage contract are presented; this is followed by the approach to calculating the APRC. Specifically, the latter reports the term over which the APRC is calculated, how the APRC is calculated for variable rate mortgages and hybrid mortgages, and the approach in the case of multiple contracts or products.

Table 84: Products and services typically associated with the establishment of the mortgage and of the loan

Lender Products & Services	**Legal Requirement**	**Always required by mortgage lenders but not a legal requirement**	**Generally required by mortgage lenders but not a legal requirement**	**Only occasionally required by mortgage lenders but not a legal requirement**	**Never required by mortgage lenders**	**Product financed by lender** (The creditor (lender) incurs the cost)	**Product financed by borrower** (The cost is incurred by the borrower)
Additional giro account by the mortgage lender required (fees charged)		BE, ES, PT, EL, LV,	FR, HU, LU, RO, SK, LT (in practice there are no fees)	BG, CZ, NL, PO, SE, PL, EE, IT, SI, NL	AT, DK, DE, IE, FI, UK, CY, FI	IT(can be either lender or borrower financed)	BG , HU, IT(can be either lender or borrower financed), LV
Additional account maintenance (Note: as per Consumer Credit Directive Articles 5, 10 and 19)		DK, IT, LV,	CZ, HU, PL, PT, EL, IT, RO, SK, LT (in practice there are no fees)	BG, NL, SE, NL	AT, BE, DE, FI, UK, SI, FI		BG, HU, IT, LV
Lender appraisal services (This refers to valuation of the property by the lender)	DK, IE (for building societies only – Building Societies Act, 1989, Sec. 25.1), IT	AT, BE, BG, EL, HU, LV,	CZ, PO, UK, PL, PT, SK	NL SE, EE, SI, NL	FI, CY	DE,IT	BG, HU, IT, LV
Other lender products & services	PL	BG (applying cost, drawdown cost, annual cost of servicing, commitment cost, cost for changing contract conditions),	BE, HU, LV, SK, CY	DE CZ, NL, UK, EE, LU, NL	AT, FI, SE, PT, LU, SI		BG, HU, LV
Third party products & services	BG (notary fees fee for registering in the property register), HU, CY	PT, LV,	BE, PL, EL, SK	FR, DE, AT, CZ, DE, EE, SI	DK, NL, FI, SE, LU, NL	BG,	BG, HU, CY

Table 84: Products and services typically associated with the establishment of the mortgage and of the loan

Lender Products & Services	**Legal Requirement**	**Always required by mortgage lenders but not a legal requirement**	**Generally required by mortgage lenders but not a legal requirement**	**Only occasionally required by mortgage lenders but not a legal requirement**	**Never required by mortgage lenders**	**Product financed by lender** (The creditor (lender) incurs the cost)	**Product financed by borrower** (The cost is incurred by the borrower)
Life/casualty insurance	IE	CZ, PT, BG,	AT, BE, HU, NL, PL, PO, EL, RO, SK, CY, NL	DE, ES, SE, EE, IT, LV, SI	DK, FI, UK, LU, LT		BG, EE, HU, CY
Property insurance	DK, ES (damage insurance only), RO	CZ, DE, BG, NL, SE, PT, UK, EE, EL, LU, LV, LT, CY, FI, NL	AT, BE, HU, PL, SK	SI	FI, IT, LU		BG, EE, HU, IT, CY
Mortgage interest payment insurance		BG,	CZ, IE, PL, EL, LU, SK	AT, BE, ES, UK, PT, HU, LV, SI, LT	DK, NL, FI, SE, IT, CY, NL		BG, HU, LV
Mortgage principal insurance		BG,	IE, PL, LU, SK	AT, BE, CZ, ES, PT, UK, EL, LV, SI, LT	DK, NL, FI, SE, EE, HU. IT, CY, NL		BG, LV
Other insurance		SK	DE (residual debt insurance obligatory for building society loans; usually required for other loans)	CZ, DE (residual debt insurance), UK, IT(in case of unemployment)	AT, BE, NL, FI, SE, EE, LV, NL		IT, LV
Notary services (Note: Related to mortgage granting, NOT ownership transfer)	ES,HU, PL, PT, BG, IT, LU, RO, LT	AT, DE, EL (Notary and land registry mortgage pre-notification registration fees), LV	CZ, UK, SI,	PO, SK	BE, DK, IE, NL, FI, SE, EE, CY, NL	CZ, BG (can be either lender or borrower financed)	BG (can be either lender or borrower financed), IT, LV, LT
Legal advisory services		BG,		AT, CZ, UK, SI, SK, CY	BE, DK, DE, NL, PO, FI, SE, PL, EE, EL, HU, IT, LU, LV, LT, NL	PT, BG (can be either lender or borrower financed), CY	BG (can be either lender or borrower financed)

Table 84: Products and services typically associated with the establishment of the mortgage and of the loan							
Lender Products & Services	**Legal Requirement**	**Always required by mortgage lenders but not a legal requirement**	**Generally required by mortgage lenders but not a legal requirement**	**Only occasionally required by mortgage lenders but not a legal requirement**	**Never required by mortgage lenders**	**Product financed by lender** (The creditor (lender) incurs the cost)	**Product financed by borrower** (The cost is incurred by the borrower)
Title search services	BE, DK, LU	ES, BG, LV	UK, EL,	CZ, SK, , CY	AT, DE, PO, FI, SE, PL, EE, IT, SI, LT	IE, BG, LV	PT, CY
Credit bureau services	HU	ES, PT, BG, , EL, IT, RO,	UK, SI, SK	CZ, HU,	AT, DK, DE, PO, FI, SE, PL, EE, LU, LV, LT, CY	IE, BG,	HU
Third party appraisal services (Where a property valuation (or appraisal) is undertaken)	HU	IE, PT, BG, EL, LV, LT	BE, PO, UK, PL, EE, LU,	AT, CZ, NL, SE, SI, SK, NL	DE, FI, IT	EE(can be either lender or borrower financed), IT(can be either lender or borrower financed),	IE, BG, EE(can be either lender or borrower financed), HU, IT(can be either lender or borrower financed), LV, LT
Brokerage services if mortgage obtained through a broker		BG, IT		AT, CZ, NL, UK (i.e. mortgages only sold through a broker), EL, HU, SK, NL	FR, BE, DE, FI, SE, EE, LV, SI, LT, CY	PL, IT(can be either lender or borrower financed),	PT, BG, HU, IT(can be either lender or borrower financed),

A1.1 Computation of the APRC

The approach reported by the national regulators and the mortgage or banking associations to computing the APRC in the 27 Member States is presented in the table below.

Table 85: Approach to computing the APRC

Member States	Term over which the APRC is calculated	Variable rate mortgages	Hybrid mortgages	Approach in the case if multiple contracts/products
AT	Contractual maturity for all loans	Constant rates assumed those available at signing	Constant rates assumed those available at signing	No obligation of a single APRC
BE *(The APRC is not used for mortgages)*	No response	No response	No response	Respondents say not applicable
BG *(No legal specification of the APRC for mortgages, but most mortgage lenders do provide an APRC)*	Contractual maturity for all loans			Single APRC to cover all loans
CY* *(Only specified for loans less than €85,430)*	Contractual maturity for all loans			No obligation of a single APRC
CZ	If the industry standard has been agreed to/signed by the lender then the term is the contractual maturity for all loans			If the APRC is used, there is no obligation for a single APRC
DE	Contractual maturity for the fixed rate period	Calculated as per the CCD	Calculated for the fixed rate period	No obligation of a single APRC if maturities are different
DK	Contractual maturity for all loans			No obligation of a single APRC
EE	No response	No response	No response	No obligation of a single APRC
EL *(While there is no legal or industry agreement for specification, If the APRC is provided then we believe this computation is used)*	Contractual maturity for all loans	Calculated using the base rate	If the interest rate is fixed for (say) 3 years and then variable, APRC is calculated using fixed rate for 3 years followed by the Euribor rate at the time of the mortgage contract is agreed.	No obligation of a single APRC
ES	Contractual maturity	APRC that is calculated at the beginning of the loan agreement and must be included in the contract. For this purpose, it is assumed that the interest rate remains constant for the life of the loan.	For loans where the rate is fixed for an initial period, then the fixed interest rate is taken into account for that period. After that, the APRC uses the variable rate which is available at the time the contract is signed.	No obligation of a single APRC
FI**	Contractual maturity for all loans			Single APRC to cover all loans
FR	Contractual maturity for fixed rate loans	Interest rate of the first initial time period (usually 1yr) must provide a description of the index that will be used to determine	These products have disappeared from the French market (reported by respondents to the legal baseline questionnaire)	Single APRC to cover all loans

Table 85: Approach to computing the APRC				
Member States	**Term over which the APRC is calculated**	**Variable rate mortgages**	**Hybrid mortgages**	**Approach in the case if multiple contracts/products**
		subsequent changes from this initial interest rate.		
HU	Contractual maturity	Period set by the lender		Single APRC to cover all loans
IE	Contractual maturity	Calculated on the assumption that the future rates of interest or charges are the current variable rates which will remain fixed and will apply until the end of the credit agreement	Fixed rate for the initial period only, assumptions of variable rates mortgages then used.	No obligation of a single APRC
IT	Contractual maturity	As per the CCD	As per the CCD	Single APRC to cover all loans
LT *(APRC is not used for mortgages)*				
LU *(No legal requirement. However, if credit institutions have signed up the European Code of Conduct then they follow the Code of Conduct)*	Code of Conduct – "equivalent effective rate"			No obligation of a single APRC If credit institution signed up to the Code of Conduct – then must be specified for all products.
LV *(APRC is never calculated for mortgages)*				
MT *(No response provided)*	No response	No response	No response	No response
NL *(Industry Code of Conduct)*				Single APRC to cover all loans
PL *(No legal requirements as to how the APRC should be computed. If loan is less than €20,000 then the CCD calculation applies)*				
PT	Contractual maturity of loan for all mortgage products. The rate (whether fixed or variable) is assumed to remain constant at its original level throughout the life of the mortgage.			Single APRC to cover all loans
RO *(No APRC required)*				
SE	Contractual maturity for all mortgage products.			Single APRC to cover all loans
SI	No response	No response	No response	Single APRC to cover all loans
SK	Contractual maturity of the loan	Based on the assumption that the interest rate and other charges will remain unchanged for the duration of the mortgage.	As for variable rate loans	Single APRC to cover all loans
UK	Contractual maturity of	Initial rate to be used	Fixed rate and current	No obligation of a

Table 85: Approach to computing the APRC				
Member States	**Term over which the APRC is calculated**	**Variable rate mortgages**	**Hybrid mortgages**	**Approach in the case if multiple contracts/products**
	mortgage loan for all products	over the full term of the loan.	variable rate for period when the mortgage reverts to a variable rate loan	single APRC

Source: National regulators and industry associations.

Overall the Member States have different approaches to the specification of the APRC.

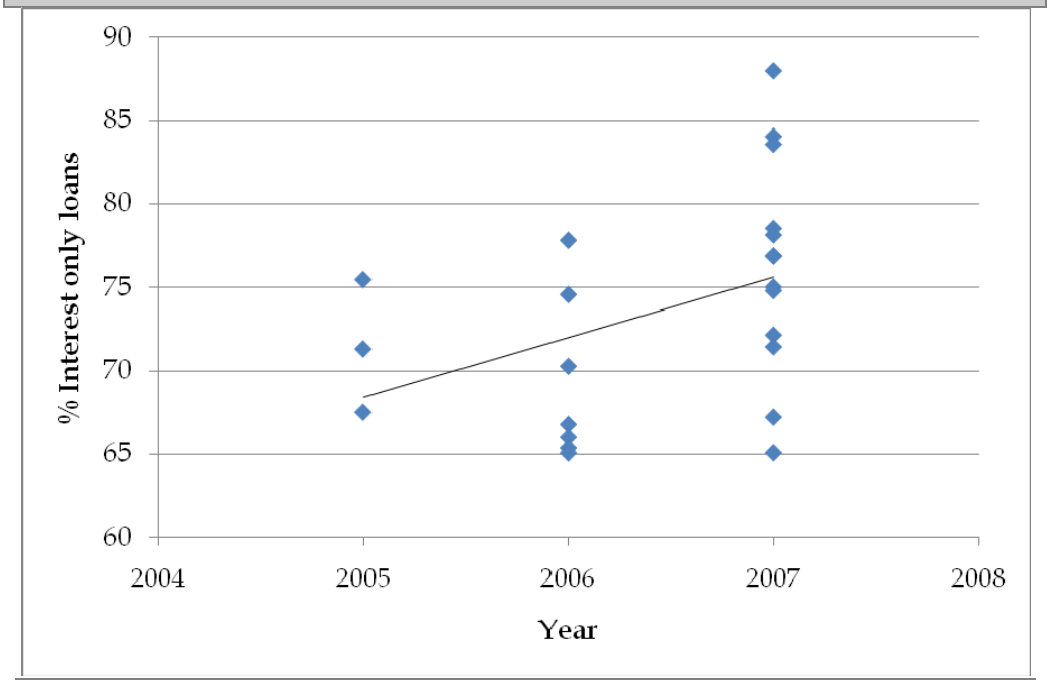
Of the 15 Member States that have a legal specification for the APRC in regard to mortgage credit, four have a requirement for a single APRC if the mortgage consists of multiple contracts.

In all Member States where an APRC for mortgage credit is used (whether specified in law or by other means such as industry recommendation), the APRC is calculated for the contractual maturity of the loan.

Annex 7 Residential mortgage-backed securities

Interest only (IO) loans

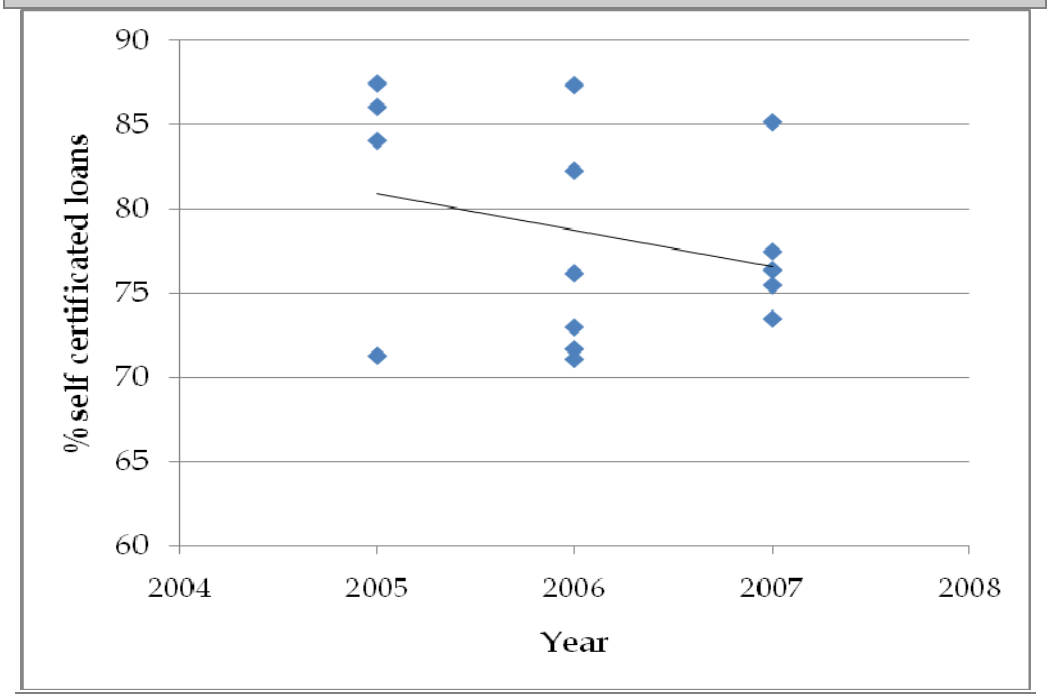
Figure 121: UK NCF RBMS with above 65% original exposure to IO loans



Note: The equation for the linear trend is y = 3.6044x – 7158.3.
Source: London Economics based on data from Bank of America Merrill Lynch (2009).

Self certification loans

Figure 122: UK NCF RBMS with above 70% original exposure to Self certification loans

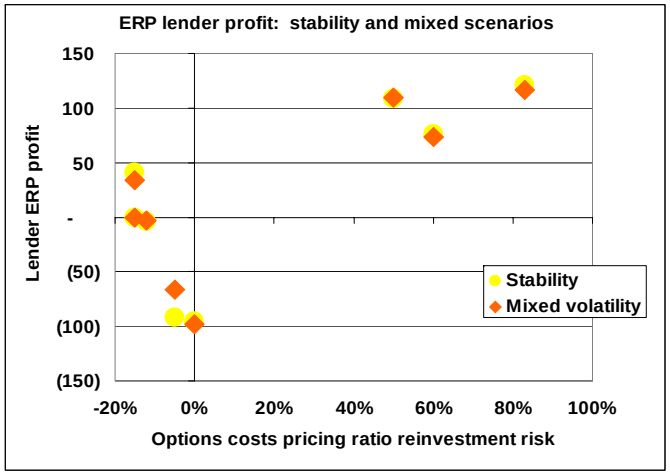


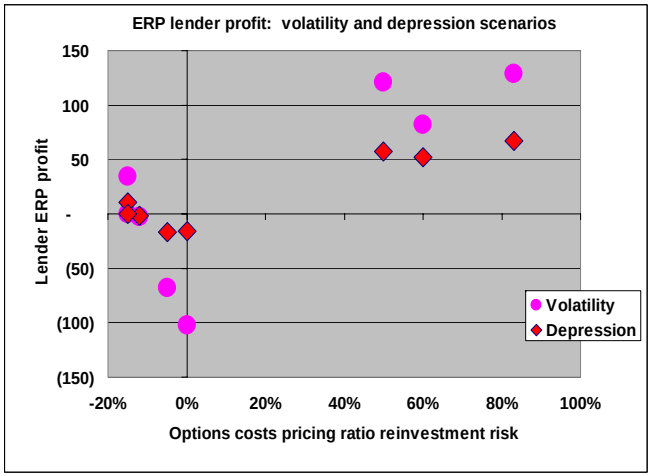
Note: The equation for the linear trend is y = -2.1813x + 4454.5.
Source: London Economics based on data from Bank of America Merrill Lynch (2009).

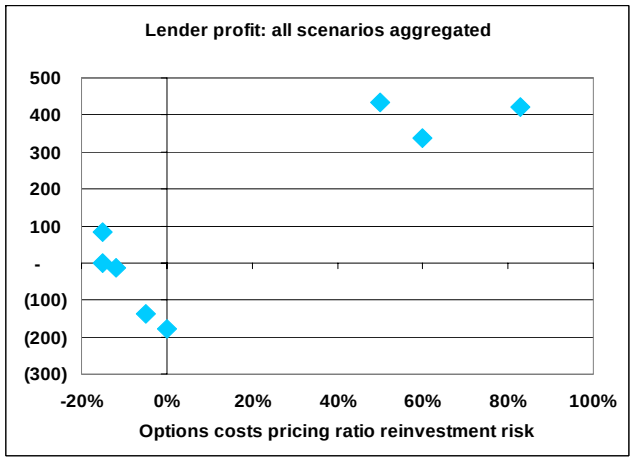
Annex 8 Net present values of benefits / costs of early repayment policy options, detail for lenders and consumers in the case countries

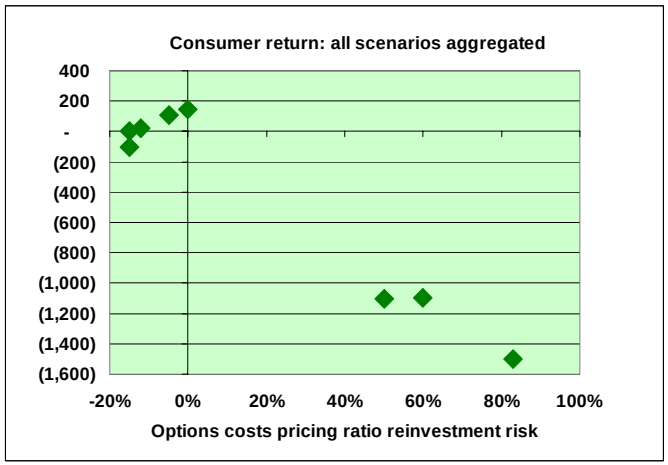
All figures presented in this annex are in € million, and net present values are over 15 years.

Figure 123 NPV of benefits / costs detail for lenders and consumers in the Czech republic with grandfathering



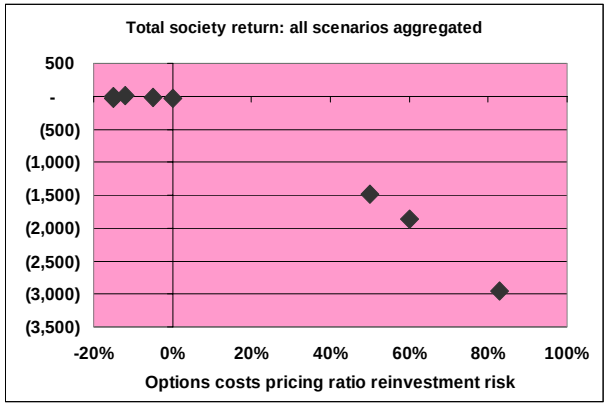


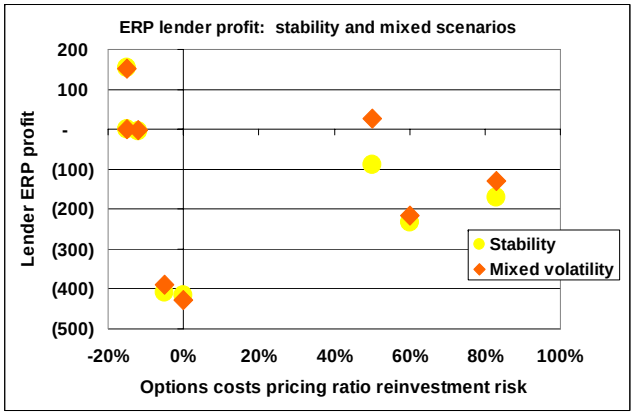


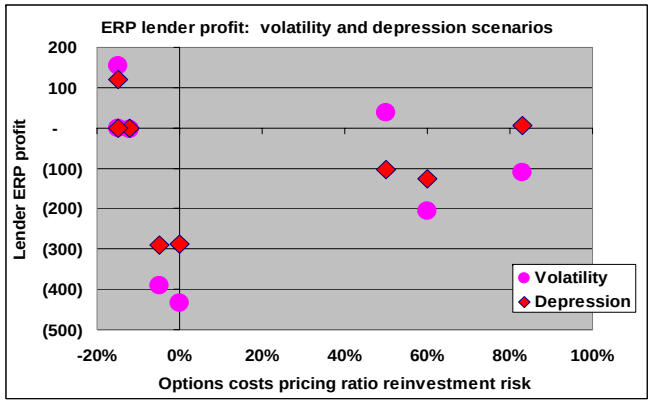


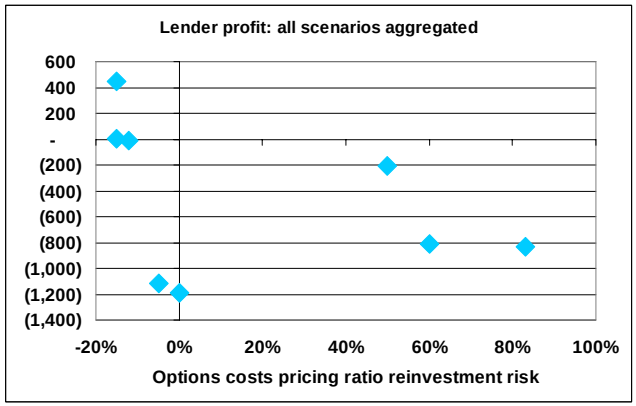
Source: Finpolconsult.

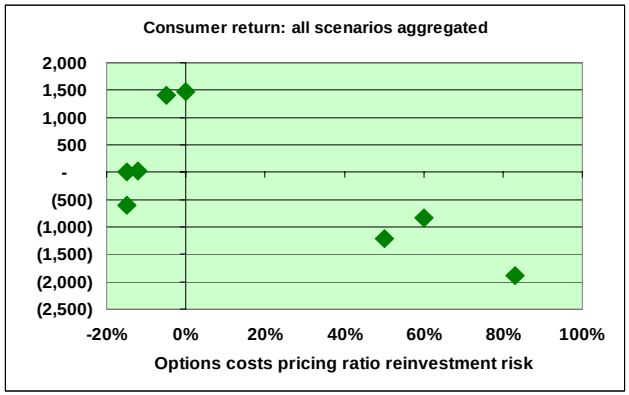
Figure 124 NPV of benefits / costs detail for lenders and consumers in the Czech republic without grandfathering





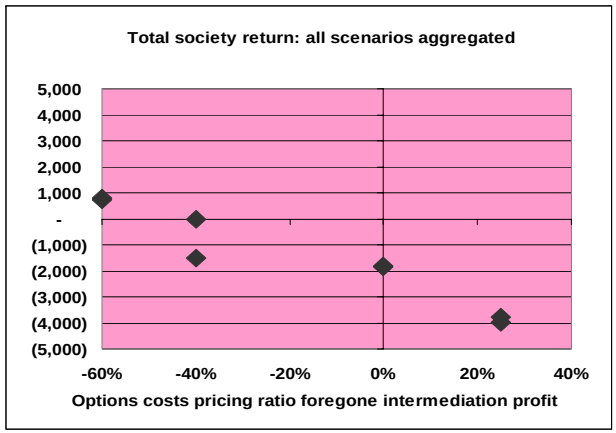


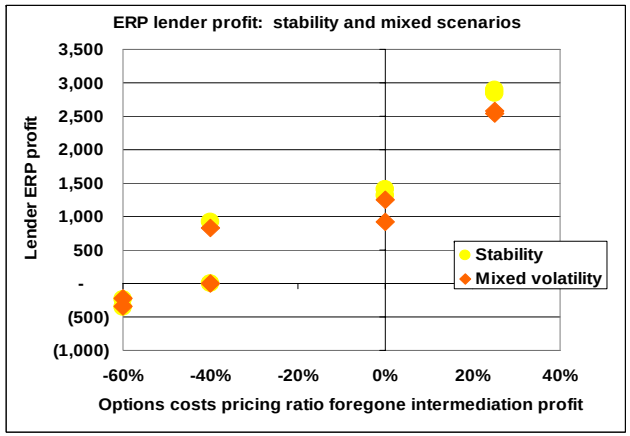


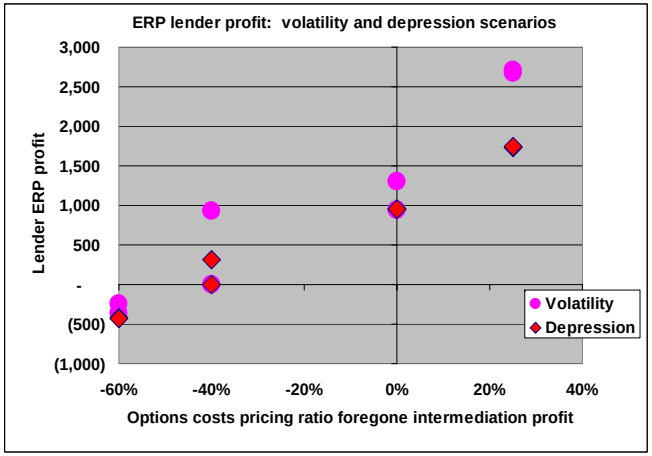


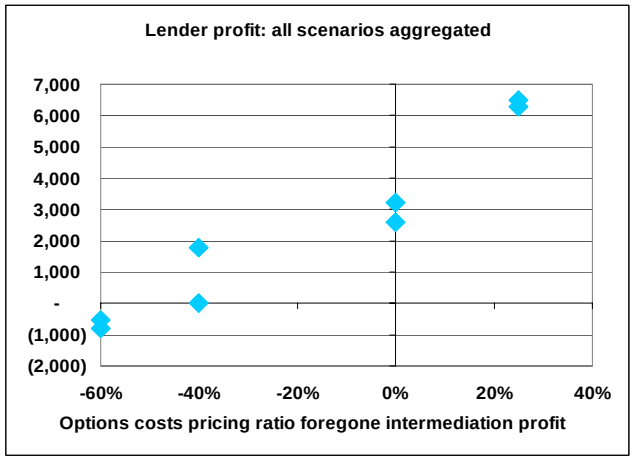
Source: Finpolconsult.

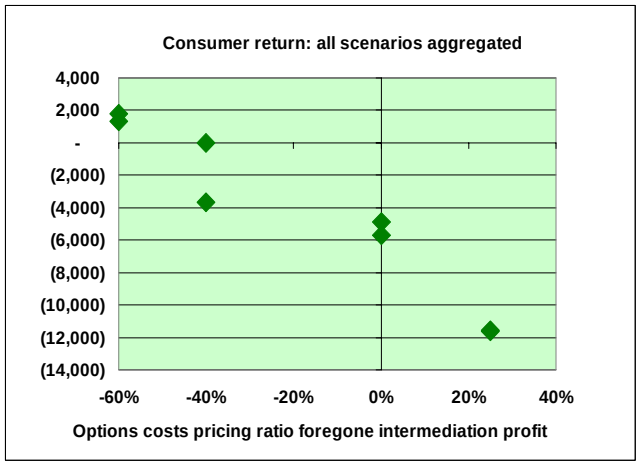
Figure 125 NPV of benefits / costs detail for lenders and consumers in Spain with grandfathering





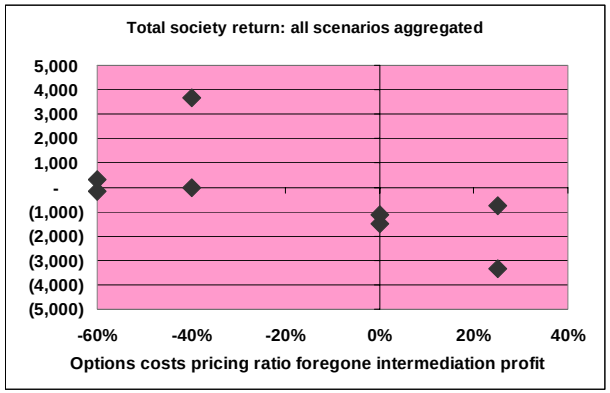


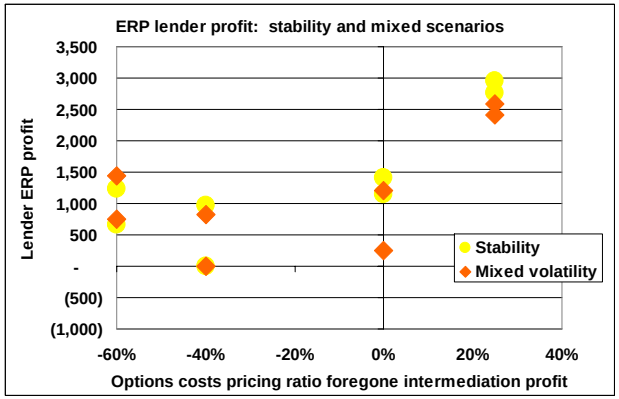


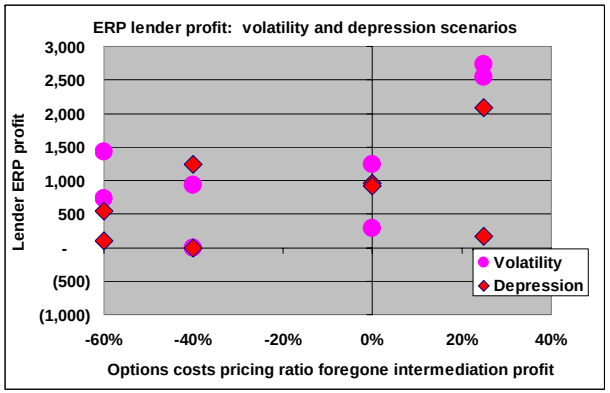


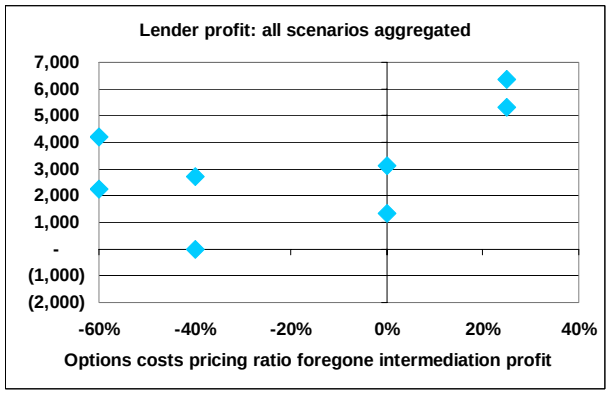
Source: Finpolconsult.

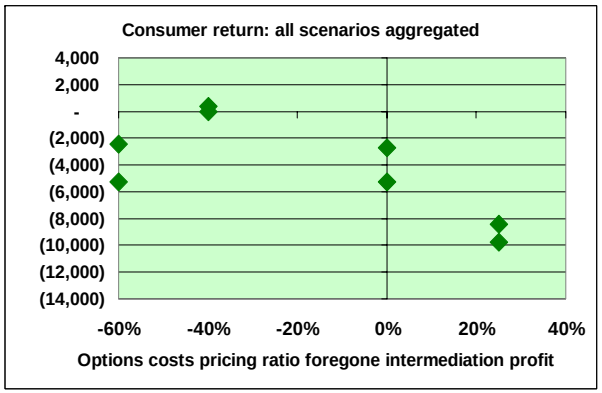
Figure 126 NPV of benefits / costs detail for lenders and consumers in Spain without grandfathering





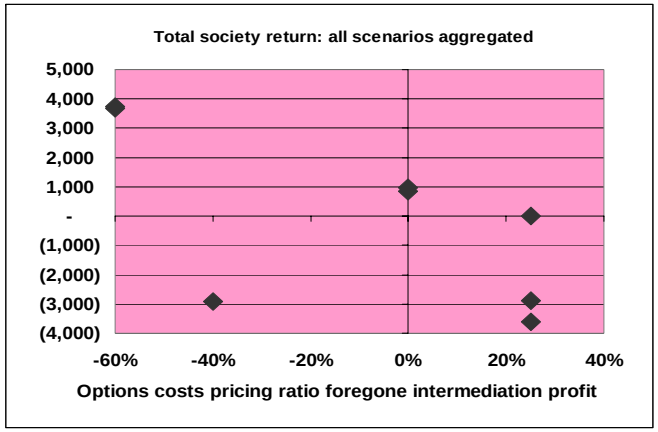


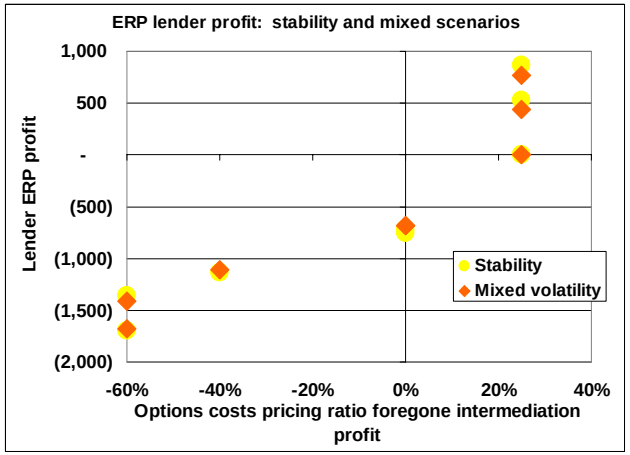


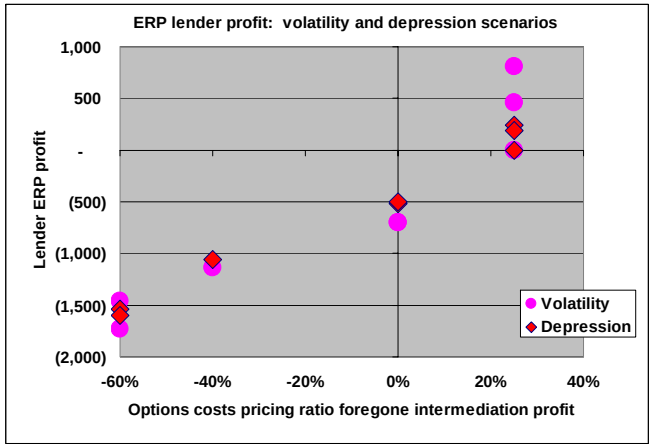


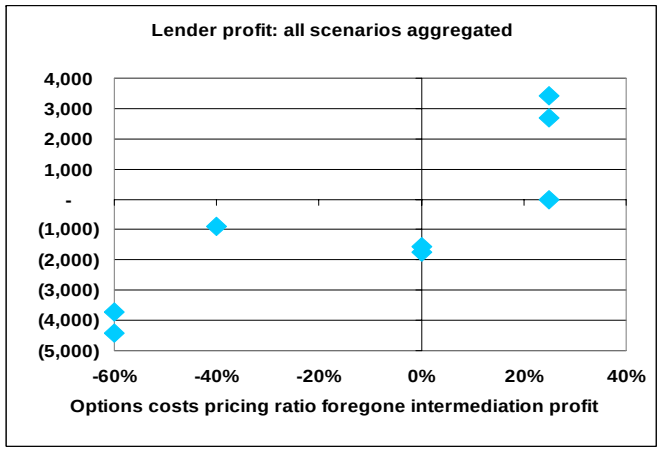
Source: Finpolconsult.

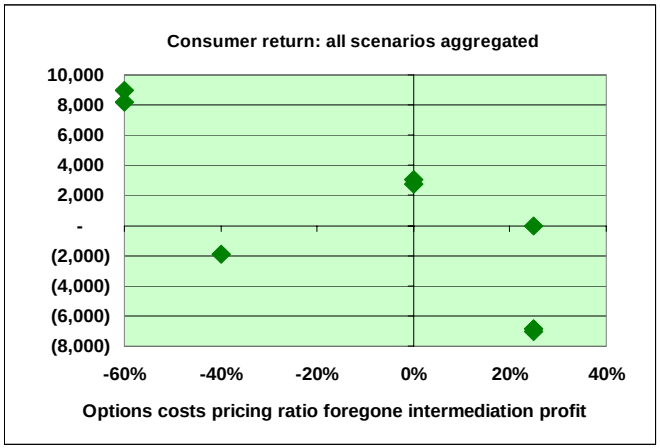
Figure 127 NPV of benefits / costs detail for lenders and consumers in United Kingdom with grandfathering





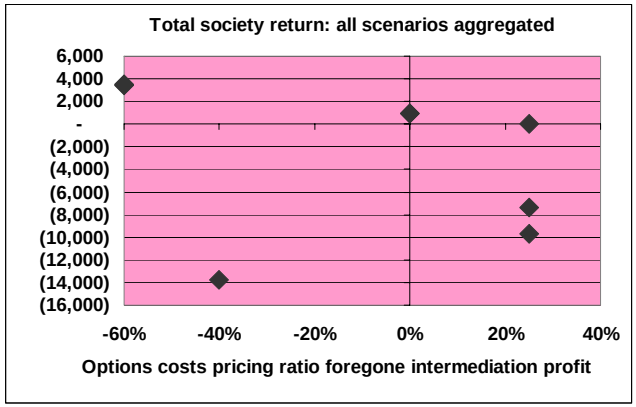


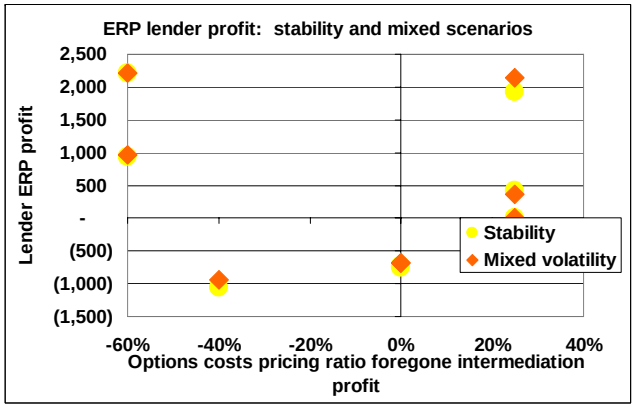


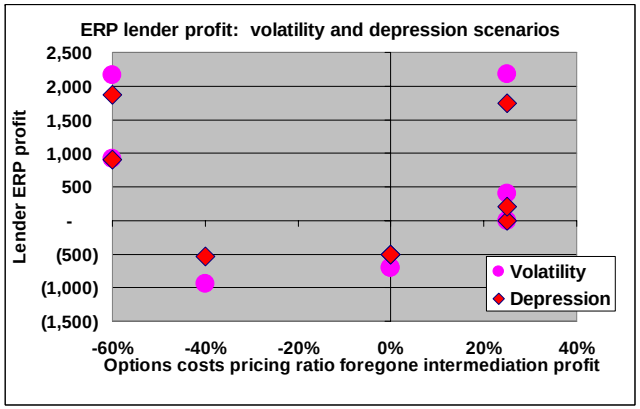


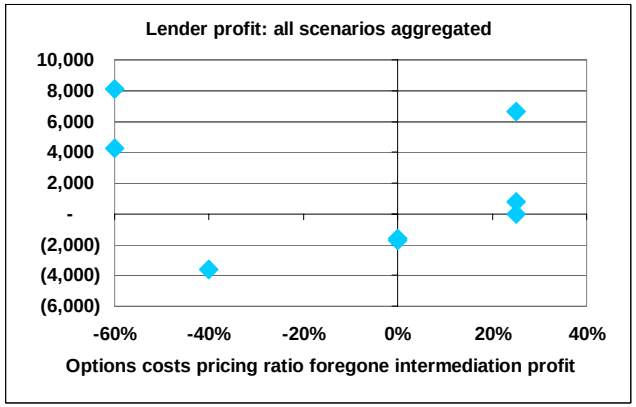
Source: Finpolconsult.

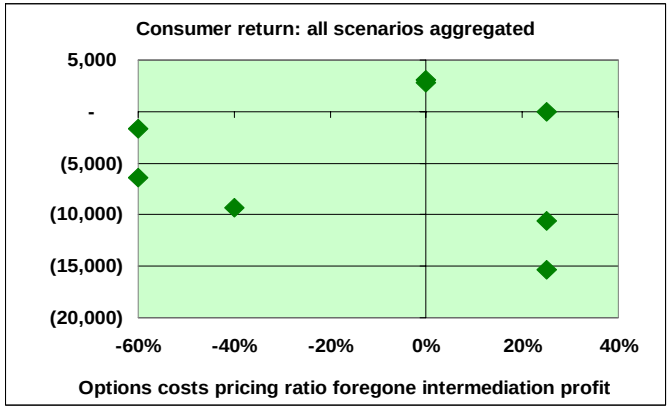
Figure 128 NPV of benefits / costs detail for lenders and consumers in United Kingdom without grandfathering





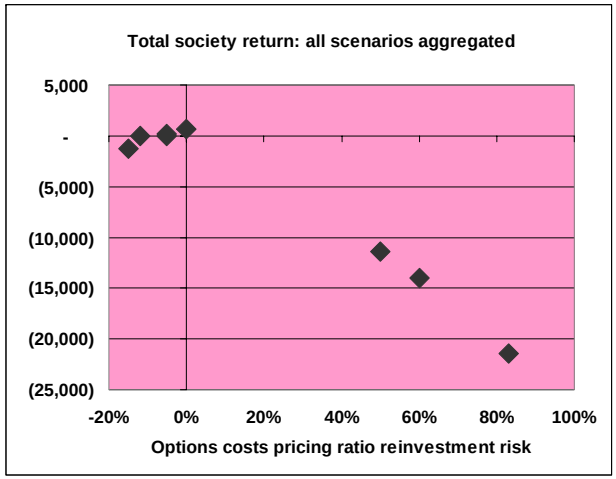


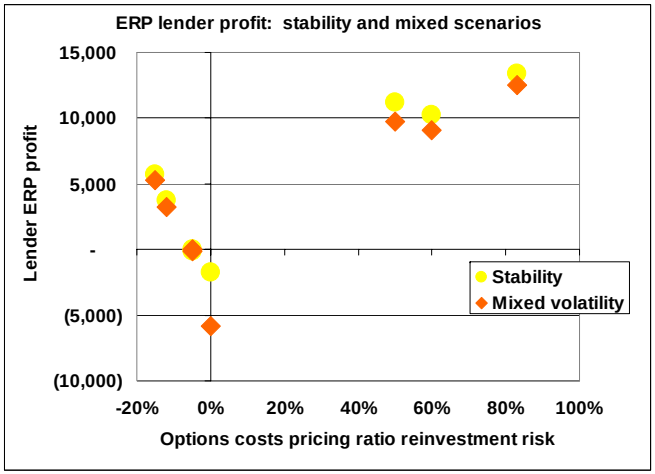


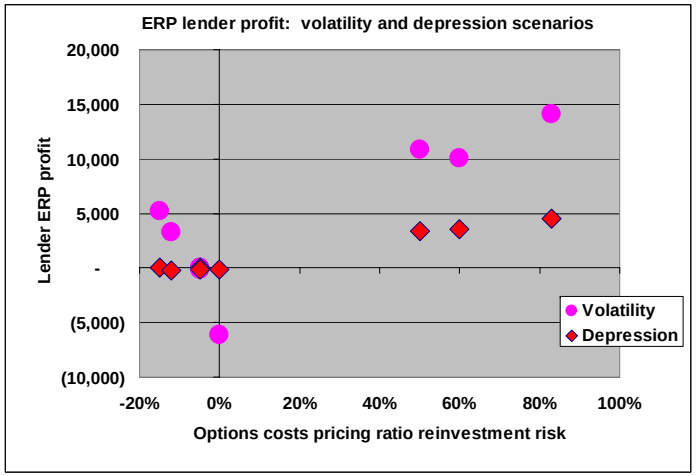


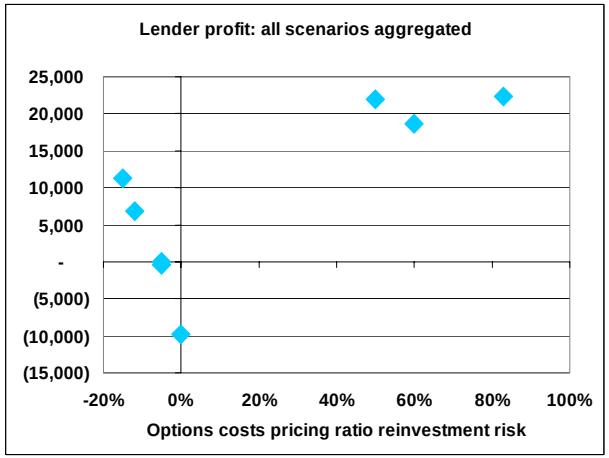
Source: Finpolconsult.

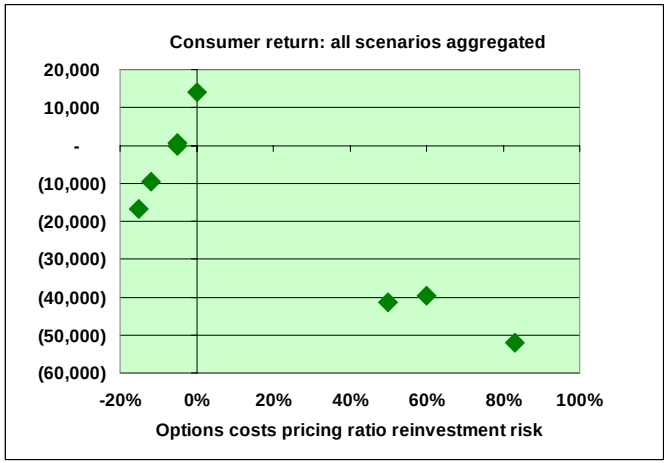
Figure 129 NPV of benefits / costs detail for lenders and consumers in Germany with grandfathering





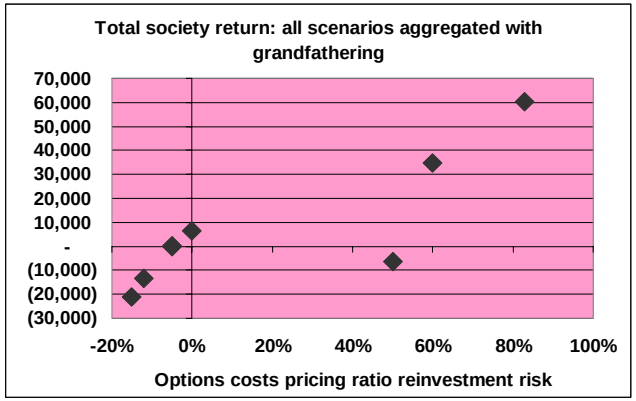


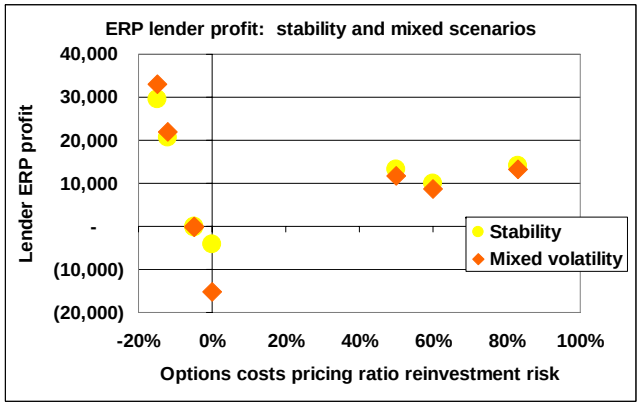


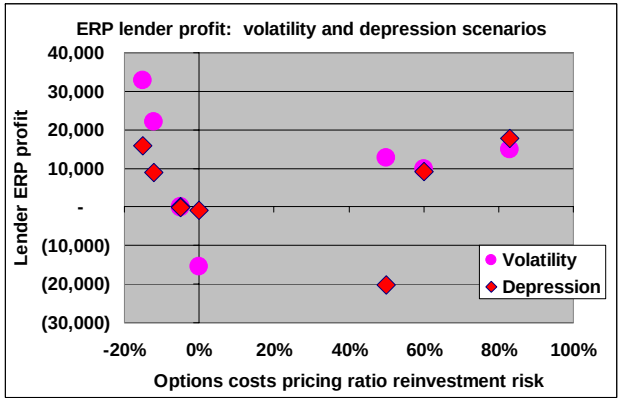


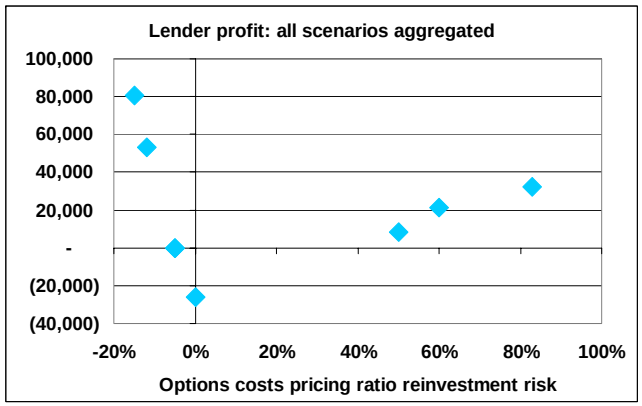
Source: Finpolconsult.

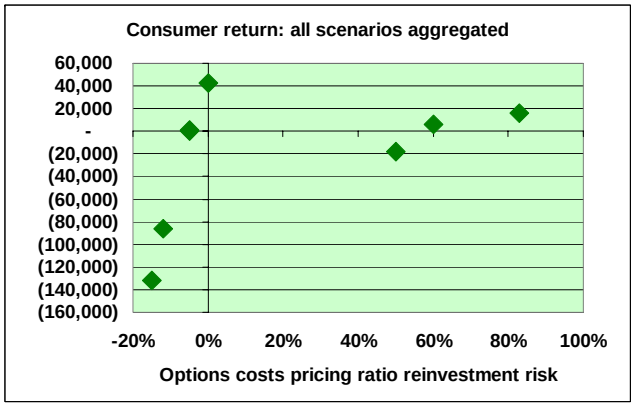
Figure 130 NPV of benefits / costs detail for lenders and consumers in Germany without grandfathering





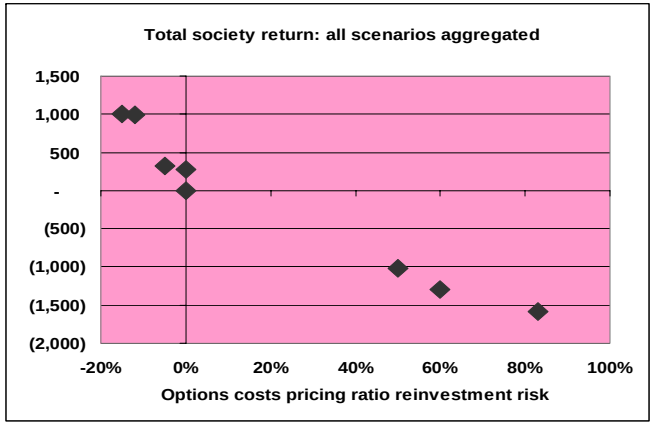


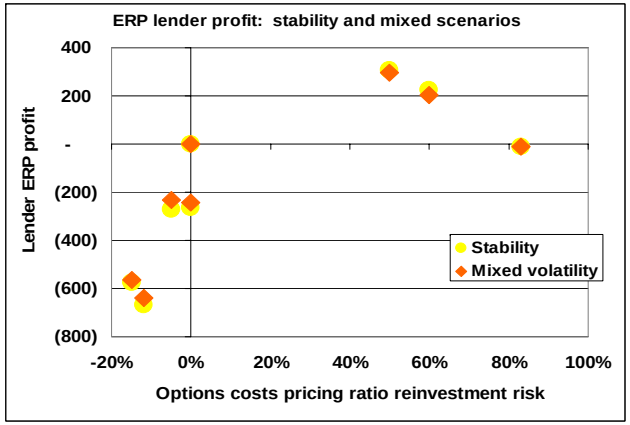


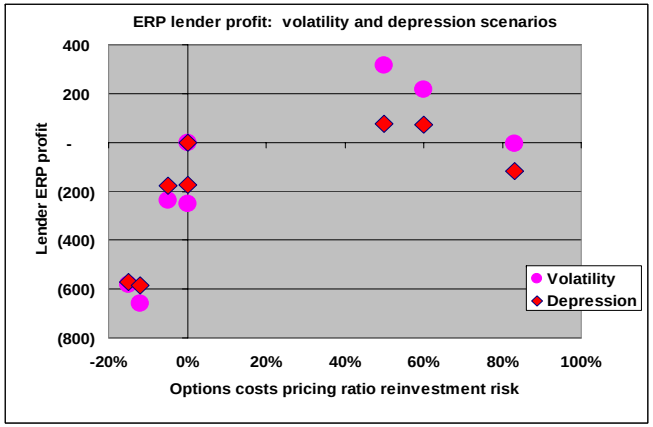


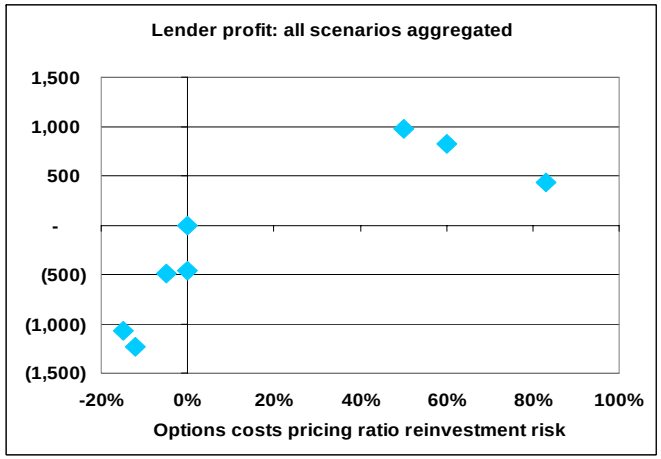
Source: Finpolconsult.

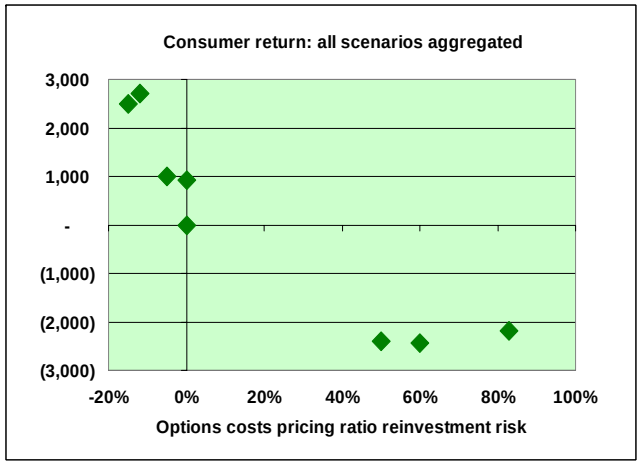
Figure 131 NPV of benefits / costs detail for lenders and consumers in Denmark with grandfathering





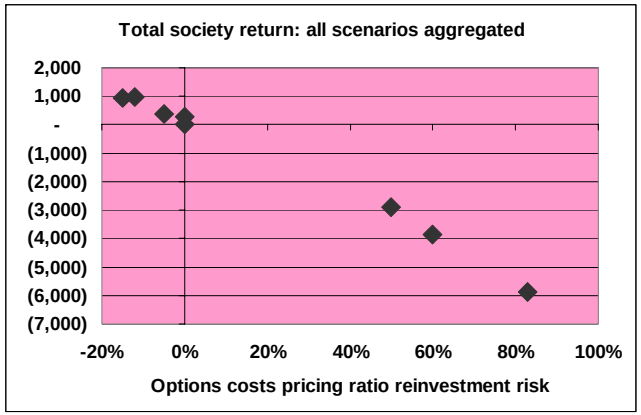


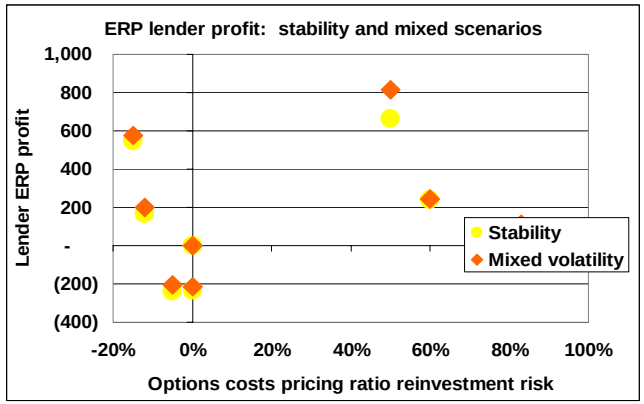


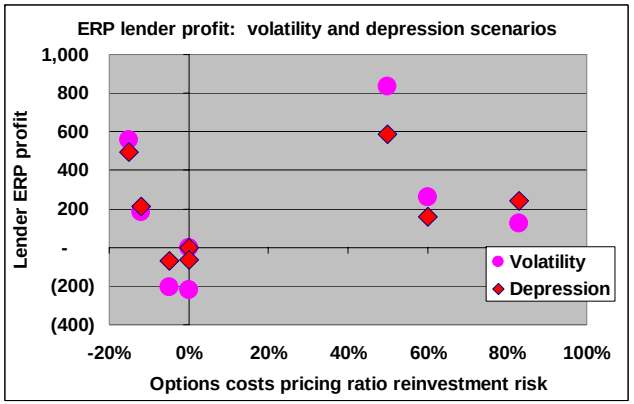


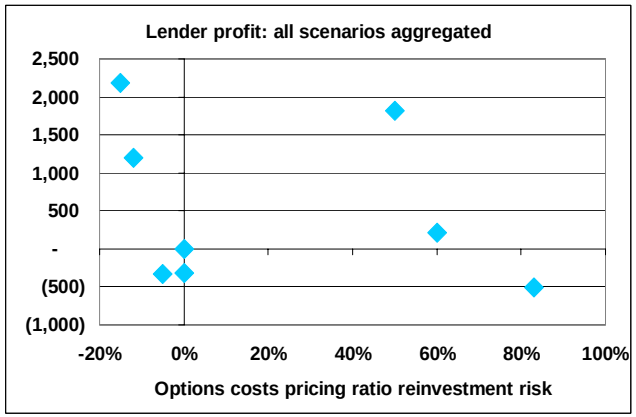
Source: Finpolconsult.

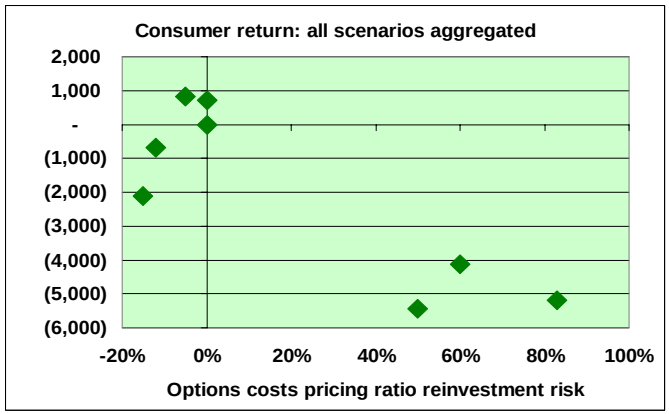
Figure 132 NPV of benefits / costs detail for lenders and consumers in Denmark without grandfathering





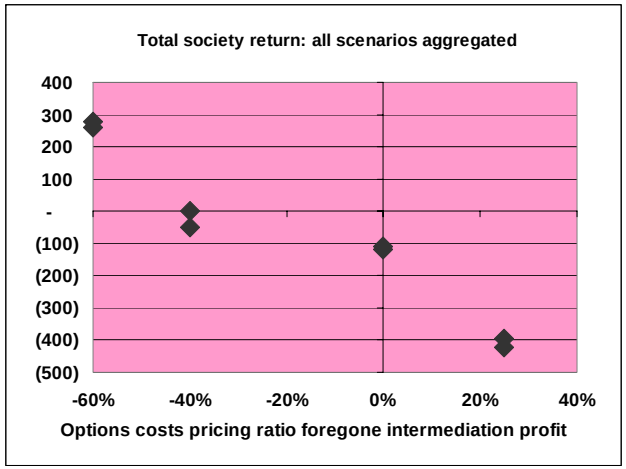


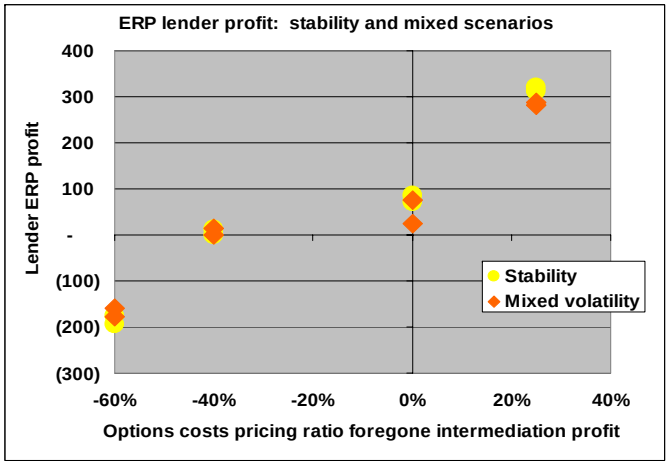


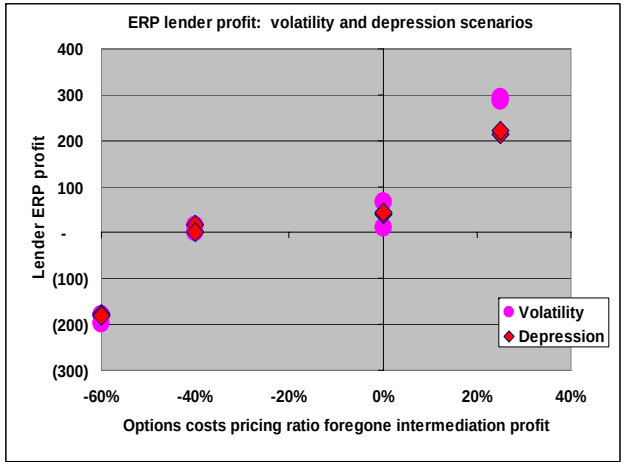


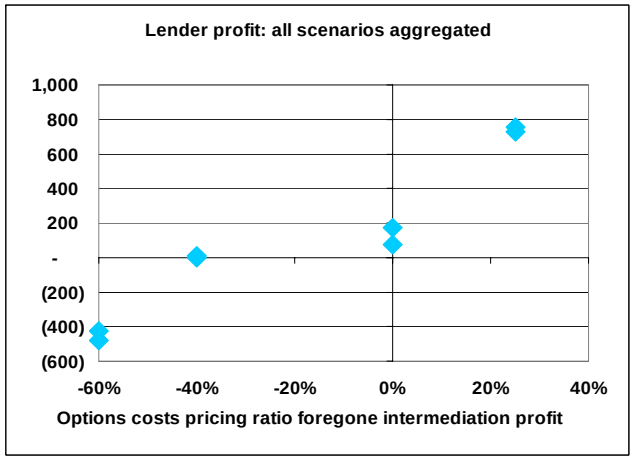
Source: Finpolconsult.

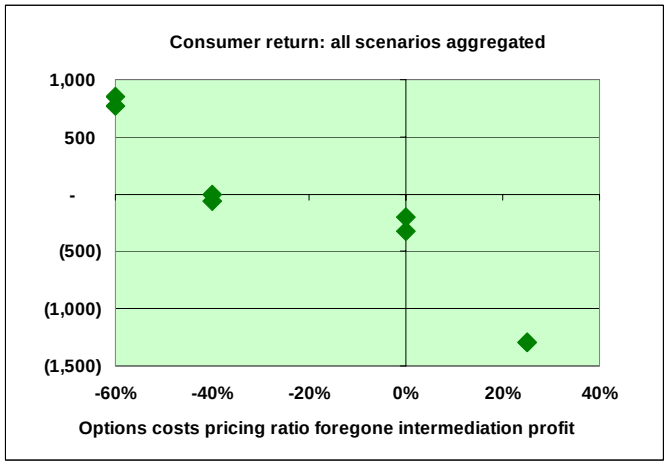
Figure 133 NPV of benefits / costs detail for lenders and consumers in Portugal with grandfathering





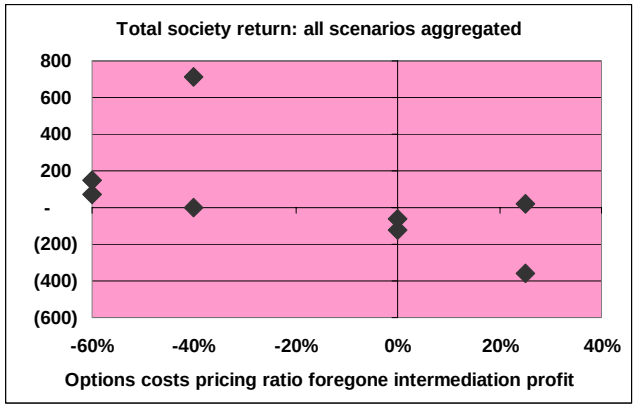


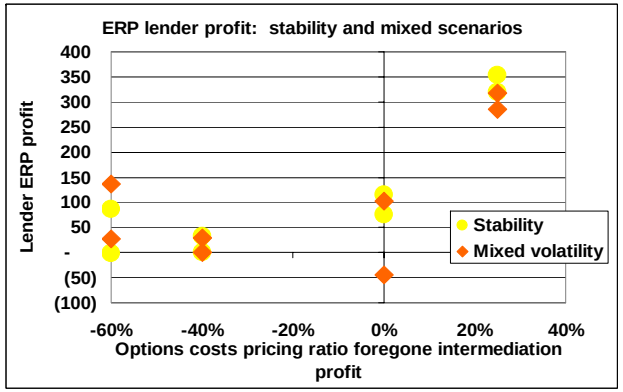


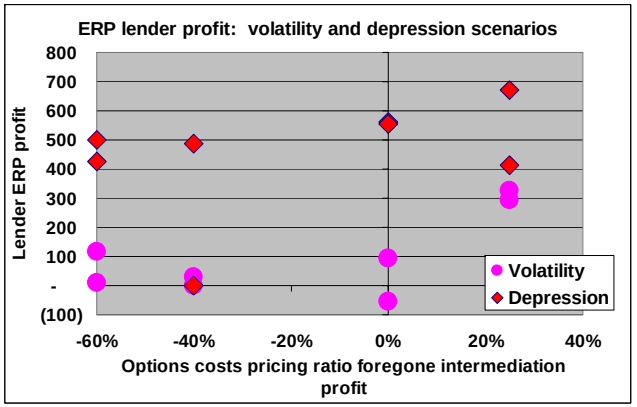


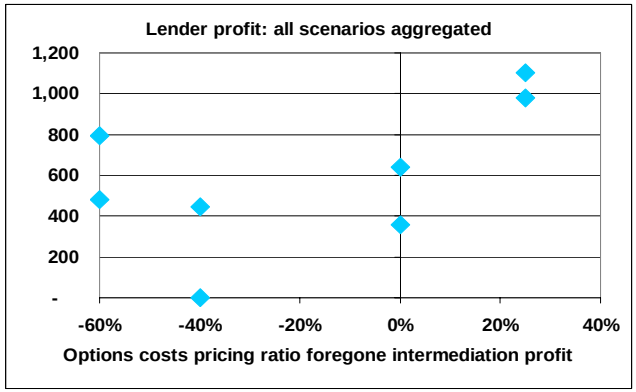
Source: Finpolconsult.

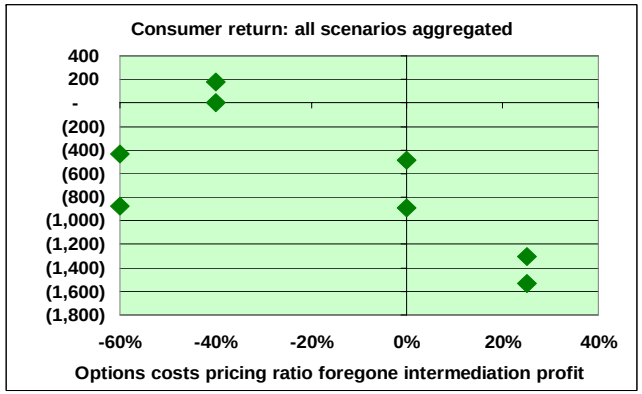
Figure 134 NPV of benefits / costs detail for lenders and consumers in Portugal without grandfathering





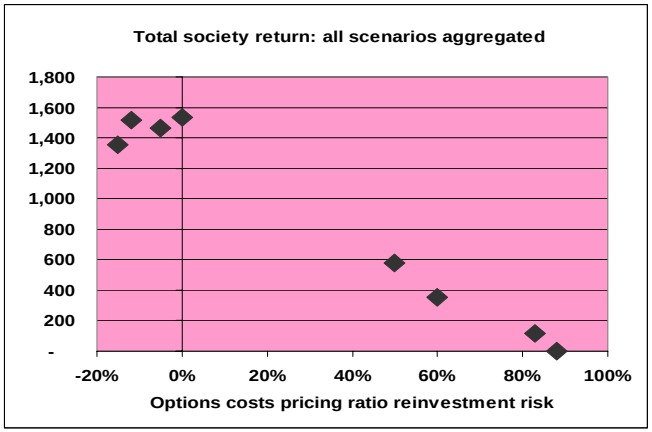


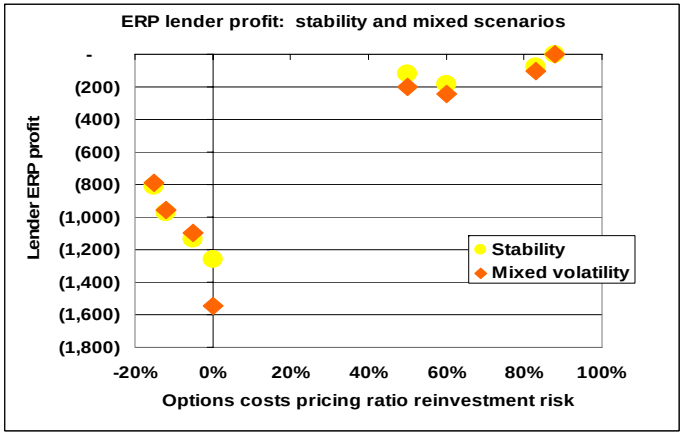


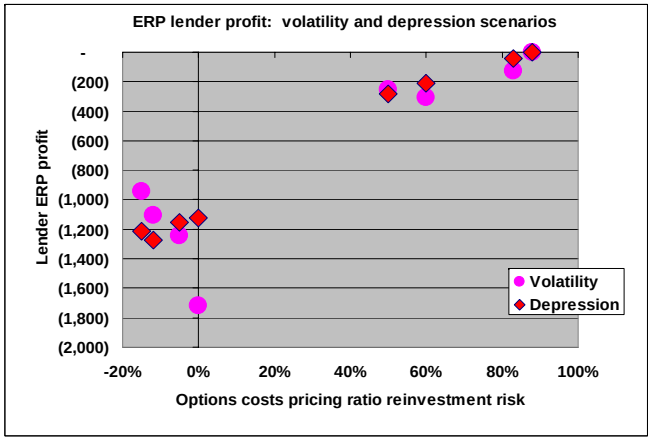


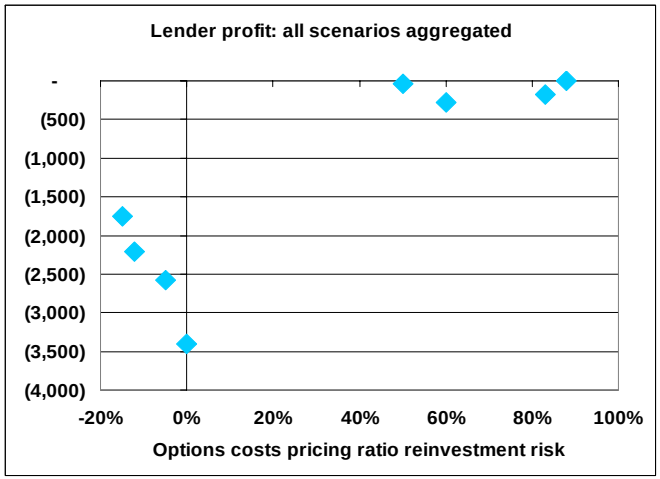
Source: Finpolconsult.

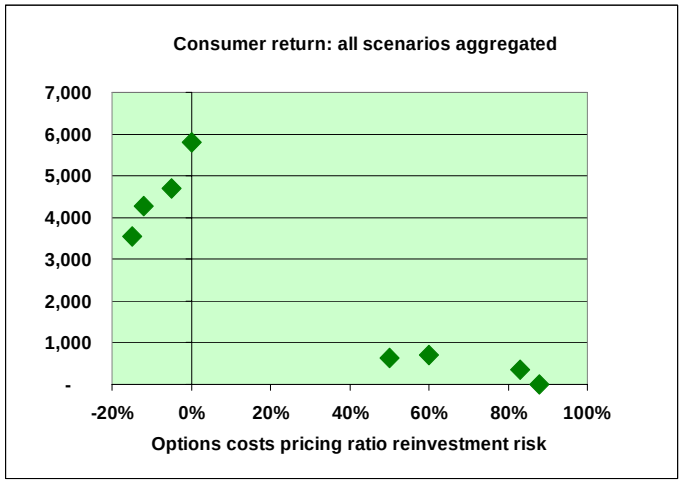
Figure 135 NPV of benefits / costs detail for lenders and consumers in Belgium with grandfathering





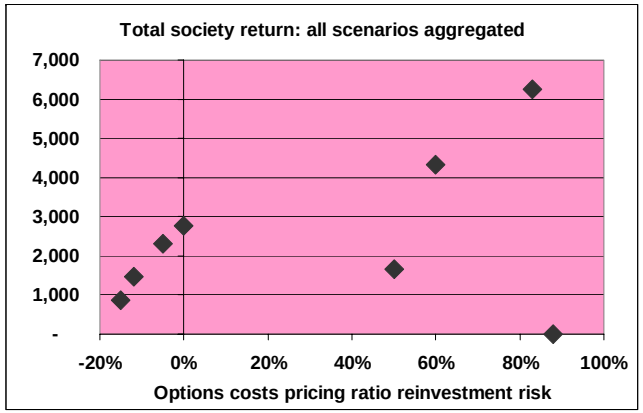


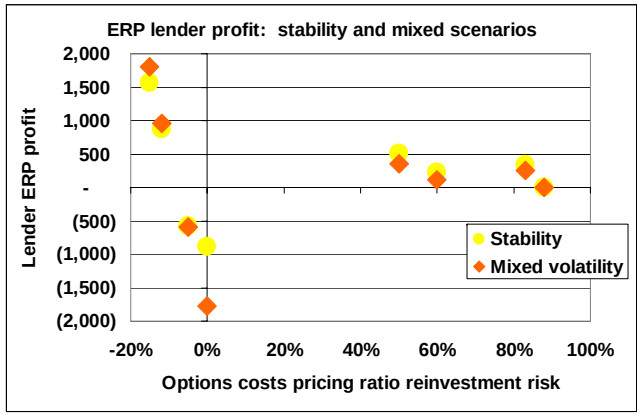


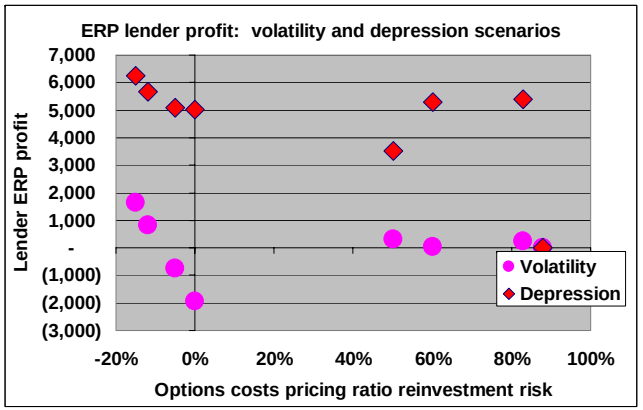


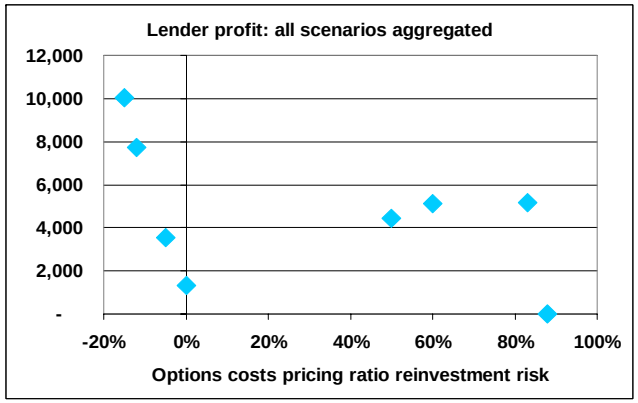
Source: Finpolconsult.

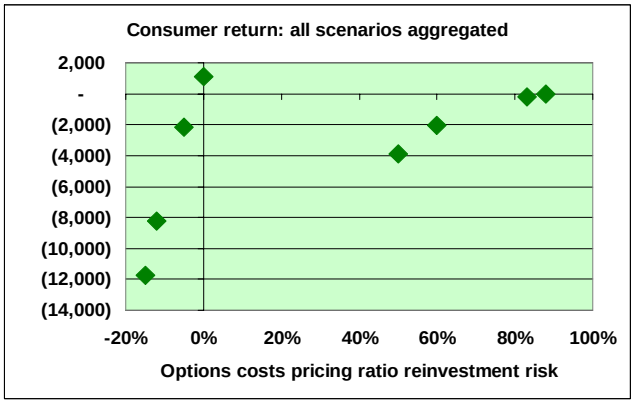
Figure 136 NPV of benefits / costs detail for lenders and consumers in Belgium without grandfathering





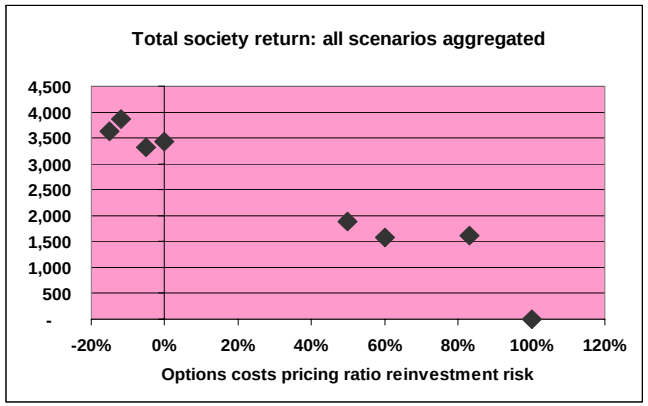


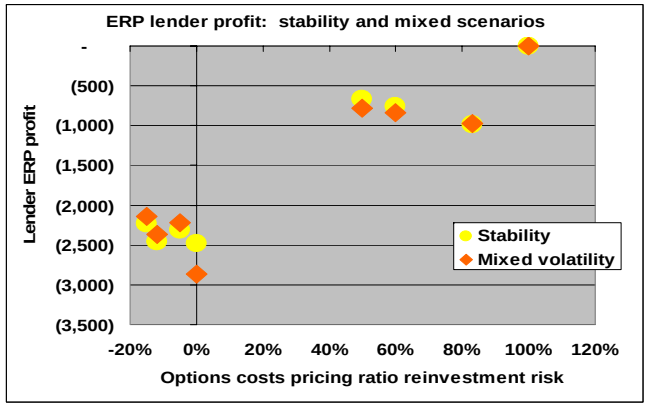


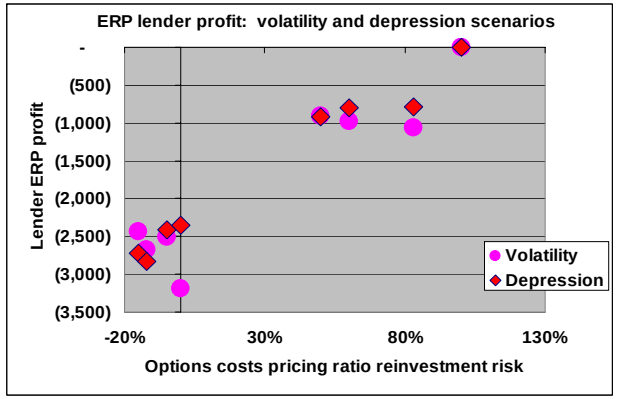


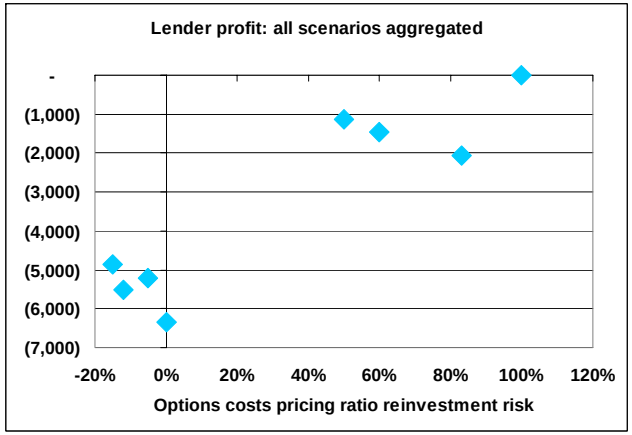
Source: Finpolconsult.

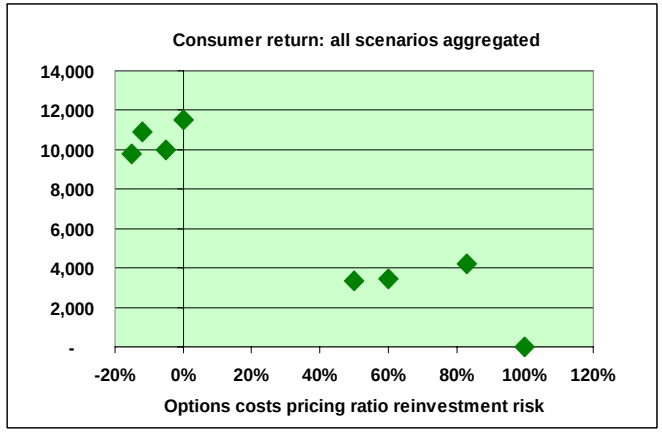
Figure 137 NPV of benefits / costs detail for lenders and consumers in Italy with grandfathering





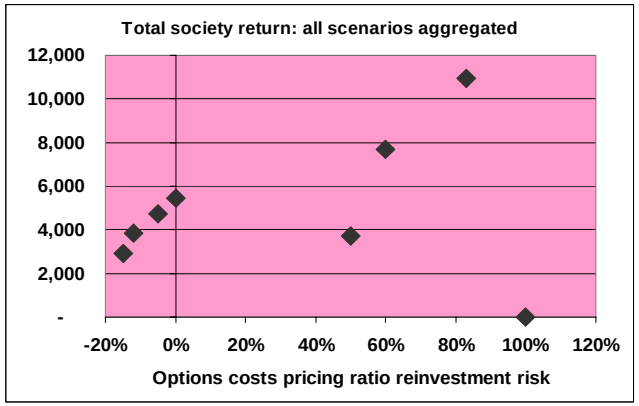


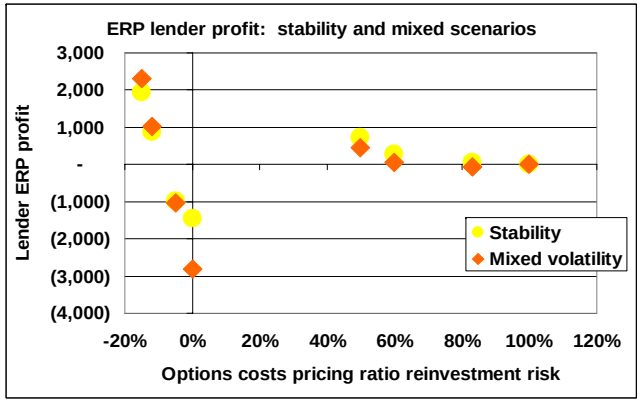


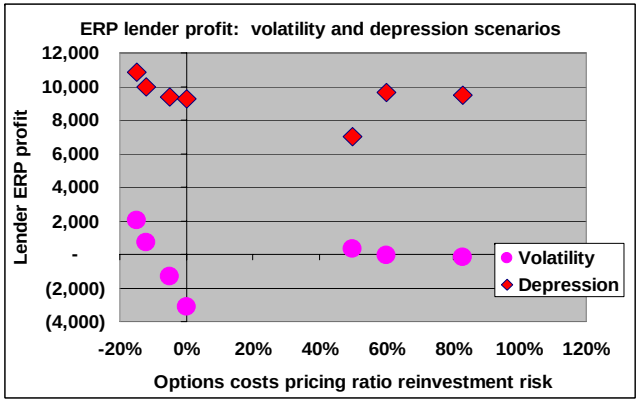


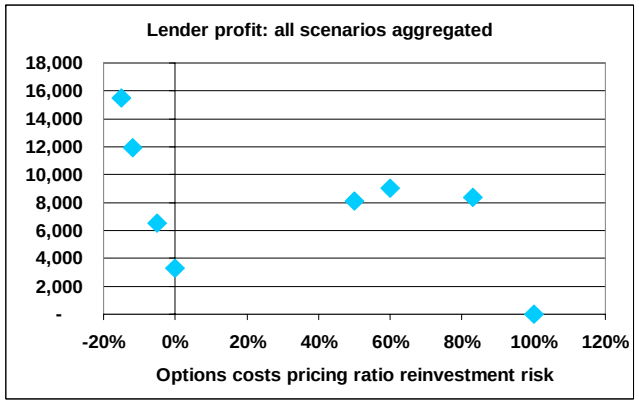
Source: Finpolconsult.

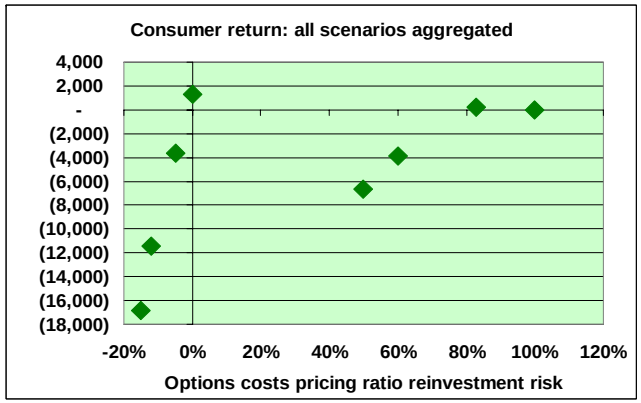
Figure 138 NPV of benefits / costs detail for lenders and consumers in Italy without grandfathering











Source: Finpolconsult.