Government Interventions in Housing Finance Markets

– An International Overview

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Introduction to an International Comparison

The heavily intertwined housing and financial market crises in the US have led to recently proposed policy changes with the goal of strengthening these markets and preventing such a situation from happening again. In proposing housing policy changes, government officials and researchers have turned to lessons learned both domestically and from foreign governments' approaches to their housing markets, in order to make informed decisions about new housing policy directions. This paper will describe the different ways in which governments intervene in housing finance markets, providing alternatives to the types of intervention currently found in the US system. The paper begins with a general description of the different types of government interventions, and then focuses on specific cases by country in order to highlight the nuanced options that exist between the current US housing market structure and complete privatization of the housing market.

It has been argued that private markets could allocate credit more efficiently in the US than the previous methods used by the government sponsored enterprises (GSEs) Fannie Mae and Freddie Mac.[1] Although the policies in place that led to the housing and financial crises clearly must be reformed, a careful consideration of the options is necessary before wholesale adoption of privatization of housing markets. Several cases from Europe and Canada illustrate the various important functions that government plays in these markets and the wide range of policy options available. The rationale for examining these markets is that the nature of government involvement in them differs from the nature of US government involvement in housing markets, and what's more, European countries by and large had housing booms and busts similar to the US, but managed to avoid the large amounts of defaults that characterized the US housing crisis.

Housing Finance and Financial Stability

Oftentimes, housing market booms and busts have been associated with financial instability in the broader market. Housing-linked recessions tend to be more severe and more prolonged than recessions which are not coupled with housing busts. However, not all housing busts cause a wider financial crisis. Whether or not this relationship emerges has much to do with the sources of the original housing boom. In the most recent boom-bust cycle, the housing boom was the result of lax lending standards, a high degree of leverage, and weak solvency buffers. In the recent crisis, aspects of the housing finance systems in the U.S. and European countries contributed to wider financial instability, especially where the role the government played contributed to the boom and bust in the housing market. They type of government involvement may determine whether the effect on the financial and housing finance system are stabilizing or destabilizing.[2] This issue will be explored in further detail below.

The GSEs and the US financial crisis

[1] (Mortgage Loan Directory and Information Inc. 2011)

[2] International Monetary Fund. "Housing Finance and Financial Stability—Back to Basics?" *Global Financial Stability Report*. April 2011.

The U.S. housing finance crisis was linked to the wider financial crisis. In the U.S. the rapid growth in credit to both prime and subprime borrowers was driven by deterioration in lending standards. Financial sector deregulation prompted financial intermediaries to compete for market share by furtherer relaxing standards. As a result, mortgage credit availability grew, and fueled both housing demand and house price increases.

When the bubble burst and house prices subsequently fell, lending standards for new loans tightened, and homeowners found themselves owing more on their mortgages than their houses were actually worth. Homeowners were unable to refinance their loans due to the decrease in lending, and as a result were driven to default. Because there are now fewer potential buyers in the market as a result of widespread defaults, prices are further depressed. This, coupled with an increase of properties on the market due to lenders selling foreclosed properties further depresses housing prices.

Because of the depressed housing prices and large amount of defaults, lenders began to feel stress on their balance sheets. This caused further decreases in lending, and also widespread failures of lenders. As a result the housing finance crisis caused a systemic financial crisis. Government involvement in the housing finance market can further exacerbate house price swings. [3]

The U.S. system needs reform. There are gaps in the regulatory and consumer protection frameworks which must be addressed. The role of the GSEs must be reconsidered. Government involvement must be more transparent. The majority of the literature following the financial crisis has argued that implied federal guarantees have a severe disadvantage. This argument makes a case out of the experience with Fannie Mae and Freddie Mac. The main argument is that the costs of the guarantee are largely unmeasured, unrecognized in the budget, and unmanaged.[4]

The granting of an implicit guarantee has been a defining characteristic of the government-sponsored enterprises (GSE). GSEs are financial intermediaries, chartered by federal legislation. GSEs are nonbudgetary, meaning that their transactions are not included in the federal budget outlays, receipts, or the deficit. Rather the budget has shown brief informational accounts for the enterprises.[5] With the failure of Fannie Mae and Freddie Mac in September 2008, the remaining GSEs are the Federal Home Loan Banks, the Farm Credit System, and Farmer Mac. Fannie Mae and Freddie Mac continue to invest in mortgages and to guarantee mortgage-backed securities.[6]

The implicit guarantee acts for all intensive purposes as a subsidy to Fannie Mae and Freddie Mac. The implicit guarantee of the GSEs takes several forms. These include a line of credit at the US Treasury for each GSE, a declaration that the GSE debt securities are equivalent to Treasury securities for purchase by the Federal Reserve, acceptance of those securities as collateral for federal deposits, permitting unlimited investment by federally insured depositories, and classifying GSE securities as government

[3] International Monetary Fund.
[4] (Phaup 2009), p. 651
[5] Ibid p. 652
[6] Ibid

securities on the Securities Exchange. The effect of this guarantee is such that investors have been "willing to purchase GSE debt securities without evidence of the GSE's ability to repay on its own because they regarded the effective issuer of the debt to be the U.S. Treasury."[7] The problem with this perception is that it suggests "minimal reliance on the financial condition of the GSEs in evaluating the credit risk of GSE debt."[8] The value and the cost of this guarantee increase with the credit risk of the GSE, and therefore as these GSEs became more risky, but no financial information was taken into account in evaluating this risk, the situation became such that investors were misled into thinking their investments were safe, when in fact they were not.

In the past, the GSE management had discretion on increasing the leverage of capital with debt and increasing the risk of its assets. GSEs had an incentive to pursue these actions because they were "charged with providing public benefits through such activities as delivering credit to 'underserved' markets."[9] However, they still had an interest in maintaining the long-term value of the guarantee, which provided some checks on the extent to which they would serve subprime borrowers.

The problem that most scholars highlight of guarantees is that they do not eliminate risk, but merely shift it. Thus if for example, federal guarantees are used for private obligations, this shifts the risk from investors to taxpayers. Another fault with implicit guarantees is that it is unlikely the government would refuse to pay the claims, as has been seen in the way the current crisis has played out.

The prevailing view is that the primary source of the current financial crisis in the US is the burst of a housing price bubble that imposed massive losses on mortgage lenders, investors, and homeowners. As a result of the crisis, investor confidence has been severely shaken. Therefore, only sovereign borrowers and private entities with explicit government guarantees appear to have ready access to loan funds, further perpetuating the crisis with the tightening of the supply of credit.[10]

The solution to the financial crisis thus far has taken the form of federal equity investments in threatened institutions, purchases of debt securities, massive lending by the federal reserve, and new guarantees issued by the Federal Deposit Insurance Corporation (FDIC) and the US Treasury.[11] The goal of these interventions is to mediate between risk-averse lenders and those who need liquidity, and to restore the solvency of private institutions. This will then allow the government to withdraw from its role as an emergency intermediary for private credit and capital markets. The risk however, is that if the solvency of private institutions cannot be restored, the government may be stuck with an implied guarantee to a number of institutions that now appear to be too big to fail.[12]

[7] (Phaup 2009), p. 653
[8] Ibid
[9] Ibid
[10] Ibid, p. 652
[11] Ibid
[12] (Phaup, 2009), p. 652

Context: The US housing market

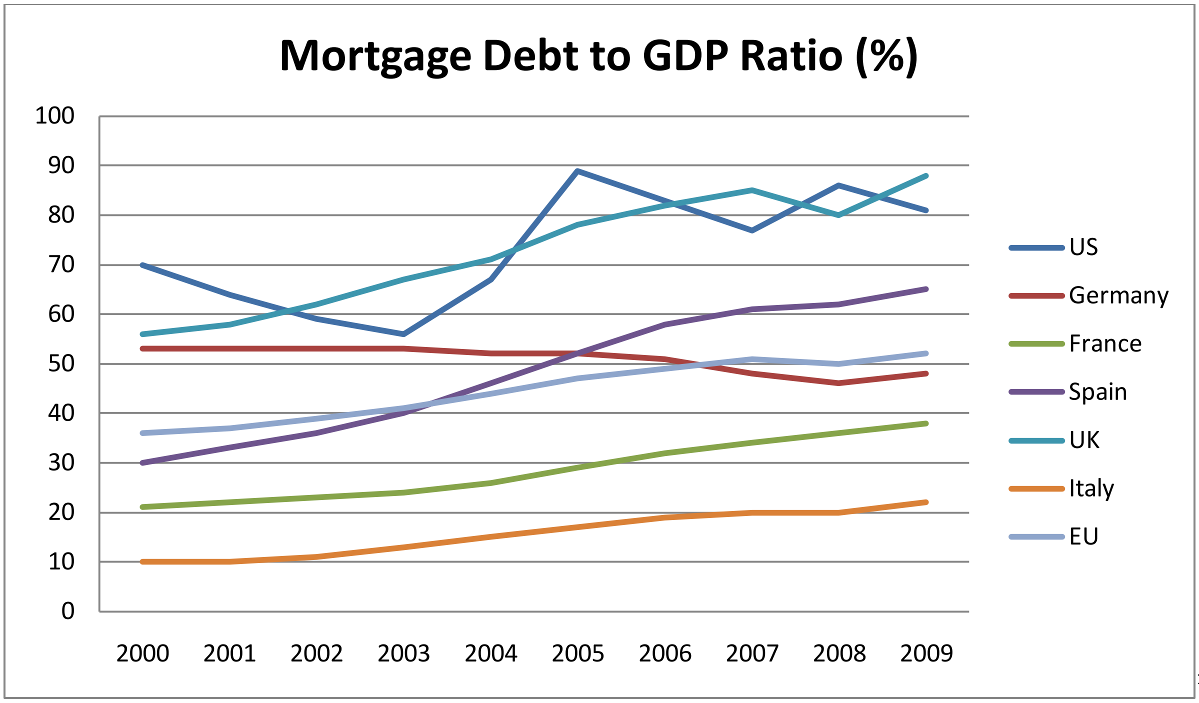
Mortgage Debt to GDP ratio—Like the majority of European nations, the housing finance market in the US grew rapidly from 2000 to 2007 with the mortgage debt to GDP ratio increasing to 80 percent during that timeframe. (See table and graph below) This growth was on par with the growth in Spain and the UK. Although the US saw a drop in the debt to GDP ratio to 81.4 percent in 2009, from 86.2 percent in 2008, mortgage debt to GDP remains at a higher ratio in the US than in most of the European countries including Spain, France, Italy, and Germany. In general, the growth in the mortgage Debt to GDP ratio in the US has been more sporadic than that in the European nations, which saw a smoother trend line. The ratio declined in the US from 2000-2003 before growing sharply from 2003-2005. It then experienced a series of decreases and increases, ending up overall at a higher level in 2009 than in 2000. In contrast the European countries have for the most part seen a smooth increase in their mortgage debt to GDP ratio over time, with slight dips occurring around 2008, followed by increases again in 2009.

	EU27, 2009	USA, 2009	USA, 2008
GDP growth (%)	-4.2	-2.4	0.4
Unemployment rate (%)	8.9	9.3	5.8
Inflation (%)	1.0	-0.8	4.4
% owner occupied	68.2	67.2	67.5
Residential Mortgage Loans as % GDP	51.9	81.4	86.2
Residential Mortgage Loans per capita, EUR thousand	12.37	26.04	29.08
Total value of residential loans, EUR million	6,125,727	7,994,457	8,850,770
Annual % house price growth	-6.8	-12.4	-9.5
Typical mortgage rate (euro area), %	2.71	5.04[58]	6.04
Outstanding Covered Bonds as % outstanding residential lending	23.2	0.1	0.2

Source: EMF, Eurostat, ECB, Federal Reserve, Bureau of Economic Analysis, US Bureau of Census

Mortgage Debt to GDP ratio (%)[13]										
Country	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
US	70.0	63.5	59.0	56.3	67.1	88.8	83.1	76.9	86.2	81.4
Germany	53.2	53.1	53.2	53.4	52.3	51.9	50.9	47.6	45.9	47.6
France	21.2	21.7	22.6	24.2	26.0	29.2	32.0	34.4	36.4	38.0
Spain	29.9	32.5	35.9	40.0	45.7	52.3	58.1	61.4	62.0	64.6
UK	55.8	58.0	62.1	67.4	71.2	77.5	82.4	85.4	80.3	87.6
Italy	9.8	9.9	11.0	13.0	14.8	17.0	18.6	19.7	19.6	21.7
EU	36.0	37.1	39.2	41.3	43.5	46.5	49.1	51.3	49.9	51.9

[13] (European Mortgage Federation 2009), p. 70

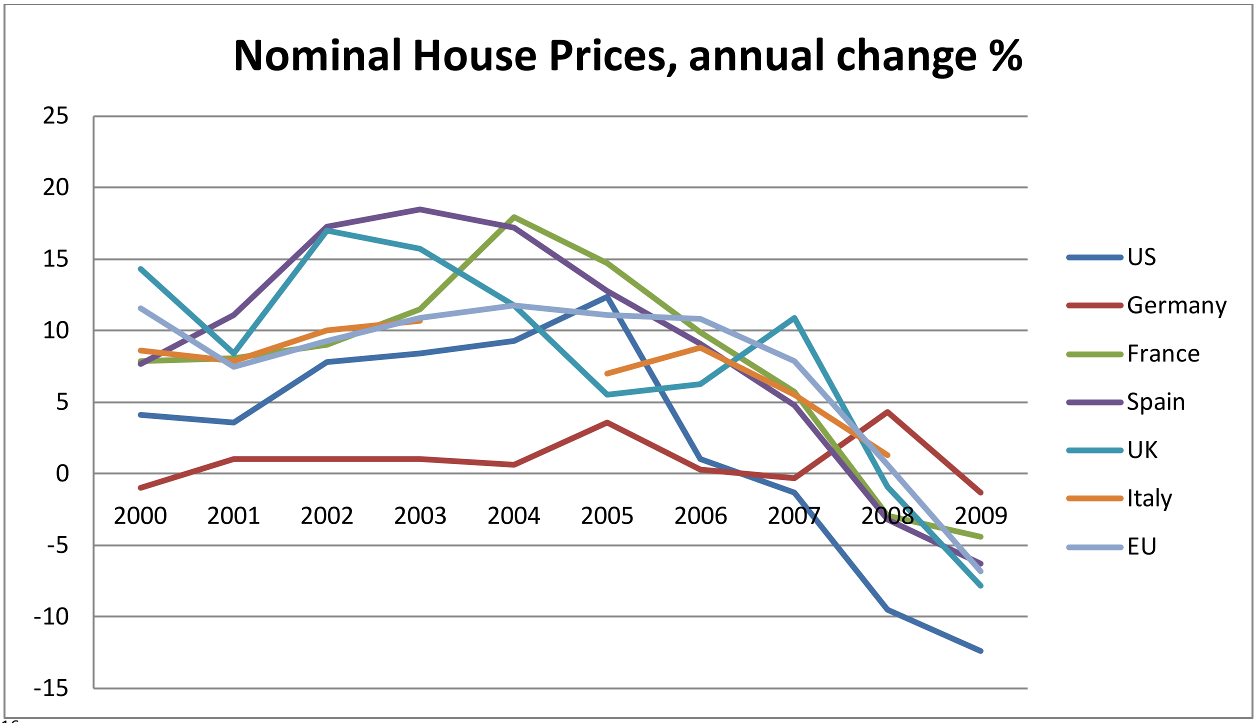


[14]

Housing Prices—In the US housing prices increased fairly steadily from 2001 to 2005, at which time the trend sharply reversed (See table and graph below). Housing prices dropped by a considerable amount from 2005 to 2006 and since then prices have continued to fall. In general housing prices in Europe saw a similar trend, although the overall EU increase in prices was not as sharp as in the US. France, Spain, and the UK saw some of the sharpest price increases, as well as sharpest price decreases. The rapid increases in housing prices indicated that the presence of a bubble in the US and many EU countries. The sharp decline that followed in these countries indicated a housing market correction, which was often exacerbated by a wider financial crisis and poor macroeconomic conditions in most countries starting around 2005-2009. It was this correction which forced governments to intervene in order to stabilize the markets and restore investor confidence.

Nominal House Prices, annual change %[15]										
Country	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
US	4.1	3.6	7.8	8.4	9.3	12.4	1.0	-1.3	-9.5	-12.4
Germany	-1	1	1	1	0.6	3.6	0.3	-0.3	4.3	-1.3
France	7.9	8.1	9.0	11.5	17.96	14.7	9.9	5.7	-2.9	-4.4
Spain	7.7	11.1	17.3	18.5	17.2	12.8	9.1	4.8	-3.2	-6.3
UK	14.3	8.4	17.0	15.7	11.8	5.5	6.3	10.9	-0.9	-7.8
Italy	8.6	7.9	10	10.7		7.0	8.8	5.5	1.3	
EU	11.6	7.5	9.3	10.9	11.8	11.1	10.8	7.9	0.6	-6.8

[14] (European Mortgage Federation 2009), p. 70
[15] Ibid, p. 80



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Mortgage Brokers—In the US, as is generally the case in the European countries and Canada, housing finance is mainly provided by banks. Traditionally, mortgage brokers in the US have played an important intermediary role, with 68 percent of all mortgage transactions processed through a broker in 2004 (See table to the right).[18] This is higher than the percent of transactions processed through brokers in the UK Spain, and Canada. However, since 2004, this trend has reversed, with the share of transactions processed through a broker standing at only 10 percent in 2010.[19] Brokers have been largely replaced by correspondent lenders, which, although they differ in theory and legally from brokers, are in practice more alike than different.

Percent of Mortgage transactions processed through a mortgage broker[17]

Country	2004-7	2010
US	68	10
Spain	55	--
UK	60	--
Canada	31	--

Loan-to-value Ratios—As is the case in the European countries and Canada, in the US the maximum loan-to-value ratio of conventional mortgages is 80 percent (See table below). Loans which exceed this ratio must carry lenders mortgage insurance, a practice which is also followed in Canada and the UK. One of the problems which seems unique to the US case is that before the financial crisis, banks readily approved loans with an LTV ratio even exceeding 100 per cent. What's more, in 2006, around 27 percent

[16] (European Mortgage Federation 2009), p. 80
[17] (Housing Finance Network n.d.)
[18] Ibid
[19] Ibid

of all loans were interest-only.[20] These lending practices represented areas of risk for the banks, and the long term result was a large number of defaults in the US housing market.

Loan-to-value ratios[21]		
Country	Maximum	Notes
US	80	Loans which exceed this ratio must carry lenders mortgage insurance. Before the financial crisis, banks readily approved loans with an LTV ratio exceeding 100%
Germany	80	Average LTV is 70%
France	80	
Spain	80	
UK	80	May increase to 85% as lenders are willing to lend more but impose a mortgage indemnity insurance to cover excess risk.
Italy	80	Actual average LTV lies at 50-60% due to the conservative lending standards of most Italian banks.
Canada	80	Loans are allowed to exceed this ratio, but must have Lenders Mortgage Insurance if they do, up to a maximum LTV of 95%

Variable rate mortgages—In contrast to Europe and Canada, where many countries rely on variable rate mortgages, in the US only 15 percent of mortgages are at adjustable rates, whereas the remaining mortgages are mainly fixed-interest loans.[22] It would seem from first glance that the low share of variable rate mortgages should have been a source of stability in the market. However, almost 80 percent of adjustable rate mortgages were issued to the most vulnerable, subprime borrowers.[23] This concentration of risky mortgage types among risky borrowers helped contribute to mortgage delinquencies in the US even though the majority of the mortgages were fixed-interest. Thus when housing prices declined, refinancing became more difficult for these borrowers because the adjustable rate mortgages reset at higher rates. This is one of the primary reasons the US saw a higher rate of foreclosures than many of the European countries, even though European countries have a higher rate of adjustable rate mortgages overall.

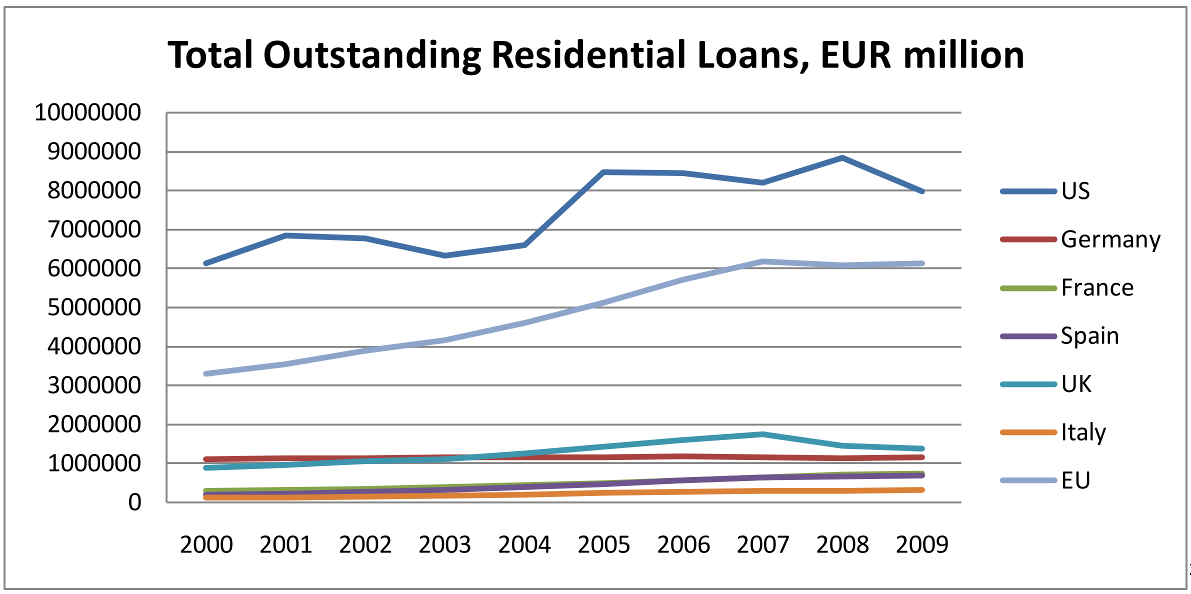
Context: The European housing market

Housing finance systems are far from unified across the EU, with different institutional frameworks adopted by different countries. This paper does not advocate adopting a specific policy mix from one or another country, as any application of tools from one country to another must take into account the unique structures of incentives, regulations, and markets that make up the policy environment. However, considering mechanisms and policy decisions different from those used in the US can provide a menu of options to consider and adapt to the domestic context.

[20] (Housing Finance Network n.d.)
[21] Ibid
[22] Ibid
[23] Ibid

The mortgage industry is a major driver of the EU economy, as it is in the US. In 2004, the value outstanding of residential mortgage loans represented 40 percent of EU GDP (See table and graph below).[25]

Total outstanding residential loans, EUR million[24]										
Country	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
US	6139084	6838413	6772366	6336643	6610382	8470395	8444486	8204598	8850770	7994457
Germany	1097914	1122809	1139830	1156341	1157026	1162588	1183834	1155742	1145404	1146969
France	305300	324600	350700	385400	432300	503600	577800	651900	710000	737600
Spain	188165	220913	261921	312916	384631	475571	571803	646676	674434	678872
UK	894105	952408	1061408	1110477	1262443	1422128	1602576	1745904	1459858	1372659
Italy	117020	123831	142844	173357	206341	243622	276102	304223	307832	330585
EU	3300374	3540776	3886705	4162639	4599529	5125832	5717520	6177869	6090092	6125727



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Although results vary greatly from country to country, there are some broad trends evident in the EU housing market over the past thirty years. In general, from 1980-2003 the EU saw a growth of owner occupied housing similar to the US case (See table to the right).[27] It also saw a decline in the average size of households. Today in the EU, two-thirds of all households are homeowners, a number similar to the percentage of homeowners in the US. Only three countries—Germany, Sweden, and the Czech Republic—have a homeownership rate of less than 50 percent. Among the major EU countries, Spain has the highest proportions of owner-occupied housing. The growth of owner occupied housing was

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[24] (European Mortgage Federation 2009), p. 82

[25] (Patel & Zavodov)

[26] (European Mortgage Federation 2009), p. 82

[27] (Patel & Zavodov)

accompanied by a surge in mortgage loans, and a concomitant accumulation in the EU-wide amount of household debt, which reached 53 percent of EU GDP in 2007.

From 1999-2006 the EU experienced a growth in housing wealth at an average nominal rate of 9% per annum. [29] However, the EU in general was experiencing a housing bubble similar to that in the US. When the global housing recession hit, it exposed a massive correction in the housing market. Accompanying cuts in consumer spending hampered future consumption growth, and credit conditions tightened, creating a vicious cycle of economic decline through the financial crisis. However, the EU countries by and large were able to avoid the volume of defaults which the US experienced. EU countries which were able to avoid this problem in general had strong housing finance systems, bolstered by strong legal rights for borrowers and lenders in the form of collateral requirements and bankruptcy laws. They also tended to have better developed and regulated credit information systems, and overall more stable macroeconomic environments.

Owner occupied (%)[28]

Country	Latest Date Available	Owner occupation Rate
US	2009	67.2
Germany	2002	43.2
France	2007	57.4
Portugal	2006	76.0
Spain	2008	85.0
UK	2007	69.5
Italy	2002	80.0
EU	--	68.2

Types of Government Interventions

Government participation in housing finance markets in advanced economies takes a variety of different forms. Some governments, such as France, Germany, and Spain, give subsidies to buyers through savings account contributions or through preferential fees. In the U.S. on the other hand, subsidies are given only to low and middle income groups. Instead of subsidies, governments can also use guarantees to support housing finance markets. Guarantees are used in Canada and the U.S.

A much more common type of government intervention in housing markets is tax deductibility of mortgage interest. This is used in Denmark, France, Italy, Spain, and the U.S. Another common means of government participation in housing finance markets is capital gains tax deductibility. This is used in Canada, Denmark, France, Germany, Italy, Spain, the UK, and the U.S.

Governments may also intervene in housing finance markets to ensure stability of the broader financial system. For example, the U.S. injected capital and placed Fannie Mae and Freddie Mac in conservatorship. The U.S. also used the Central Bank to purchase mortgage backed securities to reduce their cost and increase the availability of mortgage credit in the market.

[28] Ibid, p. 73
[29] Ibid

Stimulus mechanisms for new purchases

Government involvement in housing and mortgage markets takes a variety of different forms. When housing markets are lagging, governments provide stimulus mechanisms for new purchases. For example, in the UK, the government created a temporary exemption on stamp duty for purchases of properties valued up to EUR 196,422[30], in an effort to support demand in the market. Likewise, in the US, the Obama Administration responded to the housing crisis by proposing a homebuyer tax credit to spur demand in the devastated housing sector.[31] The plan was enacted by Congress.

Coping strategies for borrowers facing payment problems

Another important government function in the housing market is housing policies which provide coping strategies for borrowers facing payment problems. Such interventions have taken various forms; including mortgage modifications, loss mitigation efforts, deferred interest schemes, and mortgage rescues. For example, in the UK, through a government policy of mortgage rescue, certain types of borrowers at risk of imminent possession through default can effectively become social tenants but remain in their own privately bought residence[32]

Funding measures

Government funding measures also help ease housing markets in times of financial crisis. Rate cuts, credit guarantee schemes, and quantitative easing policies have been used by both the UK and the US, for example, to attempt to counteract the effects of the recession.

For example, the Bank of England continues to cut rates aggressively. By March 2009, the bank rate was 0.5 percent. In the UK, these cuts, coupled with lower than expected rise in unemployment due to reductions in working hours and salaries, meant there were far fewer arrears and possessions than in the US. At the end of 2009 just fewer than 200,000 mortgages were in arrears representing 2.5 percent of the mortgage balance in the UK. The UK also used credit guarantee schemes to help ease housing markets. It used a special liquidity scheme starting in January 2009. The Treasury used a credit guarantee scheme as well, and together the two provided banks and building societies with approximately EUR 348 billion of funding support. Finally, the UK made use of a policy of quantitative easing, similar to that in the US, which used newly created money to buy bonds to support the money supply to directly increase the banking system's wholesale deposit base. These measures were necessary to maintain confidence in the banking system. However, there is concern in the UK that lenders will find it difficult to repay the funding support provided by the Bank and Treasury. [33]

Guarantees

[30] (European Mortgage Federation 2009), p. 58
[31] (US Department of Housing and Urban Development 2011), p. 2
[32] (European Mortgage Federation 2009), p. 58
[33] Ibid

Housing policies are intended to stabilize the markets and prevent crises as well. In addition to the above mentioned policies intended to mitigate the deleterious effects of the housing crisis, governments have historically used a variety of housing policies to influence the housing markets in an effort to ensure widespread defaults and foreclosures do not occur. Housing policies of this type include government guarantees to lenders against the risk of mortgage defaults, guarantees of mortgage insurance, and associated underwriting standards. Each policy option comes with different benefits and risks, and therefore policies must be carefully constructed in order to ensure they achieve the desired results. For example, in the case of government guarantees to lenders against the risk of mortgage defaults, government insurance of default risk creates what economists term 'moral hazard,' since the insurance reduces the cost to lenders of making high-risk loans. In order to counteract this effect, governments must set minimum underwriting standards in order to reduce the incentives for banks to lower underwriting standards to generate loan volume. If these standards are too loose then lenders have an incentive to make a large number of risky loans which sets the stage for high levels of mortgage defaults.[34]

Government guarantees of loans can be direct, as is the case with the Federal Housing Administration (FHA), or indirect, such as was the case with Fannie Mae and Freddie Mac in the US. In addition to direct guarantees of loans, governments can also choose to guarantee mortgage insurance. The Canadian system makes use of this policy option, and the Canadian housing market has tighter conditions on government backstopped insurance against mortgage default than the US.[35] The US government subsidizes mortgage interest rates by backing the government sponsored enterprises (GSE) Fannie Mae, Freddie Mac, and the Federal Home Loan banks with an implicit guarantee. This guarantee became explicit for Fannie Mae and Freddie Mac when they were put into conservatorship in 2008. The Federal Housing Administration also offers mortgage insurance.

The Canadian government requires all federally regulated institutions to purchase mortgage insurance on loans with down payments of less than 20 percent. The government guarantees insurance provided by the Canadian Mortgage Housing Corporation (CMHC, the equivalent of HUD) and its private market competitors. This amounts to an indirect subsidy of the housing market by the Canadian government.[36] All high loan-to-value (LTV) mortgages (greater than 80 percent) insured through this program must satisfy underwriting standards that specify maximum loan to value ratios, maximum amortization periods and minimum standards for credit worthiness and mortgage documentation.[37] As a result of these controls, the government-backed insurance program has a small exposure to higher-risk loans."[38]

The Canadian case illustrates the importance of another government housing policy tool involved in guarantees; underwriting standards. The decline in underwriting standards played a role in the boom

[34] (MacGee 2010), p. 2
[35] Ibid
[36] (Housing Finance Network n.d.)
[37] (MacGee 2010), p. 2
[38] Ibid

and bust of housing markets in the US. Other countries, such as Canada, avoided the decline in underwriting standards and thus reduced the possibility of a housing bust.

Countries can choose different types of guarantee systems depending on their needs and housing policies. For example, France has government backed guarantees for owner-occupied and rental housing, whereas Germany has the government backed guarantee for rental housing only, and the UK has no government backed guarantee, only private guarantees for owner-occupiers. The UK also made use of a deferred interest scheme with a government guarantee, which helped borrowers facing payment problems avoid foreclosure.[39] Canada has owner and rental government-backed guarantee, as well as private guarantees, which is also the case in the US. [40]

Tax Policy

Another government tool for interventions in the housing markets is how the government treats tax on mortgage interest. For example, in the US, mortgage interest is fully tax deductible. Likewise, most EU countries, except for the UK, France, and Germany, provide some kind of tax relief on interest payments.[41] This policy has the effect of lowering the after-tax cost of mortgage debt, and thus leads to higher LTV ratios since paying down mortgage debt is less attractive. This may make some mortgage products such as interest-only mortgages relatively more attractive. This effect could have contributed to the housing boom and bust. However, some authors argue that deductibility of mortgage interest predates the bust and by itself should have a level, not a growth rate effect because it should have been capitalized in the level of house prices before the house-price boom. [42] What's more, the difference in mortgage interest deductibility when comparing the US with foreign cases, only matters for a subset of borrowers, mainly low net worth households with sufficiently high income to make itemization worthwhile. Many lower and lower middle income US households find that it is not worth itemizing, in which case they receive the same tax treatment as if the mortgage interest was not tax deductible. In Canada, mortgage interest was not tax deductible; however it does not seem that the different outcomes between the two countries in terms of housing bust following the boom can be contributed directly to differences in tax treatments of mortgage interest. Still, governments should consider the outcomes of different tax policies, especially if an unintended effect of a policy is to encourage homeowners to use mortgage products such as interest-only mortgages which may be more risky. For example, in Italy, up to 19 percent of mortgage interest can be deducted from personal income tax. This tax policy is one of the factors that have caused housing prices to increase by 8 percent a year since 2000, and may contribute to a boom and bust cycle in that country.[43] Likewise, in Spain authorities grant a 15 percent tax relief on the investment for the acquisition of the primary residence, the amount of

[39] (European Mortgage Federation 2009), p. 58
[40] (den Breejen 2004)p. 7
[41] (Patel & Zavodov, ?), p.?
[42] (MacGee 2010), p. 4
[43] (BIS n.d.)

which is deducted on the calculations of income tax. [44] Also in Italy a tax rebate of 19 per cent for mortgage interest on the income tax is granted up to a certain limit.[45]

Tax relief on interest payments was in effect in the UK in terms of interest rebates. The intent was that households would spend their rebates on their mortgage payments, thus encouraging responsible borrower behavior in an effort to mitigate defaults and foreclosures. However, homebuyers frequently spent their rebates on consumption and so the UK abandoned the policy. Instead, the UK now uses a system whereby it provides support for interest payments to homeowners who have become unemployed or ill. Instead of using tax mechanisms, the government settles the interest due, but does not remit the sum to the borrower. [46] France likewise eliminated its mortgage interest rate deduction in 2007, the same year it was enacted, when the highest court in France, the Constitutional Council, ruled it was unconstitutional.[47]

In general, different government tax incentives can impact the types of mortgage products offered, by making certain products more attractive to borrowers than others based on the way that mortgage interest is deducted or not. For example, as mentioned above, tax deductibility of mortgage interest in the US made interest-only mortgages more attractive to borrowers, even though these types of mortgages are usually more risky. In the Netherlands, tax deductibility of mortgage interest also led to interest only loans, in addition to creating incentives for high LTV loans, and longer loan terms. [48]

Legal regulations

Governments can also use certain legal regulations to influence housing markets and to ensure responsible practices by mortgage companies.

One example of regulation is transparency rules. In Italy, for example, financial institutions are required to provide all relevant information to a customer before a contract is signed on a mortgage loan. The regulation also stipulates that the contract must include information on the annual cost of the mortgage including interest charges, cost of enquiries, and cost of preparation of documents and administration. . In addition, the contract must state the total costs charged to the borrower in the event of early repayment.[49]

Another type of regulation concerns the ease for mortgage lenders to take possession of properties of households that default. While this is relatively easy in countries such as the Netherlands and the UK, it is almost impossible for mortgage lenders to take possession in other countries, such as Italy.[50] Legal differences between countries make defaulting on mortgage debt more costly in some nations than in others. Take for example deficiency judgments which are not allowed in some states in the US, but

[44] (Housing Finance Network n.d.)
[45] Ibid
[46] (Patel & Zavodov, ?), p.?
[47] (Housing Finance Network n.d.)
[48] (Patel & Zavodov, ?), p.?
[49] (BIS n.d.)
[50] (Patel & Zavodov, ?), p.?

which are used in most provinces in Canada. When deficiency judgments are allowed, lenders have recourse to pursue a borrower who defaults for the difference between the mortgage balance and the sale price of a foreclosed home[51] "There is evidence that differences across US states in the availability of deficiency judgments, as well as the costs of foreclosure, matter for mortgage default decisions, especially for higher income (and net worth) households."[52] Thus to influence mortgage default decisions by homeowners, government may want to consider different legal frameworks. However, one author concludes that while differences in recourse in the form of deficiency judgments do matter for housing markets, they may not have played a key role in the US housing bust."[53]

Subsidies

To assist low income households attempting to purchase a home, governments often make use of loan subsidies. These subsidized loans are provided to households through traditional banks and specialized financial institutions. This system is popular in France and Norway, and is primarily used for new construction and new housing. [54] In Germany, the state-owned bank KfW offers subsidized mortgages. [55]Generally direct subsidies allow mortgages to be offered to a wider range of borrowers and thus widen access to homeownership. However, such subsidies can act to stifle the creation of product markets such as sub-prime.[56] Although this effect is desirable from the perspective of risk-aversion, it does limit the access to credit and homeownership by low income households. Governments can also use subsidies for interest rate payments.

Securitization Mechanisms

In the US the main funding instrument for the mortgage financiers is the securitization of mortgages, with 60 percent of all outstanding mortgages securitized in 2008.[57] In the US, the secondary mortgage market, managed by Ginne Mae, has traditionally used mortgage-backed securities (MBS) as a way to pool and divide risk and offer liquidity to the mortgage markets by repackaging loans into different maturity combinations in order to provide access to these markets by a wider range of borrowers. The GSEs also have sizeable holdings of mortgages that are funded by debt, including derivatives. The US also funds mortgages through customer deposits, although this is done much more frequently and on a much larger scale in the European nations. The high level of securitization in the US is one of the factors cited as a major trigger in the financial crisis.[58] In the US the GSEs (Fannie Mae, Freddie Mac, the Federal Home Loan Bank, and increasingly, Ginne Mae) traditionally have had a large impact on the US mortgage

[51] (MacGee 2010), p. 4
[52] Ibid
[53] (MacGee 2010), p. 4
[54] (Patel & Zavodov, ?), p.?
[55] (Housing Finance Network n.d.)
[56] (Patel & Zavodov, ?), p.?
[57] (Housing Finance Network n.d.)
[58] (Housing Finance Network n.d.)

market. Since the beginning of the financial crisis, the issuance of non-GSE residential mortgage backed securities is nearly zero. [59]

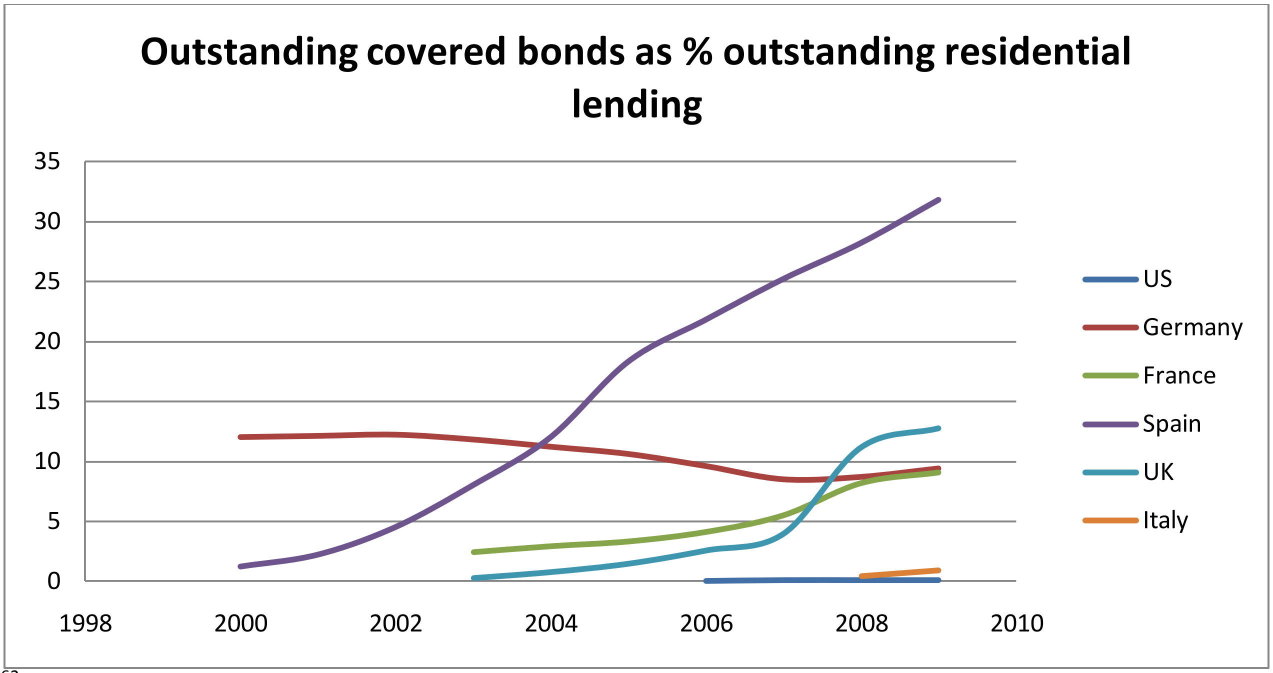
In most European and Canada countries, customer deposits are still the main source of the banks for funding of their mortgage market activities, although securitization is increasingly used as a means of raising funds. For instance, in the UK the use of MBS has taken off in recent years, with a share of 20 percent of the total residential mortgage debt outstanding in 2007.[60] Likewise, in Italy during the same year securitized mortgages represented 16 percent of the total residential mortgage debt outstanding. In Canada, which also uses specialized non-depository financial institutions and banks to bundle mortgages and resell them to investors as MBS, about 20 percent of all mortgages are securitized. Interestingly, in Canada these MBS are backed and or issued by CHMC on behalf of the government of Canada, which is not typical in the European cases.

In recent years, the US has considered providing alternatives to mortgage-backed securities, and has instead attempted to create a market for covered bonds (See table and graph below). Covered bonds are an alternative type of securitization of debt, backed by cash flows from mortgages and public sector loans. The difference between these bonds and traditional MBS is that the assets remain on the issuer's balance sheet. These assets provide a form of recourse should the financial institution become insolvent. An advantage of these types of bonds is that the interest paid on them comes from in identifiable source of projected cash flow, whereas typical interest payments usually come from financing operations. Thus covered bonds provide more transparency in the value of assets and the future of interest payments than traditional MBS, which may allow institutions to enhance their ability to evaluate assets correctly.

Outstanding covered bonds as % outstanding residential lending[61]

Country	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
US							0	0.1	0.1	0.1
Germany	12.0	12.1	12.2	11.8	11.2	10.6	9.6	8.5	8.7	9.4
France				2.4	2.9	3.3	4.1	5.5	8.2	9.1
Spain	1.2	2.2	4.5	8.0	12.0	18.3	21.8	25.2	28.2	31.8
UK				0.3	0.8	1.5	2.6	4.0	11.2	12.8
Italy									0.4	0.9

[59] Ibid
[60] Ibid
[61] (European Mortgage Federation 2009), p. 90



[62]

An example of a country which uses covered bonds, in addition to bank bonds, is Germany. Covered bonds represented 19.6[63] percent of all outstanding residential lending in 2009. This funding of mortgage loans is constrained by an LTV limit of 60 percent. France also makes use of covered bonds, but only specialized credit institutions are allowed to issue them. The banks do not issue the bonds directly but turn to subsidiaries that adhere to specialized banking principles. This is required by regulation. Covered bonds are not used as often in France as in Germany, representing 10 percent of the outstanding residential lending.[64] In both France and Germany, though currently the securitization of mortgages plays only a minimal role, it is growing. In Canada covered bonds began to be issued in 2007, and their share in the market, though still marginal, is projected to increase rapidly.[65]

In contrast to the French and German cases, Spain makes much more extensive use of securitization, using both covered bonds and MBS. In 2007 covered bonds amounted to over 40 percent of the outstanding residential lending and MBS almost 20 percent.[66] The reason for the relatively higher Spanish dependence on these instruments is that Spanish banks were not able to satisfy the growing demand for mortgage loans during their housing boom with customer deposits only.

In the UK, by contrast, MBS are dominant and the covered bonds market plays only a minor role. This is due to the great importance of capital markets for the UK mortgage market. Since the financial crisis and

[62] Ibid
[63] (Housing Finance Network n.d.)
[64] Ibid
[65] Ibid
[66] (Housing Finance Network n.d.)

credit crunch hit the UK, the covered bonds market has suffered.[67] Also in Italy, a covered bond law was passed in 2005, but as of 2008, no covered bond deals had occurred.[68] The US may experience similar problems in attempting to increase its use of covered bonds given the current state of the capital markets.

Types of mortgage rates

Thirty year fixed rate mortgages have been a hallmark of the American housing system, and have historically increased the possibility of homeownership for a broader sector of Americans. Although fixed rate mortgages are generally the norm across most countries examined, important exceptions are Finland, Spain, Italy, and the UK which rely on variable rate mortgages. In 2007, around 90 per cent of home loans in Spain had a variable instead of a fixed interest rate, which is the same percentage as Finland and Italy. In Italy less than 10 percent of mortgage loans are fixed for ten years or more.[69] In the UK on the other hand, although variable rate mortgages dominate, fixed-rate are relatively common as well. [70] In Canada as well, there has been a recent shift towards variable interest rates, as their share of the mortgage market has doubled since the year 2000, to about 40 percent of loans in 2007.[71]

An emphasis on variable rate mortgages leaves homeowners vulnerable to rapidly rising mortgage rates. The effect that changes in the market rate will have on changes in the bank lending rates is a function of lending rate pass-through. Theoretically, the extent to which changes in market interest rates are passed through to bank interest rates reflects the market structure of the banking system and the intensity of competition between banks. [72] "In Finland the pass-through from money market rates to housing loan rates is relatively high and rapid in the European comparison."[73] Since the mid-1990s, short run movements in the Finnish housing loan rates are largely explained by changes in market interest rates. The basic implication here is that if a country expects the market interest rate to decrease over the long-term, a variable rate may benefit the borrower. However, given the long time commitment of the 30 year mortgage in the American context, most borrowers conceivably would prefer a fixed-rate mortgage to ensure against market rate increases. This preference however is not absolute in a global context, as for example Japanese homeowners tend to prefer shorter maturity and variable rate mortgages since market rates there have been historically low in recent years.

Cases

Countries exhibiting substantial levels of government involvement: Germany, France, and Portugal

Germany

[67] Ibid
[68] Ibid
[69] Ibid
[70] Ibid
[71] Ibid
[72] (Putkuri 2010), p. 9
[73] Ibid, p. 11

The housing finance market has remained stable in Germany throughout the global financial crisis. The average annual house price growth for owner-occupied housing from 2000-2007 was less than 4 percent.[74] Across Germany, house prices have not been affected so far by the financial crisis, although in some specific areas prices have declined due to demographic trends in those cities. The main providers of housing finance in Germany are banks, especially savings banks, which provided 37 percent of financing in 2009. In Germany, the state-owned bank is called KfW, which offers subsidized mortgages.

	EU27, 2009	Germany, 2009	Germany, 2008
GDP growth (%)	-4.2	-4.9	1.3
Unemployment rate (%)	8.9	7.5	7.3
Inflation (%)	1.0	0.2	2.8
% owner occupied	68.2	43.2	43.2
Residential Mortgage Loans as % GDP	51.9	47.6	45.9
Residential Mortgage Loans per capita, EUR thousand	12.37	13.99	13.93
Total value of residential loans, EUR million	6,125,727	1,146,969	1,145,404
Annual % house price growth	-6.8	-1.3	4.3
Typical mortgage rate (euro area), %	2.71	4.29	4.83
Outstanding Covered Bonds as % outstanding residential lending	23.2	19.6	19.0

Source: EMF, EUROSTAT, ECB, Federal Statistical Office Germany

The German government has a policy of supporting homeownership. Housing finance in Germany is typically made up of three elements, including equity that a customer has at his disposal, a mortgage provided by a mortgage bank and a loan provided by a credit institution, called Bausparakasse[75] in Germany. The Bauspar system is a contractual savings system which is characterized by low interest rates on loans. Additionally, the government pays customers using the Bausparakasse a premium on their deposits. Usually the customer provides about 20 percent of the equity, with 50 percent provide by the mortgage bank, and the remaining 30 percent provided by a Bausparakasse. The maximum loan-to-value (LTV) ratio in Germany is 80 percent. The average LTV ratio is around 70 percent and 60 percent of the loans are fixed interest for more than five years. [76]

[74] (Housing Finance Network n.d.)
[75] (Bausparkassen Act n.d.)
[76] (Housing Finance Network n.d.)

France

	EU27, 2009	France, 2009	France, 2008
GDP growth (%)	-4.2	-2.2	0.4
Unemployment rate (%)	8.9	9.5	7.8
Inflation (%)	1.0	0.1	3.2
% owner occupied	68.2	57.4	57.4
Residential Mortgage Loans as % GDP	51.9	38.0	36.4
Residential Mortgage Loans per capita, EUR thousand	12.37	11.46	11.14
Total value of residential loans, EUR million	6,125,727	737,600	710,000
Annual % house price growth	-6.8	-4.4	-2.9
Typical mortgage rate (euro area), %	2.71	4.60	5.20
Outstanding Covered Bonds as % outstanding residential lending	23.2	23.9	22.5

Source: EMF, Eurostat, ECB, Banque de France

With the promulgation of the 1962 Malraux Law, homeownership for all, including low-income households, became a policy focus in France. The law represented a strong push for urban regeneration and promoted housing rehabilitation and renovation. In 1965, a home savings bank and mortgage market were established that sparked active participation of the private sector in the housing market. [77] The 1977 Housing Reform Act further enhanced the market by providing additional financial assistance to the private sector.

Whereas in Germany the housing finance market has remained relatively stable, France has experienced a considerable boom, with the mortgage debt to GDP ratio increasing from 21.2 percent in 2000 to 34.9 percent in 2007. Over roughly the same period Germany saw its mortgage debt to GDP ratio decrease, from 53.2 percent in 2000 to 47.6 percent in 2009.[78] This illustrates the point already made that it is difficult to generalize trends in the housing markets across the European countries. Accompanying this growth in the housing finance market was a large increase in housing prices with an average annual growth rate between 2000 and 2007 of 11 percent. Following the financial crisis, house prices declined from the end of 2007 to the end of 2008 by almost 6 percent, increasing the presence of a bubble similar to that which existed in the US market.[79]

As in Germany, the French housing finance system is dominated by banks. Finance is raised from deposit banks, specialized mortgage banks, mutual and cooperative banks, and commercial banks. Mutual and co-operative banks held 53.6 percent of home loans balances at the end of 2006, and commercial banks represented 36.4 percent. [80] France's maximum loan-to-value ratio is 80 percent, which is typical in Europe. Like most European countries, the loans are fixed-interest for the most part, although variable rate mortgage loans are also available.

[77] (Langley 2002)
[78] (Housing Finance Network n.d.)
[79] Ibid
[80] Ibid

Portugal

In Portugal, the government has a policy of providing low-cost affordable housing especially for urban populations. It encourages this policy through both private and public developers. Through Portugal's National Housing Institute, the government finances the construction of infrastructure and low cost housing for the subsequent sale of housing to selected income groups. In addition, specialized institutions provide mortgage loans to eligible beneficiaries.[81]

	EU27, 2009	Portugal, 2009	Portugal, 2008
GDP growth (%)	-4.2	-2.7	0.0
Unemployment rate (%)	8.9	9.6	7.7
Inflation (%)	1.0	-0.9	2.7
% owner occupied	68.2	76.0	76.0
Residential Mortgage Loans as % GDP	51.9	67.5	63.3
Residential Mortgage Loans per capita, EUR thousand	12.37	10.42	9.91
Total value of residential loans, EUR million	6,125,727	110,685	105,210
Annual % house price growth	-6.8	0.2	-5.5
Typical mortgage rate (euro area), %	2.71	2.25	5.92
Outstanding Covered Bonds as % outstanding residential lending	23.2	18.3	14.5

Source: EMF, EUROSTAT, ECB, Bank of Portugal

The Portuguese economy experienced a sharp contraction consistent with the global economic recession and continued instability in the financial markets, with a decline in real GDP of 2.7 percent. Housing prices increased slightly by 0.2 percent in 2009, following a reduction of 5.5 percent in 2008. Total outstanding mortgage debt increased by 5.2 percent, due to a reduction in prepayments on loans. However, the value of new residential loans issued was reduced by 31 percent due to rising unemployment, stagnation in household disposable income, and tightened lending criteria.[82]

As far as the securities market in Portugal, banks financed their mortgage lending activity mainly through deposits and government guaranteed bonds. They relied very little on mortgage bonds and securitization, due to the growing funding problems in financial markets. [83]

Countries exhibiting limited levels of government involvement: Spain, the United Kingdom, Italy, and Canada

Spain

The Spanish economy saw a strong contraction in early 2009, although a gradual recovery occurred in the second half of the year. The contraction in part was caused by a severe slowdown in public expenditure, and deteriorating conditions in the labor market with unemployment reaching 18 percent in 2009. Public finances were in poor condition, also contributing to the decline, with general government gross debt as a percentage of GDP increasing to 53.2 percent in 2009.[84]

[81] (Housing Finance Network n.d.)
[82] (European Mortgage Federation 2009), p. 51
[83]Ibid
[84] Ibid p. 56

In Spain, as in Germany and France, the banking sector dominates the housing finance market. Mortgage brokers also play an intermediary role, with 55 percent of all mortgage transactions in 2005 processed through a broker.[85] The housing finance market had been growing even faster than in France, with the mortgage debt to GDP ratio increasing from 29.9 percent in 2000 to 61.6 percent in 2007. This has been reflected in trends in housing prices, with prices increasing even faster than in France, at 14 percent average annual growth from 2000-2007.

	EU27, 2009	Spain, 2009	Spain, 2008
GDP growth (%)	-4.2	-3.6	0.9
Unemployment rate (%)	8.9	18.0	11.3
Inflation (%)	1.0	-0.2	4.1
% owner occupied	68.2	85.0	85.0
Residential Mortgage Loans as % GDP	51.9	64.6	62.0
Residential Mortgage Loans per capita, EUR thousand	12.37	14.81	14.89
Total value of residential loans, EUR million	6,125,727	678,872	674,434
Annual % house price growth	-6.8	-6.3	-3.2
Typical mortgage rate (euro area), %	2.71	2.52	5.89
Outstanding Covered Bonds as % outstanding residential lending	23.2	49.3	45.6

Source: EMF, Eurostat, ECB, Bank of Spain, INE, Ministry of Housing, AIAF

As in most other European countries, the maximum loan-to-value ratio in Spain is 80 percent. Since the end of 2007, the Spanish mortgage market saw an increase in the percentage of doubtful loans especially to developers and the construction sector. However in 2009, lenders began to tighten their criteria given the questionable credit profile of borrowers and developers. This, coupled with financial institutions' efforts to prevent the foreclosure of collaterals, led the ratio of doubtful loans from outstanding residential lending to housing to decrease slightly at the end of 2009.[86]

In 2009, the housing market was in decline, exacerbated by the worsening economic situation and rising unemployment which led to a decrease in demand from households and businesses. The construction sector contributed to this decline, with a fall of 37.1 percent of housing completions and 51.5 percent in housing starts in 2009. As a result of these factors, housing prices saw a correction, with average prices decreasing by 10 percent from a peak in 2008. However, in 2010 price stability was expected toward the end of the year.

Securities markets likewise suffered, with a strong lack of confidence in 2009. However over the year, some signs of reactivation were observed, especially in the mortgage covered bonds segment. Spanish credit institutions have continued to experience problems in the use of mortgage backed securities as a funding tool, and new issues of MBS decreased 35 percent in 2009, while outstanding covered bonds as a percent of outstanding residential lending increased to 49.3 percent in 2009.[87]

[85] (Housing Finance Network n.d.)
[86] (European Mortgage Federation 2009), p. 56
[87] Ibid p. 56

United Kingdom

In the UK recession began in early 2008 and lasted through to late 2009. It was the most protracted recessionary period on record. However, the rise in unemployment was comparatively modest, standing at a level of 8 percent in 2009. This was due to reductions in working hours and salary cuts that meant far fewer became unemployed than would have otherwise been the case.[88]

	EU27, 2009	UK, 2009	UK, 2008
GDP growth (%)	-4.2	-4.9	0.5
Unemployment rate (%)	8.9	7.6	5.6
Inflation (%)	1.0	2.2	3.6
% owner occupied	68.2	69.5	69.7
Residential Mortgage Loans as % GDP	51.9	87.6	80.3
Residential Mortgage Loans per capita, EUR thousand	12.37	22.21	23.86
Total value of residential loans, EUR million	6,125,727	1,372,659	1,459,858
Annual % house price growth	-6.8	-7.8	-0.9
Typical mortgage rate (euro area), %	2.71	4.34	5.85
Outstanding Covered Bonds as % outstanding residential lending	23.2	14.7	14.0

Sources: EMF, Eurostat, ECB, Bank of England, Council of Mortgage Lenders, Communities and Local Government

The UK had seen a similar housing boom to the one experienced in Spain, with an increase in the mortgage debt to GDP ratio increasing from 55.9 percent in 2000 to an astonishing 86.3 percent in 2007.[89] This was accompanied by an average annual growth rate around 12 percent from 2000-2007, followed by one of the sharpest declines in prices among European countries, with housing prices falling 27 percent from their peak in 2007 until the middle of 2009.[90] Since then, prices have begun to increase again.

The housing market was restricted due to the ongoing closure of the securitization markets in the UK and the suppressed demand which resulted from the negative macroeconomic environment. As a result, gross lending levels fell 44 percent in 2009, although the market appeared to have bottomed out at that point. Since then, the UK has seen a slow improvement in housing market activity. This improvement has been due to the low interest rates set by the Bank of England as well as the government's temporary exemption on stamp duty for purchases of properties. Both these measures have improved affordability of home ownership, and stimulated new purchases. As lending increased as a result, so did housing prices.[91]

In the UK, not only banks, but Building Societies as well, dominate the housing finance market. As in Spain, mortgage brokers in the UK play an important intermediary role, with 60 percent of all mortgage transactions in 2005 processed through these entities.

Again, as in most European countries, the maximum LTV ratio is 80 percent, although it may increase to 85 percent as lenders are willing to lend more but impose a mortgage indemnity insurance to cover excess risk. In 2009 the UK saw a collapse in remortgaging activity, largely due to industry tightened lending criteria that made higher LTV loans harder to find. What's more borrowers who were coming off

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[88] (European Mortgage Federation 2009), p. 58
[89] (Housing Finance Network n.d.)
[90] Ibid
[91] (European Mortgage Federation 2009), p. 58

initial fixed and discounted rate deals and onto variable rates found that the reversion rates, linked to bank rates, were less penal than they would have been before the aggressive cuts by the Bank. As a result of these two factors, remortgaging fell by over 50 percent on 2008.[92]

The UK closed its securitization markets during the crisis, and recent has begun to tentatively reopen them. The mortgage-backed securities market was the first to reopen, with two large lenders launching new issues. However, they used a put option in order to guarantee investors the option of selling the bonds to the lenders after 5 years. This made the deals more similar to a covered bond than a traditional securitization.[93]

Italy

	EU27, 2009	Italy, 2009	Italy, 2008
GDP growth (%)	-4.2	-5.0	-1.3
Unemployment rate (%)	8.9	7.8	6.7
Inflation (%)	1.0	0.8	3.5
% owner occupied	68.2	80.0	80.0
Residential Mortgage Loans as % GDP	51.9	21.7	19.8
Residential Mortgage Loans per capita, EUR thousand	12.37	5.51	5.16
Total value of residential loans, EUR million	6,125,727	330,585	307,832
Annual % house price growth	-6.8	n/a	1.3
Typical mortgage rate (euro area), %	2.71	1.72	6.29
Outstanding Covered Bonds as % outstanding residential lending	23.2	4.2	2.1

Source: EMF, Eurostat, ECB, Bank of Italy, Nomisma

In 2009 Italy's GDP fell by five percent, the worst fall since the Second World War. However, as in other advanced economies, GDP figures showed signs of recovery on a quarterly basis, although a slight contraction was again recorded in Q4 2009. The moderate recovery in the second year resulted from a gradual improvement in exports which was driven by a pick-up in international trade. Fixed gross investments decreased 12.2 percent, including a 7.9 percent decrease in investments in construction. The fall was a reflection of the 9.2 percent downturn in the residential subsector, although the real estate market showed signs of slowing its downturn in 2009 after a radical fall in previous years. [94]

In Italy, as in most of the other European countries, the housing finance system is dominated by banks. There are a large number of banks offering mortgages, including 800 core banks and 30,000 smaller branch banks across the country.[95] Italy, like France, Spain, and the UK, has seen a housing boom, although not as drastic of one as seen in these countries, with the mortgage to debt GDP ratio increasing from 9.8 percent in 2000 in 19.8 in 2007. The boom was accompanied by an increase in housing prices of an average of 8 percent per year from 2000 to 2008.[96] Although Italy has not seen the sharp decline in prices that other European countries had seen, by the end of 2008 the market had cooled and housing prices were beginning to decline slightly. In 2009 the residential real estate market recorded an 11.3 percent fall compared to 2008, and housing prices fell by 0.5 percent in the first half of 2009, although

[92] (European Mortgage Federation 2009), p. 58
[93] Ibid
[94] Ibid, p. 43
[95] (BIS n.d.)
[96] (Housing Finance Network n.d.)

they recorded no change in the following 6 month period. The value of outstanding residential mortgages rose in 2009 saw a year-on-year increase of 7.4 percent, compared to 1.2 percent in 2008.[97]

As in most of the European countries, the LTV ratio is capped at 80 percent, which seems to be a policy consensus throughout the EU. The actual average LTV lies at 50-60 percent, which is somewhat lower than other countries, due to the conservative lending standards of most Italian banks. In 2009 interest rates on new variable rate mortgages fell significantly, to 1.72 percent. Interest rates on new fixed-rate mortgages with ten year maturities also fell slightly reaching 4.9 percent.[98]

In the securities market, the total value of transactions related to mortgage loans fell 30.9 percent in 2009 as compared to 2008. Meanwhile, covered bonds increased 36.4 percent in 2009 compared to 2008, following a general trend in Europe of recent increased reliance on covered bonds for securitization of mortgage loans.[99]

Direct government intervention in the market for housing finance is negligible. [100] Despite this, 71 percent of Italian households live in their own houses or apartments, and dwellings account for 60 percent of Italian households' net wealth. The majority of households which have entered the market in recent years have bought dwellings for own-occupancy purposes, rather than rental. [101]

In order to support residential mortgage borrowers, in 2009 the Italian Banking Association launched a program of temporary moratoriums on mortgage installments. The program was called the "Household Plan" and applied to borrowers with a taxable annual income below EUR 40,000, and borrowers who had been affected by particularly unfortunate events such as job loss.[102]

Canada

Like the European countries, Canada also raises most of the money for its housing finance from banks; although there, specialized non-depository financial institutions also play a role. Like in Spain and the UK, mortgage brokers play an important intermediary role, with about 31 percent of all mortgage transactions processed through these brokers in 2007.[103] Like most of the European countries, Canada has experienced growth in its housing market, from a mortgage debt to GDP ratio of 39.9 percent in 2000 to 53.9 percent in 2008.[104] Accompanying this has been a rise in house prices with an average annual growth rate of 8 percent from 2000-2008. Since 2009 they have again fallen by about 8 percent, indicating a housing bubble similar to that in Spain and France. [105]

[97] (European Mortgage Federation 2009), p. 43
[98] Ibid p. 43
[99] Ibid
[100] (BIS n.d.)
[101] Ibid
[102] (European Mortgage Federation 2009), p. 43
[103] (Housing Finance Network n.d.)
[104] Ibid
[105] Ibid

Like the European countries, in Canada the maximum loan-to-value ratio is 80 percent. Loans are allowed to exceed this ratio, but must have Lenders Mortgage Insurance if they do, up to a maximum LTV of 95 percent. This is more similar to the UK LTV policy. The largest insurer of mortgages is the CMHC, similar to HUD's FHA.

Conclusion

Government intervention in the housing sector and housing finance market is inevitable due to the housing sector's political, economic, and social implications. Government interventions are especially necessary to protect low-income households and to stabilize the market and the economy. The housing bubble in the 2000's was an unusual event requiring government interventions in order to mitigate the impact of the price correction, which occurred in the context of an already unfavorable macroeconomic environment in both the US and Europe. Without government intervention, this price correction would have been much more painful, and many more families would have lost their homes. Even in times of economic prosperity, government interventions are necessary to increase the affordability of home ownership for low-income individuals and families. Government interventions also make possible greater liquidity in markets by supporting securitization of mortgages, which allows banks to finance fixed rate mortgages with long term maturities. Therefore, although the policies in place that did not prevent the housing and financial crises must be reformed, the solution would not be wholesale privatization of the housing markets.

This paper analyzes and compares the types of government intervention in order to help inform the future U.S. housing policy. There are several points made which could warrant further exploration as possible new policy directions:

- Limit the quantity and quality of enterprises that receive either an implicit or explicit government guarantees
- Implement mechanisms for measuring and recognizing the costs of government guarantees explicitly in the budget, allowing for better management of these costs.
- Change investor incentives to encourage evaluation of credit risk of GSE debt based on financial conditions
- Limit LTV ratios to the conventional 80 percent
- Increase the availability and popularity of variable-rate mortgages, versus fixed-rate mortgages, while at the same time ensuring that variable-rate mortgages are not targeted at subprime borrowers
- Decrease the target percentage of homeowners in the population
- Bolster legal rights for borrowers and lenders in the form of collateral requirements and bankruptcy laws

- Improve and regulate credit information systems
- Consider alternative types of coping strategies for borrowers facing payment problems, such as allowing borrowers to become social tenants but remain in their privately bought residence
- Implement macroeconomic and other policies which complement other efforts to avoid foreclosures. For example, emulate the UK model of government mandated cut hours and salaries, rather than cutting jobs
- Tighten conditions on government backstopped insurance against mortgage default
- Avoid decline in underwriting standards by analyzing how Canada managed this risk
- Rethink the implications of tax deductibility of mortgage interest, especially if it encourages certain risky types of mortgages to become more attractive
- Rethink legal regulations which govern contracts, costs of default, and deficiency judgments
- Consider alternative funding mechanisms to MBS such as customer deposits and covered bonds

Housing policies are closely related to a country's culture and social characteristics. The methodologies of government interventions are subsequently varied. Although an approach that works well in one country may not necessarily automatically apply in another, the experiences of any one government in intervening in the housing market have implications and lessons beyond its borders. As the global financing and banking systems are increasingly inter-related, there is a need to share regulatory and policy tools in different countries. These can provide references for more effective policy change. As the U.S. is in the process of reforming housing finance system, lessons learned from the EU countries and Canada can better refine our policy options down the road. This is especially true since these countries have managed to avoid the large amounts of defaults that characterized the US housing crisis. The US, the EU, and Canada face similar challenges in the new housing market and global economic climate. These countries should look to one another to explore possible policy solutions, their benefits, and their consequences. The recession, spurred by the housing bubble, was global in nature. Our responses should be globally informed as well.

Works Cited

Bausparkassen Act. http://www.bausparkassen.de/uploads/mit_download/Bausparkassen_Act.pdf.

Bank of International Settlements, BIS. *Housing finance in Italy.* http://www.bis.org/publ/wgpapers/cgfs26gobbi.pdf (accessed March 2011).

den Breejen, Femma, Neuteboom, Peter, Elsinga, Marja, Conijn, Johan. "Government Guarantees in the Rental and Owner-Occupied Sector: An International Comparison." 2004.

European Mortgage Federation. *HYPOSTAT2009 A REVIEW OF EUROPE'S MORTGAGE AND HOUSING MARKETS.* Europmean Mortgage Federation, 2009.

Housing Finance Network. *Countries.* http://www.housing-finance-network.org/index.php?id=243 (accessed March 28, 2011).

Langley, Elizabeth. "The Changing Visage of French Housing Policy and Finance: A Half-Century of Comprehensive, Complex, and Compelling Home Building." *Housing Policy in the United States*, Spring 2002.

MacGee, Jim. *Not Here? Housing Market Policy and the Risk of a Housing Bust.* e-brief, Ontario: C.D. Howe Institute, 2010.

Mortgage Loan Directory and Information Inc. *Fed Exec: Reduce Gm't Mortgage Role.* 2011. http://www.mortgageloan.com/fed-exec-reduce-gmt-mortgage-role-8107 (accessed March 28, 2011).

Phaup, Marvin. "Federal use of Implied Guarantees: Some Preliminary Lessons from the Current Financial Distress." *Public Administration Review* (ProQuest), Jul/Aug 2009: 651-659.

Putkuri, Hanna. *Housing loan rate margins in Finland.* Research Discusison Paper, Helsinki: Bank of Finland, 2010.

US Department of Housing and Urban Development. *Written Testimony of Shaun Donovan, Secretary of U.S. Department of Housing and Urban Development (HUD), Hearing before the House Transportation, Housing and Urban Development and Related Agencies Appropriations Subcommittee on HUD's Fiscal Year 2012 Budg.* Written Testimony, Washington: U.S. Department of Housing and Urban Development, 2011.