



# Government Policy and the Fixed Rate Mortgage

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## Keywords

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## Abstract

A central argument in the ongoing discussion about the fates of Fannie Mae and Freddie Mac is the importance of the 30-year, fixed-rate, prepayable mortgage (FRM). The FRM has been held up as the gold standard in mortgage instrument design and as an essential element of the U.S. housing-finance system. Supporters of Fannie Mae and Freddie Mac argue that a government guarantee eliminating credit risk is essential to ensuring the FRM remains the main instrument for housing finance. The FRM has benefits for the consumer through payment stability and the right to prepay the mortgage without penalty. But these benefits come at significant cost. The interest rate and prepayment risk in the FRM are costly and difficult for investors to manage. There is a premium for both the long-term and the prepayment options that are paid by all users of the mortgage. The FRM causes instability in the mortgage market through periodic refinancing waves. The FRM can create negative equity in an environment of falling house prices. And the taxpayers are on the hook for hundreds of billions of dollars in losses backing the credit risk guarantees provided by Fannie Mae and Freddie Mac to support securities backed by the FRM. International experience suggests that mortgage markets work fine without an FRM (only Denmark has an equivalent instrument). Borrowers rarely stay with the same mortgage for 15–30. Shorter-term fixed-rate mortgages would be less expensive than the FRM in most interest rate environments, particularly if lenders were allowed to charge prepayment penalties. The taxpayer is exposed to too much risk in supporting Fannie Mae and Freddie Mac to justify continued government support for a product for which the costs outweigh the benefits.

## INTRODUCTION

A central argument in the ongoing discussion about the fates of Fannie Mae and Freddie Mac is the importance of the 30-year, fixed-rate, prepayable mortgage (hereafter referred to as the FRM). David Min (2010) of the Center for American Progress asserts that the FRM is an essential part of the U.S. housing-finance system. Susan Woodard (2010, p. 6) emphasizes the special role of the FRM, stating, “Americans now seem to regard the availability of long-term fixed-rate mortgages as part of their civil rights.” Adam Levitin and Susan Wachter assert that the FRM is critical for sustainable homeownership (Levitin & Wachter 2010). All four analysts advocate continued government support of Fannie Mae and Freddie Mac to preserve the FRM.

The FRM occupies a central role in the U.S. housing-finance system. The dominant instrument since the Great Depression, the FRM currently accounts for more than 90% of mortgage originations. One reason why it enjoys enduring popularity is that the FRM is a consumer-friendly instrument. Not only does the FRM offer payment stability, but also the instrument provides a one-sided bet in the borrower’s favor. If rates rise, the borrower benefits from a below-market interest rate. If rates fall, the borrower can benefit from exercising the prepayment option in the FRM to lower their mortgage interest rate.

But these consumer benefits have costs. It is costly to provide a fixed nominal interest rate for as long as 30 years. And the prepayment option creates significant costs. If rates rise, the lender has a below-market rate asset on its books. If rates fall, the lender again loses as the mortgage is replaced by another with a lower interest rate. To compensate for this risk, lenders incorporate a premium in mortgage rates that all borrowers pay regardless of whether they benefit from refinance. Exercise of the prepayment option in the contract also has significant transactions costs for the borrower and imposes additional operating costs on the mortgage industry.

Another major reason for the FRM’s dominance is government support and regulatory favoritism. The FRM is subsidized through the securitization activities of Fannie Mae, Freddie Mac, and Ginnie Mae. Their securities benefit from a government guarantee that lowers the relative cost of the instrument, which is their core product. These guarantees have a significant cost, as the government backing of Fannie Mae and Freddie Mac has exposed taxpayers to large losses.

Are the FRM’s benefits worth its costs? Would the FRM disappear if Fannie and Freddie stopped financing it? Are there mortgage alternatives that balance the needs of consumers and investors without exposing the taxpayer to inordinate risk? This review seeks to answer these questions, starting with a brief history of the FRM and emphasizing the government’s ongoing role in enhancing its presence. The review then discusses the FRM’s benefits and costs to consumers, investors, taxpayers, and the economy and ends with a depiction of a world in which Fannie Mae and Freddie Mac no longer support the FRM.

## THE FIXED-RATE, PREPAYABLE MORTGAGE: A BRIEF HISTORY

The FRM has been the dominant instrument throughout the post-Depression period. Prior to the Depression, the standard mortgage instrument was a five- to 10-year, fixed-rate, non-amortizing loan that required borrowers to refinance or repay the loan at the end of its term. Then, in 1934, the Federal Housing Administration (FHA) effectively created the

FRM with the National Housing Act, which authorized the FHA as a mutual insurance company providing mortgage insurance on specific mortgage types.<sup>1</sup> The original FHA mortgage had the following features:

- It was fully amortizing with a fixed, annual-contract interest rate of 5.5%.
- It required a minimum down payment of 20% of the property's appraised value.
- Its maximum term was 20 years.
- Its maximum loan amount was \$16,000.
- It was freely assumable.
- It had no prepayment penalty.<sup>2</sup>

Over time the maximum term and loan amounts have increased, and FRMs have become due on sale.

Government policy supported the FRM from its inception. Fannie Mae (initially the Federal National Mortgage Association) was created as a government agency in 1938 to purchase FHA mortgages. FHA- and later Veteran Affairs–insured mortgages were the dominant instruments until the 1960s. The government insurers set rates administratively that made it difficult for noninsured loans to compete with government-insured instruments. (See Bodfish & Theobald 1940 for savings and loan complaints about FHA pricing.) Federally insured savings and loan institutions (S&Ls) were restricted to offering only fixed-rate mortgages until 1981.<sup>3</sup>

Ginnie Mae, also a government agency, was created in 1968 to liquidate the subsidized portfolio held by Fannie Mae, which was privatized in that year. Ginnie Mae developed the mortgage-backed security to facilitate liquidation. Ginnie Mae began guaranteeing securitized pools of FHA- and Veteran Affairs–insured loans in 1970, providing a full faith and credit, timely payment guarantee facilitating their sale.

The government created Freddie Mac in 1970 to assist S&Ls in managing the interest-rate and liquidity risk inherent to the FRM. Accounting and tax policies in the 1980s that made it easier for S&Ls to sell underwater FRMs without immediately recognizing a loss stimulated the development and growth of the secondary mortgage market.<sup>4</sup> Fannie Mae and Freddie Mac introduced the concept of the swap in the 1980s that allowed lenders to exchange their portfolios of FRMs for securities with lower capital requirements reducing the cost of holding the loans. The large-scale sale of FRMs increased liquidity in fixed-rate mortgage securities, leading to improved pricing. The timely payment guarantees on mortgage securities provided by Ginnie Mae, Fannie Mae, and Freddie Mac lowered the relative

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<sup>1</sup>Savings and loans offered amortizing mortgages through sinking fund and level payment arrangements. In 1930, such instruments accounted for approximately half of loans outstanding. Their average term was 11 years. See Bodfish & Theobald (1940).

<sup>2</sup>However, a 1935 amendment to the National Housing Act authorized a prepayment penalty equal to the lesser of 1% of the original mortgage amount or the amount of premium payments the borrower would have been required to pay if the FHA-insured mortgage had remained in force through its maturity date (Herzog 2009).

<sup>3</sup>Savings and loans originated nongovernment-insured loans but were subject to regulation that required fixed-rate lending (ostensibly for consumer protection reasons). Their lending was to borrowers who could not qualify for FHA loans (either due to underwriting or loan size restrictions).

<sup>4</sup>The sellers incurred an economic loss as investors purchased the loans at market prices. For regulatory accounting purposes the seller could recognize the loss over the remaining term of the loan. Deferred loss accounting proved to be a poisoned chalice for many savings and loans. Not only did the policies lead them to sell their FRMs at the wrong time—when rates were high but falling—but also, the 1989 Financial Institutions Reform, Recovery, and Enforcement Act legislation eliminated it for regulatory capital purposes, rendering many institutions insolvent.

price of securities backed by conforming fixed-rate loans, increasing the instrument's market share.<sup>5</sup>

The prepayment feature is a key factor in the FRM's dominance. FRMs contain an embedded option for borrowers to prepay their loans without penalty. Government policy promotes this feature: Many states ban prepayment penalties on FRMs, and Fannie Mae and Freddie Mac will not enforce a prepayment penalty on FRMs they purchase.<sup>6</sup>

Adjustable-rate mortgages (ARMs) were introduced by state-chartered S&Ls in the 1960s and allowed by regulation for federally chartered institutions in 1981. Since then, the FRM's market share has fluctuated based on the level and direction of interest rates. ARMs have achieved a market share as high as 35% for some short periods (when the FRM-ARM spread is wide or rising), but for the most part have had a market share of 20% or less (Krainer 2010). Although Fannie Mae, Freddie Mac, and the FHA have introduced ARM products, these agencies have directed most of their efforts toward developing and enhancing their fixed-rate offerings. Today, more than 90% of mortgage originations are FRMs, reflecting Federal Reserve efforts to keep rates low through monetary policy and quantitative easing, and because Fannie Mae, Freddie Mac, and Ginnie Mae are the only funding sources for mortgage loans.

The 2010 Dodd-Frank financial reform bill enshrined the FRM's dominance through the qualified mortgage.<sup>7</sup> Lenders will get safe harbor from risk-retention requirements for qualified residential mortgages (QRMs), as well as other regulatory benefits. Lenders will likely make QRMs their loans of choice, relegating non-QRMs to the nonbanking, non-governments sponsored enterprise (GSE, a limited purpose government chartered corporation) realms of private-market securitizations through private-equity funds, real estate investment trusts, and other vehicles.

### Benefits of Fixed-Rate, Prepayable Mortgages

A long history of government support is not the only reason for the FRM's dominance. The instrument offers consumers several advantages. First and foremost, it provides nominal payment stability, which helps consumers budget and reduces the likelihood of default. The monthly payment on an FRM is the same throughout the life of the loan, whereas borrowers with ARMs can experience payment shock in a volatile interest-rate environment, making them more likely to default.<sup>8</sup> The FRM is also a simple instrument for borrowers to understand, which has led to proposals that lenders be required to offer the instrument to consumers applying for a mortgage (Thaler 2009).

<sup>5</sup>James Vickery (2007) analyzes the FRM/ARM market share as a function of the instruments' relative price, controlling for the term structure of interest rates and other time-series factors. He finds that a 20 basis-point increase in the retail FRM interest rate is estimated to cause a 17 percentage point decline in the FRM market share.

<sup>6</sup>Interestingly, many ARMs have prepayment penalties, and Fannie and Freddie will enforce them.

<sup>7</sup>A plain-vanilla mortgage amortizes in 30 years or less, is fully documented, and has reasonable rates and fees. The FRM is a qualified mortgage, as is a vanilla ARM. However, the requirement that borrowers be qualified at the highest possible rate during the first five years of the term suggests that most qualified mortgages will be FRMs. Most ARMs, interest-only mortgages, and high-cost loans will be nonqualified. QRMs will be exempt from the requirement that loan sellers retain at least 5% of the risk. Risk retention will raise the cost of nonqualified mortgages, reducing their market share. See Lea (2010).

<sup>8</sup>ARMs have had a much worse default experience during the recession. In part, this reflects the predominance of ARMs in the subprime market. It also reflects a selection bias whereby riskier and more speculative borrowers went into ARMs. For an analysis of the latter, see Barlevy & Fisher (2010).

The option to prepay an FRM without penalty is another consumer advantage.<sup>9</sup> This feature effectively converts the FRM into a downwardly adjustable instrument. When market interest rates fall, the borrower can refinance into a new loan at a lower rate. When rates rise, the fixed-rate feature protects the borrower against rising mortgage payments. Thus, the FRM (as opposed to a short-term ARM, for example) shields borrowers from most interest-rate risk. But the risk does not disappear—the lower the risk for the borrower, the greater it is for the lender/investor.

### Costs of Fixed-Rate, Prepayable Mortgages

The instrument's supporters point out that it is easier for investors than consumers to manage interest-rate risk. It is true that lenders and investors have more tools at their disposal to manage interest-rate risk. But managing prepayment risk is costly and difficult and many institutions have suffered significant losses as a result (e.g., savings and loans in the 1980s; hedge funds and mortgage companies in the 1990s and 2000s).<sup>10</sup> Furthermore, borrowers rarely stay in the same home or keep the same mortgage for 15 to 30 years,<sup>11</sup> so one can reasonably ask why rates should be fixed for such long periods (increasing the loan's cost and risk). Also, the taxpayer ultimately bears a significant portion of the risk through support of Fannie Mae and Freddie Mac.

Min (2010) argues that the FRM promotes financial- and housing-market stability. A system dominated by ARMs or short-term fixed-rate mortgages is more sensitive to interest-rate fluctuations than one dominated by the FRM and can contribute to boom-bust cycles in housing. Housing demand is more rapidly influenced by monetary policy with ARMs relative to FRMs. But FRMs hardly eliminate housing cycles. The United States has experienced pronounced housing cycles in most decades since World War II, including a massive housing boom and bust in the last decade. Min attributes the most recent cycle to the rapid growth in short-duration mortgages. In large part, the shortening average life of mortgages reflects the widespread exercise of the FRM prepayment option.

The FRM has a uniquely one-sided design that protects the borrower at the expense of the lender/investor. But such protection comes at a cost. Longer-term fixed-rate loans have higher rates than shorter-term fixed-rate loans in most interest-rate environments (Table 1). Having a range of fixed-rate terms allows the borrower to trade off monthly payment stability with overall mortgage affordability. For example, a mortgage whose interest rate is fixed for 30 years will usually have the highest interest rate, whereas a 3:1 ARM, whose interest rate is only fixed for the first three years, will usually have the lowest interest rate.

Also, prepayable mortgages have higher rates than non-prepayable mortgages. In effect, all U.S. mortgage borrowers pay for the option to refinance, regardless of whether they

<sup>9</sup>Prepayment is not costless, however. There are significant transaction costs associated with refinancing. John Kiff (2009) compares Canadian and U.S. mortgage origination costs and finds that the U.S. costs are three to five times higher for purchase loans and comparable for refinance loans (Canadian prepayment penalties are similar to the transactions costs of a U.S. transaction). Also, frequent refinancing often results in equity stripping, increasing the probability of future default.

<sup>10</sup>The uncertainty about prepayment leads to considerable speculation on the future direction of mortgage rates that has little social benefit. Hedging also increases systemic risk through counterparty exposure. The huge hedge positions of Fannie and Freddie were one reason why the government placed them in conservatorship in 2008.

<sup>11</sup>Over the past 50 years the average life of a 30-year mortgage has never been higher than 12 years (during periods of high interest rates) and often no more than five years (during periods of lower interest rates) (Dennis & Pinkowish 2004).

**Table 1 Mortgage pricing<sup>a,b</sup>**

Instrument	Pricing on 5/20/2011	
	Rate	Points
30-year FRM	4.5%	−0.5
10-year FRM	3.75%	−0.5
3:1 ARM	2.75%	−0.625
5:1 ARM	2.875%	−0.5
10:1 ARM	3.875%	−0.25

<sup>a</sup>Source: MetLife Home Loans—negative points used to pay closing costs.

<sup>b</sup>Abbreviations: ARM, adjustable-rate mortgage; FRM, fixed-rate prepayable mortgage.

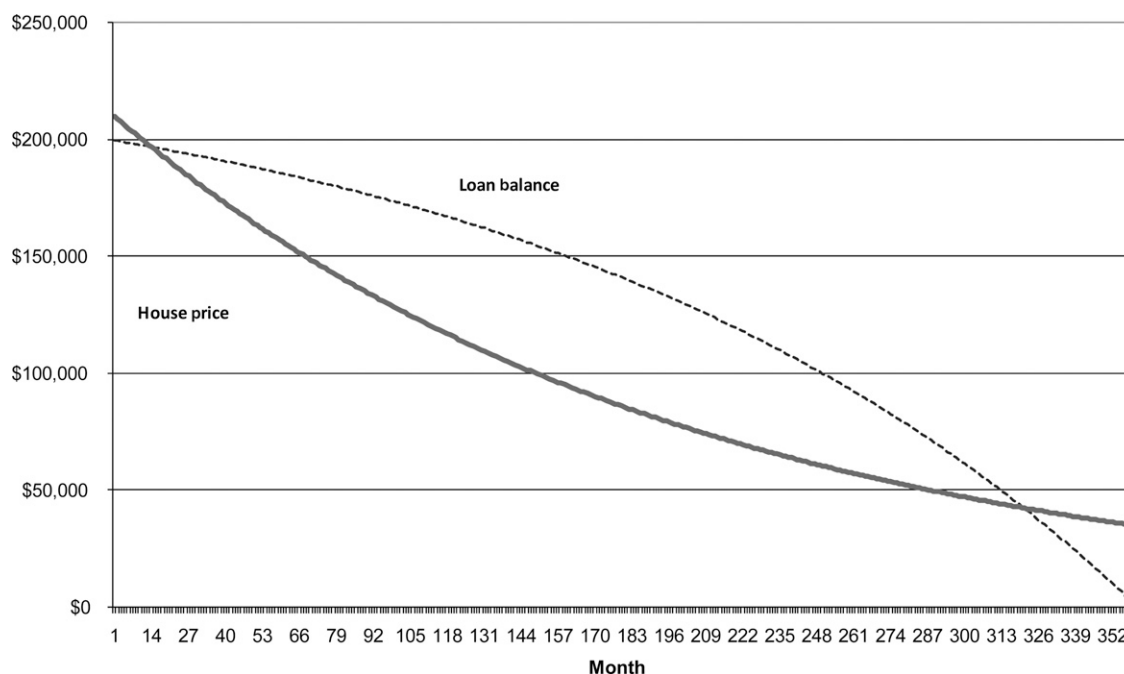
exercise it. This system differs from the Canadian and European systems. In those systems, the borrower receives a short- to medium-term fixed-rate loan without a free prepayment option. If the borrower wants to prepay for financial reasons (as opposed to moving), they must pay a penalty equivalent to the investor's or lender's cost to reinvest the proceeds at the new, lower market rate. The option's cost is thus individualized—borne by the individual exercising the option. In the United States, the option's cost is socialized, with all borrowers paying a premium in their mortgage rates (on average, approximately 50 basis points, or 0.5%) (Lea 2010, *Supra* note 12). In effect, the prepayment option is a tax on all borrowers.

Because all borrowers pay for the prepayment option, borrowers who do not exercise the option effectively subsidize those who do. Most often, unsophisticated borrowers who are intimidated by the refinance process or who are credit impaired pay the subsidy. The latter group is most likely to benefit at the margin (i.e., by lowering the risk of default) but least able to refinance.

Alex Pollock (2011) points out another significant problem with the FRM. When interest rates and house prices are rising, borrowers benefit from constant nominal and falling real mortgage payments and get to keep the inflation premium in the house price. But if interest rates are low and house prices are falling, a dark side emerges. Borrowers often cannot refinance because of the fall in house prices, and they are stuck with high nominal and real mortgage payments and potential negative equity. As a result, they are unable to take advantage of historically low interest rates. Many borrowers find themselves in this situation today.

The potential for negative equity with a slowly amortizing mortgage product is daunting. For example, **Figure 1** shows what would happen with a 30-year, fixed-rate mortgage payoff when house prices are declining by 2.5% per month. In this example, the borrower is in negative-equity territory by month 11, given that house prices are falling faster than the loan is being paid down. The difference between the loan-balance line and the house-price line illustrates how severe the negative-equity problem can get with a 30-year, fixed-rate mortgage and declining house prices.

The FRM can create negative equity for borrowers in a rising interest-rate environment as well (Dübel 2005). When interest rates rise, a house's value may fall. And the economic value of the mortgage falls. However, the borrower is still responsible for repaying the loan at par value (the nominal outstanding balance). The combination of falling house price and



**Figure 1**

House prices and mortgage loan balance on 30-year fixed-rate, prepayable mortgage (FRM). 5% down payment with  $-1/2\%$  decline in house prices per month.

constant mortgage value can lead to or exacerbate negative equity. Homeowner negative equity can also produce significant economic costs in that they are less likely to move to change their housing consumption, or to take advantage of job opportunities.

Rising interest rates cause other problems for FRM borrowers and investors. If rates rise because of expected inflation, FRMs create affordability problems for new borrowers. (This scenario occurred during the 1970s in the United States.) Unhedged investors experience an economic loss on their holdings of FRM-backed securities when interest rates rise (they also do not benefit from a rate decline, as noted earlier). Rising interest rates also create an extension risk (the risk that the average life of securities rises) for investors. As rates rise, prepayments slow and the effective maturity of the securities increases beyond that expected by investors.

Volatile interest rates cause problems for both borrowers and lenders. Long-term fixed-rate instruments have greater sensitivity to interest-rate changes than shorter-term instruments do. Volatility in pricing also makes mortgage shopping more difficult for borrowers in that mortgage prices can vary significantly on a daily (or even intraday) basis.<sup>12</sup>

Interest-rate volatility also causes refinancing waves, which increase costs for mortgage originators and borrowers. As interest rates rise and fall, mortgage origination volume is subject to massive swings. Mortgage originators and servicers have significant costs

<sup>12</sup>Mortgage shopping in the United States is also complicated by the use of points to adjust pricing. Borrowers are confronted with an array of rate and point combinations that differ across lenders. Points were introduced in the 1970s when market rates rose above FHA rate ceilings—another effect of government regulation.

associated with managing such volatility. For example, origination volume rose from less than \$3 trillion in 2002 to nearly \$4 trillion in 2003 and fell to less than \$3 trillion in 2004. Thus, the industry had to increase capacity by 33% in one year and reduce it by 25% the following year. FRM refinancing was the main reason for this volatility (see **Figure 2**). For mortgage borrowers, the cost of refinancing lies in the thousands of dollars they must pay in transactions costs simply to lower their mortgage rates.<sup>13</sup>

The FRM has also created significant costs for taxpayers. Until 1981, federally insured depositories were prohibited from offering ARMs. Predictably, when inflation and interest rates rose in the 1970s and early 1980s, reliance on this instrument effectively killed off the S&L industry. In 1982, approximately 80% of the S&L industry was bankrupt and insolvent due to the mismatch between FRM assets and the short-term deposits that funded them. A similar mismatch rendered Fannie Mae insolvent. When numerous thrifts eventually failed, the taxpayer picked up a significant tab to restructure the industry.<sup>14</sup>

Learning from the experience, banks and thrifts continued to originate 30-year FRMs, but only if the loans could be sold to Fannie Mae, Freddie Mac, or guaranteed by Ginnie Mae. In other words, banks and thrifts did not retain the interest-rate risk that they created by originating the FRMs. Instead, investors absorbed the risk. As the ultimate risk bearers, private investors attempted to price and manage the risk (with varying degrees of success). The GSEs hold a significant portion of the FRM inventory,<sup>15</sup> so when interest rates rise, they may suffer large losses that will be borne by taxpayers.

The FRM's popularity and its government backing produce another significant risk for the government. To finance the FRM and allocate the interest-rate risk to investors, the government—through FHA insurance and Fannie/Freddie guarantees—absorbs the mortgages' credit risk. Ironically, it was credit risk that led to the failures of Fannie and Freddie in the financial crisis. Although part of their losses can be attributed to speculative investments in subprime- and Alt A-backed securities (mostly non-fixed-rate mortgages), a significant portion of their losses have come from FRM defaults.<sup>16</sup> The FHFA now projects GSE losses to be \$220 to \$360 billion. A portion of these losses can be attributed to the policy goal of ensuring the FRM's availability through the government's absorption of the credit risk.

### The Myth of the Fixed-Rate, Prepayable Mortgages as a Gold Standard

David Min has written that “the 30-year fixed-rate mortgage remains the gold standard for mortgages throughout the world, offering superior stability for both homeowners and financial systems” (Min 2010, p. 11). If this statement is true, why is the United States one of only two countries with this instrument? And why is the United States the country

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<sup>13</sup>Refinancing transactions costs could be eliminated with use of a ratchet mortgage, in which the rate is automatically lowered without transaction costs. See Ely (2010).

<sup>14</sup>Although the popular press tended to focus on excessively risky nonresidential mortgage investments as the cause of the S&Ls' failure, the fact was that they were bankrupted by the asset-liability mismatch and tried to grow out of their earnings and capital problems through investment in high-risk assets.

<sup>15</sup>The GSEs hold whole loans in their portfolios. They also repurchase securities they guarantee—in effect investing in the cash-flow risk associated with funding callable mortgages with a blend of callable and noncallable debts of different maturities.

<sup>16</sup>Federal Housing Finance Agency (FHFA) projections of GSE losses found that most of the losses are due to their purchased loans rather than securities. See FHFA (2010, attachment).



most afflicted by a housing bust? Given the catastrophic conditions of Fannie Mae and Freddie Mac, it is clear that the 30-year, fixed-rate mortgage is outright dangerous—not a gold standard. Perhaps his musing should be rewritten to say, “The 30-year fixed-rate mortgage remains the fool’s gold standard for mortgages throughout the United States, offering superior stability for some homeowners and potential catastrophe for U.S. and global financial systems.”

The FRM is a unique instrument by international standards. Only one other country, Denmark, has a long-term, fixed-rate, prepayable (without penalty) mortgage.<sup>17</sup> Several other countries have long-term fixed rate products (e.g., France, Japan, and Germany), but the typical terms are shorter and prepayment is subject to penalty. Shorter amortization periods benefit both borrowers and lenders because borrowers accumulate equity faster.

A more common fixed-rate instrument is the rollover mortgage, which is the dominant instrument in Canada and several European countries. Its interest rate is typically fixed for up to five years and rolls into a new fixed rate at the end of the term. The new rate is negotiated with the lender and is based on prevailing market rates. These loans also have prepayment penalties during the fixed-rate term but allow total repayment without penalty at the end of the term.

Adjustable-rate loans are the dominant instrument in several countries, including Australia, Spain, and the United Kingdom. **Table 2** shows the types of mortgages available in different countries and how common each product is.

Many countries have had housing booms and busts during the last decade (e.g., Australia, Denmark, Ireland, Spain). Yet only Ireland has had as severe of a downturn as the United States (**Table 3**). Min (2010) attributes the U.S. housing cycle to a shortening of the duration of mortgages over the past two decades, which caused house prices to become more sensitive to interest rates. Low interest rates and ample credit clearly contributed to the boom—however throughout the boom period a majority of loans were in fact fixed rates. Most of the reduction in average mortgage maturity was due to borrowers exercising the prepayment option in their FRM contracts. And much of the shortening was for cash-out refinances to facilitate consumption at the expense of wealth accumulation. The inability of households to refinance FRMs to reduce negative equity has exacerbated the current crisis as noted above.

Min (2010) assumes the prepayment option to be free, but it is far from free, as discussed earlier. Although only some borrowers will actually utilize the prepayment option, everyone has to pay for it. Fannie Mae and Freddie Mac will only purchase prepayable mortgages, even though non-prepayable mortgages may be in many borrowers’ best interests.

## CONCLUSION

The fundamental question remains: Are the benefits of the FRM worth the costs? All borrowers pay a substantial tax—50 basis points or more—for this instrument. Furthermore, taxpayers have absorbed substantial losses to support this instrument, first through the S&Ls and now through Fannie Mae and Freddie Mac. Should the government subject

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<sup>17</sup>The Danes add a unique twist to the instrument in that the loan is backed by an individual mortgage bond. If rates rise, the borrower can buy the bond at a discount and cancel the loan with the lender. This feature facilitates automatic deleverage and reduces the likelihood of negative equity. See Lea (2010.)

**Table 2 International mortgage products (market share of instrument by fixed-rate period)<sup>a,b</sup>**

	Adjustable rate	Short-term fixed rate (1–5 yrs.)	Medium-term fixed rate (5–10 yrs.)	Long-term fixed rate (10+ yrs.)
Australia	92%	8%	–	–
Canada	35%	–	55%	10%
Denmark	–	17%	40%	43%
France	33%	–	–	67%
Germany	16%	17%	38%	29%
Ireland	91%	–	9%	–
Japan	38%	20%	20%	22%
Korea	92%	–	6%	2%
Netherlands	–	15%	66%	19%
Spain	91%	8%	–	1%
Switzerland	2%	–	98%	–
UK	47%	53%	–	–
U.S.	5%	–	–	95%

<sup>a</sup>Source: Lea (2010).

<sup>b</sup>No entry means negligible market share.

**Table 3 Troubled mortgages: Western Europe and the United States<sup>a,b</sup>**

	≥ 3 month arrears	Impaired or doubtful	Foreclosures	Year
Belgium	0.46%	–	–	2009
Denmark	0.53%	–	–	2009
France	–	0.93%	–	2008
Ireland	3.32%	–	–	2009
Italy	–	3.00%	–	2008
Portugal	1.17%	–	–	2009
Spain	–	3.04%	0.24%	2009
Sweden	–	1.00%	–	2009
UK	2.44%	–	0.19%	2009
U.S. (all)	9.47%	–	4.58%	2009
U.S. (prime)	6.73%	–	3.31%	2009
U.S. (subprime)	25.26%	–	15.58%	2009

<sup>a</sup>Source: Jaffee (2010).

<sup>b</sup>No entry means negligible rate.

taxpayers to the risk of another catastrophic meltdown to preserve the FRM? Are there alternatives that maintain some of the FRM's benefits while greatly reducing the costs?

If the government abolished Fannie Mae and Freddie Mac, the FRM would not cease to exist. Private-label securitization in the United States and covered bonds in Denmark have funded this instrument in the past and are fully capable of funding it in the future. Investors are sophisticated enough to price both credit risk and interest-rate risk. Conventional wisdom suggests that U.S. investors will not accept both credit risk and interest-rate risk for large volumes of mortgages and the reason is clear: Private investors can get the government to absorb the credit risk at a lower cost than would be charged by the private market. The loss experiences of Fannie and Freddie suggest that they were funding mortgages at below-market (risk-adjusted) rates. Without Fannie and Freddie, the FRM would still be offered by lenders, but not at a subsidized rate. The FRM would have a smaller market share, but it would not disappear, as Min (2010) asserts. Nor would the only alternative be a short-term ARM, as international experience suggests.

What would emerge as the standard U.S. mortgage instrument without government support of the FRM? A rollover mortgage similar to that offered in Canada and several European countries is the likely candidate.<sup>18</sup> This instrument offers borrowers short- to medium-term payment stability, and borrowers can manage interest-rate risk by adjusting the fixed-rate term upon renewal. Modern international experience does not bear out Min's (2010) assertion that borrowers would be unable to refinance. Borrowers could hedge the interest-rate risk by locking in a forward rate in advance of renewal. German lenders offer forward rates up to five years—certainly U.S. lenders could do the same, given the deep derivative market. Alternatively, borrowers can adjust the degree of risk by varying the length of the fixed-rate period.

A complete and robust housing-finance system should offer borrowers a menu of mortgage options, ranging from short-term ARMs for borrowers who can handle payment change to long-term FRMs for borrowers who value payment stability. To assert that the FRM is the preferred alternative for most borrowers is naïve. Many borrowers have shorter-term time horizons and can handle some interest-rate risk. The reason borrowers select a longer-term fixed rate is that government guarantees subsidizes the rate. International experience does not support Min's (2010) assertion that the switch to shorter-duration instruments would lead to massive defaults if and when interest rates increase.

The prohibition of prepayment penalties on fixed-rate mortgages is also misguided. Borrowers should be given a choice—long-term versus short-term fixed rates, with and without prepayment penalties. The market will price the differences, giving price breaks to those borrowers willing and able to handle interest-rate risk. Following Canadian and European tradition, the imposition of a prepayment penalty should be limited. It should not apply to borrowers moving and it should be limited in term. (For example, the maximum term over which the penalty applies is five years in Canada and the Netherlands and 10 years in Germany.)

The most important result of a shift away from the FRM would be a reduction in taxpayer liability for mortgage risk. There is nothing so special about housing finance that

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<sup>18</sup>Canada supports its mortgage market through default insurance and cash-flow guarantees comparable to FHA insurance and Ginnie Mae guarantees in the United States. The market share of government-backed mortgages is considerably less, however, with approximately 50% of mortgages backed by government insurance and 25% of mortgages backed by guarantees. European countries (with the exception of the Netherlands) do not support their mortgage markets through insurance or guarantees.

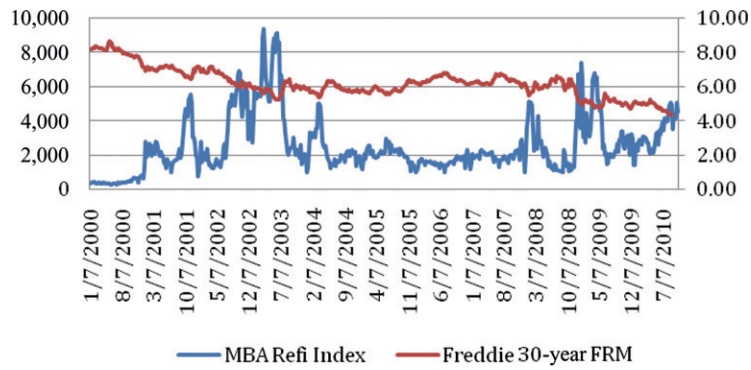
the government should absorb the credit risk of the vast majority of the mortgage market or underwrite the interest-rate risk of that market. Two episodes of massive taxpayer losses should convince us of that fact.

## DISCLOSURE STATEMENT

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**Figure 2**

Mortgage refinance index versus Freddie Mac's 30-year, fixed-rate, prepayable mortgage (FRM). Refinance index is nonseasonally adjusted. Base period for index is March 16, 1990 = 100. Source: Mortgage Bankers Association (MBA).