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## Home Sweet Home: Government's Role in Reaching the American Dream

*Evriliki Tsounta*

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Western Hemisphere

**Home Sweet Home: Government's Role in Reaching the American Dream**

**Prepared by Evridiki Tsounta<sup>1</sup>**

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**Abstract**

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This paper investigates the role of government intervention in achieving the American dream of homeownership. The study analyzes the role of tax deductions in housing finance, including their impact on homeownership and housing consumption. The role of the Government Sponsored Enterprises in facilitating the creation of a secondary market for mortgage-backed securities is also analyzed as well as the role of the Federal Housing Administration. Cross-country comparisons of how housing is financed in other industrial countries is also provided, emphasizing how other countries have been able to achieve comparable homeownership rates as the United States in a less complicated and fiscally cheaper system. Country experiences of successfully phasing out government intervention are also analyzed.

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Author's E-Mail Address: [etsounta@imf.org](mailto:etsounta@imf.org)

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## I. INTRODUCTION

Home ownership has been a key component of the “American dream” with various Administrations attaching a great importance at increasing home ownership rates. For example, Former President Clinton initiated the founding of a Partnership under the leadership of the Secretary of the Department of Housing and Urban Development (HUD) to promote home ownership—to “make the American dream a reality in the 21<sup>st</sup> century” (Stephens, 2003), with numerous policies consistently aiming towards the implicit goal of increasing homeownership and creating an “ownership society” (HUD 2005). However, following the recent financial crisis, which started from the housing market, Treasury Secretary Geithner has indicated that “fundamental reform” of the government’s role in the housing finance market is needed. The Administration’s broad reforms proposals, being discussed with Congress, aim at achieving sustainable homeownership by establishing a more stable, privately-oriented and sound housing finance system (U.S. Treasury, 2011).

There are many reasons for promoting homeownership. Homeownership has positive externalities to political and social stability, neighborhood development, children’s education achievement, and wealth accumulation:<sup>2</sup>

- Homeownership is thought to provide neighborhood externalities through maintenance and improvements. DiPasquale and Glaeser (1999), Green and White (1997) and Rossi and Weber (1996) among others, look at the benefits of home ownership, and find home owners tend to be more concerned with the well-being of their communities, and thus have a stake in better government, as it affects their property value. Glaeser and Shapiro (2003) find that a ten percent increase in the local homeownership rate increases local housing prices by 2.5 percent, confirming positive externalities from home ownership. This result is similar to the findings of Coulson, Hwang and Imai (2002) who also document positive spillovers from home ownership.
- Green and White (1997) show that the children of homeowners are more successful than the children of renters—the former are about 25 percent less likely to drop out of school than the children of comparable renters.
- Homeownership also promotes household wealth accumulation and retirement strategy, with spillover effects on the broader economy.

Given these benefits, the United States had put in place a complex housing finance system with numerous measures to explicitly target homeownership; the majority of them date back almost a century ago. Most of these measures are indirect/off balance sheet in nature

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<sup>2</sup> In contrast, Oswald (1997, 1998) argues that homeownership leads to higher unemployment, as it hinders labor mobility.

such as providing tax expenditures (e.g., mortgage interest tax deduction, capital gains tax exclusion; some in place since 1913) and offering federal mortgage credit, insurance and guarantee programs. Examples of the later include the activities managed by the Federal Housing Administration (FHA), the Veterans' Administration (VA) and the guarantees provided by the Government Sponsored Enterprises (GSEs) on mortgage securities issuances. Indeed, IMF (2011) finds that the United States has the most comprehensive government intervention among advanced economies in housing finance.

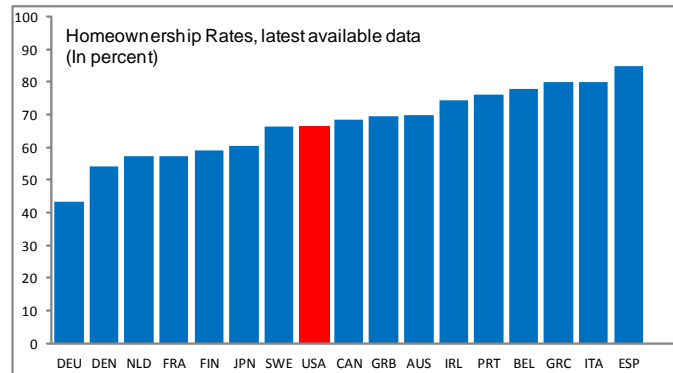
Most of these programs are, however, significantly expensive, mostly benefiting middle- and high-income households, while their effectiveness is questionable (Tsounta, 2010). While the cost of these programs has been rising over time (now home-related tax expenditures alone represent 1.3 percent of GDP and are expected to reach 1.8 percent of GDP by 2016), U.S.

homeownership rates have been essentially unchanged in the last 40 years, hovering between 64–69 percent. Cross-country comparisons reveal that U.S. homeownership rates closely mimic those of other Anglo-Saxon countries, but are in the middle of the pack when compared with other OECD countries (Figure 1). Other cross-country differences include that American households purchase a house earlier in the life cycle with a lower downpayment than say their Japanese counterparts do (Glaeser and Gyourko, 2008).

This paper analyzes the various federal programs that provide financial support for U.S. housing, describes their fiscal cost and evaluates their effectiveness in encouraging homeownership. We concentrate our attention to the most expensive policies including the mortgage interest deduction and the support provided to GSEs. The paper finds that the current housing finance system is unsustainable, in terms of both its fiscal cost and its inefficiencies. Thus, we propose that the United States could gradually reform some of its expensive interventions, in light of the grim fiscal outlook and the inefficiencies of the current system, without significant impact on homeownership, based on lessons from the experiences of other countries.<sup>3</sup>

The paper is structured as follows. Section II provides a brief history of homeownership rates in the United States and the evolution of the U.S. housing finance system. Section III describes the current federal housing programs, with emphasis on the main indirect expenditures through the tax system and the federal credit and guarantee programs. Section

Figure 1. Homeownership Rates in Select OECD Countries  
(In percent)



Source: IMF (2011).

<sup>3</sup> Discussing the recently released Treasury proposals for reforming the U.S. housing finance system is beyond the scope of this paper; for a detailed discussion please refer to IMF (2011).

IV provides a literature review of the impact of government intervention in housing finance. We summarize estimates of the economic and budgetary costs of these interventions in Section V, while Section VI describes housing finance policies in other OECD countries. Section VII provides an overview of how other countries have successfully diminished government's intervention in housing finance. Section VIII concludes.

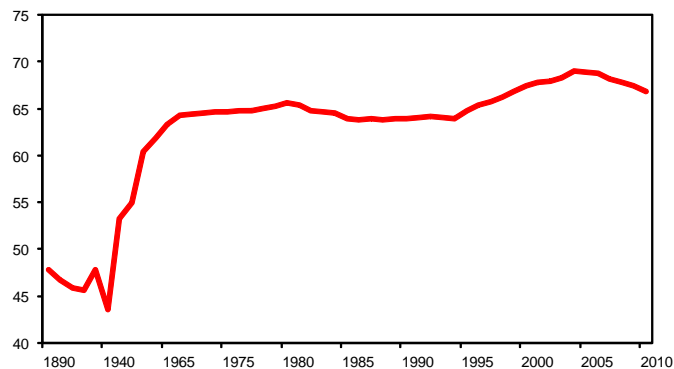
## II. A LITTLE BIT OF HISTORY<sup>4,5</sup>

### A. U.S. Homeownership Rate: A Historical Perspective

Prior to World War II, the homeownership rate was very stable ranging between 43 and 48 percent (Figure 2). The recovery from the Great Depression, incentives to purchase homes (especially through

mechanisms such as government-insured mortgage loans from the Veteran's Administration), significant pent-up demand after World War II, and large amounts of new construction of modestly priced houses all led to a sharp rise in the homeownership rate—pushing it to almost 64 percent by the late 1960s. The homeownership rate continued to rise in the 1970s, reaching a record high at the time of 65.8 percent in the middle of 1980. Analysts explained the surge in the emergence of the baby boom generation, which resulted in a surge of potential first-time homebuyers and to low real interest rates.<sup>6</sup>

Figure 2. Homeownership Rate in United States, 1890-2010  
(In percent)



Sources: U.S. Bureau of the Census (1989), Historical Statistics: Colonial Times to 1970, Haver Analytics, and author's estimates.

In the 1980s, homeownership rate stagnated and concerns were expressed for the substantial decline in young couples' homeownership rates; Follain, Hendershott, and Ling (1992) report that ownership rate for married couples under age 35 fell by more than

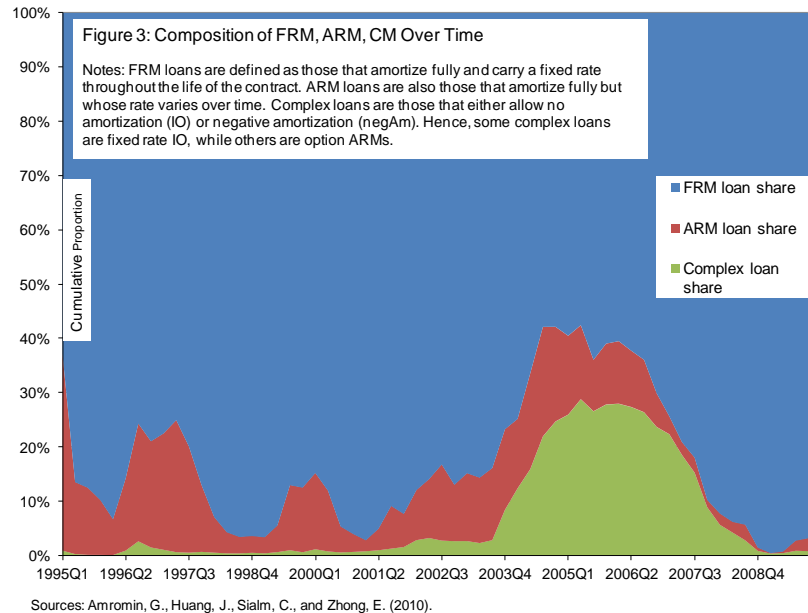
<sup>4</sup> This historical survey draws heavily from U.S. Department of Housing and Urban Development (2006) and Committee on the Budget (2008). The reader is referred to those sources for a more detailed and comprehensive historical perspective. Green and Wachter (2005) also provide a comprehensive description of the history of the U.S. mortgage market.

<sup>5</sup> Our analysis does not focus on the temporary policies enacted in response to the recent housing meltdown.

<sup>6</sup> Analysts typically view the 25 to 40 years age-group as the "first-time home-buying cohort," as many households purchase their first home within those ages. Thus, the 1970s was a period when many of the baby-boomers became first-time homebuyers. Moreover, real long-term ex-post mortgage interest rates averaged only 150 basis points over the entire decade of the 1970s, and were negative for three years in that period.

7 percentage points between 1980 and 1990. They argue that the decline was largely a response to the demise of inflation and tax rate cuts rather than reduced affordability. Green (1996) confirms this in his analysis of state data, showing that affordability was not a factor in the couple's ownership decline.

In the 1990s and early 2000s, homeownership rate increased significantly from a seasonally adjusted 64 percent in 1994 to a 69 percent all-time peak in 2004 (an increase of 12 million in homeowners).<sup>7</sup> Factors cited for the increase include the economic boom of the 1990s, demographic factors (Gabriel and Rosenthal, 2005),<sup>8</sup> the decline in mortgage interest rates, and the increased access to mortgage credit amid the expansion of prime and “complex” mortgage lending (Gramlich, 2004; Doms and Motika, 2006; Jaffee, 2008, Figure 3).<sup>9</sup> Jaffee (2008) estimates that 6.6 million net homeowners were added between 2000 and 2006, of which 1.4 million are attributed to subprime lending.



In recent years, following the housing market meltdown, ownership rates have declined from their all-time high in 2004, and at 66½ at end-2010 are at levels last seen in 1998. The drop has been particularly acute for some minority groups, for example, Black homeownership rate fell from 48 percent in 2007Q1 to 44.8 percent in 2010Q4, whereas White non-Hispanic's homeownership rate only fell by 0.7 percentage points to 74.2 percent during the same period.<sup>10</sup>

<sup>7</sup> Despite the impressive increase, large variations persisted in homeownership rates between White (72 percent in 2008), Hispanic (49 percent) and Black households (47 percent) as noted in Glaeser and Gyourko (2008).

<sup>8</sup> Doms and Krainer (2006) find that demographic factors (the emergence of the baby boomers) account for around a third of the change in the homeownership rate during the 1990s while the rest is accounted by greater propensity to be homeowners; the latter, they assert, could be related to higher education attainment.

<sup>9</sup> In contrast, Gabriel and Rosenthal (2005) using disaggregated data by metropolitan areas, minority status, and income class for the 1990s found that household characteristics (income, age, and marital status) explain most of the increases in homeownership rates, while credit barriers explain only a very small share. Based on this evidence, they concluded that mortgage market interventions, are unlikely to have large effects on homeownership.

<sup>10</sup> For a discussion of the current state of the U.S. housing market, please refer to Tsounta (2011).



## B. Government Intervention: On the Financing Side

In the past century, the U.S. housing finance system has evolved from an informal/communal institutional arrangement to a complex system in which various intermediaries compete in performing three main functions: funding, lending and servicing, while adhering to government's objectives of promoting homeownership.

The evolution of the system was shaped by policy actions in response to economic shocks, such as the Great Depression, and rising Treasury-bill rates in the 1960s; and innovations, such as mortgage products, securitization and risk management tools more recently (Table 1).

To start with, housing finance was particularly hit by the Great Depression given the sharp increase in the unemployment rate that caused increases in delinquencies and foreclosures and acute house price declines. All these combined, resulted in insufficient collateral values, large-scale bank runs and overall insolvency of the banking system. In response to these problems, in 1933 the federal government created the Home Owner's Loan Corporation (HOLC) and the Reconstruction Finance Corporation (RFC) to liquidate nonperforming bank loans and to bail out insolvent lending institutions.<sup>11</sup> To strengthen Savings and Loans, the Federal Home Loan Banks (FHLBanks) were created as a special liquidity facility for them in 1932. This was the first housing-related government-sponsored enterprise, to provide a steady source of capital for member institutions that suffered from the surge in defaults during the Great Depression (Gyourko and Sinai, 2003).

In 1932, the Federal Housing Administration (FHA) was also formed to provide insurance against mortgage defaults for lenders and private mortgage insurance companies were authorized to issue bonds and buy mortgages from primary market lenders.<sup>12, 13, 14</sup> The thrust of these measures was to encourage commercial banks to enter mortgage funding.

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<sup>11</sup> For more details on the history of Home Owner's Loan Corporation, please refer to Green and Wachter (2005).

<sup>12</sup> Nowadays, the FHA operates one of the largest housing programs, the Mutual Mortgage Insurance (MMI) program, which aims to extend homeownership to buyers who lack the savings, credit history, or income to qualify for conventional mortgages. The program insures mortgages on single- and multifamily homes issued by private lenders, in exchange for a fee. If a borrower fails to make a payment or defaults on an insured mortgage, the FHA pays the issuer or holder of the mortgage the amount due.

<sup>13</sup> FHA-insurance was funded by a fixed premium charged on unpaid mortgage loan balances. Subsequently this was changed to a fixed premium at closing and ultimately to a sliding scale based upon the initial loan-to-value ratio (a proxy for the riskiness of loans). The mortgage insurance fund overseen by the FHA was required to be "actuarially sound."

<sup>14</sup> Between 1957 and 1973, every state passed an enabling statute for private mortgage insurance, ending FHA's monopoly in mortgage insurance. Demand for private insurance was driven by the limitations of the loan size insured by FHA and its down-payment requirements. Private insurers also provide the credit enhancements required by Freddie Mac and Fannie Mae for purchasing (or guaranteeing) mortgages with loan-to-value ratio above 80 percent.

Table 1. History of Housing Finance in the United States

<i>Date of Creation</i>	<i>Institution</i>	<i>Reason for Creation</i>
1932	Federal Home Loan Banking System	Provide funds to building and loan associations.
1933-36	Home Owner's Loan Corporation	Acquire defaulted mortgages and reinstate them as fixed rate 20-year amortized loans.
1936	Federal Housing Administration	Stimulate housing construction by encouraging mortgage investment via offering home loan insurance.
1938	Federal National Mortgage Association (Fannie Mae)	Facilitate a secondary market for FHA-insured mortgages.
1944	Veterans Guarantee Program	Assist veterans in their transition to civilian life.
1956	First modern private insurance company was created	Demand for private insurance was driven by the limitations of the loan size insurance by FHA and the downpayment requirements of FHA. Private insurers also provided the credit enhancements required by Freddie Mac and Fannie Mae for purchasing (or guaranteeing) mortgages with loan-to-value ratio above 80 percent.
1968	Fannie Mae was split into the Government National Mortgage Association (Ginnie Mae) and the privately-held Fannie Mae. Fannie Mae was authorized to buy and sell non-government backed mortgages to raise additional funds for mortgage originators.	Liquidity challenges in 1966 which constrained mortgage availability due to rising Treasury-yields.
1970	Freddie Mac	Securitize mortgages issued by savings and loan associations.
2008	Federal Housing Finance Agency	Oversight authority for Fannie Mae and Freddie Mac, under conservatorship.
2008	Government Sponsored Enterprise Credit Facility	Ensure availability or credit for Fannie Mae and Freddie Mac.

Sources: HUD (2006) and author's sources.

In 1938, the Federal National Mortgage Association (Fannie Mae) was established as a government-owned agency to help stabilize the market for newly authorized FHA mortgage loans of twenty-five years' duration. This government agency operated at a small scale, purchasing FHA mortgages and later (after 1948) Veterans' Administration mortgages, and exchanging seasoned mortgages from its portfolio for unseasoned mortgages at par (the latter provided unambiguous subsidy to mortgage originators.) The agency helped make a national market in federally underwritten loans, and, on balance, it added mortgage assets to its portfolio over time (Aaron, 1972).

The Veterans' Administration (VA) mortgage program was created in 1944 as a temporary "readjustment" program for returning veterans. It was transformed in 1950 into a liberal program of home loans available to veterans. In contrast to the mutual insurance concept of the FHA, the VA provided a federal guarantee for up to sixty percent of the face value of a mortgage loan made to a veteran, up to a legislated maximum.

In the mid-1960s, the U.S. economy faced new challenges with rising inflation and interest rates relating to government's large budget deficits to finance the Vietnam War. In 1968, to enhance liquidity in the financial market (for Savings and Loans in particular) the government privatized Fannie Mae, allowing it to buy conventional (or not government-insured) mortgages.<sup>15</sup> Government National Mortgage Association (Ginnie Mae) was established in its place as a government agency operating within the Department of Housing and Urban Development to securitize government-insured mortgages by FHA and VA. Ginnie Mae provides a guarantee on its mortgage-backed securities (MBS), which is an explicit government guarantee.

The Federal Home Loan Mortgage Corporation (Freddie Mac) was created in 1970 as part of the FHLBanks to increase the liquidity for Savings and Loans (Box 1). Purchases of mortgages made by this private corporation were not classified as federal expenditures even though all the firm's shares were owned by the FHLBanks. The shares have been publicly traded since 1989 (ceased trading in mid-2010), and a majority of its directors has been private citizens.

The market for MBS was formed in the early 1970s with both Ginnie Mae and Freddie Mac instituting their past through security programs. In contrast, Fannie Mae worked purely as a portfolio lending institution during the 1970s and only issued its first MBS in 1981 (the volume of private label MBSs also started rising in the mid-1980s).

The shift to mortgages being funded by capital markets rather than by depositories continued into the 1990s and 2000s.<sup>16</sup> By the end of 2003, Fannie Mae and Freddie Mac either guaranteed or held more than \$3.6 trillion of mortgages, or about 60 percent of the market in which they were allowed to participate and 43 percent of the overall market; the GSEs dominance has increased even further following the collapse of the housing bubble during the Great Recession.

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<sup>15</sup> The privatization was initiated by changes to public accounting procedures adopted by the federal government in 1968. Under the new regime, any net additions to the Fannie Mae's portfolio would have been considered necessarily as federal government expenditures (see Quigley, 2006, for a discussion.) To avoid apparent increases in federal expenditures, its functions were divided; any subsidized portfolio activities were transferred to the Government National Mortgage Association (Ginnie Mae), instituted contemporaneously, and the bulk of the secondary market operations were spun off to a corporation owned by private shareholders (Glaeser and Gyourko, 2008).

<sup>16</sup> Unlike the European mortgage market, a covered bond market has not developed in the United States.

**Box 1. Some Basic Facts on GSEs<sup>1</sup>**

Fannie Mae and Freddie Mac are government-sponsored enterprises (GSEs), i.e., they were created by the Congress with a special mandate but were privately owned. Their business model involves purchasing primarily conventional conforming mortgages (meeting GSEs' underwriting standards and specific loan limits) from private lenders/mortgage originators to hold in their own portfolios or package into mortgage-backed securities (MBS) which are subsequently sold to investors.

Specifically, the firms issue and guarantee the majority of the residential MBS issued in the United States. The MBS are sold to capital market investors, but Fannie Mae and Freddie Mac in exchange for a guarantee fee, they guarantee the timely payment of interest and principal on the securities; a guarantee that investors have been treating identically to a government guaranty. In 2010, the two GSEs purchased or guaranteed 70 percent of the mortgages originated. Prior to the crisis, the MBS issue/guarantee business was relatively straightforward in both design and implementation. Mortgage originators offered pools of newly originated and qualifying mortgages, which were evaluated by Fannie Mae and Freddie Mac using proprietary loan evaluation tools. As compensation for the guarantees, the two GSEs charged a fee as a percentage of the outstanding loan balance, which historically has been about 0.20 percent annually. The MBS were then sold to third-party investors, who hold them until maturity. In the event the mortgage became delinquent, the guarantee required that the GSEs provided timely payment of all interest and principal. Their charter required that they hold capital equal to 45 basis points of their outstanding MBS to backstop the guarantees. For most of their history (the current housing market meltdown has been the exception), the GSEs were profitable (earning a return on equity of around 15 percent).

Fannie Mae and Freddie Mac also maintain retained mortgage portfolios on their balance sheets. Those mortgages have represented as much as 20 percent of all outstanding U.S. mortgage securities. The portfolios are primarily funded by issuing "agency bonds," for which investors had presumed an implicit Treasury guarantee, now explicit given conservatorship. Fannie Mae and Freddie Mac face a statutory leverage ratio of 40, meaning that \$1 of equity supports \$40 of earning assets. The profitability of the retained portfolios came from the spread between the interest earned on the mortgage assets minus the interest paid on Fannie Mae's and Freddie Mac's agency bonds. The spread was large enough giving them a return on capital often above 30 percent. As such, the GSEs had an incentive to grow their portfolios at a fast pace, and expand the profit margins by taking riskier portfolio positions (e.g., they started investing heavily in sub-prime and Alt-A mortgages instead of the traditional safer conforming loans during the housing boom, Table on next page). They also used short-term debt to fund long-term mortgage assets; this mismatch made them vulnerable to large interest rate changes and liquidity crises.

In general, for both business lines, the two GSEs retain (through guarantee or ownership) all the risks of possible default by mortgage borrowers. The retained portfolios additionally created significant interest rate and liquidity risks. Investors continue to bear the interest rate and prepayment risk (IMF, 2011).

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<sup>1</sup> The analysis draws heavily from Jaffee (2009).

Box 1. Some Basic Facts on GSEs (*Cont.*)New Single Family Mortgage Acquisition  
(*In percent, unless otherwise noted*)

	Fannie Mae					Freddie Mac				
	2006	2007	2008	2009	2010	2006	2007	2008	2009	2010
Alt-A	22	17	3	0	1	18	22	7	0	0
Interest-Only	15	15	6	1	1	17	21	6	0	0
Credit Score <620	6	6	3	0	0	5	6	3	1	1
LTV>90%	10	16	10	4	7	6	11	9	4	9
Average LTV	73	75	72	67	68	73	74	71	67	69
Average Credit Score (level)	716	716	738	761	762	720	718	734	756	755

Source: Federal Housing Finance Authority.

GSEs' special mandate involved a requirement, since 1992, to comply with annual Affordability Housing Goals to facilitate homeownership to low-income and underrepresented groups;<sup>2</sup> and their federal charters required them to promote liquidity and stability in the secondary market for mortgages since their inception. They were also required to have public representation on their boards (Green and Wachter, 2005). They in return, enjoyed explicit federal subsidies explicitly spelled out in their charters, which includes exemptions from state and local taxation and from Securities and Exchange Commission registration requirements. Before being brought into conservatorship, the GSEs were also given the right to use the Federal Reserve as their fiscal agent, as well as several other special privileges (see Jaffee and Quigley (2007) for details).

Given the housing market meltdown, the GSEs faced expanding credit losses and expected losses on their retained portfolios (primarily from their subprime and Alt-A positions). As a result of the losses, their capital requirements were going to be violated and there were no good prospects for additional capital raising in private markets. In addition, investors were unwilling to roll over their maturing debt raising exponentially the probability for a bankruptcy, which would have paralyzed the U.S. mortgage market; causing a systemic failure of the financial system, in general. As a result, the two GSEs were placed into a conservatorship mode in late 2008 by their federal regulator (Federal Housing Finance Agency), resulting in the government taking over more than \$5 trillion in credit guarantees by end-2008 (CBOa, 2009).<sup>3</sup> Fannie Mae and Freddie Mac were provided with unlimited access to "bailout" capital by the federal government; so far, they have received federal support totaling around \$150 billion.

<sup>2</sup> The literature, however, finds little success of these goals at increasing homeownership among low-income families (Jaffee and Quigley, 2007).

<sup>3</sup> The conservatorship places Fannie Mae and Freddie Mac under the stewardship of the Federal Housing Finance Agency.

### C. Government Intervention: On the Tax Side<sup>17</sup>

Most of the tax provisions that support the housing market have been instituted almost a century ago; it is unclear whether they were originally introduced to support affordable housing. The origin of the most expensive provisions is described below, while a more complete summary of all tax expenditures is provided later in the paper.

#### **Mortgage Interest Deduction**

The 1913 Federal income tax code instituted a deduction for all interest paid, with no distinction between interest payments made for business, personal, living, or family expenses. There is no evidence in the legislative history that the mortgage interest deduction was intended to encourage home ownership or to stimulate the housing industry at that time. Before the Tax Reform Act of 1986 (TRA86), there were no restrictions on either the dollar amount of mortgage interest deduction or the number of homes on which the deduction could be claimed. Limits were placed in 1986 and 1987 as part of an effort to limit the deduction for personal interest. Under the 1986–87 provisions, mortgage interest could be deducted only on a loan amount up to the purchase price of the home, plus any improvements, and on debt secured by the home but used for qualified medical and educational expense. The interest deduction was also restricted to mortgage debt on a first and second home.

Nowadays, a taxpayer may claim an itemized deduction for “qualified residence interest,” which includes interest paid on a mortgage secured by a principal residence and a second residence. The underlying mortgage loans can represent acquisition indebtedness of up to \$1 million, plus home equity indebtedness of up to \$100,000.

#### **Property Tax Deduction**

Under the 1913 income tax law, all federal, state and local taxes were deductible except those assessed against local benefits (for improvements, which raise the property value) for individuals and firms. A major rationale was that tax payments reduce disposable income in a mandatory way and thus should be deducted when determining a taxpayer’s ability to pay federal income tax. Over the years, Congress has gradually eliminated the deductibility of certain taxes under individual income tax (e.g., federal income taxes in 1917, estate and gift taxes in 1934, state and local excise taxes on cigarettes and alcohol in 1964, and sales taxes in 1986), but has kept the property tax deduction.<sup>18</sup>

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<sup>17</sup> For more details, the reader is referred to the Committee on the Budget (2008) that has been the main source for the analysis included in this section.

<sup>18</sup> In 2008, the additional standard deduction for property taxes of \$500 for joint filers was enacted for the 2008 tax year, to spur up housing activity for those individuals that did not itemize, as part of the Housing and Economic Recovery Act of 2008.

## **Exclusion of Capital Gains on Sales of Principal Residences**

The Revenue Act of 1951 introduced the concept of deferring the tax on the capital gain from the sale of a principal residence if the proceeds of the sale were used to buy another residence of equal or greater value. This deferral principal was supplemented in 1964 by the introduction of the tax provision that allowed elderly taxpayers a one-time exclusion from tax for some of the capital gain derived from the sale of their principal residence (later extended to all taxpayers aged 55 and older for up to \$125,000 gain from the sale of their principal residence). By 1997, Congress had concluded that these two provisions had created significant accounting complexities for the average taxpayer. In addition they deemed the provisions as distortionary since (i) the tax free rollovers may have encouraged taxpayers to purchase more expensive homes than they otherwise would have to enjoy the tax credit and (ii) the one-time capital gain exclusion of \$125,000 for elderly taxpayers may have discouraged some of them from selling their homes if they had already used their one-time exclusion or realized capital gains in excess of \$125,000. Therefore, Congress repealed both provisions in the Taxpayer Relief Act of 1997 and introduced the current rules instead. Under the current rules, a taxpayer may exclude from federal income tax up to \$250,000 of capital gain (\$500,000 for joint filers) from the sale or exchange of their principal residence (owned and occupied for at least two of the last five years).<sup>19</sup>

### **III. HOUSING FINANCE SYSTEM TODAY**

Most of the interventions in U.S. housing finance are now in the form of tax expenditures and guarantee costs, representing either current or expected future liabilities of the U.S. Treasury. Direct spending on housing assistance has always been a small proportion of the U.S. budget and has typically been in the form of vouchers for private rent contingent on means-tested income and family size, while recently the focus has expanded to support homeownership for low-income people. For bravery, given that direct spending on housing is limited in terms of fiscal cost, we will concentrate our analysis on tax expenditures and the guarantee/insurance schemes provided by the GSEs and the FHA.

#### **A. Tax Expenditures**

There are numerous tax expenditures supporting housing, which can be roughly grouped into two categories: (i) those that benefit homeowners and (ii) those that benefit investors (Table 2). Subsidies that benefit homeowners are by far much costlier than the ones benefiting investors, and have risen tremendously over the years. Support to investors is mostly driven by efforts to enhance affordable housing. For example, a Low Income Housing Tax Credit program (LIHTC) was introduced in 1986 under which state and local LIHTC-allocating agencies distribute tax credits for 10 years to private developers for the acquisition, rehabilitation, or new construction of low-income rental housing. Other investors' tax expenditure measures include exemptions of bond interest on mortgage

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<sup>19</sup> The exclusion is limited to one sale every two years. Special rules apply in the case of sales necessitated by changes in employment, health, and other circumstances.

revenue bonds—bonds issued by states for housing—and accelerated depreciation for owners of rental units (Gordon et al. 1987).

Table 2. Tax Expenditures on Housing (by Beneficiary)

**Homeowners**

- Exclusion of net imputed rental income
- Deductibility of mortgage interest on owner-occupied homes
- Deductibility of State and local property tax on owner-occupied home
- Deferral of income from installment sales
- Capital gains exclusion on home sales
- Credit for homebuyer (temporary)

**Investors**

- Exclusion of interest on rental housing bonds
- Exclusion of interest on owner occupied mortgage subsidy bonds
- Exception from passive loss rules for \$25,000 of rental loss
- Credit for low-income housing investments
- Accelerated depreciation on rental housing (normal tax method)
- Discharge of mortgage indebtedness

Sources: Office of Management and Budget (2011): *Analytical Perspectives*, Budget of the U.S. Government Fiscal Year 2012.

**B. Federal Credit, Insurance and Guarantee**

The residential mortgage industry in the United States is complex consisting of lenders, mortgage originators, investors, servicers and insurers among others, with multiple players interacting and competing for similar functions (Table 3). As noted in IMF (2011), the United States is unique because of the preponderance of government-sponsored housing finance agencies involved in securitization markets (through Fannie Mae, Freddie Mac, and Ginnie Mae) and mortgage insurance (through the Federal Housing Administration and Veteran Affairs, Figure 4).

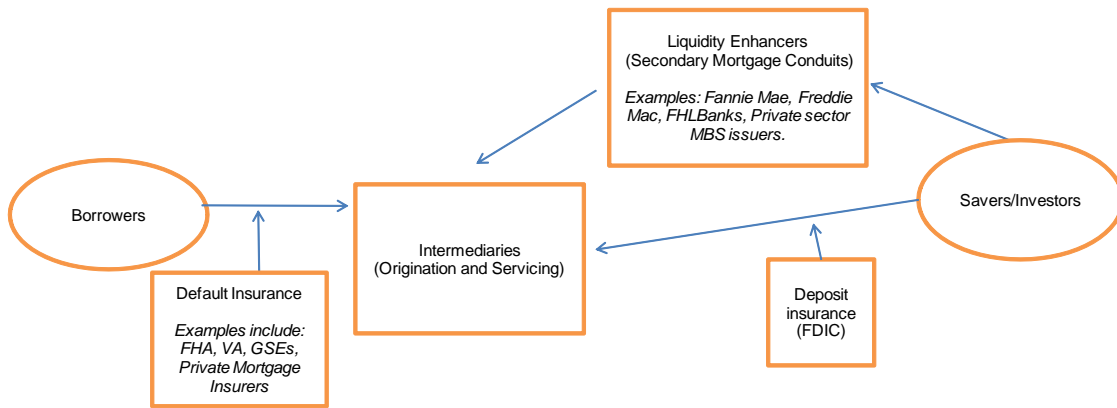
Table 3. Competing Functions by Various Institutions

Function	Institution
<i>Wholesale funding</i>	Mortgage securitization with explicit government guarantee (Ginnie Mae)
	Mortgage securitization with implicit government guarantee (GSEs, with lines of credit with the U.S. Treasury)
	Mortgage securitization with no government guarantee (private label MBS issuers)
	Corporate bonds issued by special facilities (GSEs)
	Corporate bonds issued by secondary market conduits
	Corporate bonds issued by primary market lenders
<i>Risk Sharing and Management</i>	Private Mortgage Insurance
	Government Default Insurance (FHA, VA)

Source: HUD (2006).

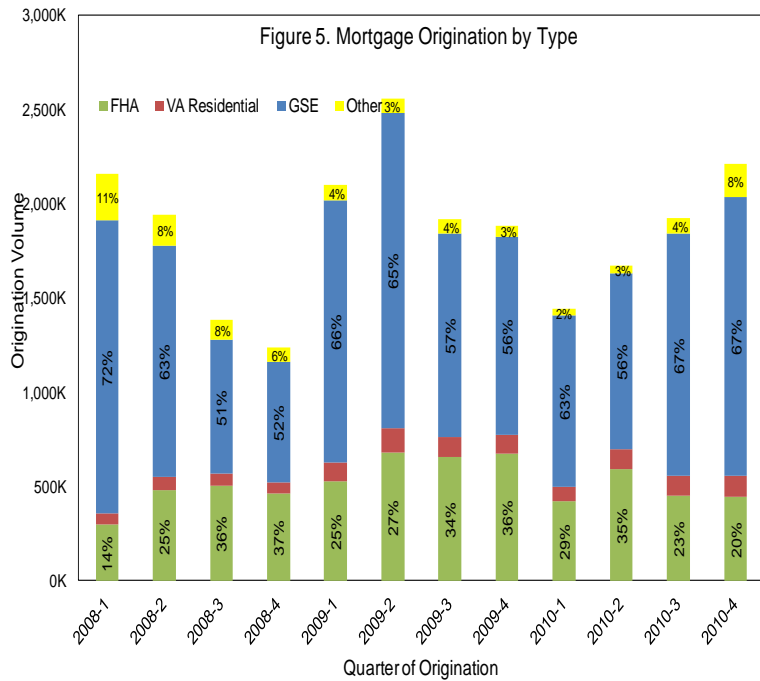


Figure 4. A Schematic View of the Mortgage Intermediation Process



Sources: U.S. Department of Housing and Urban Development (2006), *Evolution of the U.S. Housing Finance System*; author's estimates.

Loans are made (*originated*) by a huge variety of retail finance institutions, including banks, mortgage brokers and finance companies (Figure 5). Mortgage lenders typically *fund* their loans with a mix of equity, debt and secondary market transactions. Prior to the crisis, originators could sell almost any type of mortgage into a well-developed secondary mortgage market comprising many different institutions, including the GSEs, mortgage conduits, investment banks, and pools of managed assets. The extensive secondary market for all forms of mortgages, allowed lenders to transform the mortgage into a highly-rated liquid security. The most common form of MBSs are those guaranteed by the housing related GSEs; Ginnie Mae securities are collateralized by FHA/VA mortgages and are explicitly backed by the government while standard



Sources: LPS Applied Analytics and Fund staff estimates.

Agency MBS are backed by conforming conventional mortgages and are guaranteed by Freddie Mac and Fannie Mae, under Treasury's conservatorship since September 2008. Non-conforming mortgages are securitized in the private label market (Figure 6).

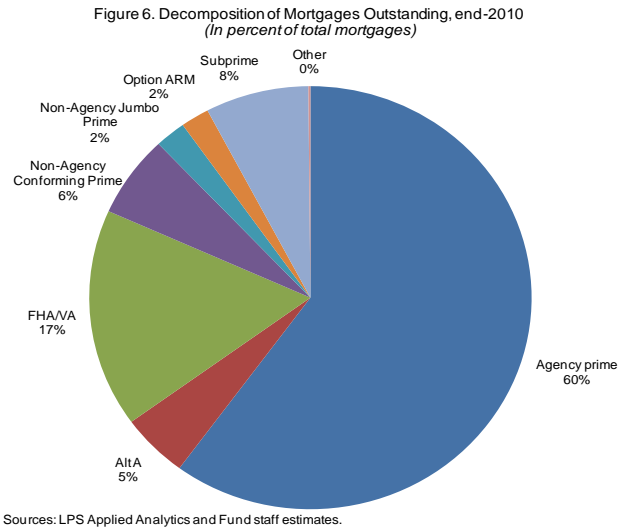
Mortgage *servicers* are an integral part of the system, responsible for the day-to-day business of managing payments from borrowers. Servicers' operations involve large fixed costs, since they are engaged at computing scheduled payments on mortgages, collecting these payments and transmitting the proceeds to the mortgage owners or security holders. In addition, servicers monitor borrowers' credit records for events that can threaten the value of the collateral, such as failure to pay property insurance, and are usually responsible for handling delinquent borrowers, whether by foreclosing on the property or some other course of action. They are typically paid by retaining a portion of the borrowers' monthly payment (e.g., receiving 25 basis points of the mortgage amount). In return, servicers are typically required to advance scheduled principal and interest payments to the holder even if the borrower has stopped paying. The servicer can receive the value of these advances as well as out of pocket expenses incurred during the foreclosure proceeding (Cordell et al., 2008; Kiff and Tsounta, 2011).

On the mortgage insurance front—that protects lenders from losses related to defaults—private mortgage insurers compete with government insurance offered by the Federal Housing Administration (FHA) and the Department of Veteran Affairs (VA). FHA carries out the government's social housing policy through its mortgage insurance activity—by providing mortgage insurance on homes for lower-income families, thus providing access to mortgage funding that would not have otherwise been available, while the Department of Veterans Affairs (VA) serves the specialized needs of armed forces veterans. They both restrict the size of the loans that can be insured.

Unlike the FHA, which insures mortgages and charges premiums that vary somewhat by credit risk, the Department of Veterans Affairs (VA) partially guarantees the lender against loss in the event of a foreclosure and charges a flat loan-guarantee fee.<sup>20, 21</sup> The FHA

<sup>20</sup> In FHA-insured mortgages, the borrower pays an upfront mortgage insurance premium (today 1.5 percent) and in addition, pays an annual insurance premium that declines over the life of the loan (today, it starts at around 0.5 percent of the loan balance) until the loan-to-value ratio falls below 75 percent.

<sup>21</sup> In addition to the FHA and VA mortgage insurance and guarantee programs, Rural Development, an agency of the United States Department of Agriculture, guarantees loans for rural residents with minimal closing costs and no down payment. Those programs operate on a much smaller scale than FHA's programs and are not discussed in this paper.



premiums have been self-supporting, e.g., the primary FHA program for single-family mortgages has not required any government appropriations. There has never been a taxpayer payout for FHA, which has been consistently profitable (except in the high default period of the late 1980s when given the Savings and Loans Crisis and over-lending in certain states like Texas, reserves were used).

Private mortgage insurance is mandatory for loans purchased by the GSEs with down payments of less than 20 percent. The market is dominated by monthly premium payments with coverage on only the top portion (typically 20–35 percent) of loan balances. The market contains both flow primary and pool/structured finance mortgage insurance, and includes both prime and non-prime segments. State insurance departments regulate private mortgage insurance companies; indirectly Fannie Mae and Freddie Mac also regulate them, given their eligibility, underwriting, disclosure, and financial requirements and their dominance in the mortgage market.

#### IV. LITERATURE REVIEW: THE IMPACT OF GOVERNMENT INTERVENTION

##### A. On the Tax Side

Most of the literature on tax expenditures on housing is justifiably centered on the impact of the costly mortgage interest deduction. Those who focus on the benefits of mortgage interest deduction mostly look at the benefits of homeownership. Opponents of the mortgage deduction, in contrast claim that the deduction:

- *Only marginally improves home ownership.* Glaeser and Shapiro (2003) show that increases in the mortgage tax deduction causes the homeownership rate to increase marginally—a one percent increase causes homeownership to rise by 0.0009 percent, since the deduction is targeted towards the rich, who would be homeowners even in its absence.<sup>22</sup> Cross country comparisons show that other countries, such as Canada and Australia have similar homeownership rates as the United States, without having this generous deduction, while an intertemporal comparison within the United States indicates a stubbornly invariant homeownership rate for over 50 years (hovering between 63–68 percent), despite rising mortgage interest deduction. Gyourko and Sinai (2003) point that the deduction increased by over 112 percent in real terms between 1979 and 1999 while homeownership only increased by 70 percent from 40.9 million to 69.7 million.
- *It is very costly.* Mortgage interest tax deduction costs around 0.7 percent of GDP every year (OMB, 2011). Similar or higher estimates are provided by Follain and Ling (1991); Follain, Ling and McGill (1993); Gyourko and Sinai (2003) and the Joint Committee on Taxation.

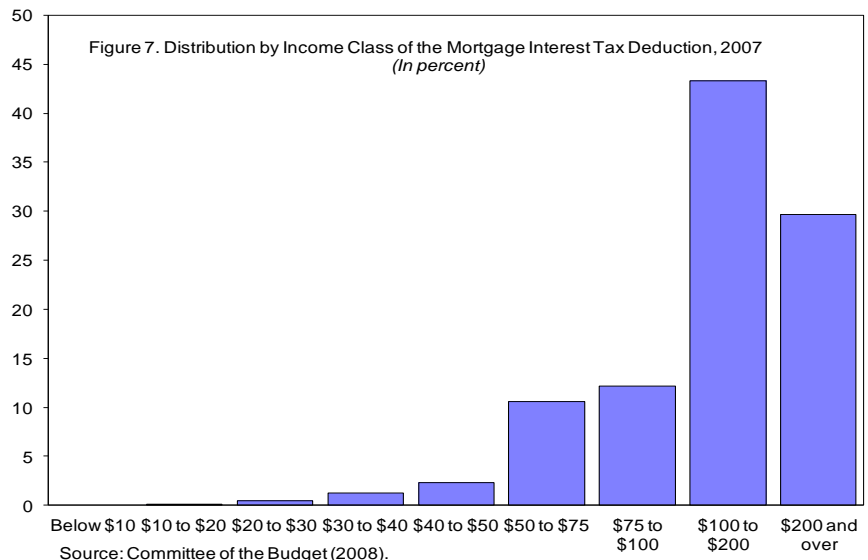
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<sup>22</sup> The groups that are really on the homeownership margin (the poor and the young) rarely use the deduction, even when they are owners. As such, the deduction is unlikely to influence homeownership rates.

- *It is partly capitalized into higher prices at the middle- and upper-end of the housing market* (Committee on the Budget, 2008). Gyourko and Sinai (2003) estimate that house prices in certain markets in the west and east are about 20 percent higher on average than the rest of the country because housing subsidies are capitalized into property values.<sup>23</sup> They argue that the incidence of the subsidy depends on the elasticities of housing demand and supply at the time the subsidy was introduced. Specifically, the more elastic is the demand for housing and the more inelastic is the housing supply, the greater would be the subsidy benefit for the original owner of the house at the time the subsidy was introduced. Markets that exhibit these characteristics are typically in the West and East coasts. Van den Noord (2005) using European data finds that subsidies and tax deductions not only raise the equilibrium price of housing but also increase price volatility. Specifically the author shows that euro area countries with the highest subsidies for homeownership (Netherlands, Ireland, Finland and Spain) also have the most volatile house prices.

- *It is regressive and leads to unequal geographical distribution of public resources.* Aaron (1972), Rosen (1985), Poterba (1984, 1992) and Mills (1987) look at the social costs of

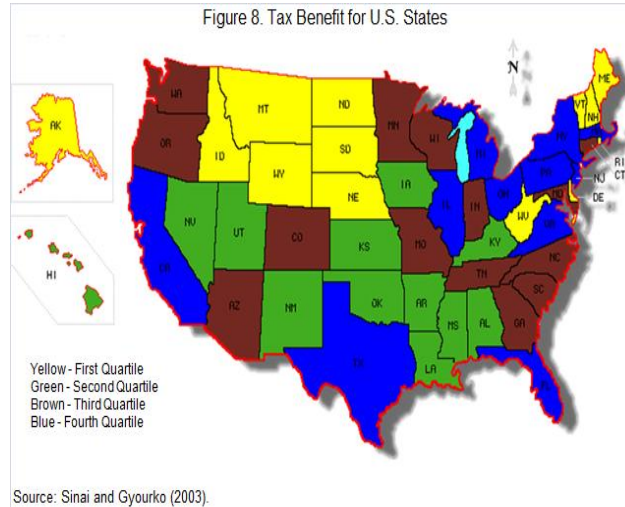
mortgage deductions—the distribution of tax benefits in favor of higher-income taxpayers (Figure 7). Canner et al. (2002) find that only about 50 percent of households with outstanding mortgages choose to itemize (i.e., enjoy the deduction); with 80 percent of



homeowners with annual incomes above \$80,000 and positive mortgage debt choosing to itemize. Critics of housing subsidies also point to the unequal distribution of these subsidies, in terms of geographic distribution. Using 1990 Census data, Gyourko and Sinai (2003) find that the rewards of the subsidy to owner-occupied housing are highly skewed with just a handful of metropolitan areas reaping most of the net benefits of the subsidy (Figure 8). In 2000, California received 18.7 percent of the aggregate subsidy while having only 9.4 percent of the

<sup>23</sup> Capozza et al. (1996) argue that all owner-occupied U.S. housing subsidies are fully capitalized into urban land prices. In the international context, Berger et al. (2000) provide evidence that the Swedish interest rate subsidies were fully capitalized into house prices.

nation's homeowners and New York received 9.5 percent of the aggregate subsidy with only 5.3 percent of the country's homeowners.



- Distorts investment decisions. The preferential tax treatment of owner-occupied housing relative to other assets is also criticized for encouraging households to invest more in housing and less in other assets that might contribute more to productivity and output growth.
- Raises leverage and housing consumption. Various empirical studies found strong evidence that household leverage is highly sensitive to the tax advantage created by interest rate deductibility (Dunsky and Follain, 2000; Follain and Dunsky, 1997; Follain and Ling, 1991; Ling and McGill, 1998; and Hendershott, Pryce, and White 2003). These studies show that removing interest deductibility provides a strong incentive to homeowners with existing loans to pay off their loans and causes new homeowners to choose loans with less leverage. This is particularly true for households that are not income-constrained and are in higher tax brackets, since they tend to choose the higher leverage because of tax advantages. Follain and Melamed (1998) find that the removal of mortgage interest deduction would reduce mortgage debt by 40 percent and that the decline would be significant at higher income levels (54 percent at incomes of \$55,000 and 69 percent at incomes over \$110,000). Similar estimates are provided by Capozza et al. (1996).<sup>24</sup> Thus, these researchers claim that the increase in tax revenue due to the removal of the

<sup>24</sup> Their estimates are based on two approaches. In the first approach, they lower household's mortgage debt by the amount of household liquid assets. The result is a nearly 40 percent decline in mortgage debt; the decline is mostly skewed towards higher income households. Second, they compare loan equations for Australia (which never had an interest mortgage deduction) with those in the United States and again find that U.S. loan to value ratios are approximately 40 percent higher than in Australia.

deduction would only be a quarter to a third of what would have been if the mortgage debt was not run down. Glaeser and Shapiro (2003) also note that the deduction affects the quality/size of homes consumed; people live in larger and better homes than they would otherwise. While there are positive externalities from larger housing consumption, they find that the mortgage deduction subsidizes housing consumption beyond the level that would be justified.<sup>25, 26</sup>

Similarly, there are opposing views regarding the merits of state and local property tax deduction, on owner occupied residences. Supporters argue that this deduction is a way of providing federal aid to state and local governments, since the deduction indirectly increases taxpayers' willingness to accept higher state/local property taxes.<sup>27</sup> However, critics often cite the arguments used against the mortgage interest deduction—that is regressive and capitalized into higher house prices.

Supporters of the capital gain exclusion emphasize that it does not impose an additional tax burden on individuals who have to sell their house and relocate due to changes in employment and health, and protects the elderly who usually sell their house to move to warmer states or smaller houses. Opponents of the exclusion, on the other hand, indicate that it mostly benefits middle- and high-income taxpayers, and distorts investment since savings are diverted out of other forms of investment into housing.

## **B. On the Financing Side**

Most researchers find that GSEs' special status (with the implicit government guarantee and their funding advantages) has facilitated the development of a secondary market for residential mortgage backed-securities. According to the Government Accountability Office (GAO, 1996, 2009), the GSEs have enhanced liquidity in the mortgage finance system and created a deep and liquid secondary mortgage market that has significantly reduced regional differences in credit access. In addition, the GSEs' ability to standardize underwriting criteria and mortgage products, while eliminating credit risk for holders of agency MBS, has allowed the development of a dynamic forward market that has been an important component in the success of 30-year, no-prepayment penalty, fixed-rate mortgages (Figure 9). In general, the influential role played by Fannie Mae and Freddie Mac and the existence of deep hedging markets for long-term interest-rate risk have brought about some unique features in the U.S. mortgage market; mainly the prevalence of long-term fixed-rate mortgages with interest rates fixed for 30 years and the funding through residential securitization (IMF, 2011). Peek and Wilcox (2003) and Wachter and

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<sup>25</sup> The American Housing Survey illustrates that 95 percent of the top 70 percent highest income U.S. residents live in homes with more than 228 square feet per capita; much higher than the median square footage per capita in London, Paris or Rome (Glaeser and Shapiro, 2003).

<sup>26</sup> Larger and better housing might have positive externalities to the neighbors in terms of aesthetics and could benefit children and fertility rates.

<sup>27</sup> According to the U.S. Census Bureau (2007), property taxes comprised 45.2 percent of all local government general own source revenue in FY 2006 and 1.2 percent of State government general own source revenues.

Zandi (2004) claim that the continuing liquidity of the mortgage market in recent decades, that was facilitated by the GSEs, has been consistent with, and perhaps has contributed to, a long period of relative macroeconomic stability as well as somewhat lower mortgage rates for borrowers.

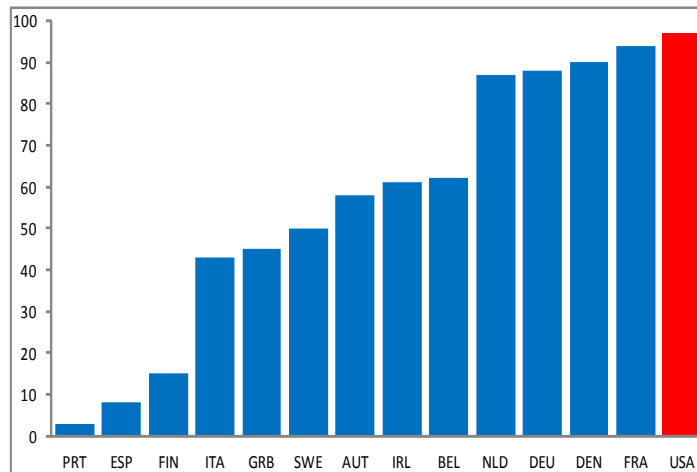
CBO (2001) estimates that the overall funding advantage to GSEs is about 41 basis points, with the implicit government guarantee providing advantage for MBS issuances of around

30 bps; the remaining cost advantage is explained by GSEs' tax and regulation treatment advantages.<sup>28</sup> They find that just over half of this subsidy (25 basis points) was passed to mortgage borrowers in the form of lower costs. These findings are consistent with Ambrose and Warga (2002) and Nothaft et al. (2002) who find that housing GSEs' have a 25–70 basis points cost advantage. Similarly, Passmore, Sparks, and Ingpen (2002) and McKenzie (2002) find that the mortgage interest rates on conforming loans are twenty to twenty-five basis points lower than they would have been in the absence of the subsidy to the GSEs.<sup>29</sup>

White (2002) and Wallison, Stanton and Ely (2004), on the other hand, note that having interest rates below the levels dictated by the market due to the GSEs' implicit government guarantee is inefficient and could result in over-investment in housing and underpriced risk assessment (moral hazard).

At the same time, the GSEs may have crowded private-sector lenders into peripheral and riskier markets (Ellen, Tye, and Willis, 2010). The GSEs lost much market share to private lenders when private-label MBS issuance exploded between 2004 and 2007 (Coleman, LaCour-Little, and Vandell, 2008; Dell'Araccia, Igan and Leaven, 2008; Federal Housing Finance Agency, 2010). This explosion, as noted by IMF (2011) which was driven by a

Figure 9. Fixed Rate Mortgages  
(In percent of total)



Sources: Thomas, R. (2004), and author's estimates.

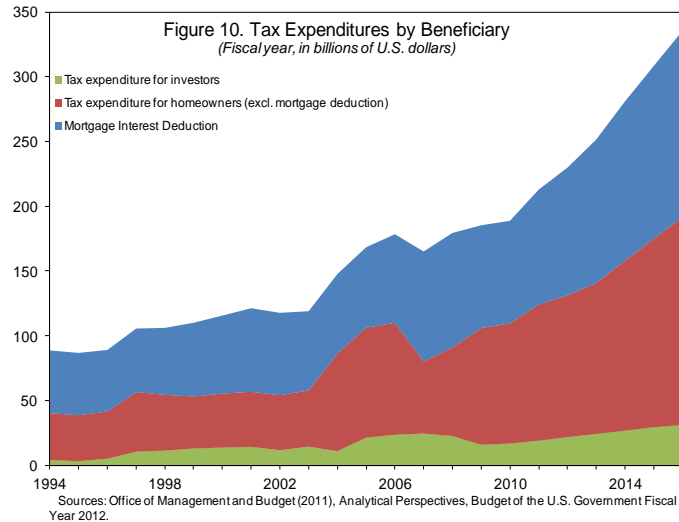
<sup>28</sup> Specifically, they are exempt from state and local income taxation and from Securities and Exchange Commission's fees; and they may use the Federal Reserve as their fiscal agent. GSE debt is provided as collateral for public deposits, for unlimited investment by federally chartered banks and for open market Fed purchases.

<sup>29</sup> A reduction of 25 basis points on debt servicing charges is rather small to have a major impact on housing affordability. For example, a 30-year fully amortizing mortgage of \$200,000 with a fixed rate of 6.4 percent would imply monthly savings on debt servicing chargers of \$33 (Gyourko and Sinai, 2003).

combination of financial innovation, increased investor risk appetite, and lax supervision, focused on higher-risk portions of the market (e.g., subprime, alt-A, teaser rates).<sup>30</sup>

## V. THE COST OF GOVERNMENT INTERVENTION IN HOUSING FINANCE

This section provides an estimate of the government's cost of financing housing in the United States. This section provides an estimate of the government's cost of financing housing in the United States. The U.S. Treasury includes estimates of tax expenditures on housing in its Annual Budget Statement, which for FY2012 are estimated to cost around \$230 billion, with the number expected to rise significantly to over \$330 billion by FY2016 (Figure 10).<sup>31, 32</sup>



The home mortgage deduction is by far the most expensive tax expenditure on housing, and the second largest forgone revenue in the tax system after the exclusion of employer contributions for medical insurance premiums and medical care, reaching an estimated \$610 billion in cumulative terms, in the fiscal period 2012–16 (Tables 4 and 5).<sup>33</sup> The exclusion of net imputed rental income would cost an additional \$51 billion in FY 2012

<sup>30</sup> Since the onset of the crisis, the U.S. private-label market for mortgage-backed securities remains almost completely shut down.

<sup>31</sup> Tax expenditures do not necessarily mean that tax revenues would increase by that amount if the tax provision is eliminated since if a tax provision was repealed or significantly scaled back investment decisions would also be amended.

<sup>32</sup> Dietz (2008) reports that tax expenditures are overstated since the tax expenditure for rent-imputed income should not be added to those for mortgage interest and property tax deduction, as this would result in double counting. However, such overestimation is not very large and the models used by the OMB and the Joint Committee on Taxation (known as Individual Tax Models (ITM)) allow for the choice to use standard deduction or itemized one, thus effectively capturing the changes in household's behavior if there are changes in the mortgage interest deduction. Thus, papers routinely sum tax expenditures; recent examples include Carraso et al. (2005) and U.S. Government Accountability Office (2005).

<sup>33</sup> Our analysis is based on tax expenditure estimates and projections from OMB. These estimates are somewhat different from the ones provided by the Joint Committee on Taxation and NBER's TAXSIM model. For example, the Committee on the Budget (2008) reports that the mortgage interest deduction totaled \$79.9 billion in FY 2008 versus \$88.5 billion by the OMB and over \$100 billion by Altshuler and Dietz (2008).



rising to over \$300 billion in total for the period FY 2012–16.<sup>34</sup> The capital gains exclusion on home sale would cost over \$215 billion in the next 5 fiscal years.

Table 4. Total Tax Expenditures on Housing (by Beneficiary, per Fiscal year)

	2012	2016	2012-16
	<i>Billions of U.S. dollars</i>		
<b>Total Tax Expenditures for Housing</b>	<b>229.7</b>	<b>335.1</b>	<b>1,404.8</b>
<b>Homeowners</b>	<b>208.0</b>	<b>304.1</b>	<b>1,272.0</b>
Exclusion of net imputed rental income	50.6	75.5	302.8
Deductibility of mortgage interest on owner-occupied homes	98.6	143.7	609.2
Deductibility of State and local property tax on owner-occupied home	24.9	31.4	142.3
Deferral of income from installment sales	0.8	1.6	6.1
Capital gains exclusion on home sales	35.2	52.4	216.8
Credit for homebuyer (temporary)	-2.2	-0.5	-5.2
<b>Investors</b>	<b>21.7</b>	<b>31.1</b>	<b>132.8</b>
Exclusion of interest on rental housing bonds	1.3	1.8	7.9
Exclusion of interest on owner occupied mortgage subsidy bonds	1.5	2.1	9.3
Exception from passive loss rules for \$25,000 of rental loss	13.1	20.2	83.8
Credit for low-income housing investments	6.3	7.6	36.1
Accelerated depreciation on rental housing (normal tax method)	-1.6	-0.7	-5.6
Discharge of mortgage indebtedness	1.1	0.0	1.4

Sources: Office of Management and Budget (2011): *Analytical Perspectives*, Budget of the U.S. Government Fiscal Year 2012.

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Table 5. Income Tax Expenditures Ranked by Total Fiscal

	Ranking	2012	2012-16
		<i>Billions of U.S. dollars</i>	
Excl. of employer contributions for medical insurance premiums and medical care	1	184	1,071
Deductibility of mortgage interest on owner-occupied homes	2	99	609
Excl. of net imputed rental income	5	51	303
Capital gains exclusion of home sales	12	35	217
Deductibility of State and local property tax on owner-occupied homes	14	25	142

Sources: Office of Management and Budget (2011): *Analytical Perspectives*, Budget of the U.S. Government Fiscal Year 2012.

On financing provisions, the Congressional Budget Office (CBO, 2001) concluded that Fannie Mae, Freddie Mac and the FHLB system received \$13.6 billion in subsidies in the year 2000, with the vast majority of that benefit arising from the implicit government guarantee on their debt issued.

CBO (2009a) estimates that the programs run by USDA, VA, and Ginnie Mae resulted in no significant costs or savings to the federal government in 2009. However, those programs

<sup>34</sup> The Treasury Department has only recently begun estimating tax expenditures on net imputed rental income; estimations are highly volatile ranging from \$60 billion to zero. This measure has also been criticized on similar grounds as the mortgage interest deduction.

entail market risk similar to that associated with mortgage credit provided by Fannie Mae and Freddie Mac. Estimates of those programs' costs would increase if the estimates included an adjustment for market risk. Subsidy estimates of FHA's Mutual Mortgage Insurance (MMI) program are consistently negative, meaning that fee collections exceed net payments for defaults on a present value basis.<sup>35</sup> CBO (2009a) estimates that insuring more than \$300 billion of new mortgages through the MMI program in 2009 did not result in savings to the government.

## VI. HOUSING INTERVENTION IN OTHER COUNTRIES

Government intervention to raise homeownership is a worldwide phenomenon, though the degree and the methods of intervention vary widely across countries.<sup>36</sup> *Firstly*, some countries have formal subsidy/tax programs which either lower the construction or purchase cost of housing or the interest rate on loans. For example, first-time homebuyer subsidy program is available in Australia and tax incentives to first-time homebuyers are provided in Canada, while France operates reduced interest rate mortgages (PAS) for households with modest incomes. Moreover, several governments, including France and Germany, operate subsidized homeowner savings schemes. *Secondly*, governments often treat owner-occupation favorably in the tax system. Imputed rental incomes are usually untaxed, and in some countries there is tax relief on capital gains from home sales and mortgage interest.<sup>37</sup> *Thirdly*, governments provide mortgage insurance in some countries, including the United States, the Netherlands and Canada. Some specific advanced country cases are analyzed below to indicate the degree of variability in cross-country comparisons.

### A. Canada

Canada's housing finance system has less government intervention than the one in the United States with government policies not explicitly favoring homeownership.<sup>38</sup> Even though the Canadian system is less complicated and less costly, it has consistently enjoyed similar, and more recently higher, homeownership rates than the United States. For

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<sup>35</sup> To date, the FHA has never requested an appropriation for the program.

<sup>36</sup> As indicated by Green and Wachter (2005) any comparison of the mortgages market in the United States in an international context is typically limited to developed countries, due to lack of mortgage funding in developing countries (Renaud, 2009). For example, the ratio of mortgage debt outstanding to GDP was 58 percent in the United States in 2002, compared to no more than 14 percent in any Latin American country, up to 11 percent in any Middle Eastern country (other than Israel) and less than 22 percent in any South or East Asian countries (other than Japan, Hong Kong, Singapore and Taiwan, POC).

<sup>37</sup> For example, in the United States, the imputed income from owner-occupied housing is untaxed, while interest payments are tax deductible, in contrast to interest income from savings, which is taxable. These features make owning a house more attractive than renting. Similarly, Japan has a tax-related advantage to owning housing as opposed to renting since rental income is taxed (even though interest payments are not tax deductible and most of personal interest income is practically tax exempt).

<sup>38</sup> For a more detailed discussion of the Canadian mortgage market please refer to Kiff (2009) and Kiff, Mennill and Paulin (2010).

example, there are no housing GSEs, mortgage interest is not deductible and lenders have recourse on borrower's assets and income, both policies encouraging repayment.

### ***Tax Provisions***

The main Canadian tax expenditure on housing relates to the non-taxation of capital gains from the sale of a principal residence, just like in the United States, amounting to C\$3.9 billion (around ¼ of 1 percent of GDP) in 2010 (Finance Canada, 2011). Similar to the United States, the implicit rental value of a residence is not included in taxable income (correspondingly, the expenses associated with owning a home, such as mortgage interest, depreciation and property taxes, are not deductible). There is also no tax benefit to converting home equity into household debt in Canada, in contrast to the United States.

Canada has two targeted measures to assist first-time homebuyers: (i) a new *First-Time Home Buyers' Tax Credit* introduced in Budget 2009 and (ii) *the Home Buyers' Plan (HBP)*, introduced by the federal government in 1992.<sup>39</sup> The former is a non-refundable tax credit of up to C\$750 (estimated cost is around C\$145 million in 2010) while the latter allows first-time home buyers to withdraw up to C\$25,000 from a Registered Retirement Savings Plan (RRSP) to purchase or build a home without having to pay tax on the withdrawal.<sup>40</sup>

### ***Funding Support Provisions***

On funding of mortgages, Canada has a federal Crown Corporation, the Canada Mortgage and Housing Corporation (CMHC), originally created in 1946 to house returning war veterans. It is the dominant mortgage credit insurer with a 100 percent explicit government guaranty of the loan amount through its National Housing Act (NHA) program (similar to the FHA in the United States), while privately insured mortgages have a 90 percent government guarantee of the loan amount.<sup>41</sup> In Canada, insurance is mandatory for mortgages with loan to value ratio above 80 percent (the insurance covers the full loan amount for the full life of the mortgage). CMHC is also the only provider of insurance for large rental, nursing and retirement homes and is engaged in securitizing insured

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<sup>39</sup> There is also a full exemption from the Goods and Services Tax (GST) on the purchase of existing homes; this treatment is part of the benchmark tax system and is not considered tax expenditure. In addition, a partial GST rebate is available for new homebuyers so that the replacement of the former Federal Sales Tax with the GST does not pose a barrier to the affordability of purchasing a new home in Canada. There is also a GST exemption for long-term residential rent amounting to less than 0.1 percent of GDP.

<sup>40</sup> Under the RRSP scheme, each year an individual may set aside a certain amount for retirement; the amount saved is deducted from income for tax purposes. At retirement age, any contributions withdrawn from a RRSP are taxed at the contributor's current marginal rate. The money withdrawn for house purchase remains tax exempt if it is repaid within 15 years after the repayment period starts, which is the second year following the year withdrawals were made (Scanlon and Whitehead, 2004).

<sup>41</sup> The government offers a 90 percent guarantee to allow private insurances to remain competitive following the 1988 Canada's implementation of the Basel Accord which required chartered banks to hold capital only on non-CMHC insured mortgages. In return for the guarantee, a fee and the requirement to build up a contingency fund against default were requested (these rules do not apply to CMHC).

mortgages; at end-2010, the Canada Mortgage and Housing Corporation covered 96 percent of the securitization funding to residential mortgage credit in Canada.

Under the National Housing Act Mortgage-Backed Securities (NHA MBS) program, CMHC provides a timely payment guarantee on privately-issued securities made up of pools of amortizing, residential mortgages insured against borrower default by CMHC (under the National Housing Act) or private mortgage insurers (similar to Ginnie Mae in the United States). Housing funding is also facilitated by the Canada Mortgage Bond (CMB) program. CMBs are securities issued by the Canada Housing Trust (CHT), a special purpose trust established solely for the purpose of funding insured residential mortgages, where the proceeds are used to purchase NHA MBS. Similar to the NHA MBS program, CMHC provides a timely payment guarantee of CMB principal and interest. The timely payment guarantee provided by CMHC under both programs is ultimately backed by the Government of Canada. To eliminate cash flow uncertainty caused by mortgage amortization and prepayment, the underlying NHA MBS cash flows are swapped into cash flows identical to those generated from a non-prepayable, non-amortizing bullet bond, or regular Government of Canada bond. Tables 6 and 7 compare and contrast the Canadian and U.S. housing finance systems.

Table 6. United States and Canada: Housing Finance

	United States	Canada
<b>Tax Expenditures</b>		
<b>Homeowners</b>		
Exclusion of net imputed rental income	√	√
Deductibility of mortgage interest on owner-occupied homes	√	X
Deductibility of State and local property tax on owner-occupied home	√	X
Deferral of income from installment sales	√	√
Capital gains exclusion on home sales	√	√
Credit for homebuyer	X	√
Exception of sales tax for purchase of resale homes	X	√
<b>Investors</b>		
Exclusion of interest on rental housing bonds	√	X
Exclusion of interest on owner occupied mortgage subsidy bonds	√	X
Exception from passive loss rules for \$25,000 of rental loss	√	X
Credit for low-income housing investments	√	X
Accelerated depreciation on rental housing (normal tax method)	√	X
Discharge of mortgage indebtedness	√	X
<b>Mortgage Insurance</b>		
Public (Federal)	FHA and VA	CMHC
Public (state)	Massachusetts	X
Private loan coverage	20-30%	90%
<b>Wholesale Funding</b>		
Mortgage securitization with explicit government guarantee	Ginnie Mae	NHA MBS, Canada Mortgage Bonds
Mortgage securitization with implicit government guarantee	GSEs	X
Mortgage securitization with no government guarantee	√	√
Corporate bonds issued by special facilities	GSEs	Canada Housing Trust
Corporate bonds issued by secondary market conduits	√	√
Corporate bonds issued by primary market lenders	√	√

Sources: Finance Canada (personal contacts), U.S. Office of Management and Budget (2011), *Analytical Perspectives*, Budget of the U.S. Government Fiscal Year 2012, and author's calculations.

Table 7. Canada and United States Mortgage Funding

	Ginnie Mae, USA	Fannie Mae, USA	Freddie Mac, USA	CMHC NHA-MBS Program, Canada	Mortgage Bond Program, Canada
Government guarantee	Explicit	Implicit	Implicit	Explicit	Explicit
Ownership	U.S. government	Stock market quoted <sup>1/</sup>	Stock market quoted <sup>1/</sup>	Canadian government	Canadian government
Reason for establishment	Finance government- insured loans and veterans' housing loans.	Provide liquidity for mortgage market during banking crisis of 1930s.	Promote secondary market for S&Ls.	Lower mortgage costs for Canadian borrowers by providing low-cost financing to banks; increase the supply of mortgage funds; and increase the competitiveness of the mortgage lending sector.	Lower mortgage costs for Canadian borrowers by providing low-cost financing to banks; increase the supply of mortgage funds; and increase the competitiveness of the mortgage lending sector.
Inception	1938, split from Fannie Mae in 1968	1938, split from Ginnie Mae in 1968	1970	1985	2001
Social policy targets	Yes	Yes	Yes	No	No
Funding structure	MBS only	MBS and on- balance sheet	MBS and on- balance sheet	MBS and on-balance sheet	MBS and on-balance sheet
Own mortgage product	No	Yes	Yes	No	No

Sources: Thomas, R. (2004), Finance Canada, and author's estimates.

<sup>1/</sup> Until mid-2010.

## B. Other OECD Countries

There is a large variation in housing intervention across OECD advanced economies, with numerous countries exempting capital gains taxes on principal residences, while only few follow the U.S. example and provide mortgage interest tax deductions—the ones that do offer such a deduction often impose conditions limiting the eligibility or the amount of the deduction (Table 8). On the other hand, only few countries offer publicly sponsored mortgage insurance or support the secondary MBS market by government-sponsored or owned enterprises.

Table 8. Tax Expenditures on Housing in Select OECD Countries <sup>1/</sup>

	CAN	DEU	NLD	ESP	GRB	USA
Percent of GDP	0.2	0.2	0.1	0.4	1.2	1.1
Number of Tax Expenditures	4	10	2	3	7	11
Homeownership rate <sup>2/</sup>	68.4	55.6	67.8	89.1	73.2	66.5

Sources: Eurostat; Haver Analytics, OECD: *Economic Survey of the United States 2010* (September), author's calculations.

<sup>1/</sup> Data on tax expenditures refer to 2010 for Canada and the United States, 2008 for Spain, and 2006 for the rest of the countries.

<sup>2/</sup> Latest available year.

### ***Tax Provisions***

In particular, many countries exempt owner-occupied houses that are the owner's main residence from capital gains taxes, sometimes under the condition that the property is held for a minimum number of years (such as Belgium, Finland and Germany), or that the proceeds are reinvested (Spain and Portugal). Capital gains even on the principal residence are taxed in Norway and Sweden (Wolswijk, 2010, Table 9). Only a few advanced countries have a tax on imputed rent for owner-occupied housing (Belgium and Netherlands), with the valuation base being usually lower than the market value (European Central Bank, 2009, Table 10). In the United Kingdom, housing is treated as consumption good for tax purposes, with no taxation of capital gains from principal residences, and exclusion of the imputed rental income from taxable income.

Countries with mortgage interest deduction often limit the deduction to a fixed amount or limit it to be taken in low tax rates (Table 11). The amount of interest that can be deducted is limited in Austria, Belgium, Finland, France, Ireland, Portugal and Spain, while the tax rate at which the interest is deductible is limited in Finland, France, Germany, Ireland and Italy (Scholten, 2000). Specifically, in Germany mortgage interest is deductible only when the property is rented in the calculation of the rental income received by the taxpayer while in France it is deductible for loans extended as of August 2007—the deduction is limited to a maximum annual tax credit per couple of €1,500 and only for five years (Wolswijk, 2010). Similarly, since May 1 2009, the mortgage interest deduction is restricted to the first seven years of the mortgage with a limit in Ireland, with plans to abolish the tax break gradually by end-2017 (Hemmelgarn et al, 2011). The Netherlands, which has a small proportion of homeowners without a mortgage (12.5 percent), used to have the most unrestricted system of mortgage interest deductibility in the euro area (see next Section on how the Netherlands have recently restricted the generosity of their mortgage interest deduction). Countries without mortgage interest deduction include Canada, the United Kingdom (its elimination is discussed in some detail in the next section), Australia and New Zealand, while Spain has also limited its mortgage tax deduction to households with income less than €24,000 since January 2011.

### ***Funding Support Provisions***

Mortgage insurance is provided by a variety of mechanisms in advanced economies. For example, solely private insurers serve the Australian mortgage insurance market while the Dutch mortgage insurance market, similar to the U.S. and Canadian one, is comprised of public and private entities (Table 12). In particular:

The Netherlands has a public mortgage guarantee scheme (known as the National Mortgage Guarantee, NHG).<sup>42</sup> Just like U.S.'s FHA, the guarantee (available for loans of up to around €350,000) is aimed at raising homeownership by lowering borrowing rates

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<sup>42</sup> The NHG is administered by a private non-profit organization called the *De Stichting Waarborgfonds Eigen-woningbezit* (Home-ownership Insurance Fund). This organization receives no state subsidy, but central and local governments will provide an interest-free loan if it gets into financial problems.

(continued...)

Table 9. Tax on Housing Capital Gains

Country	Tax in Place	Tax Rate (max) <sup>1/</sup>	Remark
Australia		45%	No taxation if principal residence. Otherwise, taxable with indexed cost base.
Austria	√	50%	No taxation if sold more than 10 years after acquisition.
Belgium		17%	No taxation if sold more than 5 years after acquisition.
Canada		23%	No taxation if principal residence.
Finland	√	28%	No taxation if used 2 years or more as primary residence.
France		16%	No taxation if principal residence.
Germany		45%	No taxation if sold more than 10 years after acquisition.
Japan	√	30%	Tax rates differ depending on the type and the source of the gains (e.g., tax at 30% if held for less than 5 years, 15% otherwise).
Ireland		20%	No taxation on gains from sale of private residence unless due to development.
Italy		43%	Principal dwelling of owner excluded; otherwise excluded if dwelling held for 5 years or more.
Netherlands		...	Exempt
Portugal	√	42%	Exemption for permanent dwelling if total gain reinvested in another permanent residence within 2 years.
Spain		18%	No taxation if reinvested in new primary residence, or sale after age 65.
United Kingdom		40%	No taxation if principal residence.
<b>United States</b>	√	<b>25%</b>	<b>Exemption if owned-occupied during 2 of the last 5 years, with upper limit (\$250,000/\$500,000).</b>

Sources: International Bureau of Fiscal Documentation (2007, 2009), Wolswijk (2010), Hemmelgarn et al. (2011), and author's estimates.

<sup>1/</sup> Tax rates are not well comparable as they disregard thresholds, possible deductions, tax progression, the number of years the dwelling has been owned and occupied, and local surcharges.

Representatives of central and local government meet each year to set conditions for what mortgages they will cover. The borrower pays 0.3 percent of the mortgage amount for the NHG guarantee. This money goes into a fund to meet potential losses (Scanlon and Whitehead, 2004).

Table 10. Tax on Imputed Rents

Country	Yes	Remarks
Australia		
Austria		
Belgium	√	On the basis of average net rent values.
Canada		
Finland		
France		Abolished in 1965.
Germany		Abolished in 1987.
Ireland		
Italy		
Japan		
Netherlands	√	Up to 0.55% of market value, with a maximum.
Portugal		
Spain		Unless not occupied by owner, then imputed rent due.
United Kingdom		
<b>United States</b>		

Sources: International Bureau of Fiscal Documentation (2007, 2009), Hemmelgarn et al. (2011, Wolswijk (2010), and author estimates.



Table 11. Mortgage Interest Payments Tax Deductibility

Country	Yes	Maximum Tax Rate	Remarks
Australia		45%	Mortgage interest is deductible only in respect of investment properties.
Austria	√	50%	Tax deductible as special expense up to a limit that goes to zero as annual income increases.
Belgium	√	50%	Tax deductible up to a limit (€2,770) for first 10 years, and €2,080 thereafter, provided mortgage maturity is at least 10 years.
Canada		29%	Mortgage interest is deductible only in respect of investment properties.
Finland	√	28%	Normally deductible from capital income that is subject to income tax if mortgage acquired for owner-occupied dwelling.
France	√	40%	Gradually abolished over the period 1991-2000. Reintroduced for loans extended after 2007, for the first five years with a limit.
Germany		45%	Abolished in 1987 with the introduction of a subsidy scheme.
Ireland	√	25%	Tax credit at up to 25 percent (scaling down) for first-time buyers for first 7 years. <sup>1/</sup>
Italy	√	45%	Tax credit of 19% for annual mortgage interest on owner-occupied dwelling, with limit.
Japan		40%	Non deductible.
Netherlands	√	52%	Tax deductible for mortgage for owner-occupied dwelling, for at most 30 years. Reduced for houses worth more than €1.6 million.
Portugal	√	42%	Tax credit of 30% of mortgage interest and amortization for permanent home, with a limit.
Spain	√	43%	From January 1st 2011, there is no deduction for taxpayers earning over €24,107/year. Full deduction is available for incomes of up to €17,700/year (15 percent of the annual amount paid on mortgage chargers up to a maximum of €9,015), and some deduction is available for in between incomes.
United Kingdom		40%	Phased out in the 1990s with abolition in April 2000.
<b>United States</b>	√	<b>35%</b>	<b>Tax deductible up to a limit on the amount of mortgage principal (\$1 million)</b>

Sources: International Bureau of Fiscal Documentation (2007, 2009), Lea (2010), Hemmelgam et al. (2011), Wolswijk (2010), and author's estimates.

<sup>1/</sup> Recently, Ireland has started to phase out mortgage interest relief; to be abolished in 2018; for the new loans the relief will be reduced in the next years (see IBDF, 2010).

by 20–50 bps and encouraging banks to extend mortgage loans (with minimal scrutiny). The guarantee shifts the risk of default to the government/taxpayers; for banks, mortgages guaranteed by the NHG carry no credit risk, and are inexpensive, since NHG-guaranteed mortgages have a risk weighting of zero. In contrast, non-NHG insured mortgages have positive risk weights depending on their (perceived) riskiness; mortgages with loan to value ratio less than 75 percent have a risk weighting of 50 percent, while those above 75 percent (so called *top mortgages*) have a risk weighting of 100 percent (Yelten, 2006).

- In Japan some mortgages are securitized with a government guarantee, which is explicit as in the Canadian case. The Japan Housing Finance Agency (JHF) operates in a manner similar to the guarantee functions of Fannie Mae and Freddie Mac, though they do not hold mortgages in their portfolio. In general, around 25 percent of mortgages are guaranteed through JHF in Japan, a somewhat higher proportion by CMHC in Canada. JHF has no formal affordable housing policy mandate.

Table 12. Select Countries: Government Mortgage-Market Support

Country	Mortgage Insurance	Security Guarantees	Government Sponsored Enterprise
Australia	X	X	X
Canada	Canada Mortgage Housing Corporation (CMHC)	Canada Mortgage Housing Corporation (CMHC)	X
Denmark	X	X	X
France	X	X	X
Germany	X	X	X
Italy	X	X	X
Japan	X	Japan Housing Finance Agency (JHF)	Possible
Netherlands	Homeownership Guarantee Fund(NHG)	X	X
Spain	X	X	X
United Kingdom	X	X	X
United States	Federal: FHA and VA; State: Massachusetts	Ginnie Mae	Fannie Mae, Freddie Mac, FHLBs

Sources: Lea (2010) and author's estimates.

## VII. PHASING INTERVENTION: LESSONS FROM OTHER COUNTRIES

Reforms in tax incentives for housing finance have been successfully undertaken in many countries. Housing subsidies in the form of mortgage tax deduction have decreased over time in many countries. For instance, the effective marginal tax rate at which a mortgage interest tax relief can be claimed was reduced over time in Ireland from 47 percent to 20 percent, in Denmark it was reduced from an average of 46 percent to 32–33 percent in 1998, while Greece limited full mortgage-interest tax relief to dwellings under a certain size in 2002 (Scanlon and Whitehead, 2004). Similarly, in the United Kingdom it has been progressively reduced over 12 years and eliminated in 2000. France mortgage interest deduction was temporarily abolished on new mortgages (but with a compensatory tax credit for housing expenses). However, France has reinstated limited mortgage interest relief in 2007. Spain and Ireland are also in the process of lowering their mortgage interest tax deductions, though it is still too early to evaluate the impact of these changes. The remaining section takes a selective look at some country experiences in removing government's intervention in supporting home ownership, to draw some policy lessons.

### United Kingdom

The United Kingdom had progressively reduced the mortgage tax deduction until it was abolished in 2000. Beginning in 1983, the United Kingdom limited deductible interest to that on a maximum loan of £30,000.<sup>43</sup> That limit was never raised, in spite of rising home prices, and the tax rate at which it was deductible was progressively phased down since 1993 from 25 percent to 10 percent before disappearing completely in 2000 (Gibb, Munro and Satsangi, 1999; Tsounta, 2010). The removal of the mortgage interest deduction did not affect British house prices which rose 145 percent from 2000 to the peak in 2007, according to the Halifax bank.

### Sweden

The Swedish housing reform has been less successfully, however. When Sweden first reduced the maximum deductible tax rate that could be applied to mortgage interest payments to 50 percent (from 80 percent) in 1985, the housing market was not negatively impacted; indeed real house prices experienced spectacular growth since the country was in the midst of strong economic growth. However, when the rate was subsequently reduced further to 30 percent in 1991—in the midst of one of Sweden's worst recession—the housing market and economic activity tumbled (with nominal house prices declining by an average annual rate of 10¼ percent in 1992–93). The disruptive experience in Sweden in the early 1990s and the favorable experience in the United Kingdom with gradual phasing out of interest relief for homeowners suggests that some spreading out of marked fiscal reforms on housing over time is preferable to avoid large disruptions to housing markets, which could have adverse macro-financial implications. Timing of introducing such reforms is also important; choosing a period when the housing market is in a relatively healthy state.

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<sup>43</sup> The corresponding ceiling for the United States is much more generous at \$1 million plus home equity indebtedness of up to \$100,000.

## Netherlands

Netherlands has also been successful in phasing its tax deductibility of mortgage interest payments for years now.<sup>44</sup> In the Netherlands, the mortgage interest deduction is reduced by a fictitious income based on the “market value” of the house (so called “Eigen Woning Forfait”), which up until 2009 it had an upper bound.<sup>45</sup> Changes to the Eigen Woning Forfait—the non-deductible part of the interest payments—gradually reduced the mortgage interest deduction, abolishing it for very expensive houses in 2010:

- In 2001, it was decided that mortgage interest could only be deducted from income tax if the money was actually used to purchase or renovate one’s primary residence (and not one’s holiday home, cars, etc.). Furthermore, the duration of mortgage tax deduction was limited to 30 years; prior to this date, the deduction was life-long.
- In 2004, a new tax bill determined that if you had a surplus value in your home when selling it (the difference between the selling price and the amount of mortgage owing), this surplus would no longer be tax deductible in the mortgage of the new home.
- In 2010, the mortgage interest tax deduction for houses worth more than €1.6 million was reduced. While up until 2009 Eigen Woning Forfait was maximized, in 2010, this maximization was abolished, implying lower mortgage interest deduction for houses valued by the municipality at above € 1.6 million.

## Ireland<sup>46</sup>

Starting in May 2009, the mortgage interest tax deduction is only available for the first seven years of the mortgage.<sup>47</sup> There are special provisions for first-time homebuyers who enjoy a 25 percent tax rate exception for the first year of the loan (maximum €5,000 for

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<sup>44</sup> The IMF (2004) also supported a gradual phasing of the deduction (to avoid disruptive effects). Among the reasons given by the Financial System Stability Assessment were that: (i) mortgage interest deduction introduces a distortion in housing markets—making holding mortgage debt attractive and reducing the incentive to pay back the principal; (ii) it favors wealthy households, as the tax advantage increases with higher tax brackets and is larger the larger the real estate assets of a household; (iii) removing tax deductibility would provide fiscal space given population aging; and (iv) the revenue received could be better targeted at affordable housing for low-income households.

<sup>45</sup> In the Netherlands, the mortgage interest deduction is reduced by a fictitious income based on the market value of the house (so called “Eigen Woning Forfait”); the “market value” of the house is not the real market value, but a fictitious value for tax purposes, determined by the municipality. For example, if the value of the home is €300,000 and the rate is typically 0.55 percent, then the fictitious income is  $€300,000 * 0.55\% = €1,650$ . The effect of this is that this part of the annual interest payment is not tax deductible. If we assume that the mortgage interest rate is 5 percent on the €300,000 mortgage then the deduction would be  $€15,000 - €1,650 = €13,350$ .

<sup>46</sup> Information is based on Finfacts (2011).

<sup>47</sup> The deduction available for mortgage interest relief against rental income from residential properties was also reduced from 100 percent to 75 percent with effect from midnight on April 7 2009 (Finfacts, 2011).

married couples), scaling down to 20 percent by the end of the seventh year of the loan. The corresponding maximum deduction for recurring homebuyers is €900 per couple, again for the first seven years of the loan. These rules apply for loans taken out before July 1, 2011. Transitional measures will be provided for qualifying loans taken out between July 1, 2011 and the end of 2013. Those, whose entitlement to relief would, in the absence of this change, expire in 2010 or after; will continue to qualify for relief at the applicable rate up until end-2017. Abolition of the relief would become effective by the end 2017.

### **Spain<sup>48</sup>**

Spain has also lowered its mortgage interest tax deduction; from January 1st 2011, taxpayers earning over €24,107 a year no longer enjoy such a personal income tax relief, only those with incomes of €17,700 per year or less have retained the full deduction (15 percent of the annual mortgage interest and principal amount paid to a maximum of €9,015). Taxpayers with income between €17,700 and €24,107 face a linearly decreasing tax relief. According to the Bank of Spain, including tax deductions, families who bought a house in the last quarter of 2009 spent 29 percent of their annual gross income, but if no tax relief is taken into account, the rate rises to 35.9 percent.

### **Australia**

Australia's federal and state authorities also scaled back or eliminated their intervention in housing finance. The Australian Housing Loan Insurance Corporation (HLIC) was privatized in 1997, originally established in the model of CMHC to facilitate the development of an Australian secondary mortgage market.<sup>49</sup> The privatization followed the recommendations of the Wallis Inquiry—a review of financial sectors regulation undertaken to ensure that government policy would promote market outcomes (Australia, Ministry for Finance and Administration, 1997). The inquiry recommended that government guarantees be withdrawn from the HLIC to ensure that the mortgage market operated on competitively neutral terms. Following the privatization, homeownership rates were essentially unchanged. Now, the Australian mortgage market is made up solely of private insurers. The private mortgage insurance market is similar to Canada's in that 100 percent of the mortgage exposure is insured (rather than the top 20 to 30 percent with private insurers in the United States). Similarly, the Australian state governments withdrew from the mortgage securitization market, and the private sector became active in securitizing residential mortgages.<sup>50</sup>

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<sup>48</sup> Information is based on Kyero.com.

<sup>49</sup> The Australian mortgage insurance market features single premium payment products with full (100 percent) coverage of original loan balance – similar to the Canadian market. The market is also restricted to mono-line insurers and capital markets demand AA ratings. The Australian market contains both flow primary and pool/structured finance mortgage insurance, and is predominately comprised of prime segments (PMI, 2008).

<sup>50</sup> Australia had its own subprime debacle in the 1980s when a state-government securitization agency created a program to fund mortgages for low-income borrowers. The program was a disaster and resulted in taxpayer losses of close to half a billion Australian dollars (Mohindra, 2010).

## VIII. CONCLUSIONS

Raising homeownership has been a long-standing objective of U.S. Administrations, though the recently released White paper by the Obama administration puts more emphasis on sustainable homeownership, instead (U.S. Treasury, 2011). Partly due to past economic events and policy design and choices, the United States continues to have in place a complex housing finance system with numerous measures that explicitly target homeownership. Most of these measures are indirect/off balance sheet in nature such as providing tax expenditure policies and offering federal credit, insurance and guarantee programs. Most of these programs are, however, significantly expensive, mostly benefiting middle- and high-income households, and encouraging unsustainably high levels of housing investment and consumption.

Attempts thus far to reduce the generosity of housing-related expenditures, notably the mortgage interest deduction, have stalled in U.S. Congress. Six years ago, a bipartisan tax reform commission, proposed ending the mortgage interest deduction, but the plan never went through (President's Advisory Panel on Federal Tax Reform, 2005). Similarly, in December 2010, the bipartisan National Commission on Fiscal Responsibility and Reform proposed that (i) the mortgage interest deduction cap is lowered from \$1 million of mortgage debt to \$500,000, (ii) restricted only to primary residences and (iii) the deduction be converted into a 12 percent non-refundable tax credit, to expand its reach to all taxpayers and to better target the benefit to encourage homeownership (White House, 2010). Under this proposal, only wealthier taxpayers would have seen their benefit reduced. In FY 2011 Budget, the Administration proposed cutting the deduction rate for itemized expenses for those making more than \$250,000 to the rate paid by the middle class, but again it stalled in Congress (Office of Budget and Management, 2010). This year's budget proposal is similar in nature, proposing to limit the tax rate at which high-income taxpayers can take itemized deductions to a maximum of 28 percent, affecting married taxpayers with incomes over \$250,000 and singles over \$200,000 (Office of Budget and Management, 2011). This will reduce the value of tax expenditures for such deductions, which include mortgage interest, state and local taxes, and charitable contributions.

Such reforms, if implemented, would result in significant savings, at a time when U.S.'s fiscal position poses increasing risks. The CBO (2009b) recommended that by reducing the \$1 million cap by \$100,000 a year beginning in 2013 and ending at \$500,000 in 2018, the Administration could generate \$41.4 billion in additional revenues over 10 years. If the Administration chose to change the mortgage interest deduction to a 15 percent tax credit on mortgage interest paid for everyone with mortgage amount as in the aforementioned reform option, revenues would increase by \$387.6 billion over 10 years.

Other countries experiences indicate that a less complex and cheaper system could serve the United States better. For example, other Anglo-Saxon countries such as Australia, Canada and the United Kingdom are enjoying higher homeownership rates than the United States, without having a fiscally costly mortgage interest deduction. Similarly, Canada's explicit government guarantees on mortgage funding have shielded the system from the ambiguities suffered by the pre-crisis public/private status of the GSEs in the United States.

However, as rightly indicated by the U.S. Treasury (2011) the pace by which adjustments are made in the housing finance system is important, and needs to take into account labor mobility and possible distortionary effects in the still fragile housing markets. In addition, disruptive experiences as in Sweden in the early 1990s with large tax changes (Jonung et. al, 1996) and favorable experiences in the United Kingdom with gradual phasing out of mortgage interest tax relief suggest that some spreading out of marked fiscal reforms over time is preferable. Over the medium term, the GSEs' role in housing finance should be downsized, become fully public and more narrowly focused to better complement private-label.

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