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Some international trends in the regulation of mortgage markets: Implications for Spain

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Economic Analysis

Some international trends in the regulation of mortgage markets: Implications for Spain

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Abstract

In this document, the main characteristics of the mortgage markets regulation in developed countries will be analyzed, trying to extract implications in terms of the resilience of the different systems during this crisis. The note is organized in four sections, covering the most relevant issues of (i) the mortgage product, (ii) the financial entities that offer these products, (iii) the client to whom these products are sold and (iv) the relationship between mortgage regulation and macroprudential oversight.

Keywords: mortgage, regulation, developed countries, loan-to-value, responsible lending, tax, covered bonds.

JEL: G210, R210, R310, E620.

Executive Summary

This document analyses the **main characteristics and trends in the mortgage markets regulation** in developed countries, extracting implications from the different degree of resilience of the different systems during this crisis, as well as lessons for the potential improvements that could be implemented in Spain. One of the general features identified is a high dispersion in the models, reflecting the fact that mortgages markets are local in nature, depending on legal and institutional factors. At the same time, however, the reliance on wholesale markets for the funding of mortgages implies that these securities have a global dimension. The contrast between local primary mortgage markets (in which lenders make loans to borrowers) and global secondary markets (in which banks sell these loans to third parties) is one of the main characteristics of mortgage markets. This tension is very present in current regulatory debates, and is very relevant for the Spanish case, because a significant part of Spanish covered bonds are in the hands of non-resident investors.

There is a variety of interest rate schemes for mortgages across developed countries. In some countries variable rates are the rule, whereas in others they are the exception, constituting a good example of the dispersion in the mortgages models of developed countries. In fact, there seems not to be a general trend toward increasing the proportion of variable or fixed rates, as heterogeneous factors play a significant role (culture, funding, yield curve, early repayment penalties...). The Spanish mortgage market is dominated by **variable interest rates**, which account for around 97% of the loans. In the present crisis, the low interest rate environment implies that borrowing at variable rates has protected the debtors, improving their affordability ratios and reducing Non Performing Loans (NPLs); but an excessive reliance on Adjustable Rate Mortgages (ARM) entails a vulnerability from the macro-prudential point of view, because of the risk of rate increases during the duration of the contract (in some cases up to 40 years). The predominance of one form of mortgages over the other suggests some deficiencies in pricing and/or regulation. Indeed, it would be beneficial to achieve a more balanced split between fixed and variable rate mortgages. In order to achieve this target, the cap on the penalty for early repayment could be lowered (or even eliminated) for Fixed Rate Mortgages (FRM), as in countries where the latter are the norm. Also, the offer of mixed rate mortgages (where the rate is fixed for a certain period) could be encouraged. Furthermore, a better dissemination of pre-contractual information to consumers about the pros and cons of the different mortgage products would make their decision-making process more efficient and less costly.

From the funding perspective, the use of **covered bonds** has largely supported the development of the mortgage market in Europe. As shown in this crisis, covered bonds provide a background of legal certainty that results in significant advantages compared to the use of other types of funding. Issuers of covered bonds obtain a resilient funding source, whereas investors are protected by the double guarantee inherent in covered bonds, and benefit at the same time from a relatively high secondary market liquidity. Moreover, the use of covered bonds has several macroeconomic benefits and helps to maintain financial stability. **Spanish covered bonds** (cédulas) are similar to other EU countries' mortgage backed covered bonds, having other systems both advantages and disadvantages. Certain aspects of covered bonds in other European countries could be used to improve Spanish regulation (lower LTV limits, requirement to publish detailed data on the composition of the cover assets, periodic reassessment of the value of the properties used as collateral, replacement of the maturing or non-performing assets and appointment of a cover pool monitor by the Central Bank).

During the last few years, **regulation on consumer protection has been reinforced** in many countries in order to avoid over-indebtedness and borrower default. In that vein, the EC Directive on credit agreements relating to residential property tackles some material consumer protection issues, and should lead to desirable harmonization, in the context of a process towards banking union. However, the Directive fails to tackle relevant issues, such as cross-border mortgages with foreign collateral. The proliferation of regulatory initiatives at national,

regional and international level may result in regulatory conflicts, mostly in Europe. Since different countries show different features with regard to real estate structure, cultural background and socioeconomic policies, some leeway must be provided to national supervisors in order to adapt the new regulation to their own needs. But this should not mask the fact that maintaining a competitive environment and a Euro-wide level-playing field is probably the best contribution regulators can make to ensure consumer protection.

Governments usually encourage housing investment through different **fiscal tools** due to perceived positive externalities of home ownership. However, tax incentives to favor home ownership could result in more exposure to housing bubbles. The development of the rental market and a neutral tax treatment of property vs. rent seem to be a good practice. The elimination of tax deductions for the purchase of new houses by the Spanish government in July 2012 is in line with this consensus.

Since the origin of the crisis can be placed in the housing market, regulation of mortgage operations must ensure financial stability from a **macroprudential perspective**. In that respect, many countries adopted loan-to-value (LTV) limits. In some emerging countries, debt-to-income ratios have also been used with the same purpose. According to international evidence, these measures are relatively effective in preventing housing prices bubbles in emerging markets, but they are perhaps too intrusive for more developed financial systems. Alternative measures based on incentives for low LTV origination should be explored for more developed mortgage markets. In the case of Spain, dynamic provisions had success in limiting the growth of credit during the boom phase, but the severity and length of the current crisis made these measures insufficient.

2. The mortgage product

Fixed or variable rates

The interest rate to be charged for a mortgage is one of its most relevant characteristics. It is usual to distinguish between Fixed Rate Mortgages (FRM) and Adjustable Rate Mortgages (ARM). But in practice the modalities of interest rates present a wider variety. According to the interest rate calculation method, mortgages can have¹:

1. Fixed interest rate: interest rates are negotiated before signing the contract and remain unchanged throughout the duration of the loan.
2. Initial period fixed rate: the rate is fixed for an initial period, after which the interest rate can remain fixed or become variable.
 - Rollover/Renegotiable-rate mortgage: the interest rate is always fixed, but its level is renegotiated.
 - Hybrid-rate mortgage: after an initial period with fixed interest rate (normally more than one year), the rate becomes variable.

Normally, mortgages are classified depending on the length of the initial period:

- $1 < \text{initial fixed rate period (years)} \leq 5$
- $5 < \text{initial fixed rate period (years)} \leq 10$
- $10 < \text{initial fixed rate period (years)}$

Obviously, the first type is close to an ARM, whereas the third type is close to a pure FRM.

3. Variable rate: the rate can vary periodically (monthly, quarterly, half-yearly, yearly), in some cases after an initial period of one year with a fixed rate. In any case, rates change at least once a year.

In this case the negotiations between borrower and lender are related to the reference interest rate and its periodic revision:

- Reviewable-rate mortgages: interest rate is determined by the lender periodically.
- Indexed/Referenced-rate: rate changes according to a previously negotiated index.

Interest rate practices across countries

As shown in chart 11 there is a high heterogeneity in the mortgage interest rate determination across countries. In fact, there seems not to be a general trend toward increasing the proportion of variable or fixed rates.

In particular, there is a significant proportion of long term fixed interest rate mortgages in the US, Denmark and France. One of the main characteristics of these mortgages is the pre-payment penalty during the fixed-rate period. In France the penalty is applied often and it can be up to three per cent of outstanding balance or three month's interest.

In contrast, Australia, Ireland, Korea and Spain are characterized by variable rates, and the UK has a relatively similar model, with predominance of short-term fixed rates. The bias towards adjustable rates is generally the result of a high and variable inflation history².

Mortgage markets in Canada, the Netherlands and Switzerland are dominated by medium and short term fixed interest rate mortgages, in which the interest rate is fixed for a period of one

¹: See Research Institute for Housing America, 2010

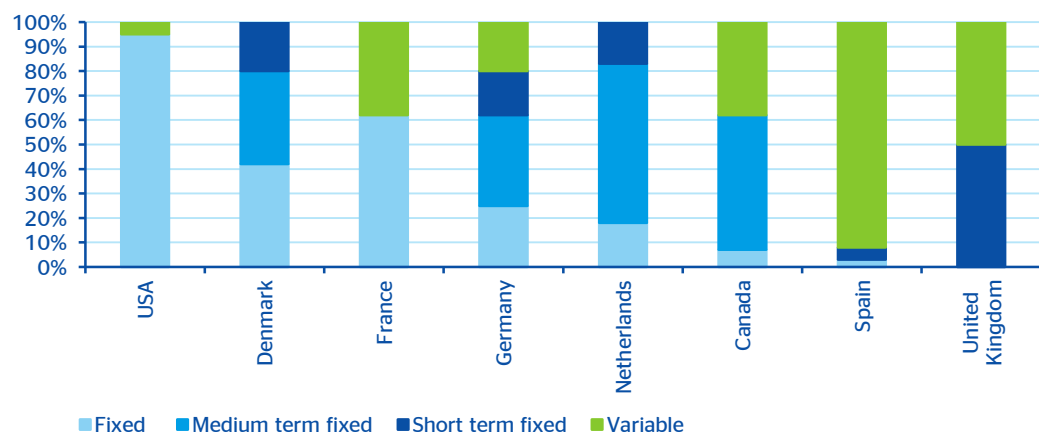
²: See Campbell, 2012

to five years and renewed according to the evolution of the reference rate (rollover). Usually, these loans have a pre-payment penalty during the fixed-rate period.

There does not seem to be a clear relation between the interest rate model and the resilience of the mortgage markets. Some markets like the Canadian or Australian have a mix of variable and short or medium term fixed rates, while in Germany or the Netherlands there is a higher proportion of fixed rates. The US relies on fixed rates, but is relatively prone to crises. The fact that variable rates are predominant in Spain cannot be considered *prima facie* as a weakness, although it exposes borrowers to greater variation of the terms of the loan. In certain crisis (like the present one) the predominance of ARM can be a source of resilience, to the extent that the housing bust is accompanied by lower interest rates. In other crises, however, the downturn is the result of tighter monetary policies, and ARM mortgages exacerbate the vulnerability of debtors.

It could be argued that the predominance of one form of mortgages over the other suggests some deficiencies in pricing and/or regulation.

Chart 1
Mortgages' interest variability, % of total



Source: RBA, CHMC, KHFC, EMF, GPG, MBA and S&P

In each country, there is one kind of mortgage that has become the most representative:

- In US: long-term fixed rate mortgages with minimal pre-payment penalties and automatic refinancing.
- In Denmark: medium term fixed interest rate up to 2 years and then variable
- In Germany: renegotiable rate with a fixed period of 5 to 10 years.
- In Spain: variable interest which usually floats every 6 or 12 months, according to an official reference rate
- In France: fixed rate for the total maturity of the loan.

Factors to determine the election of mortgages' interest rate formula: market characteristics

What are the main factors behind the election of a type of mortgage (ARM vs. FRM)? Apart from the interest rate, there are other factors that may influence lenders and debtors. In fact, there seems not to be a general trend toward increasing the proportion of variable or fixed rates, as these heterogeneous factors play a significant role (culture, funding, yield curve, early repayment penalties...).

Cultural differences

Cultural factors include issues such as housing regulation, taxation, borrowers' risk aversion, the frequency of house moves and bank funding options. In the U.K., where the proportion of variable interest rate mortgages is relevant, homebuyers prefer them because the initial monthly payments are lower. Additionally, in the U.K., people usually move house several times in their lifetime, so they prefer variable interest rate mortgages to avoid incurring in early repayment penalties.

Funding

Capital markets can provide funding at longer terms than deposits. Therefore, in countries where there are stable sources of wholesale funding, like covered bonds, fixed rate mortgages are more relevant. For example in Germany and Denmark there is a large tradition of funding via covered bonds, which explains the importance of fixed rate mortgages. Conversely, in countries such as Greece and Italy, where retail deposits are a relevant funding source, variable rate mortgages have a higher weight. Spain is an exception in this regard, with a prevalence of ARM and a very developed covered bonds market.

Yield curve

As the yield curve predicts the behavior of interest rates in the future, this instrument can influence the mortgage choice. At the end of the 90's and at the beginning of the past decade, interest rates decreased in the Eurozone, and the yield curve predicted further cuts. Consequently, long term interest rates were decreased and became more attractive to borrowers, and long term fixed mortgages increased in some countries, like the U.K. However, when euribor increased at the end of the last decade, the behavior was the opposite.

In the case of Spain, where ARMs were dominant since the development of mortgage markets in the 1980s due to high and volatile inflation, the proportion of variable rates increased further in the 90's due to several factors: interest rates fell as a result of Euro adoption, pre-payment penalties were restrictively regulated irrespective of the interest rate modality and competition for mortgages increased as a result of the liberalization of the activities of the savings banks, all of which in the presence of a housing boom.

Early Repayment

The option to repay part of the mortgage early without incurring in a high cost is usually highly appreciated by borrowers. However, it can have an important effect on lenders, increasing the cost in cases of fixed rate funding, as the collateral provided for mortgage backed securities have to be substituted by similar loans. In general, the more expensive early repayment is, the less relevant fixed rate mortgages are.

Usually regulation establishes caps on pre-payment penalties for ARM and not for FRM. If these restrictions are well calibrated, they should be neutral concerning the choice of one modality or the other. But in practice such calibration is very complicated, with the result that regulation favors one model or the other.

In some European countries (like the UK and Spain) the law protects borrowers by setting a low cost for early repayment. Thus, lenders do not have incentives to offer fixed rate mortgages. In Spain, regulation sets a low cost of early repayment and gives borrowers the possibility to renegotiate the conditions of their fixed rate mortgages with another bank if the reference interest rate falls. This is one of the reasons why financial institutions tend to offer variable rate mortgages.

There are other countries (like Italy) where early repayment is costly and only allowed in some circumstances. In Germany there is no limit on early payment penalties for FRMs, although no penalty has to be paid if the property is sold.

With the exception of Denmark, Japan and the US, FRMs are always subject to a prepayment penalty. In countries such as France and Spain, prepayment penalties are capped.

Table 1
Prepayment penalties

Country	Amount	Applicability	Penalty Free Payment
Denmark	Yield maintenance	Short term fixed	
Germany	Interest margin damage and reinvestment loss	All fixed rate, not on variable rate. 10 years maximum	No penalty if property sold
Spain	2.5% up to yield maintenance if fixed, 0.5% if variable	Fixed and variable	Maximum 10% per year
France	Maximum 6 months interest or 3% of outstanding balance	Fixed and variable	Unemployed, death or job change
Netherlands	Yield maintenance	Fixed	10% per year, hardship or relocation
UK	2-5% of amount repaid	Discounts and fixed	
Canada	Higher or lost interest or 3 months	Lender may waive for own customer	Up to 20% per year
US	Up to 5% (typically 3%)	Variable	20%

Source: "International Comparison of Mortgage Product Offerings"; M. Lea (2010)

The diversity in the legal regimes of penalties is one of the reasons - together with legal restrictions in the use of collateral - that precludes the development of a cross-border mortgage market in the EU. This led the European Commission to consider that early repayment is "one of the most important issues for integrating EU mortgage markets". Harmonizing the legal regime for penalties is crucial to develop a unified mortgage market for the EU or the Eurozone.

While the European Commission Directive requires Member States to ensure that consumers have a right to repay their credit before the expiry of the credit agreement, it gives freedom to Member States to set conditions on the exercise of that right, provided that such conditions are not excessively onerous. Therefore, the issue remains broadly open and is mainly subject to the discretion of local legislations.

Caps and floors

In order to avoid default and protect borrowers, regulation can impose caps on variable rates. In contrast, a floor, a lower limit, tries to protect lenders from important rate drops. In designing an adequate regulation of caps and floors it is important to make compatible the contractual freedom of the parties with the consumer protection measures, where they are necessary. Transparency in the pre-contractual information is crucial to reconcile both objectives. An adequate regulatory harmonization in the EU would be advisable.

Factors that explain the preference for fixed or variable rates: the demand and the supply choice

Several studies have analyzed the factors behind the election of fixed or variable rates. Some of these studies conclude that when the correlation between inflation and real interest rates is positive and the debt to income ratio is high, borrowers prefer fixed rate mortgages. This preference, however, depends crucially on country-specific regulation.

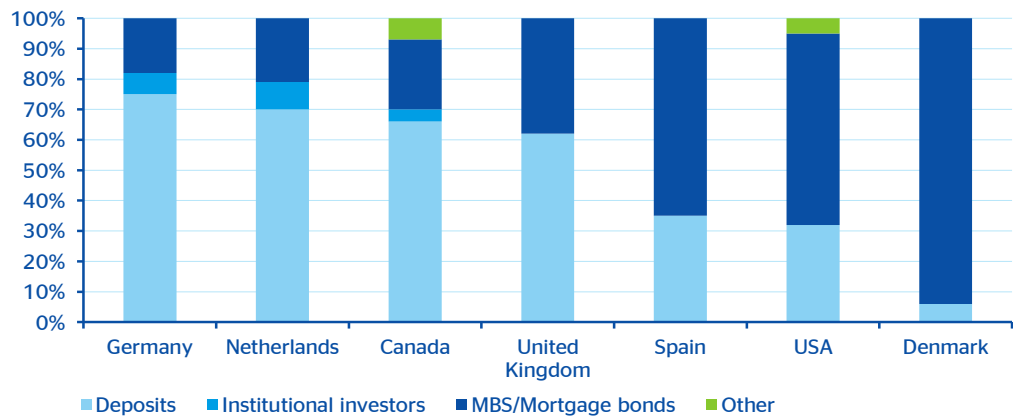
Regarding the **demand side**, one of the main reasons for the preference for ARM is that initial payments are usually lower. Some borrowers may be myopic to future payments, or have a higher discount rate. In some cases, variable rate mortgages offer a teaser rate, which is an artificially low initial interest rate. A teaser rate is an attempt to encourage home purchases in customers who would otherwise be unable to qualify for a mortgage. It has been blamed for creating a perverse incentive for unqualified borrowers to buy houses, thus feeding the housing bubble, particularly in the US. For example, UK banks used to offer variable

mortgages with a lower rate during the first two years, to attract borrowers whose budget constraints were higher at the beginning of the loan.

Another reason for choosing ARM is the behavior of interest rates. As the normal slope of the yield curve is upwards, fixed interest rates are usually higher than variable rates. Borrowers that simply compare the present level of interest rates may opt for the variable ones.

From the **supply side**, banks that get funding via deposits tend to favor variable or short term fixed rate mortgages, in order to reduce their interest rate risk, whereas banks that rely on wholesale funding through covered bonds or securitizations are usually more prone to FRM.

Chart 2
Developed countries' mortgage funding % of total



Source: ABS, CHMC, EMF, ESF, FRB, Merrill Lynch Europe

In countries where one kind of mortgage is clearly dominant, it would be beneficial to achieve a more balanced split between fixed and variable rate mortgages. In order to achieve this target, the cap on the penalty for early repayment could be lowered (or even eliminated) for FRM. Also, the offer of mixed rate mortgages (where the rate is fixed for a certain period) could be encouraged.

Box 1: Spain, wholesale funding and variable rates

In Spain variable rate mortgages are predominant, despite the fact that the quick development of the capital markets made long-term funding very important. The sources of this bias lie on the high and variable inflation rates at the time of the development of the system, which implied that ARM was the only instrument to allow for the necessary lengthening of the maturities needed to increase affordability. Other factors explain the importance of variable rates:

- **Lower initial payments:** As the initial payment in a variable rate mortgage is usually lower than in a fixed rate one, households with a high discount rate, with expectations of increase in their relative income or simply myopic may have incentives to choose variable rate mortgages.
- **Structural reduction of interest rates:** Interest rates decreased sharply from the 1990's to the mid 2000's as a result of entry into EMU. Borrowers experienced the advantage of ARM in a context of declining interest rates, which

encouraged them to develop a preference for variable mortgages.

- **Early repayment:** In Spain borrowers can exercise early repayment at any time, transfer the loan to another lender with better conditions, or renegotiate better conditions with the same lender when interest rates fall. Besides, early repayment is relatively cheap, as the Bank of Spain set a cap of the fee to be applied in variable mortgages when there is no subrogation with another entity.
- **Interest rate risk is lower for diversified lenders:** Spanish mortgage providers are universal banks, which can mitigate the interest rate risk as their portfolio has a wide range of products and not just mortgages.

3. The financial entities

3.1. Funding: Covered bonds

Since the turn of the century the market for covered bonds has become the most important segment of privately issued bonds of Europe's capital markets, with an outstanding volume of EUR 2.7 trillion at the end of 2011 (roughly 20% of total residential mortgage loans in the EU).

Table 2
Covered bonds outstanding, December 2011 (€ million)

	Public Sector	Mortgage	Ships	Mixed Assets	TOTAL
Canada	0	38.610	0	0	38.610
Denmark	0	345.529	5.999	0	351.528
France	77.835	198.835	0	89.768	365.998
Germany	355.673	223.676	6.641	0	585.990
Italy	12.999	50.768	0	0	63.767
Netherlands	0	54.243	0	0	54.243
Spain	32.657	369.208	0	0	401.865
United Kingdom	3.656	194.783	0	0	198.439
United States	0	9.546	0	0	9.546
Total	573.774	1.999.780	12.640	89.768	2.675.962
% of Total	21%	75%	0%	3%	100%

Source: EMF, ECBC

Covered bonds have registered continued growth in most countries as part of banks' real estate funding over the last few years, which underlines the increasing importance of this type of funding. This feature of covered bonds' markets has been intensified by the international financial crisis, when most types of securitizations experienced a sudden liquidity dry-up and issuing activity almost halted, whereas covered bonds displayed a much better behavior and resilience.

Table 3
Relative size of covered bonds' markets

	% Mortgages		% of GDP	
	2005	2011	2005	2011
Denmark	100.0	100.0	122.2	146.0
France	11.3	24.1	7.2	18.3
Germany	20.4	22.8	43.5	22.8
Italy	0.0	13.8	0.3	4.0
Netherlands	0.4	14.5	0.4	9.0
Spain	31.6	56.1	17.6	37.4
UK	1.9	16.0	1.5	11.0
US	0.0	0.5	0.0	0.1

Source: EMF, ECBC

Main features of covered bonds

According to the European Covered Bond Council (ECBC), the essential features of covered bonds are:

1. Covered bondholders have full recourse to the issuer's total assets

Full recourse means that the obligor has an unconditional, unrestricted obligation to repay a debt. Should an obligor fail to do so, the creditor will have a claim on the general insolvency estate of the obligor on an equal basis with the other general creditors of the obligor. Full recourse is a key difference between securitization and covered bonds, as in the first case bondholders' only recourse is to the cash flows from a securitized portfolio of assets.

In some cases, covered bonds are issued by a special purpose vehicle sponsored by a credit institution. This provides bondholders with full recourse to the underlying credit institution.

2. Holders of covered bonds have a claim against a specified cover pool of assets in priority to the issuer's unsecured creditors

Besides the full recourse mentioned in the previous point, the holders have this additional claim on part of those assets. The pool of assets that serves as collateral for the covered bonds is a clearly identified, separated pool of assets dedicated to secure the covered bonds' payments. In the event of the insolvency of the credit institution, the assets in the cover pool will be used to repay the covered bondholders before they are made available for the credit institution's unsecured creditors³.

The most common cover assets are mortgage loans on residential or commercial property, mortgage loans on ships and loans to public sector entities. In certain countries, cover pools also include cash and loans on credit institutions.

3. The credit institution must maintain at all times sufficient assets in the cover pool to satisfy the claims of covered bondholders

The value of the pool of assets must be at least equal to the value of the covered bonds issued. In most jurisdictions, the value of the cover pool is required to exceed the value of the covered bonds by a certain amount (this is called "overcollateralization"). Therefore, the credit institution may be required to add further assets to the cover pool to compensate for matured or defaulted assets, which does not happen in the case of securitizations.

4. Specific supervision is required for the obligations of the credit institution in respect of the cover pool of assets

This special supervision is different from the general supervision of the credit institution. Typically the supervision of the assets used as collateral for the covered bonds include:

- Designation of a special cover pool monitor/auditor.
- Periodic audits of the cover pool.
- On-going management and maintenance of the cover pool to ensure the timely payment of covered bondholders.

Special public supervision is a condition of Art. 52 (4) of the UCITS directive and of several other EC directives, making bonds which are subject to special public supervision eligible for favorable investment limits for certain investors. In addition, for investors subject to the CRD, only covered bonds subject to special public supervision are eligible for preferential risk weightings.

³: In the case of Spain, cédulas are guaranteed by the entire mortgage loan book of the issuer. See Table 4.

The advantages of covered bonds

1. Advantages for the issuer

- Cheap and longer term funding compared to other funding sources due to their overcollateralization, which results in high credit quality. Banks' credit quality is delinked from the issuing entity, although the rating of covered bonds is not completely de-linked from the issuer's rating.
- Investors tend to place larger volumes into covered bonds, which are perceived as safe, offering higher recovery levels and greater transparency than other types of senior unsecured bank bonds. Therefore, the issuer can get significant amounts of liquidity.
- Market accessibility, especially during and after the financial crisis. Although covered bonds have suffered as other funding instruments, they have proven to be more resilient.

2. Advantages for the investor

- Better credit quality and secondary market liquidity than other instruments during the crisis
- International diversification and a large choice of maturities.
- Privileged treatment in different areas of EU financial market regulation.

3. Contribution of covered bonds to financial stability

- The moral hazard problem of out of balance-sheet securitizations is solved, as the covered bond issuer still retains the credit risk of the underlying assets used as collateral, being an on balance-sheet instrument.
- The use of covered bonds as collateral in central bank repo transactions has increased, with lower haircuts than securitizations.
- The number of issuers of covered bonds over the last few years has increased, improving the diversification of funding sources for banks and making credit cheaper and more easily available for banks' customers. This helps stabilizing a larger portion of the banking sector.
- The volatility of covered bonds is lower than that of the market. Even though the European sovereign debt crisis has shown that covered bonds and sovereign debt tend to be closely correlated in times of severe stress, the beta factor of covered bonds is well below one, so this security is less volatile than the market.

Structural subordination. Implications for bail-in effectiveness

One of the factors that favor the use of covered bonds instead of unsecured debt has to do with structural subordination.

During the last few years banks have increasingly resorted to covered bonds as the main type of wholesale funding. This means that more and more assets are separated in order to be used as collateral for covered bonds. As assets in the cover pool are not available to back the claims of senior unsecured investors in case of the issuer's insolvency, investors have started to worry about the quality of their claims against banks. Depositors and deposit insurers will have a smaller pool of unencumbered assets, and possibly lower quality assets to fall back on in the event of a default.

Besides, rating agencies demand high overcollateralization levels in order to provide high ratings to covered bond issuances, which in most cases significantly exceed the legal overcollateralization requirements and further reduce not only the available assets for investors outside the cover pool, but also the available assets for covered bond issuance. In this respect, the potential volume of covered bonds to be issued by a financial institution is not unlimited, as the amount of available assets eligible as collateral acts as a restriction.

However, regardless of the benefits that covered bonds provide, it is important to balance these benefits against the potential impact of this encumbrance on the issuer's balance sheet structure. Analyst estimates (and definitions) of asset encumbrance levels in Europe vary, but averages range between 15 per cent and 25 per cent of assets⁴. This potential disadvantage is exacerbated, as a result of the crisis, by the current initiative to reform the framework for banking resolution in Europe, which places considerable emphasis on bail-in as a resolution tool.

The European Commission has recently published its proposal for a Directive establishing the framework for the recovery and resolution of banks and financial entities in the EU. This new legal framework includes among other aspects bail-in and burden-sharing schemes between banks' shareholders and holders of debt securities.

The aim of a bail-in scheme is that governments and financial authorities have an alternative option to bail-out, i.e. the rescue of insolvent systemic banks using taxpayers' money. Bail-in offers such an option through a mechanism whereby an insufficiently solvent bank can absorb all (or part of) expected losses by converting some debt categories into equity. This process avoids a sudden and disorderly liquidation of the bank, which is allowed to continue in business as a going concern.

The new legal framework for bank resolution is expected to have limited impact on the market for covered bonds given that all types of collateralized debt will be excluded from the debt categories to be converted into equity if the bank becomes insolvent. Nevertheless, if banks increase their use of covered bonds to the detriment of unsecured debt, and reduce the volume of unsecured funding on their balance sheet, the effectiveness of the new framework for bank resolution will be adversely impacted.

Spanish *cédulas hipotecarias*: pros and cons

Generally speaking, covered bonds have been successful due to their simplicity. They are a plain vanilla product, with a demonstrated track record of high credit quality, typically backed by mortgages, with strong supervision and regulatory requirements designed to claim collateral in case the issuing entity fails to honor its debts.

In Spain the use of covered bonds has been intense during the last decade. Spain is the world's largest issuer of mortgage covered bonds, with an outstanding volume of EUR 369 billion, 18% of the total at the end of 2011.

Spanish *cédulas* have been widely used by credit institutions as a cheap and reliable source to fund their activity for many years. Moreover, the use of covered bonds in Spain has enabled a fast growing housing market in Spain, which allowed a great share of the population to own their houses.

We reckon that Spanish *cédulas hipotecarias* provide a safe and reliable funding source for financial institutions that include all the positive aspects for both investors and issuers that have been already mentioned in previous paragraphs. However certain aspects of the legal structure of other types of covered bonds in Europe (chiefly German *pfandbriefe*) can be used to further improve the Spanish framework:

- Higher levels of LTV limits in the Spanish legislation for the loans to be eligible for the cover pool of assets that back the bonds.
- The need for a credible due diligence of the dynamic pool of assets that backs the bonds, which is done in many jurisdictions through "cover monitors" which may adopt the form of independent auditors.
- The need for a provision of sufficient information on the specific loans that make up the cover pool of assets, which is a characteristic of other countries' covered bonds, including information on the substitution of non-performing assets, and the value of the cover pool

4: See Le Leslé (2012).

subject to stressed valuations. These stress tests are carried out on a weekly or monthly basis in other countries. This may be part of the tasks assigned to the “cover monitor”.

- In other jurisdictions the cover pool of assets may include money claims up to a certain limit of the nominal amount of the bonds issued (e.g. 10% in Germany).

In conclusion, some refinements of the mortgage market regulation can be made in Spain to improve the legal protection of this instrument, moving closer towards the German model.

In order to better understand the strengths and weaknesses of Spain's *cédulas hipotecarias*, we have summarized in table 4 the main aspects of Spanish *cédulas* compared with the other two main types of covered bonds in Europe: German *pfandbriefe* and Danish covered bonds.

Table 4
Comparison of the main European covered bond markets

	Spanish cédulas	German pfandbriefe	Danish covered bonds
Issuer of the covered bonds	Credit institution (universal and /or specialized)	Universal credit institution	Credit institution (until 2077 only mortgage banks)
Recourse of the bondholder to the issuer's total assets	Yes	Yes	Yes
Owner of the cover assets	The issuer. Cover assets remain on the issuer's balance sheet	The issuer. Cover assets remain on the issuer's balance sheet	The issuer. Cover assets remain on the issuer's balance sheet
Assets eligible for the cover pool	Mortgage loans	Mortgage loans, loans to public sector, ship loans and aircraft loans	Mortgage loans, loans to public sector, ship loans and aircraft loans
Basis for the calculation of LTV	80% residential mortgages; 60% otherwise	60% all types of collateral	80%75% residential mortgages; 60%-70% otherwise
Cover pool of assets	The cover pool is made up by the entire issuer's mortgage portfolio	No direct link between cover assets and pfandbriefe	Direct link with the loans. The cover pool is dynamic
Specifics of LTV limits	LRV limits refer to issuance limits: prohibition to issue cédulas for an amount greater than 80% of outstanding volume of eligible loans	No absolute limit: loans may have a higher LTV than 60%, but only the amount of the loan up to 60% is eligible for the cover pool	
Mandatory stress test of the cover pool	No	Yes. Legislation requires that bonds are covered on a net present value basis	Yes. Legislation requires that bonds are covered on a net present value basis
What types of stress scenarios are applied?	Not relevant	Static and dynamic stressed scenarios, and valuations based on internal models (e.g. VaR)	Dynamic stressed scenarios, and valuations based on internal models (e.g. VaR)
Frequency of stress test calculations	Not relevant	Weekly	Quarterly
Monitoring of the cover pool of assets	Supervisory authority	Supervisory authority; trustee or cover pool monitor	Supervisory authority
Reporting obligation	Yes	Yes. On a quarterly basis issuers must publish details of nominal, NPV and stressed NPV coverage level, maturity structure of the cover pool and bonds, as well as data of the mortgages used as collateral	Yes. Reported to the supervisory authority
Overcollateralization	25% minimum at all times	2% minimum at all times after stress tests	8% of Risk Weighted Assets (only for mortgage banks)
Requirement for an independent cover pool monitor	No	Yes	No
In case of insolvency do CBs automatically accelerate	No	No	No
In case of insolvency, how are covered bondholders protected?	Preferential claim: the cover pool of assets is separated from the issuer's general insolvency estate. Covered bondholders have primary secured claim against all assets in the cover pool.	Preferential claim by law. Besides, there is specific cover pool administration by the cover pool monitor	Preferential claim: the cover pool of assets is separated from the issuer's general insolvency estate. Covered bondholders have primary secured claim against all assets in the cover pool.
Prepayment of loans using collateral is allowed		Yes, but usually with penalization. Prepayment of mortgages during fixed rate periods are allowed in cases of "legitimate interest of the borrower" or after a period of 10 years.	At all times

Source: ECBC

4. The mortgage client: Consumer protection and tax treatment

4.1. Consumer Protection

Proliferation of new regulation

With the trigger of the international crisis, authorities have taken numerous initiatives to better regulate mortgage practices, also in relation to consumer protection. However, there is a risk of **duplication or incoherence** between measures adopted.

After the release of a thematic review on mortgage underwriting and origination practices (March 2011), the **Financial Stability Board (FSB)** issued a consultation paper (October 2011) with the aim to implement **five principles for sound residential mortgage underwriting practices**. The principles remain general and subject to national supervisor discretion, and cover issues such as effective verification of income, reasonable debt service coverage, appropriate loan-to-value ratios, effective collateral management and prudent use of mortgage insurance. The report also encourages the use of loan-to-value ratios and debt service limits.

At national level, **the United States** has issued numerous proposals. The Federal Reserve Board implemented some guidelines for high cost loans in 2008, including a prohibition of pre-payment penalties on high cost loans. Furthermore, the Dodd-Frank Financial Reform Bill (July 2010) introduced a differentiation between “qualified” and “non-qualified” mortgages in its section “Mortgage Reform and Anti-Predatory Lending Act”:

- “Qualified mortgage” are instruments with low risk features whether they have a fixed (FRM) or adjustable rate (ARM): fully amortizing payments and a term no longer than 30 years. In those cases, borrowers’ total monthly debt payments must be below 43% of their total monthly pre-tax income. Pre-payment penalties are now capped on “qualified” FRM and prohibited on ARM. Regulators can restrict or prohibit the use of, among others, balloon payments; negative amortization; pre-payment penalties; interest-only payments.
- While “non-qualified” mortgages are still allowed, they are subject to certain limitations: pre-payment penalties are prohibited and lenders must retain at least five per cent of the credit risk on the loans. Its offer will be limited, since those would show a higher price that reflects the requirement of risk retention; a greater risk of provision violation; and a greater cost of disclosure and compliance.

In January 2013 the US consumer regulator has reinforced its requirements so as to provide lenders with a greater shield from potential lawsuits, with the target to get easier credit terms for borrowers. In particular, the Consumer Financial Protection Bureau published its Ability-to-Repay rule, to be implemented by January 2014. Lenders must consider eight underwriting factors (expected income, employment status, monthly payment -of the transaction, of simultaneous loans and of mortgage related obligations-, current obligations -debt, alimony and child support, monthly debt-to-income or residual income and credit history), financial institutions must verify income and they have seen their ability to impose prepayment penalties limited.

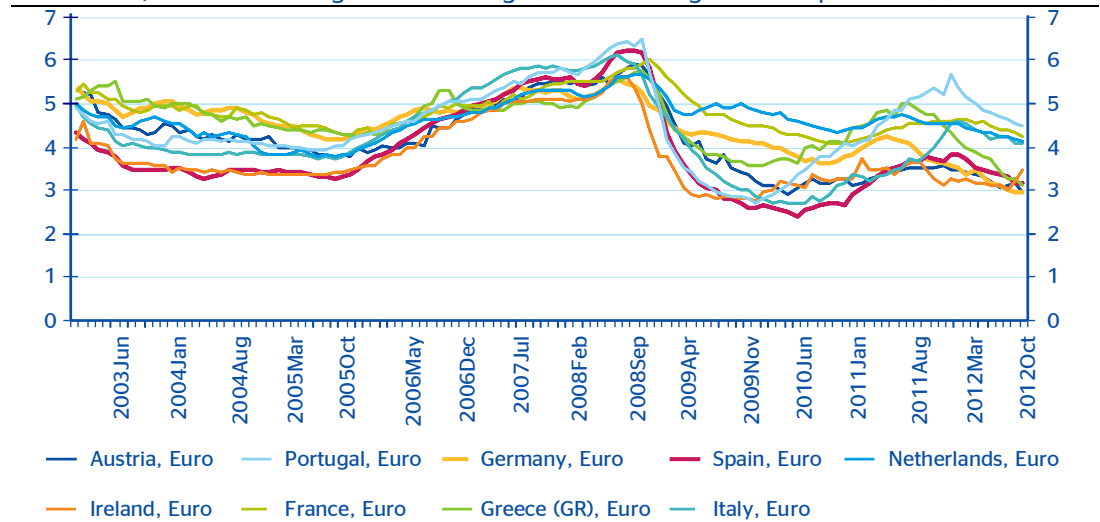
Before the financial crisis, **European Member States** independently transposed to national mortgage markets parts of the **EU Consumer Credit Directive (CCD)**. This consists in a moderately interventionist approach, which regulates pre-contractual transparency and certain contractual issues, but leaves out contract execution via foreclosure and the consumer insolvency regime, and is not directly applicable to mortgages.

The European Commission (EC) has elaborated a proposal of **Directive on credit agreements relating to residential property** in March 2011. On April 22nd, 2013 the European Parliament, the Council and the Commission reached an agreement on the Directive. Creditors

will be obliged to hand out to consumers a standardised information sheet (ESIS) that will allow them to shop around to identify the best and cheapest credit offer for their needs. The Directive also creates an obligation for creditors and intermediaries to make general information available on the range of credit products, and makes the right of early repayment compulsory (while Member States will have the choice to impose that creditors should receive a fair compensation). However, it does not handle critical issues such as rate adjustments and caps for ARM or cross-border mortgages with foreign collateral.

The proliferation of regulatory initiatives risks producing a **regulatory conflict**, mostly in Europe. Although since markets show different background in terms of real estate structure, cultural features and socioeconomic policies, some leeway must be provided to national supervisors, the project of a Banking Union in the Eurozone would probably require a much more ambitious harmonization. In fact, the European mortgage markets remain still highly fragmented, as shown by chart 3. In an integrated market, prices should theoretically converge because of competition between financial providers, which is clearly not the case.

Chart 3
Interest rate, Annual Percentage Rate of Change (APRC): lending for house purchase (%)



Source: ECB, BBVA Research

Responsible lending

What is responsible lending?

Responsible lending are those practices intended at making sure that credit products are appropriate to consumers' needs and tailored to their ability to repay. They cover two sets of issues:

- Banks must assess the affordability of all mortgages and make sure that clients have all the information needed.
- Consumers must get information about the products, provide complete and accurate information on their financial situation and take their circumstances into account when making their decision.

During the last few years and in particular since the crisis started, several public and private initiatives have pointed **at bad practices** in the market. This is the case of the FSA Mortgage Market Review⁵ or the European Commission Public Consultation on Responsible Lending and Borrowing in the EU⁶. Some of the bad practices identified were: Irresponsible mortgage

5: FSA, CP10/16: "Mortgage Market Review: Responsible Lending" (July 2010)

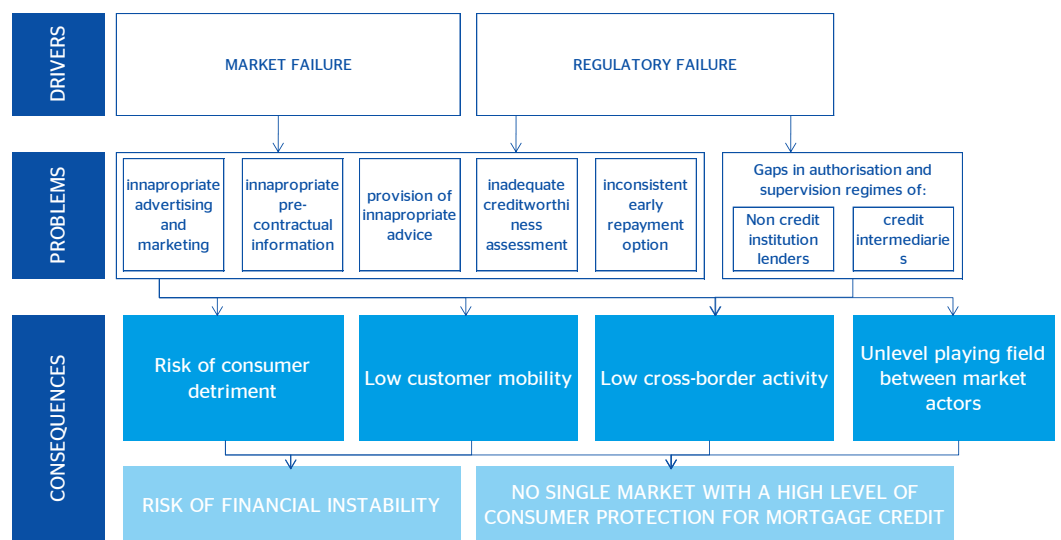
6: European Commission, "Public Consultation on Responsible Lending and Borrowing in the EU", November 2009

products such as self-certification mortgages (with no prove of income), uncapped variable rate mortgages, loans in excess of 100% of the value of the property (LTV), failure to calculate Annual Percentage Rate of Change (APRC), the promotion of 0% introductory interest rate, interest free credit or interest-only mortgages⁷ or risky foreign currency loans.

What causes irresponsible lending in theory?

In theory, the current weaknesses of mortgage markets were caused by market failures and regulatory gaps. This makes difficult the functioning of the EU single market by: (i) preventing the pursuit of business or (ii) raising the cost of doing business cross-border

Chart 4
Channels between irresponsible lending and financial stability



Source: European Commission (2011), BBVA Research

- **Market failures:**

Information asymmetries: the creditor is better informed than the borrower about the mortgage, while the customer is better informed about his financial situation.

Misaligned incentives: Creditors' interest may be biased by their remuneration schemes, which may lead to inappropriate creditworthiness or suitability assessment.

- **Regulatory failures:**

Regulation should ensure adequate competition, addressing market failures like:

1. Inappropriate advertising and marketing. Advertising can encourage inappropriate products for the consumers or fail to help consumers to understand and compare offers, in particular cross-border.
2. Inappropriate pre-contractual information: Consumer should understand the features and risks of mortgage products; be able to compare offers and to make an informed choice.

One of the main information to be provided prior the execution of a contract is the annual percentage rate of charge (APRC)⁸ which is the total cost of the credit to the customer in terms of the total amount of credit. Currently, there is no

7: In the UK at the peak of the market over 30% of all mortgages were interest-only. In Denmark, the Netherlands and the UK, the loan can be interest only to maturity (maximum 30 years). However, in the Netherlands these mortgages have a maximum 75% LTV.
8: Equivalent to the Spanish TAE, the most significant transparency measure adopted in Spain in the seventies.

European legislation that harmonizes its calculation, but there is a legal specification for its calculation in most countries (but the Netherlands).

3. Inadequate creditworthiness assessment: Legislations vary across countries⁹. The European directive sets the obligation to exercise a creditworthiness assessment prior to the execution of a mortgage and to communicate it to customers. Mortgage credit providers will also need to respect high-level principles in their direct contacts with their clients, such as taking account of the consumer's real interests, ensuring that the remuneration structures do not incite excessive risk taking, and disclosing any links between the credit intermediary and the creditor.
4. Repayment right: The European directive sets the obligation to ensure this right to customers, but it does not define the conditions under which it could be executed. In fact, Member States will have the choice to impose that in such cases creditors should receive a fair compensation. This is related to the debate ARM vs. FRM models (see section 2).

What are the recommendations of authorities?

Regulators in most areas¹⁰ are taking steps to ensure responsible lending, which can be grouped in:

- Making sure that banks perform **affordability tests**, as they are responsible for assessing their clients' ability to pay. In the EU, lenders are required to refuse credit if the borrowers cannot demonstrate their ability to repay the loan.
- Ensuring that clients have all **relevant information** to take adequate borrowing decisions
- In some cases, introducing **extra protection for vulnerable clients**, like those with a credit-impaired history.

Affordability tests usually include an assessment of clients' income and expenditure. Some analysts are requiring these tests to be performed several times during the life of the project, and not only when it is being granted.

- **Income:** This includes verifying income for all mortgage applications, which in practice bans self-certification and fast-track mortgages. Income evidence must be from a source independent of the client.
- **Expenditure:** A line-by-line assessment of all expenditure data has important practical difficulties, so lenders are often allowed to use statistical data and their own expenditure models.
- **Other conditions:** In the UK, assessments must normally be based on a capital and interest basis, and on a maximum term of 25 years.

In particular, the **Bank of Spain** has just published (July 2012) a "Circular on transparency and responsibility in lending". Some of the general principles of responsible lending to individuals are:

- The customers' ability to repay must be part of the granting criteria and of the process to set the maximum available credit. Income considered must be that from regular sources, using reliable and updated information. This concept was already introduced in the Law of Sustainable Economy (March 2011).

9: As of March 2011, some extended the CCD requirements to mortgage products, among others: Belgium, Denmark, Germany, Italy, Netherlands, and Sweden. Other countries have adopted similar provisions: Czech Republic, Greece, Ireland, Lithuania, Poland, UK. However, three countries have not adopted any provision to require an adequate assessment of creditworthiness: France, Luxembourg and Portugal. In Spain the execution of a creditworthiness assessment is mandatory from 2011 with the adoption of the 2/2011 Law Sustainable Economy

10: In the case of the EU, the Commission adopted a proposal for a Directive on credit agreements relating to residential property in March 2011 along these lines. Once Parliament and Council adopted it, EU member countries must implement national measures to achieve the results stipulated by the directive.

In the case of the UK, the PS12/16 "Mortgage Market Review - feedback on CP11/31 and final rules" (Oct 2012) will come into effect on 26 April 2014. All customers will need to satisfy lenders that they can afford the mortgage, and provide evidence of their income. Most mortgage sales will require advice. The new rules do not prevent higher loan-to-value lending or lending to old clients, and interest-only will be allowed if the borrower can show that they have a credible repayment strategy.

- Payment plans should be realistic and coherent with the income of clients, which should be able to afford living costs.
- LTV should be prudent, taking into account the amount of the loan (and its potential enlargements) and the value and risks inherent to the collateral. Initial down payment must be sufficient.
- The procedures for the valuation of the collateral must be adequate, and there must be a policy to pursue the quality of the appraisal values. Special attention must be taken to foreign currency mortgages and potential interest rate variations.
- In the case of offers of risk coverage products, like interest rate swaps, the entity must inform the client of coming payments and opt-out options.
- In the case of credit granted to a constructor which will be subrogated to housing acquirers, the bank must make sure that mortgage clients have all the information they need and assess their payment capacity.
- Entities should provide the client with sufficient information for them to take an informed decision and to be able to compare the offer with similar ones.

As a result of the crisis, lenders are tightening guidelines in many countries:

- Some very **common practices** consist on imposing LTV caps, loan-to-income caps, mortgage quote-to-income caps, term caps or restrictions to offering certain types of mortgages, like interest-only mortgages. However, this can be intrusive, as it has been the case in some Asian countries.
- **Canada:** In June 2012, the government decided reducing the maximum amortization period for insured¹¹ mortgages from 30 to 25 years, lowering the maximum amount withdraw in refinancing an insured mortgage from 85% to 80% of the value of their homes and setting the maximum gross debt service ratio at 39%. The minimum down payment remains at 5% for owner-occupied properties and 20% for speculative properties.
- **United Kingdom:** The FSA recognised in 2009 that the usefulness of LTV or debt-to-income (DTI) caps are not yet warranted by the evidence. They recommend restrictions on risk layering (prohibiting loans that are a mix of high-risk factors, for example, prohibiting high LTV loans to credit-impaired borrowers who have an unstable income or other similar "toxic" mixes) and requiring income verification on all mortgages.

The following table presents a summary of recent measures related to responsible lending, some of which have been taken at the initiative of the banks:

Table 5
Change in Mortgage Product Characteristics, Late 2007-Late 2008

Country	Lower Loan-to-Value Ratios	100% Mortgages Less Available	Loan to Income Criteria Tightened	Max Mortgage Term Shortened	Reduction in Interest Only Loan Availability
Denmark	x				
France	x	x		x	
Netherlands		x	x		x
Spain	x		x	x	
U.K.	x	x	x		x
U.S.	x	x	x		x

Source: Scanlon et.al. 2009

11: The government of Canada provides insurance to protect mortgage lenders against mortgage defaults on mortgages for which insurance has been purchased (mandatory on loans with less than 20% down although lenders may require it on loans with more than 20% equity if they perceive additional risk of default).

4.2. Tax Regime

There are several ways in which governments encourage housing investment and improve households' affordability: subsidized mortgages, deduction of interest payments in the income tax, capital grants and by constructing or supporting the construction of subsidized houses. However, there are significant differences in the taxation of housing-related activities in different countries, as can be seen in the table 6 below.

Table 6
Housing market related taxation (*)

	Capital gains tax					Inheritance tax				Residential property prices average growth 1999-2007			
	Tax on imputed rent	Tax deductibility of interest payments	On selling own home after 10 years.	Different treatment of financial housing assets	Maximum tax rate applicable	On own home	Different treatment of financial housing assets	Wealth tax	Real estate/property tax		Transaction tax/fee/stamp duty	Owner occupancy rate	Rented accommodation, latest
Germany	no	no	no	yes	45%	yes	yes	no	yes	yes	43.0	58.4	-0.4
Spain	no	yes*	yes	yes	18%	yes	yes	no	yes	yes	86.3	9.3	11.9
France	no	yes	no	yes	16%	yes	no	yes	yes	yes	57.2	42.8	10.3
Italy	no	yes	no	yes	20%	yes	yes	no	yes	yes	69.1	18.8	6.3
Netherlands	yes	yes	no	no	n.a.	yes	yes	no	yes	yes	56.6	43.0	8.1
Denmark	no	yes	no	no	42%	yes	yes	no	yes	yes	54.0	36.0	11.6
US	no	no	no	yes	24%				yes	yes	68.4	33.7	7.7
Canada	no	yes	no		24%	no	yes	no	yes	yes	67.0	33.0	7.0

(*) In general, the tax issues of the table 6 refer to the main house.
Source: NCBs and International Bureau of Fiscal Documentation

- Only a few euro area countries have a tax on imputed rent for owner-occupied houses (like the Netherlands). However, most countries impose a property tax that has a similar effect.
- In the majority of countries, mortgage interest payments are tax-deductible, although this is usually restricted to primary residences. This subsidization improves the affordability, and has implications on the size of the mortgage that households take up, the number of households with a mortgage and the types of loans involved (e.g. interest-only loans). On the other hand, it introduces a bias towards owner-occupied housing and against renting, which is arguably a factor behind some of the recent bubbles; although the link between tax deductibility and rise in house prices is not totally clear (see charts below). A too high owner occupancy rate affects negatively the mobility of workers, exacerbating already high labor market rigidity in countries such as Spain.
- In general, capital gains on the principal owner-occupied home are exempted from the capital gains tax, especially if the owner has lived there for several years before selling it.
- Inheritance/gift tax, as well as wealth tax, may have an impact on the volume of mortgages that households take out. Most countries have stopped collecting inheritance and wealth taxes over the past decade¹².
- Taxes on property transactions are present in most countries. Most often, these are one-off fees, such as stamp duties on the home purchase contract or transfer taxes on real estate transactions. In some cases, as in Ireland, rates of stamp duty are used as a policy instrument to curb housing demand.
- Transaction costs (purchase costs and mortgages costs) may have an effect on housing market activity. The former are usually largest in size, and comprise mainly taxes (see above). On average, taxes account for up to two-thirds of the transaction costs, but this

12: However, inheritance tax has recently been reintroduced in Italy.

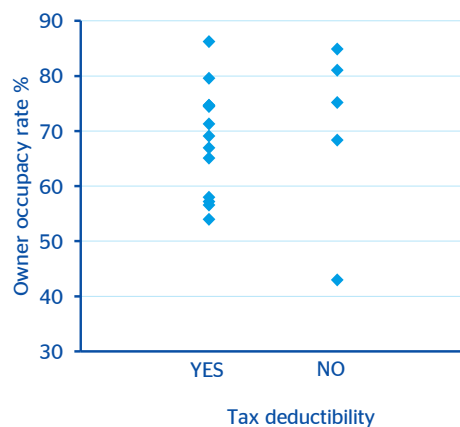
part is particularly high in Greece, Spain and France. Apart from affecting housing market activity, high transaction costs may also have negative effects on labor mobility.

In summary, tax policies often promote home ownership through fiscal instruments that favor investment in property over investment in financial assets, due to their positive external effects. Furthermore, it is evident that fiscal aspects of mortgage financing are predominantly country-specific and play an important role in housing markets' development.

The owner-occupancy rate is very heterogeneous in Europe. Rates are very low in Germany (43%), low in France, Netherlands, Austria and Finland (55 to 60%). In these countries, households are highly active in renting out their houses. For example, German households own about 75% of all residential property, but only 43% live in their own home. In this country, 30% of existing houses are rented out by private individuals and 18% that by private enterprises.

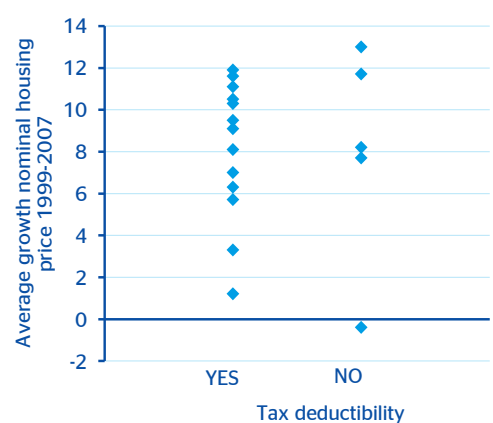
There are many variables that affect positively the rate of property and mortgage market development, so it is not easy to quantify the impact of the tax benefits, as show in Chart 5. Similarly the relation between the growth of housing prices and tax deductibility is not clear, as show in Chart 6.

Chart 5
Tax deductibility vs. Owner rate



Source: BBVA Research

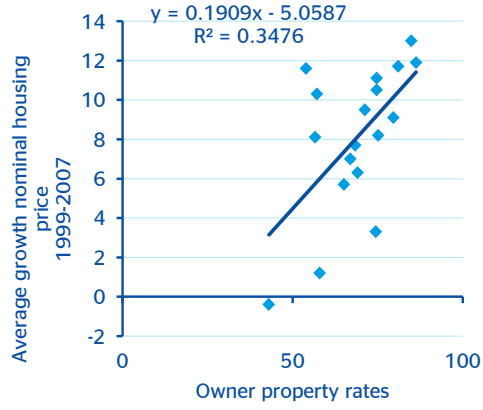
Chart 6
Tax deductibility vs. Housing price



Source: BBVA Research

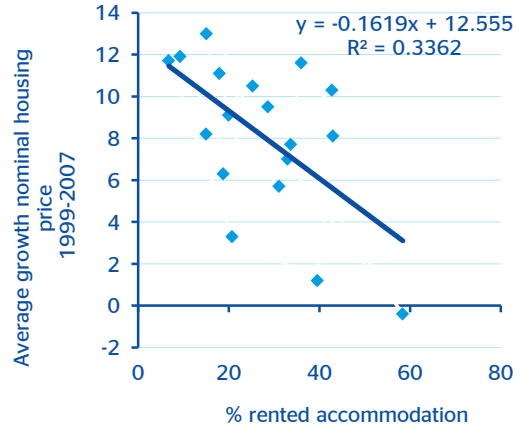
However, in countries with a higher proportion of rented accommodation or a lower property rate, house prices growth during the recent boom period was lower, at least ceteris paribus and in the period considered (charts 7 and 8). One of the risks of an active government policy to encourage home ownership may be the development of a higher propensity to housing bubbles. This is usually associated with problems of financial stability and can derive in negative effects on the real economy once the bubble explodes. The development of the rental market and a neutral tax treatment of property vs. rent seems to be a good practice. The elimination of tax deductions for the purchase of new houses by the Spanish government in July 2012 is in line with this consensus.

Chart 7
Housing price vs. Owner property rates



Source: BBVA Research

Chart 8
Housing price vs. Rented accommodation



Source: BBVA Research

Box 2. Examples of income tax deductibility of mortgage interest payments

Germany: Mortgage interest is not deductible in the case of owner-occupied housing, but only in the case of rented houses (in the calculation of the rental income received by the taxpayer).

Spain: Home-owners can deduct, from their net tax payable, 15% of the first €9,015 spent every year on interest and principal repayments. Before 2007 and if the loan financed more than 50% of the total purchase value, the deduction for the first €4,508 was 25% during the first two years, and 20% for the rest of the life of the loan. The 15% rate was applied to the remaining €4,508 in all cases. There is no deduction for secondary residences. In July 2012 the government removed this tax deduction for new purchases.

France: For loans extended as of 22nd August 2007 for the purchase or construction of a main residence, the interest paid generates a tax credit during the first five years. The tax credit is calculated as 20% (40% for the first year) of the qualifying loan interest. The qualifying interest is limited to €7,500 per couple, plus €500 per dependent.

Italy: There is a tax credit equal to a maximum of €760 (19% of €4,000) due to interest paid in relation to the main residence.

Netherlands: For mortgages on prime residences, the interest is income-deductible for a maximum period of 30 years. The size of the mortgage can be increased for the maintenance or improvement in the case of an owner-occupied dwelling, being the interest on this increase fully deductible.

USA: Qualified mortgage interests can be deducted, both in the case of a main or a second home, although there are exceptions. Home mortgage interest is that resulting from a debt that is secured by a main or second home. Acquisition debt is debt incurred to buy, build, or improve a home, while home-equity debt is debt incurred for any other purpose. It can also be deducted called "deducting points" that are equivalent to the mortgage interest, such as loan-origination fees, maximum loan charges, and loan discounts.

Canada: Mortgage interest is not deductible in the case of owner-occupied housing. When the property is for rent, mortgage interest and other expenses associated with the property (property taxes, utility cost, house insurance...) can be deducted of the rental income received by the taxpayer.

Denmark: Mortgage interest paid by the owner is tax-deductible when calculating capital income. The current tax relief on interest has a taxable value of approximately 33%. Property value tax is not part of the income tax but the calculated property value tax is collected with income taxes. Property tax is 1% of the part of the property value that does not exceed an amount of DKK 3,040,000 and 3% of the rest, so it is progressive.

5. Mortgage regulation and macroprudential oversight

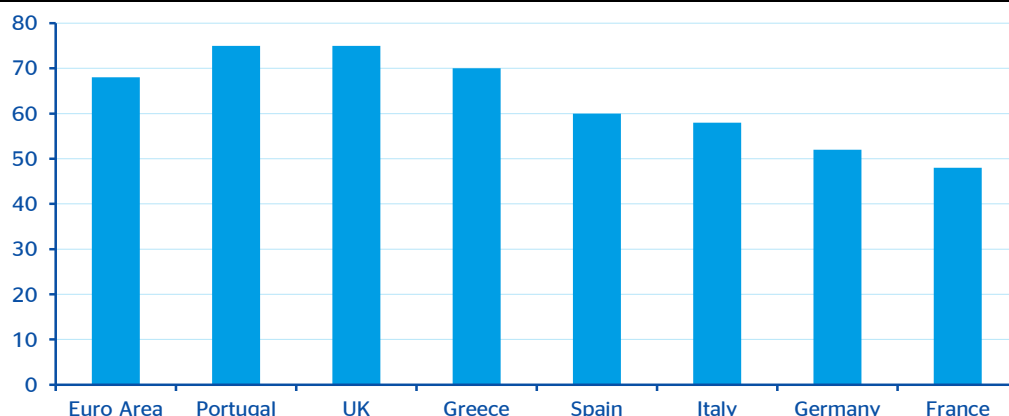
The **2007-08 financial crisis** has triggered an increasing awareness of the importance of systemic risk and macroprudential policies. Financial stability requires not only appropriate policies on the traditional microprudential sphere (that deals with individual banks) but also for the system as a whole. Although no consensus has been reached on whether macroprudential policies should be set to deal with asset bubbles, a wide variety of macroprudential tools have already been used in many countries.

The link between macroprudential policies and mortgage market regulation is straightforward. A significant number of recent crises were originated in the real-estate sector, where asset prices booms are relatively frequent.

In a context of abnormally low interest rates, mortgage credit showed a rapid expansion from 2000 to 2007 in a number of countries, from the US to UK, Spain or Ireland. An increasing percentage of new loans were granted with a high LTV ratio and therefore a high risk profile. This exacerbated the housing sector bubble and the effects of the economic cycle. The following graph shows that loan-to-value ratio varies widely across European countries.

Chart 9

Average LTV on new credit for house purchase during the financial crisis



Source: ECFIN Retail Banking Survey, 2009 Q1, EC (2011) and BBVA Research

As it has been mentioned before, in order to avoid excessive lending and housing prices bubbles, **loan-to-value caps have been adopted in a number of countries**. Before the crisis, many Asian countries implemented LTV limits to smooth real estate booms (e.g. China: limits varying between 70% and 80%; Hong-Kong: limits between 60% and 70%; and Korea: LTV capped at 50%). Some of these countries adjusted these limits to counteract housing bubbles. In contrast, advanced economies have been more reluctant to establish such limits, which are seen as an intrusive measure, which curtails the contractual freedom of the parties. Among developed countries, only Denmark and more recently Canada and Sweden, introduced LTV caps. Some international initiatives¹³ propose the use of this instrument as regular tool to limit asset prices bubbles.

LTV limits are appealing as a policy instrument because of their effectiveness, but their use **must be well calibrated in order to minimize their drawbacks**. The implementation of loan-to-value limits may push lending to the unregulated sector and by this way exacerbate shadow banking (e.g. in Croatia, where the introduction of a 75% LTV cap was unsuccessful since it

¹³:Such as the proposal of the High-level Expert Group on reforming the structure of the EU banking sector, better known as the Liikanen Group]

encouraged consumers to find unsecured ways of funding). One solution to minimize these effects could consist in implementing **mortgage insurance** above a given LTV threshold, which discourages lending above such limit and protects banks from losses. This type of instrument has already proven its virtues in Canada and Hong Kong. Many Asiatic countries (China, Korea) also introduced debt-to-income caps to deal with price bubbles in the mortgage sector. The effectiveness and the drawbacks of such instrument are similar to those related to LTV limits.

All in all, LTV limits proved to be an effective policy tool in emerging markets that can have, however, unintended effects on efficiency, competition and the level playing field between the regulated and the unregulated sectors. Their usefulness in more developed financial systems, where competition is much higher and potential loopholes abound, remains to be seen, however. For these types of countries, a regulation based on incentives rather than prohibitions seems more in line with the business environment. In these cases, instead of caps to LTV, incentives for a prudent underwriting have been used: higher capital requirements for higher LTV, or securitization requirements based on a maximum LTV.

Other macroprudential tools have been used with the aim to control price bubbles in the mortgage sector. In that vein, many Eastern European countries set some **capital control** mechanisms in the form of stricter requirements on foreign lending, which mainly resulted to provide poor results. At the beginning of the past decade, many of those countries showed a vast increase in credit growth along with increased levels of external indebtedness. These features were mainly explained by the massive foreign lending through their banking system which was mostly channelled to their real estate sector. Authorities reacted by adopting several measures to curb bank lending in foreign currency: they implemented stricter capital requirements and higher LTV limits for foreign currency loans¹⁴. Since these capital control mechanisms were highly intrusive and were adopted too late, the results were not satisfactory. Although macroprudential tools are necessary to deal with credit bubbles, the Eastern European experience conveyed the importance to distinguish macroprudential policies from intrusive capital controls and that a right calibration and early adoption of macroprudential tools are crucial to ensure their effectiveness.

The Spanish experience with **dynamic provisions** has been a reference in the debate on macroprudential policies¹⁵. In the early years of the 2000s, the Spanish authorities saw with increasing anxiety the combination of high credit growth, inflation differentials with the Eurozone average, loss of competitiveness, and widening current account deficits. Dynamic provisions were therefore adopted as a prudential instrument to achieve a systemic or macroeconomic goal, i.e. limiting credit growth especially originated in the mortgage sector. The goal of the instrument was twofold: (i) to contain credit growth, by increasing the cost of the granting of new credit, and (ii) to protect Spanish banking institutions from future losses as a consequence of the relaxation of lending standards typical of the boom phase. Although the instrument was not completely successful because of the severity and length of the actual crisis, the virtues of the Spanish dynamic provision mechanism should be recognized. Peru and Colombia have also adopted a dynamic provisioning system with similarities and differences from the Spanish mechanism, but it is not possible to assess their effectiveness yet, since they have not experienced a whole business cycle.

14: Higher capital requirements for foreign loans: Romania 2004 & 2010, Hungary 2008, Poland 2008 & 2012, Latvia 2009, Albania 2008. Higher LTV for foreign mortgage loans (Hungary 2010) or DTI (Romania 2008, Hungary 2010, Poland 2010 and 2012). Outright ban on new foreign loans: Hungary 2010

15: See Fernández de Lis and García-Herrero (2012).

References

- Alonso F., del Río A. and Blanco R.L. (2004), "Créditos hipotecarios a tipo de interés fijo frente a tipo variable: comparación de riesgos e implicaciones macroeconómicas", Bank of Spain Economic Bulletin, April.
- Arranz Pumar, Gregorio (2009), "El mercado hipotecario español. Los títulos del mercado hipotecario", CUNEF, Documento de Trabajo No 1, 2009.
- Association of Danish Mortgage Banks, (2010). Annual Report.
- Calza, A., Monacelli, T. and Stracca, L., (2009). "Housing finance and monetary policy". ECB working paper nº 1069, July.
- Campbell, John Y., (2012), "Mortgage market design", National Bureau of Economic Research, Working Paper No 18339, October 2012.
- Canada Mortgage and Housing Corporation (2012) "Canadian Housing Observer".
- Dick-Nielsen, J., Gyntelberg, J. and Sangill, T. (2012), "Liquidity in government versus covered bond markets". BIS Working Paper No 392, November 2012.
- Dübel, Hans-Joachim and Finpolconsult (2012), "Mortgage regulation and policy dialogue", EBRD Workshop, October 2012: pp 37-62.
- Dübel, H. and Rothemund, M. (2011), "A new mortgage credit regime for Europe, setting the right priorities", Center for European Policy Studies, Special Report, June.
- European Central Bank (2007), "Mortgage interest rate dispersion in the Euro Area", Working paper series, February.
- European Central Bank (2009), "Housing finance in the Euro Area", Occasional paper series, March.
- European Central Bank (2009), "Housing finance and monetary policy", working paper series No 1069, July.
- European Commission (2009), "Public consultation on responsible lending and borrowing in the EU", June.
- European Commission (2009), "Summary of Responses to the public consultation on responsible lending and borrowing in the EU", November.
- European Commission (2011), "Proposal for a directive of the European Parliament and of the Council on credit agreements relating to residential property", March.
- European Commission (2011), "Impact assessment, accompanying document to the proposal for a directive of the European Parliament and of the Council on credit agreements relating to residential property", Commission staff working paper, March.
- European Covered Bond Council, "2012 ECBC European Covered Bond Fact Book", September 2012.
- European Covered Bond Council, "2011 ECBC European Covered Bond Fact Book", September 2011.
- European Covered Bond Council, "2010 ECBC European Covered Bond Fact Book", September 2010.
- European Mortgage Federation (2006), "Study on Interest rate variability in Europe", EMF Publication, July
- European Mortgage Federation (2010), "Hypostat 2010 a review of Europe's mortgage and housing markets".

- European Mortgage Federation (2011), "Study on Non-Performing Loans in the EU", Study, December.
- Fernández de Lis S. and García-Herrero, A. (2012), "Dynamic provisioning: a buffer rather than a countercyclical tool?", BBVA Research Working Paper 12/22, October.
- Financial Services Authority (2010), "Mortgage Market Review: Responsible Lending", Public Consultation, July.
- Group of Thirty (2010), "Enhancing financial stability and resilience. Macroprudential policy, tools and systems for the future", October.
- International Monetary Fund (2011), "Housing finance and financial stability, back to basic?", Global financial stability report, April.
- Le Leslé V., (2012) "Bank Debt in Europe: Are Funding Models Broken?", International Monetary Fund, Working Paper 12/299, December.
- Lea M., (2010) "International comparison of mortgages product offering", Research Institute for Housing America, September.
- Research Institute for Housing America (2010), "International comparison of mortgage product offerings", Special report, September.
- San Martin, I. and Karp, N. (2010), "Underwater households and strategic default", U.S. Economic Watch, November.
- Scanlon, K., Lunde J. and Whitehead C. (2009), "Mortgage Products and Government Policies To Help Troubled Mortgagors: Responses To The Credit Crisis", ENHR International Conference 'Changing Housing Markets: Integration And Segmentation" Prague, June.
- Velilla P. (2011) "Una actualización de la situación patrimonial de las familias en España, Estados Unidos e Italia a partir de los resultados de encuestas financieras", Bank of Spain Economic Bulletin, October.

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