

Legislative Approaches to Housing Finance Reform

Working Paper

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Introduction

By the standards of the contemporary American political system, proposals to reform the U.S. housing finance system moved relatively far through the legislative process in 2013 and 2014. Two of the four bills introduced in Congress received positive votes in their respective congressional committees — the bill sponsored by Representative Jeb Hensarling (R-Texas) in the House Financial Services Committee and the bill sponsored by Senators Tim Johnson (D-South Dakota) and Mike Crapo (R-Idaho) in the Senate Banking Committee. Although the Senate bill, which itself had built on a bipartisan proposal from Senators Bob Corker (R-Tennessee) and Mark Warner (D-Virginia), had bipartisan support and the backing of the Obama administration, it never received a vote on the floor of the Senate. Nor did the Hensarling bill receive a vote in the full House of Representatives, and neither became law. Prospects for housing finance reform faded in 2015, with Fannie Mae and Freddie Mac — the two firms that purchase mortgages and bundle them into securities with a guarantee — now likely to remain in government control with an explicit government backstop into the foreseeable future.

While it is difficult to say when (or even whether) the U.S. political system will again focus on housing finance reform, the debate over the proposals considered in 2013 and 2014 will inform future efforts. This paper reviews the legislative proposals for housing finance reform, highlighting the common and different features of these proposals and analyzing their economic implications. The paper concludes by looking at the political obstacles facing legislative efforts and discussing the ways in which housing finance is evolving in the absence of legislation.

The impetus for reform came from the remarkable failure of the housing finance system leading up to and during the financial crisis. The period of 2000 to 2007 saw extraordinary growth of housing credit, particularly to non-prime borrowers but also to prime borrowers (Mian and Sufi 2015; Adelino, Schoar

and Severino 2015). This growth resulted in high default rates, a rash of foreclosures, dramatic declines in house prices from 2007 to 2010, and a near unraveling of the financial system, which was kept together only by extraordinary government interventions. One such intervention was the decision by the Federal Housing Finance Agency (FHFA) to put Fannie and Freddie into conservatorship in September 2008, and the commitment by the U.S. Treasury to explicitly guarantee that the two firms would have the ability to make good on their obligations. While there is considerable debate about whether Fannie and Freddie played a central role in the growth of subprime mortgages, there is widespread agreement that the implicit government support of Fannie and Freddie in the decades leading up to the crisis, combined with lax regulation, led them to take excessive risks — risks that paid off for their shareholders and management in normal times but that had disastrous outcomes during the crisis.

The concern about excessive risk taking by the government-sponsored enterprises (GSEs) was not new, as evidenced by the 1990 General Accounting Office, now the Government Accountability Office (GAO), study of risk at the GSEs and the quality of their regulatory oversight. At the heart of the concern throughout was the implicit government guarantee of the obligations of Fannie and Freddie. These obligations included both debt issued to fund the firms' investment portfolios and the payment guarantees they provided to mortgage-backed securities (MBS) holders. Given their low levels of capital, this implicit guarantee allowed Fannie and Freddie to raise financing at below-market rates and earn a spread between their portfolio yields and their debt financing costs, encouraging them to expand their portfolio dramatically to take advantage of what was effectively government-sponsored arbitrage. In 2008, the combined investment portfolios were more than \$1.6 trillion. The implicit government subsidy also allowed them to issue guarantees on MBS, which traded as if they were free of any credit risk even though Fannie and Freddie were required to fund with only 40 basis points of capital for each \$100 of guarantees (Goodman, 2014). By 2008, the implicit government guarantee and lax capital requirements had allowed Fannie and Freddie to expand their MBS guarantees to almost \$5 trillion, approximately half of all residential mortgages in the United States. With such a thin capital cushion, Fannie and Freddie were well positioned to fail when the housing bubble burst, defaults grew, and mortgage-related losses soared.¹

Indeed, in September 2008, amid growing concern in financial markets about whether Fannie and Freddie could meet their obligations, the two GSEs were put into government conservatorship.² Given that securities guaranteed by the GSEs were held widely among U.S. financial institutions, a default by the two firms would have had significant systemic consequences, requiring many banks to recapitalize,

¹ Thomas (2013) explores in detail the reasons for the two firms' collapse, concluding, "Fannie and Freddie's losses did not come from subprime loans made to low-income borrowers with checkered credit histories, but from [guarantees on] loans made in overheated housing markets to borrowers with better-than-average credit scores." (p. 37) Thomas also notes that "Had these institutions simply been required to hold equity capital in roughly the same proportion that banks are, shareholders would have absorbed all of the losses, and the taxpayer bailout would have been unnecessary." (p. 51)

² Under the conservatorship, the firms' regulator, the FHFA, has the authority to operate the two companies with all the powers that would normally be exercised by shareholders, the board of directors, and company officers. At the same time, the Treasury struck bilateral agreements with Fannie and Freddie to ensure that each firm maintained a positive net worth and could therefore meet their outstanding obligations, with taxpayers receiving 79.9 percent ownership and a 10 percent dividend on any capital injections. Under the two Senior Preferred Share Agreements, the Treasury, through the middle of 2015, had put \$189.5 billion of capital into the firms by purchases of senior preferred shares.

whether through costly equity issues or “deleveraging” via the sale of assets (perhaps at fire sale prices) or a contraction in lending. Moreover, the expectation among foreign lenders of U.S. government backing meant that a GSE failure could put at risk the availability of capital inflows more broadly, resulting in funding difficulties for all borrowers including the federal government itself. The U.S. Department of the Treasury made explicit the previously implicit guarantee that the government would stand behind the two GSEs, ultimately injecting nearly \$200 billion into the two firms. Long-standing concerns over the moral hazards induced by the implicit government guarantee and lax regulation turned out even worse than had been anticipated.

In light of this failure, there were widespread calls for reform. A key dimension on which reform proposals differed was whether to include a government guarantee on housing finance in the first place. One set of proposals called for the end of implicit or explicit government guarantees for housing finance.³ Under this view, private-market participants rather than the government would provide the capital for housing, taking on the risks and rewards of their decisions just as with any other type of investment. A second approach would allow private entities to guarantee MBS and purchase “reinsurance” from the government so that the private market would bear losses ahead of the government but MBS would continue to trade without credit risk to the investor. Advocates of this approach believed that well-capitalized private entities would limit moral hazard and protect taxpayers from the risk of loss. Another motivating factor for this type of proposal was the belief that policy makers would intervene in the event that a future crisis made it difficult for U.S. households to obtain mortgage financing. The concern, then, was that a proposal that claimed to abolish government support for housing would instead inadvertently re-create the implicit guarantee. As discussed below, a key question is which liabilities would receive such an ex post bailout in the event of a future crisis.

This latter set of proposals formed the basis of bipartisan reform efforts in Congress. In essence, these proposals sought to preserve a relatively liquid market for default-free MBS such as those issued by Fannie and Freddie by maintaining the government guarantee but with better protection for taxpayers. Many advocates of this approach saw the government guarantee as necessary to ensure that mortgages were available on reasonable terms. They argued that a government guarantee against catastrophic loss would lower mortgage costs both because the government can absorb credit risk more efficiently than the market and because MBS are more liquid when holders do not have to evaluate credit risk along with interest rate risk and mortgage pre-payment risk. Advocates of this reform approach also argued that the guarantee was critical to maintaining the pre-payable, thirty-year, fixed-rate mortgage (FRM), which had become the most popular form of mortgage and which they viewed as desirable from the perspective of consumer protection. A further motivation for providing a government guarantee at all times was the belief that this was necessary to maintain the to be announced (TBA) market for MBS, which was seen as important both for enhancing the liquidity of the MBS market and for providing homebuyers with the ability to lock in an interest rate on a mortgage ahead of buying a home (see Vickery and Wright (2013) for discussion).

³ Over the years, well before the crisis, there had been calls for the privatization of Fannie Mae and Freddie Mac. See, for example, Wallison, Stanton, and Ely (2004); and White (2004).

With this background in mind, in Section II we first describe the policy proposal that elicited the most bipartisan support and got the furthest in the legislative process, the Johnson-Crapo bill, formally known as Senate bill 1217 (S.1217), the Housing Finance Reform and Taxpayer Protection Act of 2014. Key elements of the legislation centered on the amount and form of private capital required, the structure of the housing finance market (whether one, two, or many firms would undertake securitization with a guaranty and government backing), and the conditions under which the government backstop could expand in times of significant stress to the financial system.

In Section III, we analyze the main design elements of Johnson-Crapo after first considering the basic premise on which the bill and similar proposals are based — the idea that a government guarantee is critical to ensuring the availability of mortgages credit on reasonable terms and the existence of the pre-payable thirty year FRM. In Section IV, we describe the other proposals that were under consideration by highlighting their differences with the Johnson-Crapo approach. Section VI describes the political challenges that ultimately stalled legislation and will likely recur in any future legislative efforts, and concludes by discussing the evolution of the housing finance system absent legislation.

Features of the Johnson-Crapo Bill

The Johnson-Crapo bill would have established a government insurance program on MBS composed of qualified mortgages, with a “hybrid” capital model under which the taxpayer backstop kicked in after private investors had taken a specified amount of losses. The existing entities of Fannie and Freddie would be wound down, and the secondary government insurance on MBS sold on equal terms to new private firms that would undertake mortgage securitization by bundling together mortgages — this emphasis on competition and entry was a distinguishing characteristic of the approach taken by both the Johnson-Crapo bill and its predecessor proposal by Senators Corker and Warner. The government would not guarantee the operation of entities involved in securitization, only the repayment of their MBS. Guaranteed MBS from all firms would be standardized and issued together using a common securitization platform. The FHFA would be transformed into the Federal Mortgage Insurance Corporation (FMIC) and become both insurer and regulator of the housing finance system — akin to the role of the Federal Deposit Insurance Corporation (FDIC) (with the name chosen intentionally to mimic that of the FDIC). The Treasury backstop on existing GSE bonds and MBS (so-called “legacy securities”) would be turned into a full-faith-and-credit obligation; investors would have the option to pay a fee to have their legacy MBS reissued on the common securitization platform if they wanted the liquidity of the new system. A fee levied on guaranteed MBS would subsidize affordable housing activities. Seidman et al. (2013) discuss a proposal similar in many respects to the Johnson-Crapo proposal and to the predecessor Corker-Warner bill.

The first-loss capital ahead of the government backstop would be organized by private firms acting as MBS guarantors, with each guarantor required to maintain a capital level equal to 10 percent of the value of mortgages in guaranteed MBS — a private guarantor putting together an MBS with \$100 million in mortgages would have to fund itself with at least \$10 million in capital. The secondary government insurance would kick in once the private guarantor for an MBS extinguished its entire capital (the capital

required across all its MBS), after which the FMIC would ensure the timely payment of cash flows from all the guaranteed MBS from the defunct guarantor.

The focus on competition and entry in the Johnson-Crapo bill would have entailed important changes to the market structure for the housing finance system. Rather than the previous duopoly, the bill envisioned five or more firms undertaking securitization and purchasing the backstop government insurance. Components of Fannie and Freddie would be sold to new entrants and the two firms would be wound down. Competition among securitizers was intended to push the benefits of an unintended government subsidy resulting from underpriced secondary insurance to homeowners in the form of lower interest rates, rather than being captured by the firms as in the past (although see below for a discussion of an innovative proposal by Representative John Delaney (D-Maryland) by which the pricing of the government insurance would be set through a market-based framework). Expanding the number of firms was further intended to guard against a situation in which any one entity was too important to be allowed to fail. A key challenge for the Johnson-Crapo approach was that it involved a switch from two firms that exist and operate to a system in which unknown new firms enter and carry out the business of securitization and guaranty. The legislation would set up a cooperative guarantor to ensure that smaller originators could sell mortgage loans into guaranteed MBS without going through a large bank. All guaranteed MBS would be issued on a common securitization platform to ensure that these securities traded in a common pool rather than in separate markets, such as for the current Fannie and Freddie MBS. This would have increased liquidity in the mortgage markets (with the hope of resulting in lower mortgage interest rates), while also allowing new firms to enter into the business of guaranteed securitization without facing a liquidity disadvantage.

Part of the premium for the secondary government insurance would have been earmarked to subsidize activities related to affordable housing, providing several billion dollars each year — a sizable increase from the several hundred million devoted to affordable housing under a law enacted in 2008. The affordable housing fee would average 10 basis points across all guaranteed MBS, but would be set so that guarantors serving relatively large numbers of low- and moderate-income households paid less than guarantors serving relatively large numbers of higher-income households did. This “flex-fee” arrangement was meant to provide a financial incentive for firms to serve diverse populations of borrowers. These funds would have replaced the housing goals in the old GSE system, under which Fannie and Freddie were required to purchase or guarantee certain numbers of mortgages for low- and moderate-income households.

Analysis of the Johnson-Crapo Bill

Although the main focus of our paper is an evaluation of the various features of bipartisan reform proposals that would make government guarantees explicit, we start by considering the premise on which the bipartisan proposals are based — that the government guarantee is critical to ensuring the wide availability of mortgage credit, and in particular, the pre-payable thirty year FRM. In short, there are reasons to doubt the economic basis for claims that a guarantee is needed in normal times (even while recognizing the political reality that a guarantee has strong support among industry and housing advocates). In particular, a number of studies show that the “jumbo-conforming spread” — the

difference between the interest rates on jumbo mortgages, which do not qualify for a government guarantee, and conforming mortgages which do qualify for the guarantee — is less than 30 basis points, often much less.⁴ This casts some doubt on the value of the guarantee. Admittedly, this spread may underestimate the true value of the government guarantee because jumbo mortgage lenders may have had more risk-taking capacity given that so much credit risk was absorbed by the government. Thus, jumbo rates may have been lower than they otherwise would have been absent a guarantee of conforming mortgages. That said, under a new regime in which the government charges for taking on credit risk rather than providing the implicit guarantee without compensation, the difference in rates between conforming and non-conforming mortgages should be even smaller.⁵

Moreover, there is limited theoretical support and empirical evidence for the view that the government guarantee increases the availability of the thirty-year, pre-payable FRM. On a theoretical level, it is difficult to see how the government guarantee could affect the supply of FRMs, as it protects MBS investors from credit risk but not from interest rate or pre-payment risk. The empirical evidence also sheds doubt on the importance of the guarantee. Although Fuster and Vickery (2014) shows that prime conforming mortgages are more likely to be FRMs than prime jumbo mortgages are — which at first glance suggests that the guarantee is important in increasing the supply of FRMs — it is also true that households that take out prime jumbo mortgages are different on a number of other important dimensions such as FICO score that could affect their demand for FRMs. Indeed, Fuster and Vickery show that when these demand differences are taken into account through more advanced statistical techniques (including regression discontinuity), there is no meaningful difference between the share of jumbo and conforming mortgages that are fixed rate. This is contrary to the idea that the guarantee increases the supply of FRMs on average.

The evidence does point, however, to a potentially important role of government guarantees during periods of significant stress to the financial system. First, although the jumbo-conforming spread is small in normal times, in 2007 in the early stages of the financial crisis, the spread widened substantially. This suggests that a government guarantee could be beneficial in maintaining the supply of mortgage credit in stressed periods. Moreover, although Fuster and Vickery (2014) show that on average there was no meaningful difference between the FRM share of jumbo and conforming mortgages, this difference became substantial in 2007 as private-label MBS markets broke down and it became more difficult to securitize jumbo mortgages without the guarantee. With banks having limited appetite to take on the interest rate and pre-payment risk associated with the thirty year FRM, they were likely reluctant to hold an increased volume of jumbo mortgages in their portfolios. Thus, one could argue that

⁴ These studies include Congressional Budget Office (2001); Ambrose, LaCour-Little, and Sanders (2004); McKenzie (2002), Passmore, Sherlund, and Burgess (2005); and Sherlund (2008).

⁵ As suggested by Hermalin and Jaffe (1996), the spread may be low in part because mortgage origination and securitization are imperfectly competitive markets, enabling mortgage originators and the GSEs to capture much of the benefits of the guarantee. Consistent with this view, Scharfstein and Sunderam (2014) show that when MBS yields decline, only a fraction of the reduction is passed through to borrowers in the form of lower mortgage rates. This is particularly true in more concentrated markets for mortgage origination.

securitization is helpful in promoting the availability of the FRM, but the government guarantee per se is not the driving force in normal times when securitization is readily available.⁶

Although the benefits of the government guarantee accrue when financial markets are in crisis, the backstop under Johnson-Crapo and similar proposals exists in all periods. An alternative approach, put forward as an option in the Obama administration white paper on housing finance reform released in February 2011, would be to target the guarantee to periods of significant stress and limit the scope of the guarantee in normal times.⁷

We now turn to a discussion of the key design components of the Johnson-Crapo legislation. The most contentious set of issues centered on the design of the first-loss capital provided by the private sector — the quantity (10 percent or less), the type (mix of equity and debt), and the source (monoline insurer or capital market securities). Another set of issues that had to be worked out was how the government guarantee would be structured and priced. Yet a third consideration was the extent and form of private-market competition that would be allowed. A fourth major issue had to do with the government's role during a crisis — not just with respect to guarantees on legacy MBS, but also the policy around first-loss capital and government reinsurance of newly issued mortgages during a crisis.

Capital

As has been noted, the financial crisis revealed that Fannie Mae and Freddie Mac were inadequately capitalized relative to the risk they were bearing. Indeed, they funded themselves with just 40 basis points of capital for each dollar of mortgage they guaranteed. With losses during the crisis reaching well exceeding 40 basis points, there was widespread acceptance of the view that mortgage guarantors should fund themselves with considerably more capital than they had previously, even while the precise amount of additional capital remained a matter of considerable debate.

Johnson-Crapo required private capital of 10 percent of guaranteed MBS available to bear first loss ahead of coverage by the FMIC. The government's Mortgage Insurance Fund (MIF) was itself required to maintain 2.5 percent capital against losses that exceeded the private capital. This capital would be accumulated over ten years through fees on government reinsurance. This setup was meant to avoid another tap into general revenues that incurred when the GSEs were put into conservatorship.

In light of this significant increase in capital requirements, there was pushback from industry and housing advocates who argued that the heightened capital requirements could lead to a large increase in mortgage rates. With these concerns in mind, the housing finance reform bill sponsored by Maxine Waters (D-California), ranking member of the House Financial Services Committee, required just 5 percent first-loss private capital.

The magnitude of the effect of enhanced capital requirements on the cost of mortgage credit is an unresolved issue. It parallels in important ways the debate about the effect of bank capital requirements

⁶ The size of the benefit of securitization for the availability of the thirty year FRM is far from clear. Banks are large holders of MBS backed by Fannie and Freddie and have expertise in managing the associated interest-rate and pre-payment risk. They are also large holders of jumbo FRMs, which have a combination of interest rate risk, pre-payment risk, and credit risk.

⁷ For a fuller discussion of the rationale behind this approach, see Scharfstein and Sunderam (2011).

on the cost of credit. On one side are those who argue that the effect is large because guarantors (or banks) require a high rate of return to put their capital at risk. In this view, the more such private capital is at risk, the more investors will require in return and thus the more an insurer will charge to guarantee mortgages (or provide credit). On the other side are those who argue that additional layers of capital are not as costly as initial layers of capital because incremental amounts of capital are less likely to bear losses. This is essentially the famous “Modigliani-Miller Theorem,” which has been used by Hanson, Kashyap, and Stein (2011) and Admati and Hellwig (2013) in the context of bank capital requirements to argue that enhanced bank capital requirements should have a limited impact on the cost of credit.

To understand the Modigliani-Miller logic in the context of mortgage guarantees, consider a world in which investors just invested directly in a \$100 billion portfolio of prime thirty year FRMs. Ignoring for simplicity the typical pre-payable feature of such mortgages, these investors would need to earn a spread over Treasuries to compensate them for the losses from mortgage defaults. This spread would include a component for expected losses as well as a “credit risk premium” to compensate investors for bearing losses when the economy is doing poorly and asset returns are low (i.e., “beta risk”). Suppose that expected losses are 40 basis points of the principal balance (\$400 million per annum), and the credit risk premium is 20 basis points (\$200 million per annum). This implies that investors would need to be promised 60 basis points more than Treasuries to compensate them for the credit risk they bear.

Now suppose that these investors buy insurance from a mortgage guarantor who promises to bear the losses and insure that the investors are paid in full on their mortgage holdings. To provide this service, the guarantor is required to put up \$5 billion to cover potential losses; that is, there is a capital requirement of 5 percent. This sum is invested in Treasuries, which are available to pay any losses on the mortgages. In exchange for this insurance, the guarantor receives guarantee fees. The guarantee fees needed to cover expected losses of \$400 million per annum and the credit risk premium of \$200 million per annum equal 60 basis points of the principal balance. Ignoring administrative costs, the net profit to the guarantor would be \$200 million plus the yield on Treasuries. The excess return over Treasuries would be 4 percent; that is, \$200 million/\$5 billion.

Consider what would happen if the capital requirement for the guarantor is increased to 10 percent in the form of \$10 billion in Treasuries. Expected losses on the mortgages (\$400 million) have not changed, nor has the credit risk premium (\$200 million). The same 60 basis points in guarantee fees cover the default costs. Now the required excess return over Treasuries is 2 percent; that is, \$200 million/\$10 billion rather than the 4 percent required excess return when there was only 5 percent capital. Why has the required return gone down? Because the likelihood that the second \$5 billion of Treasuries ever has to be turned over to cover losses is much lower than the likelihood that some of the first \$5 billion is turned over. In both cases, guarantors collect \$600 million of guarantee fees and are compensated fairly for the losses they expect to incur. By the Modigliani-Miller logic outlined above, raising the capital requirements is not costly at all.

By contrast, those who see higher capital requirements as costly often assume that the required return for guarantors does not depend at all on the amount of capital, which is inconsistent with the Modigliani-Miller logic. For example, if the required excess return is 4 percent regardless of the amount

of capital, then going from 5 to 10 percent capital increases the guarantee fee from 60 basis points to 80 basis points. To see this, note that in both cases, guarantors need to cover the \$400 million of expected losses (40 basis points). But with 10 percent capital, guarantors also need \$400 million to cover the credit risk premium (4 percent \times \$10 billion of capital at risk). This adds another 40 basis points to the guarantee fee. With 5 percent capital guarantors need only \$200 million to cover the credit risk premium (4 percent \times \$5 billion of capital at risk), adding just 20 basis points to the guarantee fee. Note that in the limit, by this logic, where capital is 100 percent, the guarantor would need to earn a credit risk premium of \$4 billion (400 basis points) and the guarantee fee would be 440 basis points. This is obviously unrealistic as it implies that investors in these mortgages (with low expected losses of just 40 basis points) need to earn returns similar to those of junk bonds (which tend to have considerably higher expected losses). Thus, although the application of the Modigliani-Miller logic to capital requirements may have its limitations,⁸ the effect of capital requirements on mortgage costs is often overstated because it takes no account of the effect of capital on required returns.

Those who believe that higher capital requirements would raise mortgage costs are focused on having enough capital to cover losses in another crisis, but not an excessive amount. Goodman and Zhu (2014) estimate that Freddie Mac had a loss rate of about 4 percent on the mortgages they guaranteed in 2007, the worst-performing vintage, whereas Fannie Mae had losses of more than 5 percent. Thus, if capital requirements are based on this loss experience, a 5 percent capital requirement is probably not enough for at least two reasons. First, these losses were incurred despite extraordinary government actions to support house prices, financial markets, and the overall economy, and could have been much higher absent this costly support. Second, when bank regulators set capital requirements, they seek to ensure that there is a significant buffer to withstand adverse shocks so that a bank can continue operations despite the shock. Likewise, the capital requirement for MBS insurers should be high enough so that guarantors have enough capital to continue providing guarantees even with an adverse shock.

Of course, one could argue that the 2007 vintage included mortgages that were riskier than those that would be allowed under the new legislation and with the oversight of the new regulator, the FMIC. Indeed, Goodman and Zhu (2014) estimate that mortgages guaranteed by the GSEs in 2010 would have generated losses of 2.4 – 3 percent if they went through the same shocks experienced by the 2007 vintage. This lower loss rate relative to the 4 – 5 percent loss rate of the 2007 vintage reflects the higher average quality of mortgages guaranteed in 2010. Thus, the appropriate size of the capital requirement will depend in no small measure on the quality of mortgages that the regulator will allow and the protections put in place for lower-quality mortgages (such as mortgage insurance). If quality of mortgages is uncertain, as it likely would be, it suggests that some risk weighting of mortgages would be necessary, with riskier mortgages having higher risk weights and thus effectively more capital behind them.⁹ A further question is whether 10 percent makes sense in light of current bank capital requirements. Basel III currently requires a Tier 1 common equity ratio approaching 10 percent for large,

⁸ See Baker and Wurgler (2013), who examine the relationship between risk and return in the banking sector.

⁹ A challenge with risk weights is that they often depend on the discretion of the regulator, and it is difficult to incorporate precise risk weights into legislation. Concern with regulatory manipulation of risk weights is one of the rationales that has been stated for the bank leverage ratio requirement because it does not depend on risk weights.

systemically important financial institutions. In one version of the capital requirements, mortgages have a risk weight of 50 percent, meaning that banks need to fund themselves with 5 percent capital on the mortgages they hold in their portfolios. This would seem to suggest that banks undertaking balance sheet lending rather than selling mortgages off for securitization would face lower capital requirements than mortgage guarantors, leading mortgages to migrate to the banking sector rather than to be put into guaranteed MBS. This migration could be desirable if institutions holding loans on balance sheet have a heightened incentive for prudence in origination. However, it is not clear that this migration would happen. Banks hold diversified portfolios of assets that include securities, commercial and industrial loans, commercial real estate loans, and credit card loans. Indeed, for the U.S. banking sector as a whole, residential mortgages (including home equity lines of credit) account for just 22 percent of assets. Thus, when a bank holds a mortgage portfolio, it is supported not just by the 5 percent equity capital for mortgages, but also by the equity required to fund the other assets on its balance sheet. Put differently, part of the reason overall bank capital requirements are 10 percent and not higher – and thus why they have to fund themselves with only 5 percent capital against mortgages – is that they are diversified entities. Nevertheless, whether a 10 percent capital requirement for mortgage guarantors is consistent with bank capital requirements remains an open question. Before the next round of legislation, it is critical that a serious calibration of capital requirements be undertaken, one that seeks to reconcile capital requirements of the mortgage guarantors with bank capital requirements.

Although the Johnson-Crapo legislation specified a 10 percent capital requirement, it left the regulator to determine what counted as “capital.” A lesson of the crisis is that the quality of capital matters immensely. A considerable part of the capital of Fannie and Freddie before the crisis, for example, was in the form of tax-deferred assets that provided the firms with a tax benefit on future profits to offset past losses. But the possibility of losses for years to come implied that these assets did not actually provide resources with which to absorb losses. A pliable regulator — a natural concern given the history of the GSEs — could define *capital* to include debt or preferred securities in addition to equity capital. For the most part, support of financial institutions during the crisis was structured to ensure that the debt securities of financial institutions were not impaired, likely out of concern that such impairment would trigger creditor runs. Moreover, the existence of subordinated debt and preferred stock reduced the incentive of banks to raise common equity during the financial crisis because the benefits of such an equity issue would have accrued first to these more senior claimants. This is the so-called debt overhang problem that led to inadequate private-sector recapitalizations and was one of the rationales for equity injections in the Troubled Assets Relief Program (TARP). As a result of this experience, Basel III not only raised capital requirements, but also improved the “quality” of capital, substantially increasing *common equity* requirements and downplaying the importance of preferred equity and subordinated debt. Allowing mortgage guarantors to count subordinated debt and preferred stock as capital would lead to similar problems as those experienced by banks during the crisis. Policy makers might hesitate to allow these more senior securities to bear losses, and their existence would make it more difficult for guarantors to recapitalize during periods of significant stress.

Pricing the Government Guarantee

Another key aspect of the legislation was the establishment of a mechanism by which to set the fee for the government guarantee. The fee would be paid to FMIC, which would hold in reserve capital accumulated from these fees, eventually equal to 2.5 percent of the outstanding MBS it guaranteed.

In one view, the fee would be set to cover the expected losses that the government would incur. These are, of course, difficult to estimate given that the first-loss capital is supposed to protect the government from loss in all but the most catastrophic scenarios. Zandi and deRitis (2011) estimate that the government guarantee with a reinsurance fee would lead to significantly lower mortgage rates than if the private market had to self-insure against catastrophic losses. This conclusion relies on the assumption that the government can better withstand catastrophic losses because it can borrow at the risk-free rate to fund losses while the private market faces higher funding costs.

Scharfstein and Sunderam (2011) question this conclusion, arguing that the government should factor in a risk premium on top of expected losses to compensate it for bearing risk in bad states of the world. Although it may be true that the U.S. Treasury has been able to borrow at the risk-free rate in periods of significant financial stress, this borrowing comes at a cost — either higher future taxes or reduced government spending on other programs. If these taxes are distortionary or if other government programs have value, the cost is greater than the risk-free rate (See Lucas 2011 for a related discussion). Moreover, if there are other constraints on spending, losses arising from the guarantee could come at the expense of countercyclical fiscal expenditures, such as expanding unemployment benefits during a significant negative shock to the economy associated with high rates of mortgage defaults. Thus, the optimal fee could well be greater than the fee that covers actuarial losses, and there should be no presumption that the government should charge significantly less than private markets for bearing catastrophic losses.¹⁰

Thus, if the government charges a reinsurance fee at or near what the market would charge to compensate for the fiscal risk it bears, the potential benefit of the government guarantee would be reduced relative to pricing based on expected losses. However, there might still be a benefit of the government guarantee to the extent that eliminating credit risk of MBS promotes a more liquid market for MBS. This greater liquidity should lower required yields on MBS and thus reduce mortgage rates. Nonetheless, these benefits are likely to be small given that more liquid securities tend to trade at yields only 10 basis points (bps) below similar securities that are less liquid. With imperfect pass-through of MBS yields into mortgage rates because of market power in mortgage origination and securitization, the effect on mortgage rates is likely to be even lower than this 10 bps estimate.

A legislative proposal by Representatives John Carney (D-Delaware), John Delaney (D-Maryland), and Jim Himes (D-Connecticut) provides an innovative approach to pricing the government guarantee. Five percent private capital would be required in the first-loss position, along the lines of the Waters proposal. Of the remaining 95 percent, 10 percent of the mortgage credit risk would be required to be

¹⁰ Hanson, Scharfstein and Sunderam (2014) formalize these arguments in a theoretical model of the socially optimal pricing of risk by the government.

sold off to private investors *pari passu* to the government exposure. The pricing of this 9.5 percentage points of capital would then be used to set the price of the secondary government insurance.

Countercyclical Capital Requirements

The empirical evidence points to a modest effect of a government guarantee on mortgage rates in normal times. This effect would likely be even smaller with enhanced capital requirements and with a reinsurance fee rather than an uncompensated implicit guarantee. There is evidence, however, that a government guarantee could facilitate the availability of new mortgage credit during periods of significant financial stress. Indeed, Fannie and Freddie gained considerable market share during the financial crisis because the government guaranteed the GSE mortgage pools without private capital required at the MBS level (just homeowner down-payments and private mortgage insurance [PMI] on individual loans). Thus, if 10 percent capital is required in all states of the world, it is likely that in a crisis the guarantors would have insufficient capital to guarantee new mortgages even if they have government reinsurance. If so, then the secondary government guarantee has limited value: it has little effect on the supply of credit in normal times and is insufficient to ensure the availability of credit in bad times.

Recognizing that low levels of guarantor capital during periods of significant financial stress could reduce the supply of mortgages, Johnson-Crapo includes a mechanism for the first loss capital requirements to be reduced in the face of credit market strains. If the director of the FMIC, in conjunction with the Chair of the Federal Reserve Board and the Treasury Secretary, and in consultation with the Secretary of the Department of Housing and Urban Development, “determine that unusual and exigent circumstances threaten mortgage credit availability,” they can authorize private guarantors to obtain the government insurance for a limited period with less than 10 percent first-loss capital. Thus, a countercyclical capital requirement can be used to stabilize the supply of housing credit.

If indeed the value of a government guarantee mainly accrues during periods of significant stress to the financial system, a natural alternative to having a guarantee widely available at all times would be to focus reform on ensuring that the government guarantee is available on newly issued mortgages during times of stress. Scharfstein and Sunderam (2011) propose that the government have a limited footprint in normal times when the private market is willing to bear risk, but expand the government’s role when it is needed most; that is, when the markets are under significant stress. The countercyclical capital requirement embodied in Johnson-Crapo is one way to achieve this goal. A key difference is that the guarantee is available to most mortgages under Johnson-Crapo, with the extent of the government exposure depending on the size of the required first-loss private capital. This contrasts with the Scharfstein-Sunderam approach in which few mortgages receive a government guarantee in normal times. The guarantee is made widely available in a crisis but the insurance is not extended retroactively to non-guaranteed mortgages. This focuses the government involvement on ensuring the flow of mortgage credit going forward in a crisis while avoiding an *ex post* bailout to market participants who have already invested in mortgages.

Which of these two approaches is more desirable depends on whether there is a robust and durable capital requirement in the Johnson-Crapo approach. If the capital required in normal times remains of

high quality, then both proposals protect taxpayers, with the Johnson-Crapo approach having the advantage of maintaining a liquid market for MBS, including a well-functioning TBA market. This liquidity confers some benefits to mortgage markets and likely to the broader financial system, which is made safer by the existence of liquid, safe securities.¹¹ The possibility that a hybrid capital model such as in Johnson-Crapo will eventually result in a watered-down capital requirement – including in the face of future lobbying efforts to try to weaken it — is a significant drawback of that approach.

Competition

In an effort to promote competition, Johnson-Crapo allowed the entry of multiple guarantors with the approval of the FMIC. Greater competition may reduce the economic rents that could accrue to the guarantors so that more of the benefit of the government reinsurance would pass through to borrowers — in the event that the price on the government reinsurance is set too low (as might happen under political duress), competition was meant to direct the resulting subsidy to homeowners rather than allowing it to be captured by the intermediary guarantors. Moreover, although there is an important systemic component of housing risk that could lead to the failure of multiple guarantors, the failure of any one guarantor in response to an idiosyncratic shock would be less likely to have systemic implications if there are many guarantors.

A difficulty with having too many guarantors — and a high level of competition with rents competed away — is that it could induce a race to the bottom in credit standards as guarantors seek to increase current earnings. Thus, a more competitive market means that the FMIC would need to be more vigilant regarding capital standards and mortgage quality given the heightened incentive of the guarantors to increase risk.

Alternative Approaches

This section discusses several other proposals that received attention during the housing finance policy debate of 2013 and 2014, focusing on key differences from the Johnson-Crapo approach.

Corker-Warner

The proposal by Senators Bob Corker (R-Tennessee) and Mark Warner (D-Virginia) introduced in June 2013 was the starting point for the Johnson-Crapo bill, with the common features of private capital in a first-loss position ahead of a government guarantee on MBS, entry and competition among firms that would supplant Fannie and Freddie, a common securitization platform and thus a unified pool for guaranteed MBS, and funding for affordable housing activities. A key difference between the two proposals was that the predecessor Corker-Warner bill would have allowed private capital to attach to one or more MBS, as an alternative arrangement in addition to the system of a private guarantor firm that aggregates capital for a portfolio of MBS. That is, a guaranteed MBS could have 10 percent private capital directly connected to that one MBS — perhaps as a junior tranche in the securitization — or

¹¹ The existence of such securities also makes it easier for the Federal Reserve to conduct quantitative easing through its large scale asset purchase program.

could instead be covered by a private guarantor required to maintain capital equal to 10 percent of all MBS covered by that guarantor.

The Corker-Warner “capital markets” approach could have been implemented through securities in which the cash flows paid to loss-absorbing investors decreased in the event of credit losses, with the FMIC guarantee kicking in after investors had taken losses corresponding to the required 10 percent capital level. An advantage of this approach is that investors hand over cash up front, leaving no risk that the 10 percent capital will not turn out to be present when the loss actually occurs, as might happen if a bond guarantor is unable to honor its obligations.

This capital markets approach was omitted from the Johnson-Crapo bill in response to critics who argued that such capital markets transactions would dry up in a future housing crisis as the firms engaged in this activity turned away from housing as an asset class. They asserted that, in contrast, bond guarantors would ensure that private capital was available even in housing downturns because this would be these firms’ only line of business. The idea that guarantors would be a more stable source of capital is difficult to square with the fact that monoline private mortgage insurers retrenched during the crisis in the face of losses and found it difficult to raise new capital, with some requiring waivers on their capital standards from Fannie and Freddie to continue to write policies for new mortgages. Allowing for a second channel for private capital to enter the housing finance system would instead seem to have potential benefits in making the system more resilient and not less.

As discussed below, the GSEs in conservatorship have been employing similar capital markets transactions to sell off part of the credit risk in their guaranty portfolio to private investors — and these transactions are widely seen as having been successful in reducing the risk to taxpayers of the now-explicit guarantee on GSE activities. Again, it seems useful for future reform efforts to allow multiple channels by which private capital can take on risk ahead of the government guarantee, including through capital markets transactions.

Hensarling PATH Act

The distinguishing feature of the proposal from House Financial Services Committee Chairman Jeb Hensarling (R-Texas) was a narrow scope for government guarantees on MBS. The Protecting American Taxpayers and Homeowners Act of 2013 (known as the PATH Act) would have eliminated Fannie and Freddie, with the combination of FHA and Ginnie Mae (as insurer and securitizer, respectively) rather than GSEs or private guarantors providing the taxpayer backstop. Eligibility for FHA-backed mortgages would be restricted to low- and moderate-income families and first-time homebuyers of any income, rather than all families as in the current system (and as in the other proposals discussed here). Other provisions of the PATH Act likewise would require a greater share of housing credit risk to be borne by private investors, including through lower limits on the size of FHA-backed loans (meaning that a larger share of mortgages would not qualify for a government guarantee) and a requirement for risk-sharing transactions to cover 10 percent of new FHA business (which now includes no private capital at the MBS level). In the public debate, it was common for critics to claim that the Hensarling approach eliminated the government guarantee (and thus would lead to dire consequences for the housing market), even though a guarantee remained available at all times in this proposal, though to a narrower set of

borrowers than in other proposals. In a period of “significant credit contraction,” the PATH Act specified that FHA loans would be available to all borrowers regardless of income.

The PATH Act faced considerable opposition from both industry and housing advocates worried about the consequences of the narrow guarantee for mortgage interest rates and the availability of mortgage credit. The bill received a positive vote in the House Financial Services Committee, but the Republican leadership in the House declined to take up the bill on the floor of the House of Representatives, presumably because Representatives would not want to vote in favor of a proposal fiercely opposed by homebuilders, real estate agents, and other influential groups — especially when the proposal had no chance to garner sixty votes in the Senate (let alone the sixty-seven votes to override a veto by President Obama).

Waters Proposal

The proposal from House Financial Services Committee ranking member Maxine Waters (D-California) focused on broadening access to credit. The bill shared the hybrid capital approach of Johnson-Crapo and Corker-Warner, but required 5 percent capital in a first-loss position rather than 10 percent. This reflected concerns that the additional 5 percentage points of capital would lead to undesirably higher mortgage interest rates and reduced access to credit for lower-income families, while 5 percent was seen as sufficient when compared against the losses of Fannie and Freddie in the crisis. As discussed above, a capital requirement of 5 percent seems low if requirements are based on the 4–5 percentage points of loss on the 2007 vintage of GSE-guaranteed mortgages, which was the worst-performing vintage. This requirement would not take account of the need for a capital buffer in periods of stress, the extraordinary support of house prices that limited losses, the concentrated nature of guarantor risk, and the need for consistency with bank capital requirements. Ultimately, the capital requirement should depend on these factors as well as the quality of mortgages that are allowed under the new system, which will affect the expected losses incurred by the guarantors.

It is also worth noting that with 5 percent capital at the MBS level, the appropriate premium for the secondary government insurance should naturally be higher than with 10 percent capital. Thus, even if one believes that 5 percent capital would be less expensive, the higher reinsurance fees — properly calculated to reflect the fiscal risk to the government as discussed above — should dampen this cost advantage and be reflected in mortgage interest rates. The Waters proposal specified that the insurance premiums were to be calculated using the Credit Reform Act accounting methodology, which as Lucas (2011) explains, provides for smaller insurance premiums and thus lower costs for borrowers, but incomplete compensation for the risks taken on by taxpayers as compared with the insurance premiums calculated under the fair market value approach used in the Corker-Warner legislation.

The Waters bill would have established a single firm eligible to obtain the secondary government guarantee, organized as a cooperative made up of originators; this followed along the lines of a proposal from the New York Fed (see Dechario et al. 2010; Mosser, Tracy, and Wright 2013). To ensure that this cooperative would not be controlled by large originators, governance would have been shared equally across members — one vote for each institution, regardless of size. The idea was to retain the private incentives for innovation through a profit motive. However, a drawback of this approach is that it

concentrates risk in one too-big-to-fail institution and exposes the members to the credit risk associated with mortgage guarantees. If one of the benefits of having a guarantee on MBS in the first place is to reduce credit risk in the leveraged banking sector, this structure seems to reduce this benefit.

Recapitalization of Fannie and Freddie

A final proposal is to simply end the conservatorships of Fannie and Freddie and restore the two firms as ongoing entities. As argued by Krimminger and Calabria (2015), this option does not require new legislation because the FHFA has the authority to end the conservatorship. The bilateral agreements between the two firms and the Treasury would provide an explicit taxpayer backstop (in this case, on the two firms rather than merely on their MBS), in exchange for which the firms would be required to fund themselves with considerably more private capital than in the past and would not be allowed to rebuild their retained investment portfolios. This would leave essentially an improved version of the old system: Fannie and Freddie would be a duopoly with market power and too-big-to-fail status — and presumably designated as systemically important financial institutions under Dodd-Frank — but with more capital, a more powerful regulator, and an explicit and compensated guarantee rather than an implicit and unpriced one. Compared to having the firms in government control, some would argue that this arrangement would restore private incentives for innovation, although whether such innovation is always desirable remains an open question given that it sometimes takes the form of products or activities that could be excessively risky. But presumably this approach would involve less competition than with multiple firms competing in securitization with a backstop government guarantee, as in the Johnson-Crapo or Corker-Warner approach. This would be a familiar system that already works — in contrast to the uncertainties inherent in replacing Fannie and Freddie with new entrants. However, it would give rise to the same dangers as the old system, with two firms that are likely too important to the economy to be allowed to fail and that have considerable market power — and a history of exercising this power. The government's ownership stakes in Fannie and Freddie (79.9 percent of the firms' common stock plus \$189.5 billion in preferred shares) could be sold over time following the approach used with AIG. The two firms would then pay an annual fee to the Treasury for the taxpayer commitment to back them with public capital.

None of the approaches discussed above succeeded in moving forward. The Johnson-Crapo bill received a positive vote in the Senate Banking Committee on May 15, 2014, with seven Republicans and six Democrats in support and three Republicans and six Democrats opposed — an unusual outcome in that the proposal came from the Democratic chair of the committee. With progressive Democrats voting against the bill in the banking committee, Senate Leader Harry Reid (D-Nevada) declined to bring it forward for consideration by the full Senate. Senator Johnson retired following the November 2014 election, the results of which brought a Republican majority in the Senate, giving Senator Richard Shelby (R-Alabama) the chair of the Banking Committee in 2015. Senator Shelby has introduced financial regulatory reform legislation that includes some GSE-related provisions, but a complete housing finance reform bill has not received further Congressional consideration since May 2014.

With the Obama administration and the FHFA as regulator both opposed to restoring the firms to private control, the failure of the legislative proposals means that the GSEs are likely to remain in

conservatorship until the next president takes office. The next section thus assesses political prospects for reform and several developments that are changing the U.S. housing finance system in the absence of legislation.

Changes to the U.S. Housing Finance System

The failure of legislation to advance to enactment in 2014 reflected opposition to the compromises in the Johnson-Crapo bill. A central concern on the left was over access to credit for diverse populations, in particular that the flex fee was not an adequate replacement for the affordable housing goals that were repealed by Johnson-Crapo and under which Fannie and Freddie had affirmative duties to support mortgages for low-income families and in areas with low incomes. Housing advocates worried that private guarantors would “cream” the market by focusing on serving higher-income borrowers and they wanted the bill to include a “duty to serve” provision to ensure that lower-income groups would have access to affordable mortgages. On the right, conservatives balked at the idea of formalizing a new government guarantee on housing, even with substantial private capital in a first-loss position. The obstacles faced by the Johnson-Crapo bill thus illustrate the difficulty of enacting housing finance reform legislation.

Even with legislation stalled, changes are taking place in the U.S. housing finance system. In conservatorship, Fannie and Freddie operate under the direction of their regulator, the FHFA, which has instructed the two firms to carry out initiatives that, taken together, achieve some of the aims of housing finance reform. This includes putting private capital at risk ahead of the government guarantee in the event of another housing crisis and changing the infrastructure for MBS. These are important developments, but not a full reform. In the meantime, the two firms remain linchpins of the U.S. housing finance system.

A key development of 2013 and 2014 is that Fannie and Freddie began to transfer some of the risk from their MBS guarantees to private investors, effectively bringing private capital into GSE securitization. These risk-sharing transactions, often referred to as “stacker” bonds, following the Freddie Mac terminology of Structured Agency Credit Risk (STACR) bonds, are much along the lines of what was envisioned in the Corker-Warner bill. Investors buy bonds from Fannie and Freddie that are associated with a reference pool of mortgages, and the returns on the securities decrease as credit losses are taken on the underlying loans over a specified period such as ten years. The initial risk-transfer securities were actually second-loss private capital, as the two GSEs took a modest amount of credit losses (30 bps) before private investors faced lower returns from further credit losses, with the private capital itself typically divided into tranches so that investors could take more or less exposure to housing risk. Subsequent transactions have transferred first-loss risk to the private investors. Much as with the MBS-level capital that was to be provided in the Corker-Warner and Johnson-Crapo bills, homeowner equity and any loan-level PMI stand in front of the risk-transfer transactions.

Private capital is coming back into housing finance in other ways. Fannie and Freddie have used reinsurance transactions to transfer some of their remaining credit risk, again with the coverage referencing specific pools of mortgages. Across the various approaches, some type of risk transfer applied to nearly half of the mortgages acquired by Fannie and Freddie in 2014. The firms are also

reported to be considering allowing PMI firms to offer deeper loan-level coverage, such as by insuring losses on as much as half of the mortgage for borrowers with down payments of 5 percent, rather than the typical PMI policy which covers around 25 percent of a mortgage for such borrowers.

The FHFA has also directed Fannie and Freddie to develop a single security to encompass MBS from both Fannie and Freddie, rather than the firms' now-distinct securities. If successful, a single security would allow all guaranteed MBS to trade in a common pool, in principle increasing liquidity and resulting in lower MBS yields and thus mortgage interest rates. This development would be especially beneficial for Freddie Mac, whose securities are less liquid than those of Fannie Mae and thus command lower prices (meaning that Freddie pays investors higher yields on MBS than Fannie does even though the underlying mortgage interest rates are equalized between the two firms, resulting in lower profitability for Freddie). The FHFA has further instructed Fannie and Freddie to develop a common securitization platform on which both of their MBS would be issued. This new housing finance infrastructure was originally envisioned as a means to increase liquidity by unifying the pools for Fannie and Freddie MBS, and to facilitate entry by eventual new guarantors. With legislation stuck, however, the prospect for new entrants has dimmed, and the common securitization platform is now being developed for the benefit of the two incumbent firms rather than in expectation of further competition.

The GSEs remain at the center of the U.S. housing finance system because mortgage securitization without a guarantee has been slow to rebound after collapsing in the financial crisis. The volume of such "private-label" securitization remains modest, although some non-guaranteed lending has migrated instead to bank balance sheets. Government-guaranteed mortgages remain by far the largest source of housing finance, reflecting both the funding advantage of Fannie and Freddie (and the FHA and other government-backed loans) with a now-explicit government backstop, and continued uncertainties about the legal framework for non-guaranteed mortgages.

U.S. taxpayers remain on the hook for catastrophic costs in the event of another foreclosure crisis, but private capital now takes on risk ahead of the GSEs through both loan-level and MBS-level channels. And as discussed above, in principle, the overall impact of this additional private capital on mortgage interest rates should be modest, because the increased private capital should lead Fannie and Freddie to charge less for their insurance.

Bringing in private capital through risk-transfer transactions constitutes some progress toward protecting taxpayers, but still falls well short of a full housing finance reform. Keeping the GSEs in government control with a taxpayer backstop, and thus funding advantage over potential competitors will inevitably block development of private competitors, even as policy makers worry that the lack of private alternatives to securitization through Fannie and Freddie means that steps to limit the role of the two firms would crimp the availability of mortgage credit. A full housing finance reform is needed to address this chicken-and-egg problem, meaning that a solution is needed to break the stalemate between the progressives who want to ensure broad access to mortgage credit, and conservatives who want to limit government involvement in mortgage markets. The success of the risk transfer transactions is a hopeful step in this regard, as this development could illustrate that private capital can take on housing credit risk without constricting access to credit and leading to a socially unacceptable

upward spike in mortgage interest rates. Over time, one possibility is that the experience with the risk transfer securities allows the policy debate to return to models that feature both increased private capital and an improved market structure.

A natural next step in this regard would be for the FHFA as regulator to mandate that Fannie and Freddie arrange for credit risk transfer on all newly guaranteed mortgages going forward, rather than setting a goal that encompasses only some of the firms' mortgage production. Following the discussion above, the FHFA would need to decide on the amount of private capital, its quality, and how the requirement might vary with financial market conditions.

Whether reform moves forward depends on addressing the concerns of those who want to ensure broad mortgage access and those who are primarily concerned with limiting government involvement in mortgage markets. Until such a path is found, the housing finance system will remain dominated by the government—and there is a risk that given the political stalemate the conservatorship of Fannie Mae and Freddie Mac will continue indefinitely. The risk-transfer transactions could continue to increase in scope, reducing taxpayer exposure to housing credit risk and possibly paving the way for a revival in mortgage origination without a government guarantee. The housing finance system could evolve with such changes, perhaps in directions that are acceptable to both sides of the debate, although the prospects for comprehensive housing finance reform legislation remain challenging.

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