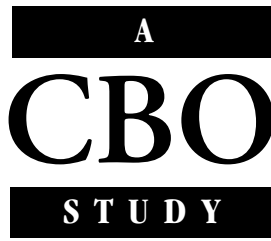


CBO

Fannie Mae, Freddie Mac, and the Federal Role in the Secondary Mortgage Market



DECEMBER 2010



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Note

Numbers in the text and tables for outstanding amounts of mortgage-backed securities (MBSs) guaranteed by Fannie Mae and Freddie Mac exclude the two institutions' holdings of their own MBSs. Those securities are instead reported in the institutions' mortgage portfolio holdings, which are mostly financed by issuing debt.

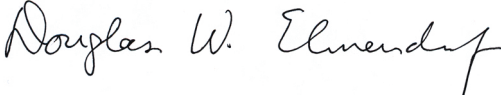


Preface

In September 2008, the federal government assumed control of Fannie Mae and Freddie Mac, two federally chartered institutions that last year guaranteed three-quarters of new residential mortgages originated in the United States. This Congressional Budget Office (CBO) study—prepared at the request of the Chairman of the Senate Committee on Banking, Housing, and Urban Affairs—examines various alternatives for the federal government’s future role in the secondary (resale) market for residential mortgages. In keeping with CBO’s mandate to provide objective, impartial analysis, the study does not make any policy recommendations.

This study was written by Deborah Lucas and David Torregrosa of CBO’s Financial Analysis Division. Priscila Hammett compiled the figures, and Rebecca Rockey fact-checked the manuscript. Kim Cawley, Chad Chirico, Juan Contreras, Mark Hadley, Kim Kowalewski, Joe Mattey, Damien Moore, Larry Ozanne, Aurora Swanson, and Steven Weinberg of CBO provided helpful comments on earlier drafts, as did various people outside CBO, including Robert Collender, Patrick Lawler, Paul Manchester, Joseph McKenzie, and Robert Seiler Jr. of the Federal Housing Finance Agency; Ron Feldman of the Federal Reserve Bank of Minneapolis; W. Scott Frame of the Federal Reserve Bank of Atlanta; Diana Hancock and Wayne Passmore of the Federal Reserve Board; Dwight Jaffee of the University of California at Berkeley; Donald Marron of the Urban-Brookings Tax Policy Center; Joseph Tracy and Joshua Wright of the Federal Reserve Bank of New York; Robert Van Order of George Washington University; and Paul S. Willen of the Federal Reserve Bank of Boston. Staff members of Freddie Mac also provided information, as did Michael Fratantoni of the Mortgage Bankers Association. (The assistance of outside participants implies no responsibility for the final product, which rests solely with CBO.)

Christian Howlett edited the study; Kate Kelly, Leah Mazade, and Sherry Snyder proofread it. Maureen Costantino prepared the report for publication, with assistance from Jeanine Rees, and designed the cover. Monte Ruffin printed the initial copies, Linda Schimmel coordinated the print distribution, and Simone Thomas prepared the electronic versions for CBO’s Web site (www.cbo.gov).



Douglas W. Elmendorf
Director

December 2010



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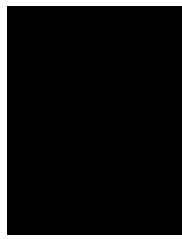
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Summary

Two years ago, the federal government assumed control of the ailing Federal National Mortgage Association (Fannie Mae) and Federal Home Loan Mortgage Corporation (Freddie Mac), two institutions that facilitate the flow of funding for home loans nationwide. The cost to taxpayers of that takeover, and the structural weaknesses that contributed to the institutions' financial problems, have prompted policymakers to consider various alternatives for the government's future role in the secondary (resale) market for residential mortgages.

This study looks at how Fannie Mae and Freddie Mac evolved into the institutions they are today. As context for discussing future options, the study also examines both the rationales that are often cited for federal involvement in the secondary mortgage market and the problems with Fannie Mae and Freddie Mac that existed before the recent financial crisis. The secondary market channels funds to borrowers by facilitating the resale of mortgages and mortgage-backed securities (MBSs). In that market, lenders such as banks, thrifts, and mortgage companies obtain funding for the loans they originate by selling the loans to purchasers such as Fannie Mae, Freddie Mac, and other financial institutions (including banks and insurance companies).

Alternative proposals for the secondary mortgage market involve different choices about whether the federal government should continue to guarantee payment on certain types of mortgages or MBSs and, if so, what the scope, structure, and pricing of those guarantees should be. The proposals also involve choices about support for affordable housing and the competitive structure and regulation of the secondary market. This study examines the trade-offs involved in making those key design choices and evaluates the strengths and weaknesses of three broad

approaches for the future of the secondary mortgage market:

- A hybrid public/private model in which the government would help to ensure a steady supply of mortgage financing by providing explicit guarantees on privately issued mortgages or MBSs that met certain qualifications;
- A fully public model in which a wholly federal entity would guarantee qualifying mortgages or MBSs; or
- A fully private model in which there would be no special federal backing for the secondary mortgage market.

This analysis focuses primarily on the long-term strengths and weaknesses of the alternative approaches, not on the transition from the status quo to a new model. Transitional issues—such as what to do with the existing portfolios and obligations of Fannie Mae and Freddie Mac—are important in their own right, but they are largely separate from the questions about the long-term future of the secondary mortgage market that are examined here. In particular, alternative ways of resolving the transitional issues probably would not substantially affect the relative long-term merits of different models for the secondary market, and the different models do not appear to require any particular resolution of the transitional issues—choices about each could be combined in various ways. If changes were made in the next few years, care would need to be taken not to disrupt the housing and mortgage markets further. Those markets remain fragile: The sharp decline in housing prices since mid-2006 has left many homeowners owing more on their mortgages than their homes are worth, foreclosure rates are still high, and obtaining a mortgage continues to be difficult for many households.

Fannie Mae, Freddie Mac, and the Secondary Mortgage Market

Four decades ago, Congressional charters set up Fannie Mae and Freddie Mac as government-sponsored enterprises (GSEs)—privately owned financial institutions established by the government to fulfill a public mission. The two GSEs were created to provide a stable source of funding for residential mortgages across the country, including loans on housing for low- and moderate-income families.¹ Fannie Mae and Freddie Mac carry out that mission through their operations in the secondary mortgage market. They purchase mortgages that meet certain standards from banks and other originators, pool those loans into mortgage-backed securities that they guarantee against losses from defaults on the underlying mortgages, and sell the securities to investors—a process referred to as securitization. In addition, they buy mortgages and MBSs (both each other’s and those issued by private companies) to hold in their portfolios. They fund those portfolio holdings by issuing debt obligations, known as agency securities, which are sold to investors.

Until recently, the GSEs’ debt securities and MBSs were not officially backed by the federal government. Nevertheless, most investors believed that the government would not allow Fannie Mae and Freddie Mac to default on their obligations. That perception of an implicit federal guarantee stemmed from the very prominent role the two entities played in the housing market and in the broader financial markets. It also stemmed from the specific benefits that the two entities received because of their status as GSEs, such as not having to register their securities with the Securities and Exchange Commission, being exempt from state and local corporate income taxes, and having a line of credit with the Treasury.

Because of their implicit federal guarantee, Fannie Mae and Freddie Mac could borrow to fund their portfolio holdings at much lower interest rates than those paid by fully private financial institutions that posed otherwise comparable risks, and investors valued the GSEs’ credit guarantees more highly than those issued by fully private

guarantors. Some of those benefits from federal support flowed to mortgage borrowers in the form of greater availability of credit and somewhat lower interest rates. The GSEs’ other stakeholders (shareholders, managers, and employees) also reaped some of the gains. The advantages of implicit federal support allowed Fannie Mae and Freddie Mac to grow rapidly and dominate the secondary market for the types of mortgages they were permitted to buy (known as conforming mortgages). In turn, the perception that the GSEs had become “too big to fail” reinforced the idea that they were federally protected.

Fannie Mae and Freddie Mac were profitable in most years until recently, when the United States experienced its most severe financial crisis since the Great Depression of the 1930s. As housing prices dropped nationwide and foreclosures increased, the two GSEs suffered large losses on various investments in their portfolios, such as subprime mortgages (loans made to borrowers with poorer-than-average credit) and “private-label” MBSs (securities issued and insured by private companies without government backing). The GSEs also faced heightened uncertainty about the magnitude of the ultimate decline in housing prices and increase in unemployment and thus about the size of credit losses on their outstanding guarantees (which in September 2008 totaled \$3.8 trillion). Those factors impaired the GSEs’ ability to issue low-cost debt to fund their mortgage purchases, and doubts arose about whether they had enough capital to cover potential losses.

The enactment of the Housing and Economic Recovery Act of 2008 (Public Law 110-289) established the Federal Housing Finance Agency and gave it the authority to place Fannie Mae and Freddie Mac in conservatorship—a step it took in September 2008. The Treasury was granted the authority to provide the GSEs with unlimited capital (by purchasing their stock) in order to maintain their solvency through 2012. Those actions gave the government control over the two institutions and effectively made the government’s backing of their debt securities and MBS guarantees explicit.

As a result of that aid and the explicit federal guarantee, Fannie Mae and Freddie Mac were able to continue channeling funds to the mortgage market, even as private financial institutions were faltering. Consequently, in 2009, the two GSEs owned or guaranteed roughly half of all outstanding mortgages in the United States (including a significant share of subprime mortgages), and they

1. The Federal Home Loan Bank System, which is also a GSE, once played a significant role in mortgage finance. But because its focus has broadened beyond housing, and because options for changing that system involve different considerations than options for the future of the secondary mortgage market, this study focuses on Fannie Mae and Freddie Mac. (The Federal Home Loan Bank System is discussed briefly in Appendix B.)

financed three-quarters of new mortgages originated that year. Including the 20 percent of home loans insured by federal agencies, such as the Federal Housing Administration (FHA), more than 90 percent of new mortgages made in 2009 carried a federal guarantee.

Possible Rationales for a Federal Role in the Secondary Market

In assessing future options for Fannie Mae and Freddie Mac, a fundamental issue is what role, if any, the federal government should play in the secondary mortgage market. Historically, support for that market has been part of a broader federal housing policy aimed at encouraging home ownership and, to a lesser extent, at making housing more affordable for low- and moderate-income families. The activities of Fannie Mae and Freddie Mac have been an important aspect of that policy, although the largest federal subsidies for home ownership have generally come from favorable tax treatment for housing.²

Federal policies that affect the secondary market are mainly intended to achieve two public purposes:

- Helping to ensure a steady supply of financing for residential mortgages, and
- Providing subsidized assistance for mortgages on housing for low- and moderate-income families.

The government has pursued those goals largely through policies that increase the liquidity of mortgages and mortgage-backed securities. In a liquid market, investors can quickly buy or sell large quantities of an asset without affecting its price. The government can enhance the liquidity of the secondary mortgage market by providing credit guarantees, which make MBSs safer and thus easier for investors to value, and by standing ready to buy and sell MBSs. Such government support has the greatest impact on the availability and price of mortgage funding during disruptions in the financial markets. At such

times, interruptions in the supply of mortgage credit can spill over to the market for new-home construction and weaken the broader economy. Such interruptions can also impede labor mobility by making it more difficult for people to buy and sell homes when they want to move.

Supporting liquidity in the secondary mortgage market through federal credit guarantees tends to lower interest rates only slightly for most mortgage borrowers under normal market conditions. When mortgages are unsubsidized, the cost of providing a credit guarantee is offset by the fees charged to investors, and those guarantee fees are passed on to borrowers. Nevertheless, borrowers may benefit because investors are willing to pay somewhat higher prices (or, equivalently, accept lower interest rates) for MBSs that are more liquid. In a competitive marketplace, that advantage tends to reduce the rates paid by borrowers relative to what rates would be in the absence of federal guarantees. (To the extent that Fannie Mae and Freddie Mac are able to dominate the market for MBSs, the value of greater liquidity may accrue largely to them rather than to borrowers.)

The benefits of the government's actions to increase liquidity in the secondary market by providing credit guarantees and purchasing mortgages must be weighed against the costs. Those actions expose taxpayers to the risk of potentially large losses when the cost of honoring guarantees exceeds the value of guarantee fees collected—or when mortgages held by the government lose value because of changes in interest rates or prepayment rates (that is, the extent to which borrowers pay mortgages off early). Federal guarantees also reduce the incentive for mortgage originators to avoid making risky loans in the first place.

Besides encouraging a stable supply of financing, another objective of federal involvement in the secondary mortgage market is to increase the availability of credit and subsidize its costs for people with low or moderate income. Broadening access to home ownership could be beneficial because owning a home may give people a greater stake in their community and thus make communities more stable. Moreover, certain types of housing assistance may be provided more effectively through support for the secondary market than through grants or tax preferences. For example, some borrowers may have the financial means to own a home but have trouble obtaining private credit—a problem known as “credit rationing.” That problem can occur when it is difficult for

2. Congressional Budget Office, *An Overview of Federal Support for Housing*, Issue Brief (November 2009). Some analysts argue that federal housing policy has encouraged unsustainable rates of home ownership and overinvestment in housing while reducing investment in sectors of the economy that may be more productive—a view reinforced by the disruptions in the housing market that triggered the recent economic crisis. Those broader issues are beyond the scope of this analysis, which focuses on federal support for the secondary mortgage market.

lenders to assess the riskiness of certain borrowers, such as those with short credit histories. Lenders cannot address that greater risk by charging higher interest rates, because such terms tend to attract borrowers who are more likely to default. However, the government may decide that the value to society from subsidizing certain loans is greater than the cost of doing so.

Currently, several federal agencies—including the FHA, the Department of Veterans Affairs (VA), and the Government National Mortgage Association (Ginnie Mae)—provide assistance to low- and moderate-income borrowers through the secondary market, as (to a more limited extent) do Fannie Mae and Freddie Mac. The FHA and VA increase the flow of credit to such borrowers by explicitly insuring mortgages against losses from default, and Ginnie Mae guarantees the payment of interest and principal on MBSs backed by pools of those mortgages. Fannie Mae and Freddie Mac are required to provide support for affordable housing by meeting certain goals set by regulators. Those goals specify the percentage of the GSEs’ mortgage guarantees and purchases that must involve loans used to finance rental housing for, or home purchases by, people with low or moderate income.

Weaknesses of the Precrisis Model

Despite the potential beneficial effects of federal involvement in the secondary mortgage market, the rules and market structure under which Fannie Mae and Freddie Mac operated before conservatorship—referred to in this study as the precrisis model—had numerous weaknesses. Those weaknesses included the following:

- Adverse effects from the implicit federal guarantee of the two GSEs (such as a concentration of market power, risks to the stability of the larger financial system, incentives for excessive risk taking, and a lack of transparency about costs and risks to the government);
- Limited effects on affordable housing;
- Lax regulation; and
- Tensions in trying to balance competing public and private goals.

The implicit federal guarantee concentrated market power in Fannie Mae and Freddie Mac by giving them lower funding costs than potential competitors in the

secondary market. As a consequence, the GSEs grew to dominate the segments of the market in which they were allowed to operate. Because of their size and interconnectedness with other financial institutions, they posed substantial systemic risk—the risk that their failure could impose very high costs on the financial system and the economy. The GSEs’ market power also allowed them to use their profits partly to benefit their other stakeholders rather than exclusively to benefit mortgage borrowers.

The implicit guarantee created an incentive for the GSEs to take excessive risks: Stakeholders would benefit when gambles paid off, but taxpayers would absorb the losses when they did not. (Financial institutions that lack the benefit of a federal guarantee have less incentive to take risks because doing so can increase their financing costs, although some still act imprudently at times.) One way that Fannie Mae and Freddie Mac increased risk was by expanding the volume of mortgages and MBSs held in their portfolios, which exposed them to the risk of losses from changes in interest or prepayment rates. Over the past decade, the two GSEs also increased their exposure to default losses by investing in lower-quality mortgages, such as subprime and Alt-A loans.³

Because the federal guarantee was implicit rather than explicit, the costs and risks to taxpayers did not appear in the federal budget. That lack of transparency made it more difficult for policymakers to assess and control the GSEs’ costs and risks. Lack of transparency also made it difficult for policymakers to evaluate whether the GSEs were effectively and efficiently meeting their affordable-housing goals; several studies have questioned the effectiveness of the GSEs’ affordable-housing activities.

Weak regulation was a further shortcoming of the precrisis model. For instance, until 2008, the GSEs’ regulators lacked the power to increase capital requirements for Fannie Mae and Freddie Mac or to place them in receivership—powers that regulators have long had over banks.

Finally, as private companies with a public mission and implicit public backing, Fannie Mae and Freddie Mac faced an intrinsic tension in balancing the objectives of

3. Subprime and Alt-A mortgages are offered to some borrowers who do not meet the qualifications for a prime mortgage (one extended to the least risky borrowers) because of such risk factors as a low credit rating, insufficient documentation of income, or the ability to make only a small down payment.

maximizing profits for their shareholders, maintaining safety and soundness to minimize potential costs to taxpayers, and supporting affordable housing. For example, efforts to help low-income households tend to involve targeting loans toward borrowers who generally pose more risk than borrowers of traditional conforming mortgages do, thereby putting taxpayers at greater risk of loss. The affordable-housing goals and the pursuit of profit may have encouraged Fannie Mae and Freddie Mac to purchase subprime MBSs that were expected to generate high returns but that involved excessive risk for borrowers and taxpayers alike.

Alternative Approaches for the Future of the Secondary Mortgage Market

The weaknesses inherent in the precrisis model may argue against returning to that model after the GSEs' conservatorship ends. A broad array of alternatives are possible for the federal government's future role in the secondary mortgage market. Any new approach would need to confront major design issues, such as whether to have federal guarantees and, if so, how to structure and price them; whether to support affordable housing and, if so, by what means; and how to structure and regulate the secondary market.

The Congressional Budget Office (CBO) analyzed three broad alternatives for structuring the secondary mortgage market (see Summary Table 1):

- Adopting a hybrid public/private approach that would involve explicit federal guarantees of some privately issued mortgage-backed securities;
- Establishing a fully federal agency that would purchase and guarantee qualifying mortgages; or
- Promoting a fully private secondary market with no federal guarantees.

In examining those broad approaches, CBO looked at a number of criteria, including whether a given alternative would ensure a stable supply of financing for mortgages, how affordable-housing goals would be met, how well taxpayers would be protected from risk, whether federal guarantees would be priced fairly, and to what extent an approach would provide incentives to control risk taking,

(For a synopsis of the trade-offs between the alternative approaches, see Summary Table 2 on page xiv).

Managing the Transition to a New Approach

Moving from the current operations of Fannie Mae and Freddie Mac under conservatorship to any new model would involve several transitional issues, including how to manage the GSEs' existing portfolios and guarantee obligations and what to do with their operating assets. The government faces two basic choices: either retain the GSEs' portfolios and the responsibility for their outstanding guarantees and allow both to run out as mortgages are paid off, or pay a private entity to assume the guarantee obligations and sell off the portfolios. Whatever model for the secondary market is ultimately adopted, the expected losses on the GSEs' existing business will largely be borne by taxpayers, because private investors would not assume those obligations without compensation. The GSEs' operating assets are valuable; they could be auctioned off to investors (with the proceeds helping to offset some of the losses to taxpayers) or kept for use by a federal agency.

This study does not address those transitional issues in depth. Handling them efficiently and without disruption to the secondary mortgage market—especially given current conditions in housing and mortgage markets—is both important and difficult. However, in CBO's judgment, those issues have little impact on the relative merits of various approaches for the long-term organization of the secondary market, which is the focus of this study.

Major Design Issues

Many different models for the secondary mortgage market involve common design issues, such as how to structure and price any federal credit guarantees, whether and how to support affordable housing, and how to structure and regulate the secondary market.

Structuring Federal Guarantees. The design of federal guarantees is an important issue for both a hybrid public/private approach and a fully federal approach. A key choice involves which mortgages would be considered eligible for federal guarantees. Mortgage products that qualify for federal backing tend to be popular, and hence such backing can be used to encourage best practices by lenders. Including a wide range of products in the definition of qualifying mortgages—and setting high dollar limits for those loans—would provide benefits to more borrowers and could increase the stability of the

Summary Table 1.

Key Features of Alternatives for the Secondary Mortgage Market

	Hybrid Public/Private Model	Fully Federal Agency	Fully Private Market
Existing operating assets of Fannie Mae and Freddie Mac	Handed over to specialized issuers of federally backed MBSs (could be non-profit, cooperative, or private firms), sold to private-label issuers, or liquidated	Used for operations of agency, sold to private-label issuers, or liquidated	Sold to private-label issuers or liquidated
Licenses to issue federally guaranteed MBSs	Under “public-utility model,” only a few; under “competitive market-maker model,” available to any firm meeting specified criteria	None; operations undertaken by agency	None
Federal guarantees for loans or MBSs	Explicit, possibly covering only catastrophic risks	Explicit	None (Phased out)
Private capital’s role in secondary market	Absorbs most or all losses, except in cases of unusually large shocks	None on federally guaranteed securities; absorbs all losses on private-label securities	Absorbs all losses
Allowable activities for federally guaranteed securitizers	Under “public-utility model,” restricted to issuing MBSs and holding very limited portfolios; under “competitive market-maker model,” restricted only enough to limit spillover of risk to government	Issuing guarantees and possibly holding portfolios of mortgages and MBSs	Not applicable
Support for affordable housing	Could occur through terms on federal guarantees, fees on issuers of federally backed MBSs, or government agencies	Could occur through agency	No special role; could occur through government agencies
Role of issuers of private-label MBSs	Serve borrowers whose mortgages do not qualify for federal guarantees	Serve borrowers whose mortgages do not qualify for federal guarantees	Dominant players in secondary market, along with other private financial institutions

Source: Congressional Budget Office.

Note: MBSs = mortgage-backed securities.

secondary market. At the same time, a large-scale guarantee program would expose the government to greater risk, reduce the incentives for prudent risk taking, and tend to crowd out private participation in the market.

The government could charge guarantee fees that partly or fully offset the total expense of its guarantee program, including administrative costs, expected losses, and the cost of risk. (If fees and other collections were insufficient to cover those costs, the government would have to subsidize the program.) Basing guarantee fees on the riskiness

of a mortgage would weaken the incentive for excessive risk taking and reduce the extent to which safer borrowers cross-subsidized riskier ones.

Some proposals envision providing federal guarantees but limiting the government’s exposure to risk by sharing risk with the private sector. Under such proposals, private capital—along with homeowners’ down payments and any capital provided by private mortgage insurance—would be the first line of defense against losses from defaults. Transferring risk to the private sector would not

only lower the government's exposure directly but also give private entities greater incentives to control risk and thereby reduce the government's exposure further.

One risk-sharing option that could limit federal losses would be for the government to sell catastrophic risk protection on qualifying MBSs. With catastrophic guarantees, payouts to investors might be triggered, for instance, only when nationwide default rates exceeded some threshold. Smaller losses would be absorbed by private capital or insured by private mortgage insurance. Relying heavily on the private sector for credit protection would have drawbacks, however. Investors would probably perceive securities with very limited federal backing as being riskier and less uniform than those currently issued by Fannie Mae and Freddie Mac, which would make them less liquid. The availability of private capital and private mortgage insurance is also susceptible to disruptions in the financial markets.

Supporting Affordable Housing. The main design issue related to affordable housing is whether to transfer the GSEs' responsibilities in this area to fully federal entities (such as the FHA) that are funded with broad-based taxes or to pursue affordable-housing goals through taxes or mandates on private institutions operating in the secondary mortgage market. Supporting affordable housing generally involves providing subsidies, which are most easily controlled and monitored when administered by a federal agency. Some observers, however, question whether a federal agency could provide support as effectively or flexibly as private entities; in their view, it would be better to have such support remain the responsibility of private financial institutions.

In the precrisis model, the GSEs' affordable-housing activities were effectively funded through the financial advantage generated by the government's implicit guarantee. Under alternative approaches with an explicit federal guarantee, the fees charged to investors would probably either just cover or not entirely cover the government's cost for the guarantee program and so would not generate a surplus that could be used to support affordable housing.⁴ Thus, the alternatives to fund affordable-housing activities would be either to use general revenues or to use special taxes or mandates on financial institutions. Broad-based taxes tend to be less distorting and hence preferable in terms of economic efficiency, although special assessments on financial institutions might be justified as

compensation for benefits that those institutions receive from the government.

Structuring and Regulating the Secondary Market. Key issues related to the structure of the market include what role private-label securitizers would play, how much they would be regulated, and whether any of the GSEs' advantages would be extended to other market participants or abolished. For a hybrid public/private approach, another critical design issue is how the market would be structured—specifically, the number and types of intermediaries that would exist and the activities they would be permitted to engage in. Proposals range from licensing a small number of highly regulated private entities to package and sell federally guaranteed MBSs (the “public-utility model”) to allowing any private financial institution that met certain regulatory criteria to package and sell federally guaranteed MBSs (the “competitive market-maker model”).

An argument in favor of the public-utility model is that it could create a more level playing field for mortgage originators than a less regulated approach would; the public utilities would be required to serve all originators, thereby facilitating broad access to the secondary market. In addition, having a small number of intermediaries could increase the liquidity of the secondary market by ensuring that investors viewed different federally backed MBSs as interchangeable. If the intermediaries were structured as nonprofit entities, they might also have less incentive to take risk than for-profit firms do.

If the public utilities' business was limited to creating federally backed MBSs, however, they would be more exposed to mortgage credit risk than would financial institutions with a more diverse set of investments. Concentrating risk exposure would replicate one of the major weaknesses of Fannie Mae and Freddie Mac and make the new public utilities more susceptible to shocks in the housing market than more-diversified institutions would be. In addition, having only a few large intermediaries that were essential to the functioning of the secondary

4. Whether the fees would appear to exceed the costs of the guarantees would depend on the accounting approach used to determine their budgetary cost. From an economic perspective (which presumes that the government has no intrinsic advantage over large private financial institutions because it takes on the same risks), the fees collected would be unlikely to exceed the cost of the guarantees. If they did, borrowers could find better guarantee prices in the private sector.

Summary Table 2.

Key Factors for Assessing Alternatives for the Secondary Mortgage Market

	Hybrid Public/Private Model	Fully Federal Agency	Fully Private Market
Supply of financing for mortgages	Under normal market conditions, the supply of funding for federally backed mortgages would be fairly stable. During periods of market stress, financing could become less available, especially under versions with narrower federal guarantees and more reliance on private capital.	The supply of funding for federally backed mortgages would be fairly stable—both in normal times and during periods of market stress—because uncertainty about the strength of the federal guarantee would be minimized.	The market would be more susceptible to fluctuations in the supply of funding. During periods of acute market stress, funding could become extremely scarce without federal intervention.
Support for affordable housing	Mortgages that satisfied affordable-housing goals could be subsidized through lower federal guarantee fees, with the subsidy cost shown in the budget. Or responsibility could be transferred to a fully federal agency, such as the Federal Housing Administration.	Subsidies could be delivered by the agency and would be shown in the federal budget.	Responsibility would be transferred to a fully federal agency, such as the Federal Housing Administration, or subsidies would be discontinued.
Taxpayers' exposure to risk	Intermediaries in the secondary market would bear all credit losses until their capital was exhausted, limiting the credit risk that taxpayers would face. If only a few specialized firms participated in the market, they might receive government support if their solvency was threatened.	Taxpayers would bear the entire credit risk on guaranteed mortgages. Private-label issuers seen as critical to the functioning of the mortgage market might receive government support during periods of acute market stress.	Taxpayers' exposure to credit risk would be very small under normal market conditions. Taxpayers could be exposed to greater risk through federal deposit insurance if banks bore more credit risk. Firms seen as critical to the functioning of the mortgage market might receive government support during periods of acute market stress.
Pricing of federal guarantees	The government could have trouble fully pricing catastrophic risk or setting risk-sensitive prices, which would probably shift some cost to taxpayers.	The government probably has weaker incentives than private guarantors do to charge fees that would fully compensate for the risks associated with guarantees, suggesting that taxpayers would probably bear a cost.	No explicit federal guarantees; however, any implicit federal guarantees that arose would be free to the private issuers of MBSs and hence would entail a cost to taxpayers.

Continued

Summary Table 2.

Continued

Key Factors for Assessing Alternatives for the Secondary Mortgage Market

	Hybrid Public/Private Model	Fully Federal Agency	Fully Private Market
Incentives to control risk taking	The presence of federal guarantees would create an incentive for excessive risk taking. Limiting government guarantees and charging risk-based prices for them would reduce that incentive. In addition, private intermediaries would have an incentive to set risk-based prices and monitor risk taking.	Having the government absorb all credit losses would create a strong incentive for excessive risk taking by originators. The government could counter that incentive by setting risk-based prices for guarantees and by restricting eligibility for guarantees to safer mortgages. Incentives to limit risk taking would probably be weaker than if private capital was in the position to absorb some losses.	Financial intermediaries would have a relatively strong incentive to manage risk, but it would be weakened if their obligations were seen as implicitly guaranteed by the government.
Other considerations	<p>Depending on the model implemented, government control over the secondary mortgage market could be greater or less than under the precrisis model.</p> <p>Tensions between public and private purposes might remain, particularly under models with a small number of highly regulated intermediaries.</p> <p>Subsidies could tilt the allocation of capital in the economy too far toward housing and away from other uses.</p>	<p>The government would control a large segment of the capital market.</p> <p>The market would probably be less dynamic, and there would be less incentive for product innovation.</p> <p>Tensions between public and private purposes would be minimized.</p> <p>Subsidies could tilt the allocation of capital in the economy too far toward housing and away from other uses.</p>	<p>The government would regulate the secondary mortgage market but otherwise not intervene.</p> <p>The market would not rely on the viability of any one firm or business model.</p> <p>Tensions between public and private purposes would be minimized.</p>

Source: Congressional Budget Office.

market could recreate the “too big to fail” problem, even if federal guarantees were limited by law. And non-profits might have weaker incentives than private-sector institutions do to control costs and risks and to innovate. Another concern with the public-utility model is “regulatory capture”—that over time, regulators might become more responsive to the goals of the regulated entities than to the interests of the general public.

The competitive market-maker model also has strengths and weaknesses. On the one hand, spreading mortgage credit risk more widely among more-diversified institutions would reduce risks to the overall financial system and the economy, compared with both the precrisis model and the public-utility model. Having a greater

number of institutions issue federally backed MBSs would also encourage innovation and foster competition—which could help ensure that the benefits of federal support went to mortgage borrowers rather than to stakeholders of the financial intermediaries.

On the other hand, even with a federal guarantee, MBSs issued by different institutions might not be viewed as completely interchangeable. In that case, the liquidity of MBSs would be reduced, and borrowing costs would increase. It is also possible that smaller mortgage originators might have trouble gaining access to the secondary market if large private institutions were unwilling to buy loans from them, although competition among market makers would make that outcome unlikely. Another

concern with allowing broad participation by diversified firms is that the government could be exposed to greater risk because losses from firms' other lines of business could spill over to their activities in the secondary mortgage market.

A Hybrid Public/Private Model

Many proposals for the future of the secondary market involve providing federal guarantees of certain mortgages or MBSs that would qualify for government backing. That approach would preserve many features of how the secondary market for conforming mortgages operated before Fannie Mae and Freddie Mac were placed in conservatorship. However, a hybrid approach would depart from the precrisis model in three main ways: A potentially different set of private intermediaries would be established to securitize federally backed mortgages, the federal guarantees on those mortgages would be explicit rather than implicit, and their subsidy cost would be recorded in the federal budget.

As the preceding discussions about structuring federal guarantees and regulating the secondary mortgage market illustrate, a hybrid approach could be implemented in ways that involved broader or narrower federal guarantees and more or less regulation of participants in the market. Under a hybrid approach, private capital and possibly private mortgage insurance would absorb credit losses before the federal guarantee would be called upon. Fannie Mae and Freddie Mac could be privatized and allowed to compete in the secondary market; they could be used to form a nonprofit organization that would issue federal guarantees; or they could be liquidated. The government could provide additional housing assistance to low- and moderate-income families by subsidizing guarantee fees for qualifying borrowers or by funding programs of the FHA or other federal agencies that target those groups.

Compared with the approach of establishing a fully federal agency, a hybrid public/private approach would lessen concerns about putting a large portion of the capital market under government control. It would also limit costs and risks to taxpayers by having intermediaries in the secondary market bear all credit losses until their capital was exhausted. In addition, putting private capital at risk would provide incentives for prudent underwriting and pricing of risk. Compared with a fully private secondary market, a hybrid approach would probably improve the liquidity of the market, especially during times of financial stress. Moreover, providing an explicit

federal guarantee would avoid the problems of lack of transparency and control that an implicit guarantee involves.

Relying on explicit government guarantees of qualifying mortgages would also have some disadvantages, the importance of which would depend partly on the design chosen. If competition remained muted, with only a few specialized firms participating in the secondary market, limiting risk to the overall financial system and avoiding regulatory capture could be difficult. Moreover, federal guarantees would reduce creditors' incentive to monitor risk. Experience with other federal insurance and credit programs suggests that the government would have trouble setting risk-sensitive prices and would most likely end up imposing some cost and risk on taxpayers. In addition, a hybrid approach might not eliminate the frictions that arise between private and public missions.

A Fully Federal Agency

An alternative would be to create a government-run program that would provide explicit federal guarantees promising timely payment of interest and principal on qualifying mortgages or MBSs. (Such a program could share many features with the current activities of the FHA and Ginnie Mae.) The net cost of the federal program would appear in the budget and could be covered wholly or partly by charging guarantee fees. Policymakers could use the design of the fees to determine the size of subsidies to low-income borrowers or providers of low-income rental housing. Under that fully federal approach, some of the existing operations of Fannie Mae and Freddie Mac could become part of a new or existing federal agency.

A federally run program could have some advantages over alternatives that relied on the private sector. For example, such a program would be more likely to ensure a fairly steady flow of funds to the secondary mortgage market—both in normal times and during periods of financial stress—by minimizing uncertainty about the strength of the federal guarantee. Compared with the precrisis model, this approach would increase transparency by replacing an implicit guarantee with an explicit one. Moreover, most of the federal subsidies would probably flow to mortgage borrowers rather than to private financial institutions.

At the same time, however, a new federal program would permanently increase government control of a large

segment of the capital market. Depending on the size of the subsidies, that greater federal presence could tilt the allocation of capital in the economy further toward housing and away from other activities. In addition, a federally operated secondary market would probably be less dynamic and result in fewer innovations than a market in which competing private institutions played a larger role. Furthermore, taxpayers, rather than private financial institutions, would bear much of the credit risk on guaranteed mortgages. That shift in risk bearing might give mortgage originators and other financial intermediaries less incentive to control risk—a situation (known as moral hazard) that commonly arises with guarantees and insurance.

Depending on the specific budgetary treatment of the program, the government could have weaker incentives than private parties do to charge guarantee fees that would fully compensate for the risks associated with the guarantees. Currently, the budgetary treatment of most federal credit guarantees follows the guidelines of the Federal Credit Reform Act of 1990, which do not include a charge for market risk in estimates of federal subsidies.⁵ As a result, such estimates tend to understate a guarantee's economic cost to taxpayers.

A Fully Private Secondary Mortgage Market

Another approach would be to move to a fully private secondary mortgage market and either wind down the operations of Fannie Mae and Freddie Mac or sell the federal stake in their assets to private investors. Responsibility for carrying out the GSEs' affordable-housing mission, to the extent it was continued, could be transferred to a government housing agency, such as the FHA. Private firms would then form the secondary market—just as they did for private-label MBSs before the recent financial crisis and as they continue to do for securities backed by other types of assets (such as automobile, student, commercial real estate, and credit card loans). In times of severe distress, the government could still step in to promote liquidity. For instance, it could make FHA guarantees available to more borrowers, or it could buy MBSs (as the Treasury and the Federal Reserve did during the financial crisis). Expanding the activities of federal

agencies, however, generally requires Congressional action.

Privatization might provide the strongest incentive for prudent behavior on the part of financial intermediaries by removing the moral hazard that federal guarantees create. (The enormous losses that have occurred in recent years on private-label subprime mortgages, however, offer a painful reminder that private markets are not immune to aggressive risk taking.) By increasing competition in the secondary market, the privatization approach would reduce the market's reliance on the viability of any one firm. Private markets may also be best positioned to allocate the credit risk and interest rate risk of mortgages efficiently, and they would probably be more innovative than a secondary market dominated by a fully federal agency. Further, privatization would eliminate the tension between public and private purposes inherent in the traditional GSE model.

Full privatization could have several drawbacks, however, including the risk that it might not prove credible. If the private firms operating in the secondary market were seen as critical to the functioning of the mortgage market, investors might again treat them as implicitly guaranteed by the government, weakening market discipline, reducing transparency, and creating moral hazard. In addition, without some predictable federal response, the liquidity of the private secondary market might dry up during periods of acute financial stress. Moreover, privatization might not significantly reduce taxpayers' overall exposure to risk if it shifted credit risk on mortgages to banks that were covered by federal deposit insurance and if that additional risk was not recognized in regulators' actions and in the fees charged for deposit insurance.

Other Mortgage-Financing Approaches

As an alternative to mortgage-backed securities, the federal government could offer support for other funding mechanisms for home loans. One possibility would be to encourage greater reliance on covered bonds—bonds collateralized by residential mortgages—which many large European banks use to fund the mortgages they hold. With covered bonds, banks bear most of the risks of mortgage lending: When a mortgage is paid off or goes into default, the issuer is contractually obligated to replace the collateral with a new mortgage. That allocation of risk has both advantages and disadvantages compared with MBSs, which spread risk more widely among financial institutions, investors, and the government.

5. Market risk is the risk that investors cannot avoid by holding a well-diversified portfolio and that they require compensation to bear. Mortgages involve market risk because defaults occur most frequently in times of economic stress, when losses are most costly.

Other developed countries with high rates of home ownership rely less on government-backed MBSs to fund mortgages than the United States does. Some observers have pointed to Europe's housing finance systems as potential models for this country; those systems have supported rates of home ownership comparable with that in the United States while relying less on MBSs. Although

covered bonds are common in Europe, there is considerable variation in how mortgages are funded and what types of mortgages are available. Nevertheless, all developed countries with high rates of home ownership depend on some degree of government support to maintain the flow of credit to the mortgage market during periods of financial stress.

Overview of Fannie Mae, Freddie Mac, and the Secondary Mortgage Market

The resale market for mortgages and mortgage-backed securities (MBSs) in the United States has changed significantly over the years. Key to the evolution of that secondary market has been the activities of the Federal National Mortgage Association (Fannie Mae) and the Federal Home Loan Mortgage Corporation (Freddie Mac).

Four decades ago, Congressional charters set up Fannie Mae and Freddie Mac as government-sponsored enterprises (GSEs)—that is, as private corporations with several public missions:

- To establish an infrastructure for the secondary market for residential mortgages, financed by private capital to the maximum extent feasible;
- To provide stability and ongoing assistance to that market (including limited subsidies for mortgages on housing for low- and moderate-income families); and
- To promote access to mortgage credit throughout the nation by increasing the liquidity of mortgage investments (that is, ensuring they can be readily bought and sold) and by improving the distribution of investment capital.

Fannie Mae and Freddie Mac have carried out those missions mainly by purchasing certain types of mortgages from lenders. (Loans that meet the two entities' criteria for purchase are called conforming mortgages.) The GSEs either pool those loans to create mortgage-backed securities, which they guarantee and sell to investors, or they retain the mortgages in their portfolios, along with other MBSs that they buy to hold as assets in their portfolios.

Backed by their charters and other federal support, Fannie Mae and Freddie Mac have long been the largest participants in the secondary mortgage market. Other big financial institutions came to play a significant role—particularly in the segments of the market in which the GSEs were not allowed to operate—but their role diminished sharply during the recent financial crisis.

In September 2008, after falling housing prices and rising delinquencies threatened the solvency of Fannie Mae and Freddie Mac and their ability to issue debt, the federal government assumed control of the two GSEs by placing them in conservatorship, and the Treasury guaranteed their obligations through 2012. In addition, the Federal Reserve supported Fannie Mae and Freddie Mac by purchasing \$1.25 trillion of their MBSs and more than \$100 billion of their debt. Those actions—combined with the slowness of the private market for issuing MBSs to reemerge—reinforced the dominant position of Fannie Mae and Freddie Mac in the secondary market and diminished the role of the private sector.

The GSEs' Roles in the Secondary Mortgage Market

The secondary mortgage market channels funds to borrowers by facilitating the resale of mortgages and MBSs. In that market, lenders such as banks, thrifts, and mortgage companies obtain funding for the mortgages they originate by selling the loans to purchasers such as Fannie Mae, Freddie Mac, other financial institutions such as banks and insurance companies, or government entities. Those purchasers in turn obtain funds through the national and international capital markets.

Activities

Fannie Mae and Freddie Mac are forbidden by their federal charters from originating loans. Instead, they participate in the mortgage market by guaranteeing and securitizing mortgages (that is, turning them into MBSs) and by purchasing and holding mortgages and MBSs in their portfolios.

Fannie Mae and Freddie Mac fund the purchase of mortgages they securitize by selling the resulting MBSs to investors in the capital markets. An investor who buys a mortgage-backed security guaranteed by one of the GSEs will be paid the principal and any interest that is due even if borrowers default on the underlying loans. In exchange for the guarantee, the GSE receives a periodic guarantee fee from the loans' originators; that fee is effectively paid for by mortgage borrowers as part of their interest payments.

The two entities fund the purchase of the mortgages and MBSs they hold in their portfolios by issuing debt securities (known as "agency debt") that are purchased by investors. Fannie Mae and Freddie Mac earn income from the difference between the interest they receive on their mortgage and MBS holdings (net of default losses and other expenses) and the interest they pay on their agency debt.

Exposure to Risk

Those various activities expose the GSEs to several types of risk. The primary risk associated with their MBS guarantees is credit risk—the obligation to repay MBS holders in full when a borrower defaults. Credit risk is mitigated by the value of the property securing a mortgage, the general tendency for housing values to increase over time, and the private mortgage insurance that borrowers with down payments of less than 20 percent of their home's purchase price are required to buy.

With the mortgages and MBSs held in their portfolios, Fannie Mae and Freddie Mac also face interest rate and prepayment risk. Those risks arise when changes in market interest rates affect the value of the GSEs' mortgage holdings differently than the value of the agency debt funding those mortgages. An unexpected change in interest rates—whether a large increase or a large decrease—can cause losses for the two entities. When interest rates fall, borrowers tend to prepay their existing mortgages and refinance at lower rates. The GSEs lose the relatively high interest income from the mortgages that are prepaid, but they are still obligated to pay the higher rates on their

outstanding fixed-rate debt. Conversely, when interest rates rise, prepayments slow down. To continue to finance their mortgage holdings, Fannie Mae and Freddie Mac have to issue additional debt at current market rates, which exceed the interest rates on their existing holdings. Before the recent financial crisis, most observers considered interest rate and prepayment risk to be the most significant types of risk facing the two GSEs.

Such risks for Fannie Mae and Freddie Mac can be lessened in several ways. Before being taken into conservatorship, the GSEs were required by law to maintain a minimum level of capital sufficient to withstand a regulatory stress test, although some observers have criticized those tests for lack of stringency.¹ (Now, the Treasury provides cash infusions to ensure that the two entities maintain a minimum level of capital.) In addition, to manage their interest rate and prepayment risks, Fannie Mae and Freddie Mac have employed various strategies, including the purchase and sale of financial derivatives (securities that facilitate the transfer of risk between investors). Prepayment risk can also be offset by issuing callable debt, which gives the GSEs the option to buy back their debt at a fixed price before it matures. Strategies to mitigate risk generally entail costs, however, and Fannie Mae and Freddie Mac balance the risk of loss with the cost of insuring against it.

Structure and Regulation

As government-sponsored enterprises, Fannie Mae and Freddie Mac are hybrid organizations that share attributes of private companies and government agencies, as set out in their charters. Before conservatorship, their shares were traded on the New York Stock Exchange, and they operated to the benefit of their shareholders. At the same time, they had regulatory and tax benefits not enjoyed by other private firms, such as being exempt from state and local income taxes and from many of the Securities and Exchange Commission's requirements for registering securities. (Under conservatorship, the Treasury now

1. In a regulatory stress test, a financial institution analyzes its total potential losses under various economic scenarios, and regulators examine the analyses to evaluate the adequacy of the institution's capital. The Federal Housing Finance Agency, which regulates Fannie Mae and Freddie Mac, requires the GSEs to undergo stress tests and to maintain enough capital to absorb unusually large potential losses (on their portfolio holdings, guarantees, and other contingent liabilities) from future interest rate and credit shocks and to offset their management and operational risks.

holds a controlling stake in both entities, and their shares have been delisted from the New York Stock Exchange.)

Another regulatory benefit is that for many purposes, the agency debt issued by Fannie Mae and Freddie Mac is treated as similar to Treasury securities. For example, it is eligible for unlimited investment by banks and thrifts and for purchase by the Federal Reserve in open-market operations. In addition, each GSE has the equivalent of a \$2.25 billion line of credit with the Treasury.

A federal regulator—since 2008, the Federal Housing Finance Agency (FHFA)—supervises Fannie Mae and Freddie Mac and issues regulations to control their risk taking and oversee their public mission. Like depository institutions, the two GSEs are subject to both a minimum overall capital requirement and a minimum risk-based capital requirement, which serve to provide a cushion against losses and to discourage excessive risk taking. Regulatory limits on the types of mortgages that Fannie Mae and Freddie Mac can buy also reduce potential losses. In addition, the FHFA sets goals for the percentage of the GSEs' mortgage guarantees and purchases that must support low- and moderate-income housing; the GSEs' charters state that those activities may involve lower returns than other activities earn.

Federal Guarantees

Although Fannie Mae and Freddie Mac were required to include statements on the agency debt and MBSs they issued saying that the securities were not federally guaranteed, before conservatorship investors generally assumed that those securities carried an implicit federal guarantee against losses from default. That assumption was reinforced by the GSEs' legal status as instrumentalities of the federal government, rather than as fully private entities, and thus by the inclusion of their securities in the "agency" market along with securities that have explicit federal backing. (Fannie Mae's and Freddie Mac's securities continue to trade in that market under conservatorship.)

The perception of a federal guarantee enabled the two entities to borrow in the capital markets at significantly lower interest rates than could other financial institutions that posed comparable risks. It also caused investors to place a higher value on MBSs guaranteed by Fannie Mae or Freddie Mac than on MBSs guaranteed by private mortgage insurers. Those advantages allowed the two

GSEs to become the dominant players in the secondary market for conforming mortgages.

The benefits of the implied federal guarantee represented a subsidy to Fannie Mae and Freddie Mac and a cost to taxpayers—who ultimately bore the burden of making good on that guarantee when the GSEs' default losses exceeded their capital cushions and the two entities were taken into conservatorship. Because those actions effectively made Fannie Mae and Freddie Mac governmental, in January 2009 the Congressional Budget Office (CBO) began including the net cost of their operations in its baseline projections of federal spending (see Box 1-1).

Changes in the Secondary Mortgage Market Through Mid-2008

Fannie Mae and many of the other institutions that support federal housing policy—such as the Federal Housing Administration (FHA) and the Federal Home Loan Banks—were created during the Great Depression in response to a sharp drop in housing prices and skyrocketing foreclosure rates. At that time, mortgage markets in many parts of the country were local. The banks and thrifts that originated mortgages had limited opportunities to sell their loans (life insurance and mortgage guarantee companies provided only a small secondary mortgage market).² As a result, those institutions depended largely on deposits for their funding, which restricted the amount of mortgage lending they could undertake. Mortgages issued by banks generally had maturities of 10 years or less, and some mortgages required large balloon payments that came due at maturity. With such loans, homeowners bore the risk that they would be unable to refinance when their mortgage came due.

The FHA played a key role in changing that situation by offering insurance on 30-year amortizing mortgages, in which the principal amount was gradually paid down over the life of a loan. Those mortgages allowed smaller monthly payments and were less susceptible to the risk of difficulties with refinancing than mortgages with shorter maturities were. (Thirty-year amortizing mortgages are now the standard form of federally insured mortgages.)

2. Kenneth A. Snowden, *The Anatomy of a Residential Mortgage Crisis: A Look Back to the 1930s*, Working Paper 16244 (Cambridge, Mass.: National Bureau of Economic Research, July 2010), www.nber.org/papers/w16244.

Box 1-1.**CBO's Budgetary Treatment of Fannie Mae and Freddie Mac**

In the judgment of the Congressional Budget Office (CBO), the federal conservatorship of Fannie Mae and Freddie Mac, and their resulting ownership and control by the Treasury, make the two entities part of the government and imply that their operations should be reflected in the federal budget. In its baseline budget projections, CBO treats the mortgages guaranteed each year by the two government-sponsored enterprises (GSEs) as new guarantee obligations of the federal government. For those guarantees, CBO's projections of budget outlays equal the estimated federal subsidies inherent in the commitments at the time they are made.

CBO's subsidy estimates are constructed on a risk-adjusted present-value basis, also known as a fair-value basis. Those estimates represent the up-front payment that a private entity in an orderly market would require to assume the federal responsibility for the GSEs' obligations—and, as such, the estimates depend on projections of highly uncertain future outcomes.¹ That budgetary treatment is similar to what

1. For a more detailed description of how CBO accounts for Fannie Mae and Freddie Mac and estimates federal subsidies, see Congressional Budget Office, *CBO's Budgetary Treatment of Fannie Mae and Freddie Mac*, Background Paper (January 2010).

CBO and the Administration's Office of Management and Budget (OMB) use to record the subsidy cost for asset purchases and loans made under the Troubled Asset Relief Program.² That treatment differs, however, from the way in which OMB accounts for the operations of Fannie Mae and Freddie Mac, as explained below.³

On a fair-value subsidy basis, CBO estimated in August 2009 that the cost of all of the GSEs' mortgage commitments made before fiscal year 2009 and new commitments made in 2009 would total \$291 billion. That figure closely corresponded with the GSEs' own estimates of the deterioration in their fair-value net worth: from a combined surplus of \$7 billion in June 2008 to a deficit of \$258 billion in June 2009. Since then, CBO has not produced a new estimate of the subsidy cost associated with the GSEs'

2. Most federal credit programs are accounted for using procedures specified in the Federal Credit Reform Act of 1990 (FCRA). For a comparison of the costs of Fannie Mae and Freddie Mac on a fair-value and a FCRA basis, see Congressional Budget Office, [letter to the Honorable Barney Frank about the budgetary impact of Fannie Mae and Freddie Mac](#) (September 16, 2010).
3. Neither CBO nor OMB incorporates debt securities or mortgage-backed securities issued by Fannie Mae or Freddie Mac in estimates of federal debt held by the public.

Continued

Fannie Mae was created, in 1938, primarily to purchase mortgages guaranteed by the FHA and thereby create liquidity for those loans. (For a more detailed history of the secondary mortgage market, see Appendix A.)

Emergence of the GSEs

For its first 30 years, Fannie Mae was a fully federal agency, although its transactions did not appear in the federal budget.³ Its establishment as a government-sponsored enterprise occurred in 1968, when the Congress shifted Fannie Mae to private ownership. At the same time, lawmakers divided responsibility for the secondary mortgage market by creating the Government

National Mortgage Association (Ginnie Mae) as an on-budget federal agency within the Department of Housing and Urban Development. Ginnie Mae is responsible for securitizing mortgages guaranteed by the FHA or the Department of Veterans Affairs; the costs of those guarantees are reflected in the federal budget. Two years later, in 1970, lawmakers chartered Freddie Mac to increase liquidity for mortgages originated by savings and loans.

3. The agency's activities in the secondary mortgage market were excluded from the budget on the theory that Fannie Mae obtained its funding directly from the financial markets (by selling debt securities) rather than from the Treasury.

Box 1-1.**Continued****CBO's Budgetary Treatment of Fannie Mae and Freddie Mac**

past commitments—the value of which will change over time as repayments and defaults occur and as market conditions change.

For each new set of baseline budget projections, CBO estimates the subsidy cost for the GSEs' new business over the next 10 years on a fair-value basis. The average federal subsidy rate on the GSEs' new business has fallen since the peak of the financial crisis, and it is expected to decline further in coming years as the housing market recovers.⁴ The subsidy rate will remain positive, however, as long as Fannie Mae and Freddie Mac provide capital and guarantees to the mortgage market at prices below what private financial institutions can offer. The GSEs are able to do that primarily because of their federal backing, which ultimately transfers risk from them to taxpayers.

Unlike CBO, the Administration treats Fannie Mae and Freddie Mac as nongovernmental entities for budgetary purposes. Instead of recording estimated subsidy costs for their new mortgage commitments in the budget, it records only cash transfers between the

Treasury and the two GSEs (such as the Treasury's purchases of their senior preferred stock and the dividends they pay the Treasury on that stock). Because CBO considers the GSEs' activities to be part of the federal budget, it classifies those anticipated cash transfers as intragovernmental flows. And like all transfers from one government account to another, those flows do not affect CBO's estimates of total federal spending or revenues.

CBO believes that treating Fannie Mae and Freddie Mac as governmental entities for the purposes of the federal budget, and accounting for them on a fair-value basis, accurately reflects their current status. That treatment also provides more timely and relevant information to policymakers considering options for the future of the GSEs. For instance, if legislation required Fannie Mae and Freddie Mac to increase subsidies on guarantees to first-time home buyers through a new program, the program would show an immediate cost under CBO's budgetary treatment. But under a cash treatment that tracked inflows and outflows from the Treasury, there would be no immediate cost (or possibly a net gain from fees collected), because losses would not materialize for some months or years. For the same reason, the cost of different loan-modification proposals cannot be compared meaningfully on a cash basis.

4. The subsidy rate is the expected federal cost per dollar of new credit guaranteed, with the federal cost measured as the difference between the guarantee fees that a private company would charge and those levied by Fannie Mae and Freddie Mac.

At that point, Fannie Mae and Freddie Mac were authorized to purchase so-called conventional mortgages (loans that did not carry a federal guarantee), and that soon became their main business.

In its early years, Freddie Mac funded its mortgage purchases primarily by creating and selling mortgage-backed securities—unlike Fannie Mae, which chose to hold the mortgages it bought in its portfolio and fund their purchase by issuing agency debt. When interest rates shot up in the late 1970s, Fannie Mae was brought close to insolvency as its funding costs escalated. Freddie Mac fared much better because securitization protected it from

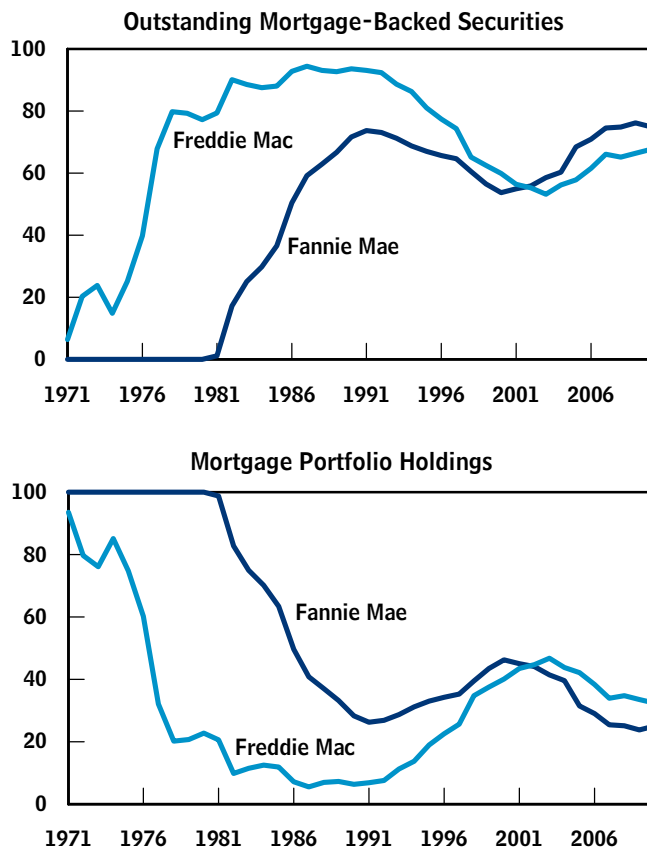
interest rate risk. In response, Fannie Mae increased its use of securitization in the early 1980s (see the top panel of Figure 1-1). Although securitization exposed Fannie Mae and Freddie Mac to less risk, it was not as profitable as portfolio holdings financed with agency debt that bore an implicit federal guarantee. Through the 1990s, both GSEs gradually increased their portfolio holdings (see the bottom panel of Figure 1-1).

Emergence of the Private-Label MBS Market

An important development in the secondary mortgage market was the emergence in the late 1970s of "private-label" MBSs—securities issued and insured by private

Figure 1-1.

Outstanding Mortgage-Backed Securities and Portfolio Holdings as a Percentage of the Total Mortgages Backed or Held by the GSEs



Source: Congressional Budget Office based on data from the Federal Housing Finance Agency, Fannie Mae, and Freddie Mac.

Notes: The outstanding mortgage-backed securities in the top panel are MBSs guaranteed by Fannie Mae or Freddie Mac and then sold to investors in the capital market. The portfolio holdings in the bottom panel include MBSs guaranteed by the two government-sponsored enterprises (GSEs) but retained as part of their mortgage portfolios, as well as their holdings of private-label mortgages; those holdings are mostly financed with debt. For each GSE, the percentages for MBSs and portfolio holdings add up to 100 percent.

Data for 2010 run through September.

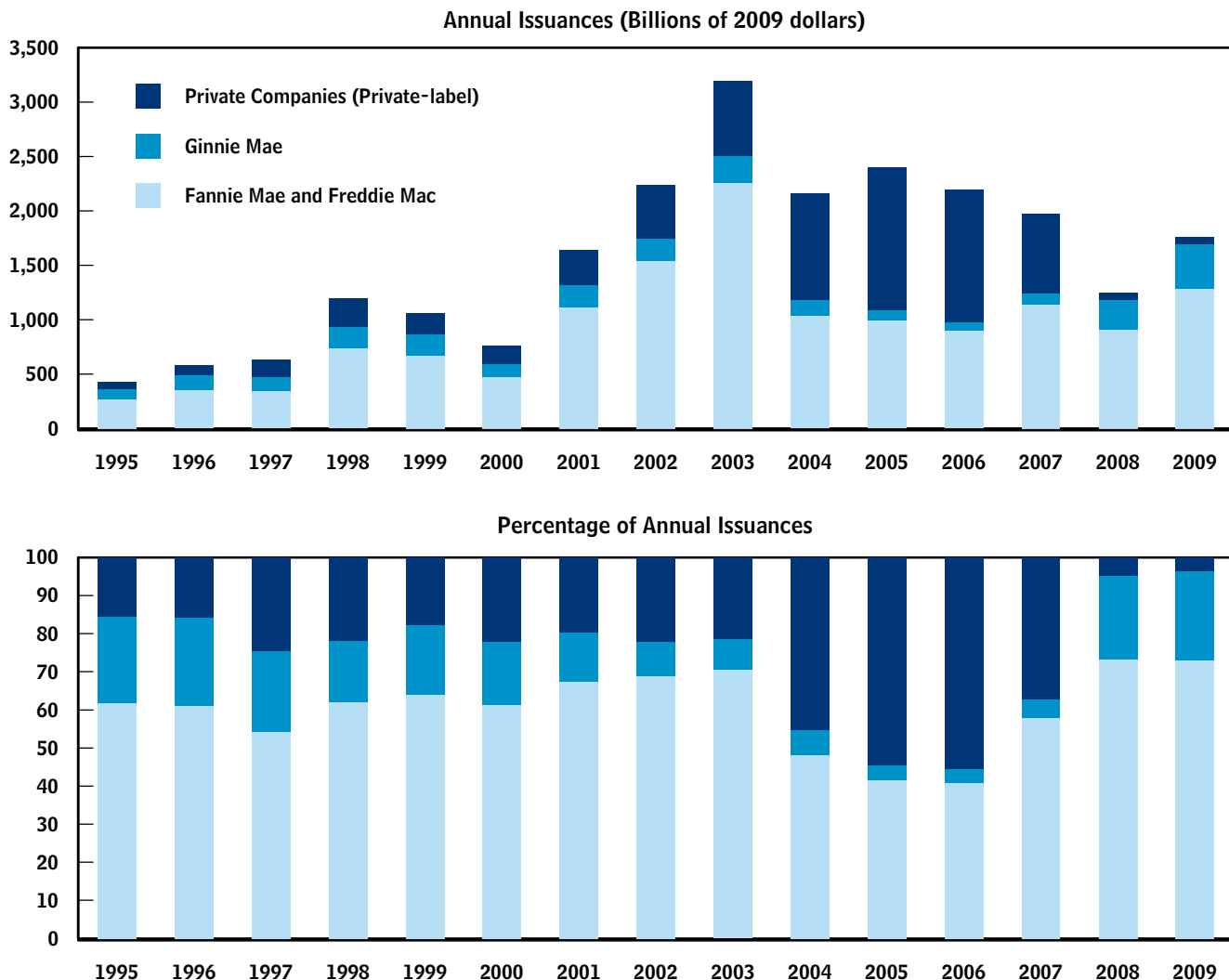
companies without government backing. Lacking an implicit federal guarantee, private-label issuers could not compete effectively with Fannie Mae and Freddie Mac for conforming mortgages. Instead, they concentrated on nonconforming mortgages—loans that generally were not eligible for guarantees by the GSEs because they were too large (jumbo mortgages) or too risky (Alt-A or subprime mortgages).⁴ By 1997, private-label securities accounted for nearly 25 percent of new MBSs issued, and by their peak, in 2005 and 2006, they made up 55 percent of new issues (see Figure 1-2).

The vibrancy of the private-label market is sometimes cited as evidence that a purely private secondary mortgage market could be viable. During the recent financial crisis, however, liquidity in the private-label market vanished as investors largely stopped buying private-label MBSs, and by the end of 2010, that market had not recovered. Some observers attribute its lack of recovery to investors' wariness about exposing themselves to the risk of a still unsettled housing market. Others point to the recovery of other securitization markets as evidence that investors are willing to take on risk, but only if they are adequately compensated; those observers argue that the private-label MBS market cannot compete with the favorable pricing of guarantees by the GSEs. It is impossible to know whether the private-label market would have recovered more quickly in the absence of Fannie Mae and Freddie Mac, but the crisis demonstrated the susceptibility of a fully private secondary market to disruptions from large adverse shocks.

Growth and Decline of the GSEs

Apart from the near insolvency of Fannie Mae in the late 1970s and early 1980s, and limits on portfolio growth

4. Alt-A and subprime mortgages are available to some borrowers who do not meet the qualifications for a prime mortgage (one extended to the least risky borrowers) because of one or more risk factors, such as a low credit rating, insufficient documentation of income, or the ability to make only a small down payment. Typically, Alt-A mortgages may be offered to borrowers who have high credit scores but no proof of income, whereas subprime loans may be offered to borrowers who have low credit scores, with or without income verification. Some Alt-A loans meet the definition of conforming mortgages.

Figure 1-2.**Mortgage-Backed Securities, by Issuer**

Source: Congressional Budget Office based on data from the Securities Industry and Financial Markets Association, Fannie Mae, Freddie Mac, the Federal Housing Finance Agency, Ginnie Mae, and the Inside Mortgage Finance mortgage-backed-security database.

that regulators imposed in 2006 after accounting irregularities came to light, the GSEs expanded rapidly in the decades leading up to the recent financial crisis (see Figure 1-3).⁵ That rapid growth was accompanied by very high rates of return on equity for their shareholders. The

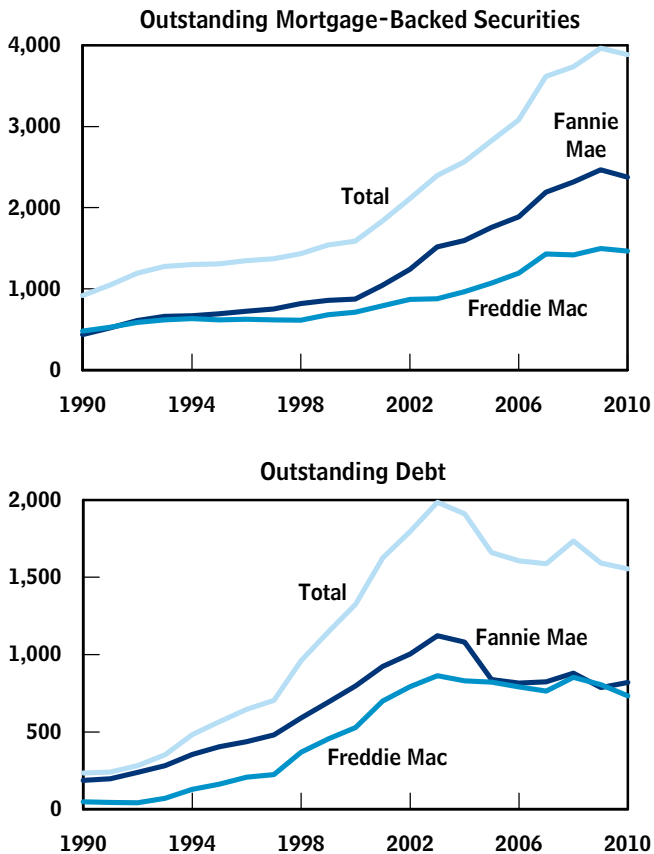
high returns were driven largely by increases in the size of the GSEs' retained portfolios, which were financed by debt that was relatively inexpensive because of the implicit federal guarantee.

Profitability for Fannie Mae and Freddie Mac came to an abrupt end with the sharp decline in housing prices that began in mid-2006 (see Figure 1-4). The GSEs had previously weathered regional downturns in housing markets, but geographic diversification offered little protection against a national downturn accompanied by high and rising mortgage default rates. The growth in housing prices that preceded the decline also offered relatively

5. For an analysis of accounting irregularities, see Office of Federal Housing Enterprise Oversight, *Report of the Special Examination of Fannie Mae* (May 2006), and *Report of the Special Examination of Freddie Mac* (December 2003). The limits on portfolio growth were eventually removed when the GSEs finished restating their past earnings and were able to resume quarterly financial reporting on a regular and timely basis.

Figure 1-3.
Growth of the GSEs' Outstanding Mortgage-Backed Securities and Debt

(Billions of 2009 dollars)



Source: Congressional Budget Office based on data from the Federal Housing Finance Agency, Fannie Mae, and Freddie Mac.

Notes: The amounts shown here are based on the combined par value of senior and subordinated debt of any maturity.
 Data for 2010 run through September.
 GSEs = government-sponsored enterprises.

little protection because borrowers had increased their debt levels during the housing boom, extracting much of their equity through additional borrowing against their homes.⁶ The steep drop in housing prices meant that

6. See Amir E. Khandani, Andrew W. Lo, and Robert C. Merton, *Systemic Risk and the Refinancing Ratchet Effect*, Working Paper 15362 (Cambridge, Mass.: National Bureau of Economic Research, September 2009), www.nber.org/papers/w15362.

Fannie Mae and Freddie Mac recovered less when they sold homes through the foreclosure process.

The GSEs' susceptibility to losses was increased by their relaxation of credit standards at the height of the housing boom, when they were quickly losing market share to the private-label securities market and were looking for new sources of profit. In particular, the risky private-label subprime and Alt-A MBSs that they bought for investment purposes—as well as nontraditional loan products that they bought or guaranteed to help meet their affordable-housing goals—were the source of their initial losses (see Figure 1-5).⁷ And although those private-label holdings and other risky, nontraditional loans accounted for less than one-third of Fannie Mae's business, they were the source of more than 70 percent of its recent credit losses.⁸ The GSEs eventually also suffered large losses on their MBS guarantees as housing prices fell further and delinquencies and foreclosures rose for prime borrowers.

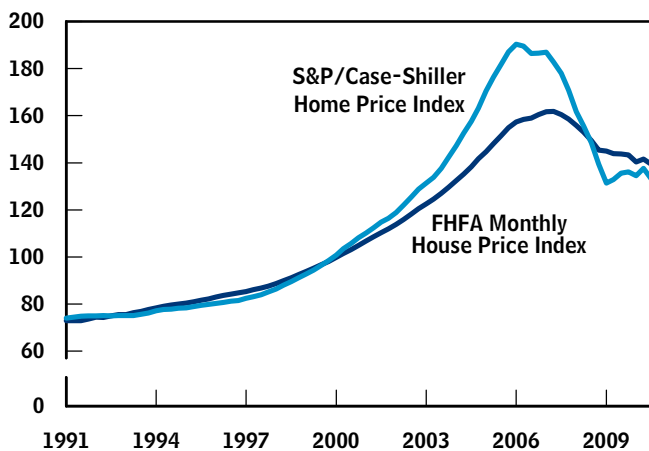
Although Fannie Mae and Freddie Mac have experienced sizable credit losses, delinquency rates on their portfolio holdings and guaranteed MBSs have been lower than industry averages. For example, at the end of the second quarter of 2010, 4.6 percent of the mortgages held or guaranteed by the GSEs were seriously delinquent (at least 90 days past due or in foreclosure), compared with 9.1 percent for the overall mortgage market.⁹ Observers have attributed the GSEs' relatively low delinquency rates to the fact that their lending standards (even when relaxed) were comparatively stringent, which meant that many less creditworthy borrowers could only obtain mortgages financed through the private-label market.

7. W. Scott Frame, *The 2008 Federal Intervention to Stabilize Fannie Mae and Freddie Mac*, Working Paper 2009-13 (Federal Reserve Bank of Atlanta, April 2009), www.frbatlanta.org/pubs/wp/working_paper_2009-13.cfm.
8. See Fannie Mae, *Fannie Mae 2010 Second Quarter Credit Supplement* (August 5, 2010), p. 6. Also see Federal Housing Finance Agency, *Conservator's Report on the Enterprises' Financial Performance: Second Quarter 2010* (August 26, 2010), Figure 4.3, p. 12, www.fhfa.gov/webfiles/16591/.
9. The GSEs' guaranteed loans also performed marginally better than the overall prime market. See Federal Housing Finance Agency, *Foreclosure Prevention & Refinance Report, Second Quarter 2010* (September 10, 2010), www.fhfa.gov/webfiles/16695/; and Department of the Treasury, Office of Comptroller of the Currency and Office of Thrift Supervision, *OCC and OTS Mortgage Metrics Report, Second Quarter 2010* (September 2010), www.ots.treas.gov/_files/490019.pdf.

Figure 1-4.

Indexes of Prices for Single-Family Homes, January 1991 Through September 2010

(Index, 2000 = 100)



Source: Congressional Budget Office based on data from the Federal Housing Finance Agency (FHFA) and Standard & Poor's (S&P).

Note: The FHFA price index covers repeat sales of homes financed with conforming mortgages; it generally omits subprime and jumbo mortgages. The index is unit-weighted, meaning that sales of expensive homes have the same weight as sales of moderately priced homes. In contrast, the S&P/Case-Shiller price index includes all types of mortgages and is weighted by homes' value. Both indexes use 2000 as the base year (when the index equals 100).

Operations of Fannie Mae and Freddie Mac Under Conservatorship

When housing prices dropped nationwide and foreclosures started to rise, investors began to doubt that the GSEs would have enough capital to absorb their losses without an infusion of cash from the federal government. That perception led to a sharp increase in the two entities' borrowing costs. Consequently, the Secretary of the Treasury and the director of the Federal Housing Finance Agency—exercising the authority given to them under the Housing and Economic Recovery Act of 2008, or HERA (Public Law 110-289)—placed Fannie Mae and Freddie Mac into federal conservatorship on September 6, 2008. Regulators also replaced the GSEs' top managers.

The major focus of conservatorship has been to ensure the availability of low-cost mortgage credit. To further that goal, lawmakers made the federal guarantee on the GSEs' obligations explicit and expanded the authority of the GSEs by allowing them to purchase higher-balance loans. Separately from the conservatorship, the Federal Reserve bought large amounts of agency MBSs, which increased the flow of funds to the GSEs. Since 2009, Fannie Mae and Freddie Mac have financed or insured more than 70 percent of the single-family residential mortgages originated in the United States, absorbing some of the volume that would normally have gone to the private securitization market. In addition, the two entities have been given a leading role in attempts to lower the number of foreclosures.¹⁰

The Treasury's agreements with the GSEs call for their portfolio holdings of mortgages to gradually shrink over time to reduce risks to the overall financial system and losses to taxpayers. From a level of more than \$750 billion each at the end of 2009, the value of their retained portfolios is supposed to decline to \$250 billion each over 10 years.

Federal Financial Support

Under the agreements authorized by HERA, the Treasury committed to provide sufficient capital to keep Fannie Mae's and Freddie Mac's net worth at zero through 2012 (as measured according to generally accepted accounting principles).¹¹ In return, the government received senior preferred stock in the GSEs and warrants that give it the option to buy nearly 80 percent of the entities' common stock at a price close to zero. (By September 30, 2010, the

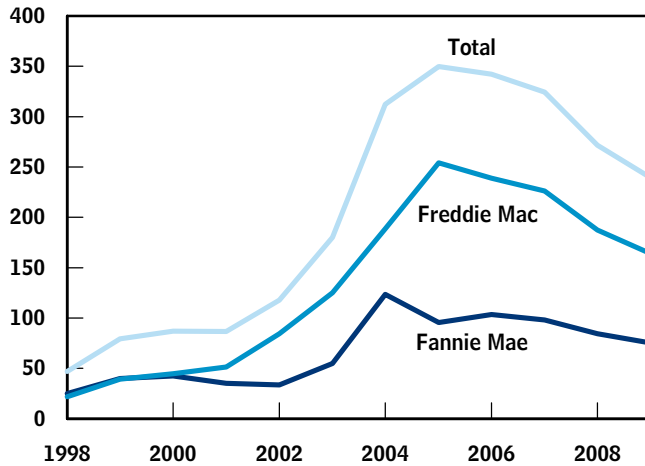
10. The GSEs have also required lenders to repurchase large volumes of delinquent loans that breached their guarantee requirements. See Richard Ramsden and others, *Assessing the Mortgage Morass* (New York: Goldman Sachs, October 15, 2010).

11. Maintaining nonnegative net worth was necessary to avoid triggering a statutory requirement to put Fannie Mae and Freddie Mac into receivership. (The FHFA has suspended the GSEs' statutory capital requirements.) Initially, the upper bound of the Treasury's commitment was \$100 billion per GSE. Ultimately, that limit was raised to \$200 billion per GSE, plus cumulative deficits in net worth experienced over the 2010–2012 period, minus any surplus remaining as of December 31, 2012. Amendments to the agreements allow the Treasury to purchase unlimited amounts of preferred stock from each GSE through 2012. See Federal Housing Finance Agency, *U.S. Treasury Support for Fannie Mae and Freddie Mac*, Mortgage Market Note 10-1 (January 20, 2010), www.fhfa.gov/webfiles/15362/.

Figure 1-5.

The GSEs' Holdings of Private-Label Mortgage-Backed Securities

(Billions of 2009 dollars)



Source: Congressional Budget Office based on data from the Federal Housing Finance Agency.

Notes: The amounts shown here are based on the unpaid principal balance of mortgages underlying a security. They cover all of Fannie Mae and Freddie Mac's holdings of nonagency mortgage-backed securities, including jumbo, subprime, and Alt-A securities issued by private institutions.

GSEs = government-sponsored enterprises.

government had provided capital infusions of about \$148 billion to Fannie Mae and Freddie Mac and received over \$16 billion in dividends on their stock.) Although the Treasury backstop strengthened the federal guarantee of the two entities' securities, it did not immediately cause a significant decline in their financing costs.

The GSEs' access to long-term debt markets improved dramatically after November 25, 2008, when the Federal Reserve announced plans to purchase \$100 billion in agency debt and up to \$500 billion in MBSs guaranteed by Fannie Mae, Freddie Mac, and Ginnie Mae. Those commitments were subsequently raised to \$175 billion in agency debt and \$1.25 trillion in MBSs. By March 31, 2010, the Federal Reserve had met those goals. Because its purchases included some outstanding MBSs, they equaled about twice the net volume of MBSs (new supply minus prepayments) issued by Fannie Mae and Freddie Mac over that period. In addition to the Federal Reserve's purchases, the Treasury bought just over \$220 billion of the two entities' MBSs.

Increasing the Availability of Credit

Nearly all new mortgages originated in the past two years were supported by the federal government. Fannie Mae and Freddie Mac guaranteed 75 percent of new residential mortgages in 2009, and the FHA and the Department of Veterans Affairs guaranteed most of the rest. At the end of 2009, the GSEs held or guaranteed nearly \$4.8 trillion of residential mortgage debt, or about 44 percent of the total amount outstanding (see Figure 1-6), up from 36 percent in 2006. Their share of the market for mortgages on multifamily rental properties has also risen. In 2009, the two GSEs guaranteed a total of more than \$35 billion, or about 80 percent, of new mortgages backing multifamily rental housing.

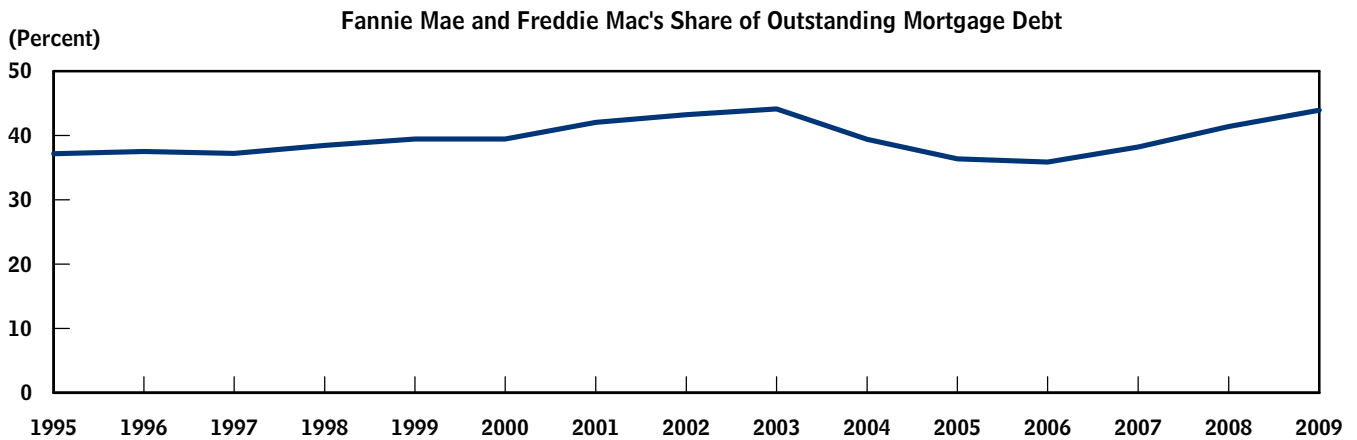
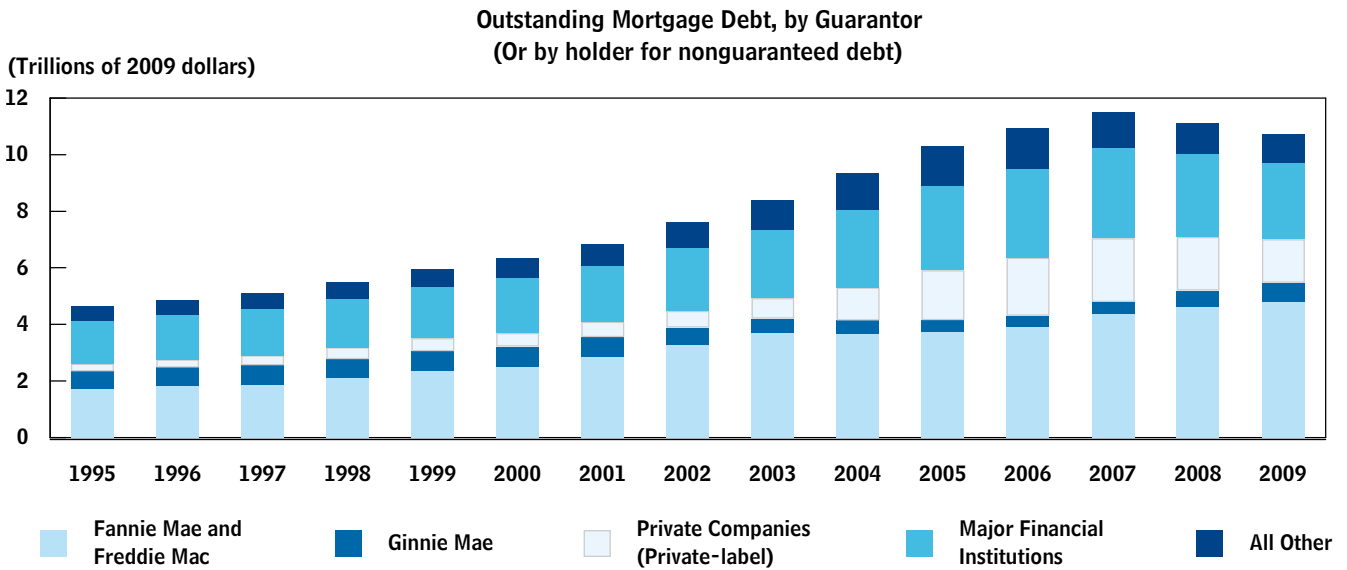
In response to disruptions in the market for jumbo mortgages, policymakers raised the cap on conforming loans in high-cost areas—to between \$417,000 and \$729,750, depending on local median house prices—to help improve the flow of credit and to make those loans more affordable. In addition, Fannie Mae and Freddie Mac, in coordination with the Treasury, are being used to revive the activities of state and local housing finance agencies, which declined greatly during the financial crisis. Those agencies provide subsidized mortgage financing to low- and moderate-income borrowers (primarily first-time home buyers) and to owners of multifamily rental units.

The turmoil in the financial and housing markets has affected the GSEs' ability to meet their requirements for the percentage of mortgage guarantees and purchases that address the housing needs of low- and moderate-income people. Consequently, the FHFA has lowered those percentages.¹² In addition, as required under HERA, the FHFA has proposed new affordable-housing goals intended to better target lower-income households.¹³

12. See Federal Housing Finance Agency, "FHFA Sends GSE Housing Goals to *Federal Register*: Proposed Rule Adjusts Certain Goals for Market Conditions; Provides Credit for Loan Modifications" (press release, April 28, 2009), www.fhfa.gov/webfiles/2139/. Also see Federal Housing Finance Agency, *The Housing Goals of Fannie Mae and Freddie Mac in the Context of the Mortgage Market: 1996–2009*, Mortgage Market Note 10-2 (February 1, 2010), www.fhfa.gov/webfiles/15419/, and *Annual Housing Report* (October 2009), www.fhfa.gov/webfiles/15150/.

13. See the remarks by Edward J. DeMarco, Acting Director, Federal Housing Finance Agency, given at the Women in Housing and Public Policy Luncheon, Washington, D.C., February 18, 2010, www.fhfa.gov/webfiles/15411/.

Figure 1-6.
Outstanding Mortgage Debt



Source: Congressional Budget Office based on data from Haver Analytics and the Federal Reserve.

Notes: These figures apply to mortgages on residences for one to four families.

Data for Fannie Mae and Freddie Mac reflect their guaranteed mortgage-backed securities (MBSs) and portfolio holdings of whole mortgages (but not their holdings of private-label MBSs). Data for Ginnie Mae and private companies reflect the outstanding MBSs they issued. Data for major financial institutions (such as commercial banks, savings institutions, and life insurance companies) reflect only their holdings of whole mortgages. The "all other" category consists of whole-mortgage holdings by state and local pension plans, the Federal Deposit Insurance Corporation, credit unions, mortgage companies, real estate investment trusts, and individuals.

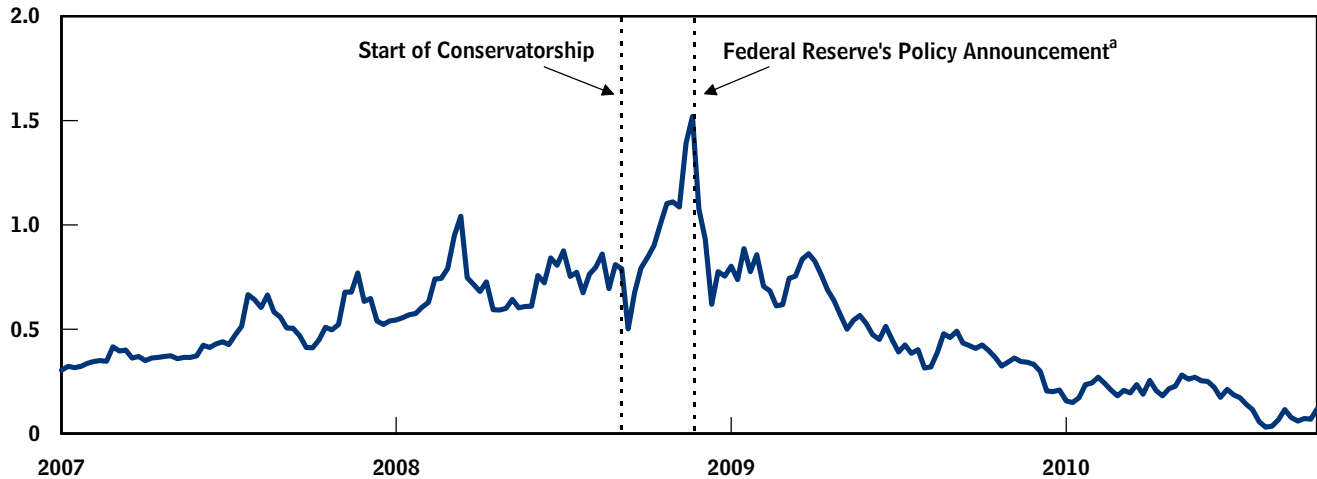
Policymakers have also given Fannie Mae and Freddie Mac more flexibility in allowing the refinancing of mortgages they own or guarantee. As interest rates on mortgages have declined in recent years, the number of homeowners who could in principle lower their monthly payments through refinancing has grown. However, homeowners who are current in their mortgage payments but have low or negative equity in their home would have

difficulty refinancing under the usual rules. To give those homeowners more opportunities, the rules governing the refinancing of mortgages guaranteed by the GSEs have been relaxed: Borrowers with a loan-to-value (LTV) ratio as high as 125 percent—meaning that their mortgage balance is up to 25 percent greater than the current value of their home—may now qualify for refinancing without purchasing private mortgage insurance. By the end of

Figure 1-7.

Extent to Which Interest Rates on Freddie Mac's Ten-Year Debt Exceeded Rates on the Treasury's Ten-Year Debt, January 2007 Through September 2010

(Percentage points)



Source: Congressional Budget Office based on data from Bloomberg.

Note: This interest rate spread applies to noncallable debt and is based on a weekly, matched series of debt issued by Freddie Mac and the Treasury through September 2010.

a. On November 25, 2008, the Federal Reserve announced that it would begin purchasing mortgage-backed securities and agency debt issued by Fannie Mae and Freddie Mac.

June 2010, more than 950,000 loans had gone through the streamlined refinancing process, including nearly 400,000 with LTV ratios over 80 percent. However, many more borrowers have been unable to qualify for refinancing because of insufficient income or an LTV ratio over 125 percent.

Reducing Mortgage Interest Rates

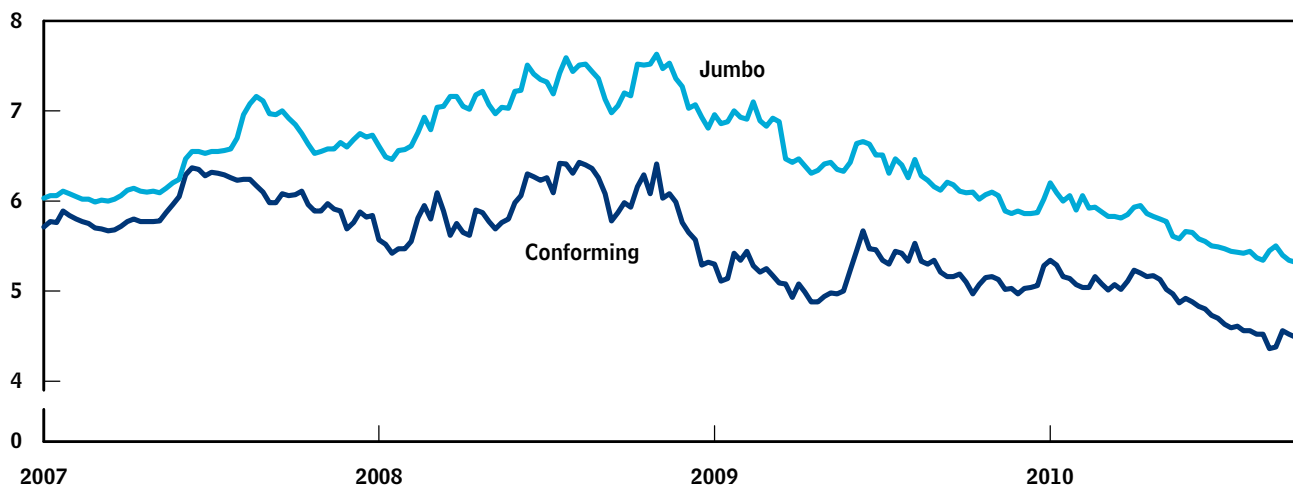
The policy under conservatorship of continuing to charge below-market rates for the GSEs' credit guarantees contributes to lower interest rates for mortgage borrowers (and greater costs to the Treasury). After they entered conservatorship, Fannie Mae and Freddie Mac dropped plans to increase by 0.25 percentage points the up-front fee they charge for insuring mortgages during adverse market conditions. Although the GSEs' average guarantee fee appears to have changed little since the financial crisis began, fees have risen for riskier borrowers and on riskier loan products. In analyzing guarantee fees, the FHFA found a pattern of uneven subsidies, with riskier loans (those with higher LTV ratios and lower borrowers' credit scores) receiving relatively larger subsidies than safer loans.¹⁴

The GSEs' ability to affect market interest rates on the MBSs they insure and on the agency debt they issue is limited; those rates depend primarily on the perceived value of their federal backing and on conditions in financial markets. In November 2008, shortly after conservatorship began, interest rate spreads between the GSEs' agency debt and Treasury securities (that is, the extent to which rates on agency debt exceeded those on Treasury securities of comparable maturity) shot up by nearly a percentage point, reflecting investors' increasing doubts about whether they would be fully protected from losses as the financial crisis deepened (see Figure 1-7, which shows the interest rate spread for Freddie Mac). Since then, actions by the Treasury and the Federal Reserve to increase the value of the GSEs' securities, and general

14. In 2009, the average guarantee fee charged on mortgages declined. That change can be attributed to the increased share of loans that year with lower LTV ratios and to a rise in the percentage of borrowers with higher credit scores. See Federal Housing Finance Agency, *Fannie Mae and Freddie Mac Single-Family Guarantee Fees in 2007 and 2008* (July 2009), www.fhfa.gov/webfiles/14700/, and *Fannie Mae and Freddie Mac Single-Family Guarantee Fees in 2008 and 2009* (July 2010), www.fhfa.gov/webfiles/15918/.

Figure 1-8.**Interest Rates on Jumbo and Conforming Mortgages, January 2007 Through September 2010**

(Percent)



Source: Congressional Budget Office based on data from Bloomberg via Bankrate.com.

Note: Conforming mortgages are ones whose size and terms make them eligible to be guaranteed by Fannie Mae and Freddie Mac. Jumbo mortgages are ones whose size exceeds the limit for conforming mortgages.

improvement in financial market conditions, have helped those spreads fall back below precrisis levels.¹⁵ The market prices of MBSs guaranteed by Fannie Mae and Freddie Mac also appear to have returned to precrisis levels. Moreover, because of the downward trend in interest rates and the reduced spreads, the average rate on 30-year fixed-rate conforming mortgages dropped from 6.0 percent at the end of September 2008 to 5.2 percent at the same point in 2009, and to 4.5 percent at the end of

September 2010 (see Figure 1-8), although it has risen since then.

Lowering the Number of Mortgage Foreclosures

Fannie Mae and Freddie Mac are key players in the Administration's efforts to reduce mortgage foreclosures by modifying loans. Foreclosures, although unavoidable in some circumstances, are costly to both lenders and borrowers and have negative effects on neighborhoods and home prices.¹⁶ More than 1 million foreclosures were started in 2009 on mortgages guaranteed by Fannie Mae or Freddie Mac, and another 1.6 million loans guaranteed by the GSEs were at least 60 days delinquent at the end of June 2010. Some loans guaranteed by the GSEs are now being modified under the Home Affordable Modification Program (HAMP), which began in May 2009. The Administration committed nearly \$50 billion to that program through the Troubled Asset Relief Program and another \$25 billion through Fannie Mae and Freddie Mac; however, only a small portion of HAMP funds are likely to be spent, CBO estimates. With the

15. See Congressional Budget Office, *The Budgetary Impact and Subsidy Costs of the Federal Reserve's Actions During the Financial Crisis* (May 2010). The extent to which the Federal Reserve's actions have caused interest rates on mortgages to decline is uncertain, and estimates of the effect vary widely. See Joseph Gagnon and others, *Large-Scale Asset Purchases by the Federal Reserve: Did They Work?* Staff Report 441 (Federal Reserve Bank of New York, March 2010), www.ny.frb.org/research/staff_reports/sr441.pdf; Andreas Fuster and Paul S. Willen, *\$1.25 Trillion Is Still Real Money: Some Facts About the Effects of the Federal Reserve's Mortgage Market Investments*, Discussion Paper 10-4 (Federal Reserve Bank of Boston, November 18, 2010), www.bos.frb.org/economic/ppdp/2010/ppdp1004.pdf; and Johannes C. Stroebel and John B. Taylor, *Estimated Impact of the Fed's Mortgage-Backed Securities Purchase Program*, Working Paper 15626 (Cambridge, Mass.: National Bureau of Economic Research, December 2009), www.nber.org/papers/w15626.

16. Christopher L. Foote and others, *Reducing Foreclosures*, Public Policy Discussion Paper 09-2 (Federal Reserve Bank of Boston, April 8, 2009), www.bos.frb.org/economic/ppdp/2009/ppdp0902.htm.

volume of HAMP modifications declining, the GSEs have increased other types of loan modifications. In cases where modifying a delinquent loan is not viable, the GSEs have increasingly relied on short sales (in which a home is sold for less than the amount due on the mortgage) and on deeds in lieu of foreclosure (in which all interest in a property is immediately transferred from a borrower to a lender without going through the foreclosure process) to reduce costs and better preserve neighborhoods.

Although modifying loans creates savings for homeowners, it can be costly to Fannie Mae and Freddie Mac and ultimately to taxpayers. The GSEs may be adversely affected through the value of their portfolio holdings. Loan modifications make investors worse off when payments are reduced and a property ends up in foreclosure anyway or, conversely, when the borrower would have

continued to make the higher mortgage payments in any event. Evidence suggests that borrowers frequently default on modified loans, particularly if they suffer a job loss or if further declines in home prices increase their negative equity.¹⁷ However, loan modifications that reduce the odds of default and help stabilize local property values can save money for the GSEs in their role as guarantors by lowering their risk of credit losses. Such outcomes can also be beneficial for taxpayers, both through the gains for the GSEs and through the strengthening of property values and, perhaps, local tax revenues.

17. Default rates on modified GSE loans are about 50 percent after nine months, but there are some signs that recent modifications—which feature deeper reductions in interest and principal and declines of more than 20 percent in monthly payments—are performing better. See Department of the Treasury, *OCC and OTS Mortgage Metrics Report, Second Quarter 2010*.

Possible Rationales for a Federal Role in the Secondary Mortgage Market

Federal policies that affect the secondary mortgage market generally have two aims: helping to ensure a stable supply of financing for residential mortgages nationwide and providing assistance for mortgages on housing for low- and moderate-income families. Many of the government's efforts in pursuit of those goals operate by increasing the liquidity of mortgages and mortgage-backed securities. Ensuring that mortgage products can be readily bought and sold helps to broaden and stabilize the base of investors in the secondary market, which in turn modestly reduces the interest costs that mortgage borrowers face. Those effects are most evident during periods of stress in financial markets. However, federal support for the secondary mortgage market also entails costs—including the transfer of risk from investors to taxpayers, a weakening of incentives to control risk, and encouragement to overinvest in housing—which must be weighed against the potential benefits.

In the past, the federal government has supported the secondary mortgage market in a variety of ways. A key structural contribution was creating a legal and regulatory framework to facilitate the securitization of conforming and nonconforming loans; the cash flows on most MBSs are more predictable than those on individual mortgages and thus easier for investors to value.¹ Giving federal charters to Fannie Mae and Freddie Mac enhanced investors' confidence in the guarantees on MBSs they issued. Fannie Mae and Freddie Mac also have added liquidity to the mortgage market at times through their purchases and sales of the agency MBSs held in their portfolios. In addition, the federal government has

increased the flow of credit to low- and moderate-income borrowers by explicitly insuring mortgages against losses from default (through programs of the Federal Housing Administration and the Department of Veterans Affairs, or VA) and by guaranteeing timely payment of interest and principal on MBSs backed by pools of those mortgages (through Ginnie Mae).² Most recently, the Federal Reserve and the Treasury have increased the supply of funding for mortgages through their direct purchases of MBSs.

Under ordinary market conditions, there is probably less day-to-day benefit from a federal presence in the secondary mortgage market now than there was four decades ago, when Fannie Mae and Freddie Mac were chartered. Many financial institutions have developed the capability to securitize various types of mortgages that are actively traded in secondary markets without the advantage of federal guarantees. The investor base for MBSs has become larger and more international. Despite those changes, however, the recent financial crisis has highlighted the vulnerability of the secondary mortgage market to large adverse shocks. At such times, some federal involvement is likely to be necessary if policymakers want to ensure an uninterrupted flow of credit to the housing market.

Another goal that is sometimes cited for federal support of the mortgage market is to promote home ownership. Owning a home may give a household a greater stake in

1. Poorly designed securitizations can have the opposite effect: increasing risk and obscuring value.

2. The government provides funding to cover default losses on individual mortgages through the FHA and VA. Ginnie Mae securitizes those mortgages and administers the guarantee, providing investors with assurance of timely payment of the amounts owed to them.

its community and make the community more stable.³ For example, neighborhoods with higher concentrations of homeowners are thought to be better maintained and have lower crime rates. The main source of federal subsidies for home ownership, however, is not the secondary mortgage market but rather the tax code, which treats investments in owner-occupied housing more favorably than other investments. Homeowners are eligible for several types of favorable tax treatment: They may be able to deduct mortgage interest and property taxes—two significant costs of home ownership—from their taxable income without needing to pay taxes on their home’s implicit rental value (unlike owners of a rented home, who can deduct mortgage interest, property taxes, and other expenses but must pay taxes on their net rental income). In addition, the threshold that triggers taxes on capital gains from houses is high enough that most people do not have to pay such taxes when they sell their home.⁴

Promoting a Stable Supply of Mortgage Financing

Banks, thrifts, and mortgage brokers rely on the secondary market to supply funding for the mortgages they originate. Selling mortgages rather than holding them in a portfolio lets banks and thrifts avoid the cost of having to protect themselves from the risks associated with financing long-term mortgages with short-term deposits. A broad-based secondary market also tends to equalize mortgage interest rates among different regions of the country because it reduces reliance on the local availability of deposits to meet the local demand for mortgages.

The effect of federal support for the secondary market is most pronounced during periods of turmoil in financial markets, when private investors seek the safety of federally guaranteed investments. As funding for risky securities diminishes, mortgage lenders have less ability to

provide credit to new borrowers or to refinance old loans. Interruptions in the supply of credit in turn can hurt the market for new home construction, reduce employment, and weaken the economy. Lack of liquidity also impedes labor mobility by making it harder for people to buy and sell homes when they want to move. Such concerns may motivate a federal role in the secondary mortgage market.

The Function of Liquidity

Liquidity is an important attribute of a well-functioning secondary market. A liquid market is one in which a large volume of securities can be readily bought or sold without affecting their price. Market liquidity depends greatly on the characteristics of the securities being traded. Securities that are issued in large volumes with short maturities, standardized terms, and little or no risk of default (such as Treasury bills) are generally the most liquid. Such securities are easiest for investors to evaluate and least susceptible to unexpected changes in value that can make them difficult to resell.

How much federal intervention is necessary to provide adequate liquidity to the secondary mortgage market is an unsettled question. Proponents of relying more heavily on the private sector to provide liquidity point to the emergence of an active market for private-label MBSs. Advocates of a larger federal role counter that the private-label market was considerably less liquid than the market for agency MBSs even before the recent financial crisis. However, significant differences between the two markets make it difficult to pinpoint why the difference in liquidity exists or what might happen if the private sector had a larger hand in guaranteeing and securitizing mortgages.

Some of the difference in liquidity between the private-label and agency markets is attributable to the fact that far fewer private-label MBSs are issued than agency MBSs. Another factor is the differing risk of the underlying mortgages—issuers other than Fannie Mae and Freddie Mac tend to specialize in the riskier segments of the mortgage market, such as subprime and jumbo residential loans, where the government-sponsored enterprises traditionally were not permitted to operate. Probably the main reason that the market for agency MBSs has been more liquid, however, has been the implicit (and now explicit) federal guarantees, which make those securities more homogeneous by nearly eliminating differences in credit quality. The liquidity benefits that arise from federal guarantees must be weighed against the costs, however.

3. For a review of the literature on the possible positive social benefits associated with housing and arguments for a public role, see Edward L. Glaeser and Joseph Gyourko, *Rethinking Federal Housing Policy: How to Make Housing Plentiful and Affordable* (Washington, D.C.: American Enterprise Institute, 2008), pp. 48–57, www.aei.org/book/971.

4. As an additional incentive for home ownership, some people who bought homes between January 1, 2009, and April 30, 2010, were eligible for a temporary tax credit of up to \$8,000 to help with making down payments. The credit was originally enacted in the American Recovery and Reinvestment Act of 2009 (Public Law 111-5).

Enhancing Liquidity with Credit Guarantees

Credit guarantees—whether provided by private mortgage insurers or by governments—increase a security’s liquidity because they attract a broader class of investors, who prefer less risky securities, to participate in the market. At the same time, however, by transferring potential losses from mortgage lenders to guarantors, guarantees tend to reduce the incentive for lenders to control and monitor the riskiness of the loans they originate.

The structure of guarantees and investors’ confidence in them are critical to maintaining a stable supply of funding through the MBS market. Particularly during periods of stress in financial markets, confidence in private guarantees can evaporate when the solvency of private guarantors is no longer assured. A large shock to the economy—such as the recent nationwide drop in housing prices that triggered the subprime mortgage crisis—can increase the amount that private mortgage insurance companies must pay out for defaults at the same time that their asset holdings are declining in value. Those companies may find themselves with insufficient capital to make their insurance credible; downgrades of their credit ratings can reinforce the perception of weakness. As a result, mortgage interest rates can rise sharply, and in extreme cases, investors may stop buying private-label MBSs. Federal intervention could address that inability of the private sector to effectively insure against such catastrophic risks.

As with private guarantees, confidence in implicit federal guarantees can also wane during times of crisis. Investors’ doubts about the ability of Fannie Mae and Freddie Mac to cover their obligations in the face of mounting losses—coupled with concerns about whether and how the implicit federal guarantee would be made explicit—were factors that led the government to place those entities in conservatorship. During normal times, the difference between the interest rates that Freddie Mac paid to holders of its agency debt and the interest rates on Treasury bonds of similar maturity averaged less than 0.50 percentage points (see Figure 1-7 on page 12). A few months before conservatorship, that interest rate spread widened to nearly 1 percentage point, an indication that investors were no longer sure they would be protected.

Attaching a standing, explicit federal guarantee to certain types of mortgages or MBSs could lower the probability and severity of disruptions in financing those mortgages. Such a guarantee would ensure a more robust market by attracting a broader and more stable group of investors.

At the same time, however, a standing guarantee could increase the likelihood and cost of future problems in the housing market if it induced risk-taking behavior on the part of mortgage originators and securitizers by decreasing the market discipline imposed on them by uninsured investors or private mortgage insurance companies.

During periods of extreme financial distress, even a federally backed guarantee may not be enough to ensure a steady stream of relatively low-cost funding to the secondary mortgage market. At such times, the government has an additional tool at its disposal: It can step in and buy mortgages and MBSs directly, as the Treasury and Federal Reserve did during the recent crisis. (The Federal Reserve’s purchases entailed no additional credit risk for the government because the agency securities it bought already carried an effective federal guarantee. If future purchases included private-label securities, those purchases would incur credit risk.)

Effects of Federal Guarantees on Borrowing Costs

Investors are willing to pay more for MBSs that are issued by Fannie Mae and Freddie Mac or that have other federal backing, which means that the securitizers in turn can pay more to buy mortgages from lenders. However, most of the potential savings to mortgage borrowers that result from investors’ willingness to pay more for federally backed securities are offset by guarantee fees (which lenders pay to securitizers), because those fees are factored into mortgage interest rates. Under normal market conditions, when guarantee fees are set at fair-market levels, the net impact on borrowers’ interest costs tends to be small and reflects only the effect of greater liquidity. When guarantee fees are subsidized, however, they can significantly lower interest expenses for borrowers.

Estimates of the savings to borrowers from federal guarantees vary widely and depend on the market and time period being considered.⁵ Before conservatorship, various studies tried to estimate how much of the subsidy value of the implicit federal guarantee of Fannie Mae and Freddie Mac was passed through to mortgage borrowers (as opposed to flowing to the GSEs’ shareholders,

5. Some evidence suggests that little or no additional savings flowed to borrowers when the GSEs purchased agency MBSs to hold in their portfolios. See Andreas Lehnert, Wayne Passmore, and Shane M. Sherlund, “GSEs, Mortgage Rates, and Secondary Market Activities,” *Journal of Real Estate Finance and Economics*, vol. 36, no. 3 (April 2008), pp. 343–363.

managers, or employees). One way of estimating the benefit to borrowers is comparing the interest rates on mortgages that are eligible for GSE financing with the rates on loans that are not eligible (controlling for other differences in the characteristics of borrowers and loans). Evidence from the spread between interest rates on jumbo and conforming loans suggests that the implicit federal guarantee lowered mortgage interest rates by no more than 0.25 percentage points in normal times.⁶ During the financial crisis, that spread widened to more than 1 percentage point; at the end of September 2010, it remained unusually large (see Figure 1-8 on page 13). Another example of the impact of federal guarantees is that when Ginnie Mae began creating liquid MBSs from government-insured FHA and VA mortgages, the liquidity of those mortgages increased.⁷ Fannie Mae's and Freddie Mac's purchases of mortgages on multifamily rental housing and of private-label MBSs are also likely to lower interest costs for borrowers with those types of mortgages.

To the extent that the liquidity created by federal activities in the secondary mortgage market spills over to the private-label MBS market, those activities may indirectly lower the costs of jumbo loans, subprime loans, and other nonconforming mortgages. Such positive spillover can occur, for instance, when the expertise that investors gain in the agency MBS market makes them more willing to participate in the private-label market. However, it is also possible that federally supported activities decrease liquidity in the private-label market by reducing the potential scale at which private-label issuers can operate.

6. That raw spread is not a perfect measure of the value of GSE support because it reflects the higher credit and prepayment risks of jumbo mortgages, which are heavily concentrated in California's volatile housing market. See Congressional Budget Office, *Interest Rate Differentials Between Jumbo and Conforming Mortgages, 1995–2000* (May 2001); Joseph A. McKenzie, "A Reconsideration of the Jumbo/Non-Jumbo Mortgage Rate Differential," *Journal of Real Estate Finance and Economics*, vol. 25, no. 2/3 (2002), pp. 197–213; Wayne Passmore, Roger Sparks, and Jamie Ingpen, "GSEs, Mortgage Rates, and the Long-Run Effects of Mortgage Securitization," *Journal of Real Estate Finance and Economics*, vol. 25, no. 2/3 (2002), pp. 215–242; and Wayne Passmore, Shane Sherlund, and Gillian Burgess, "The Effect of Housing Government-Sponsored Enterprises on Mortgage Rates," *Real Estate Economics*, vol. 33, no. 3 (September 2005), pp. 427–463.

7. Susan Woodward and Robert Hall, "What to Do About Fannie Mae and Freddie Mac" (blog post, January 28, 2009), <http://woodwardhall.wordpress.com/?s=%22What+to+Do+About+Fannie+Mae+and+Freddie+mac%22>.

The size of such effects, whether positive or negative, is extremely difficult to quantify, and reliable estimates are not available.

Some of the savings to borrowers from lower interest rates are likely to be offset by increases in house prices caused by the subsidy policies. Interest rate subsidies such as those resulting from the GSEs' purchases and guarantees (as well as from the tax deduction for mortgage interest) are already reflected in the prices of existing homes and land, at least in areas where the supply of housing is constrained. One study found that a 1 percent reduction in the after-tax cost of owning a home leads to an increase of 0.60 percent to 0.85 percent in house prices.⁸ That situation is a disadvantage for first-time home buyers, who face higher prices for housing because they do not already own a home whose price reflects interest rate and other subsidies.

Promoting Affordable Housing

Besides encouraging a stable supply of mortgage financing, federal housing policy aims to make homes—both owner-occupied and rental—more affordable for low- and moderate-income households. The government subsidizes the cost of housing for those groups through its support of the secondary mortgage market, through several types of rental assistance, and through various provisions of the tax code.

Using the Secondary Mortgage Market to Increase Affordability

Government involvement in the secondary mortgage market—primarily through the activities of the FHA and Ginnie Mae, but also through the affordable-housing goals for Fannie Mae and Freddie Mac—increases access to mortgage credit for low- and moderate-income borrowers and provides interest rate subsidies. In addition, federal support for the secondary market lowers financing costs for developers of affordable multifamily rental housing. (Expanding the supply of rental housing is one way to lower rents.)

In some cases, assistance for home ownership may be provided at the lowest cost to taxpayers by improving access

8. Christopher Mayer and R. Glenn Hubbard, "House Prices, Interest Rates, and the Mortgage Market Meltdown" (draft, Columbia Business School, New York, October 2008), www4.gsb.columbia.edu/null?&exclusive=filemgr.download&file_id=3549.

to mortgage credit. Low- and moderate-income households can face significant barriers to getting a home loan if information about their creditworthiness is difficult or costly to obtain. For example, because many of those borrowers have short or no credit histories, lenders may not be able to distinguish good credit risks from bad ones. Lack of information gives rise to problems of adverse selection: If lenders tried to protect themselves from losses by demanding higher interest rates, they would tend to attract only the riskiest borrowers. (Many lower-risk borrowers would probably not take out a loan at the higher rates because it would be so expensive.) Knowing that, lenders might be unwilling to offer credit on any terms—a situation known as credit rationing.⁹ Although credit rationing has probably declined over time with lenders' increased use of borrowers' credit scores, lack of information remains a barrier to lending in some cases.

When credit rationing occurs in the mortgage market, the government may be able to improve economic efficiency and the welfare of consumers by intervening to make credit more available. One way to do that is through the secondary market, by being willing to purchase and guarantee mortgages that meet less stringent criteria than private lenders would require on their own. Such interventions generally involve a subsidy (which flows through lenders to borrowers) because the government is offering terms that are more favorable than what a competitive private lender would offer. Those interventions may not always improve efficiency, however, because credit subsidies can encourage some households to borrow more than is financially sensible.¹⁰

The federal government has also tried to improve access to mortgage financing through annual targets for the

9. See Joseph E. Stiglitz and Andrew Weiss, "Credit Rationing in Markets with Imperfect Information," *American Economic Review*, vol. 71, no. 3 (June 1981), pp. 393–410.

percentage of mortgages bought by Fannie Mae and Freddie Mac that were made to low- and moderate-income borrowers. (Those targets are described in more detail in the next chapter.) In addition, the Community Reinvestment Act of 1977 encourages banks and savings and loan institutions to make loans to borrowers in all parts of their local communities, including low- and moderate-income neighborhoods.

Other Federal Efforts to Make Housing More Affordable

Qualifying individuals and families can receive rental assistance in the form of subsidized units in public housing complexes and some privately owned buildings, a type of aid known as unit-based assistance. Alternatively, they can receive housing vouchers that can be used to cover part of their rental costs in the private market. With vouchers, poorer families tend to move to safer neighborhoods (which translates into improved mental and physical health) at a subsidy cost similar to that of unit-based assistance.¹¹

The tax code also supports home ownership through the deductibility of mortgage interest and property taxes and through the favorable treatment of capital gains on residential properties. Such benefits may be fairly small for low- and moderate-income families, however, because those families often claim the standard deduction on their tax returns rather than itemizing deductions and generally face low marginal income tax rates.

10. See Deborah Lucas and Marvin Phaup, "The Cost of Risk to the Government and Its Implications for Federal Budgeting," in Lucas, ed., *Measuring and Managing Federal Financial Risk* (Chicago: University of Chicago Press, 2010), pp. 29–54.

11. See Jeffrey R. Kling, Jeffrey B. Liebman, and Lawrence F. Katz, "Experimental Analysis of Neighborhood Effects," *Econometrica*, vol. 75, no. 1 (January 2007), pp. 83–119.

Weaknesses of the Precrisis Model for Fannie Mae and Freddie Mac

The activities of Fannie Mae and Freddie Mac have been a fairly effective but costly means of creating a stable supply of financing for residential mortgages, which in turn has helped to support the nation's high rate of home ownership. Nevertheless, the model under which the two government-sponsored enterprises operated before federal conservatorship—referred to here as the “precrisis model”—had major structural weaknesses. Those weaknesses included an implicit federal guarantee that led to a concentration of market power in the two GSEs, risks to the stability of the larger financial system, and a lack of openness about costs and risks to the government. Weak regulation and goals for financing affordable housing allowed greater risk taking and may have contributed to those shortcomings. Furthermore, the policies directed at making housing more affordable appear to have provided only limited benefits to borrowers. Finally, an intrinsic tension existed in charging private companies with a public mission; the GSEs, their regulators, and policymakers struggled to find a balance among the competing goals of maximizing profits for shareholders, maintaining the entities' safety and soundness, and fulfilling the entities' public mission.

Adverse Consequences of the Implicit Federal Guarantee

The federal government's implicit guarantee of the debt and other obligations of Fannie Mae and Freddie Mac was at the root of several weaknesses of the precrisis model: The GSEs were able to acquire a substantial degree of market power, which in turn increased risk to the overall financial system (systemic risk); the entities had an incentive to take excessive risks; and the costs and risks to taxpayers and the economy were not apparent in the federal budget. (The implicit federal guarantee was

made explicit when the government took over the two GSEs in 2008.)

Market Power

Fannie Mae's and Freddie Mac's charters gave the GSEs advantages over other participants in the secondary market for conforming mortgages, including the perception of an implied federal guarantee on their obligations. Those advantages furnished the GSEs with market power—meaning that they could charge somewhat more for their guarantees than it cost to provide them, while still charging less than potential competitors that lacked those advantages. The GSEs' most important advantage was the financial value of the implicit federal guarantee; that value has often been equated to a federal subsidy because it represents the cost to taxpayers of providing the guarantee. The subsidy lowered the cost to the GSEs of issuing debt and increased the value to investors of their guarantees on mortgage-backed securities.

Precisely measuring the value of the federal subsidy—or how it has been divided among shareholders, managers, and employees of the GSEs; mortgage borrowers; and other parties—is not possible. Nevertheless, studies by the Congressional Budget Office (CBO) and others have concluded that before conservatorship, the GSEs received significant federal subsidies, which grew over time and were not fully passed on to borrowers.¹ For example, CBO previously estimated that the annual federal subsidy of Fannie Mae and Freddie Mac totaled

1. See Congressional Budget Office, *Federal Subsidies and the Housing GSEs* (May 2001); Wayne Passmore, “The GSE Implicit Subsidy and the Value of Government Ambiguity,” *Real Estate Economics*, vol. 33, no. 3 (2005), pp. 465–486; and Deborah Lucas and Robert McDonald, “An Options-Based Approach to Evaluating the Risk of Fannie Mae and Freddie Mac,” *Journal of Monetary Economics*, vol. 53 (January 2006), pp. 155–176.

nearly \$20 billion in 2003, about double the estimated subsidy in 2000. Of that \$20 billion, just over \$13 billion went to borrowers of conforming mortgages (in the form of slightly lower mortgage interest rates); the rest was retained by the GSEs' shareholders, managers, and employees.² Using a different valuation approach (and based on the economic conditions prevailing in 2005), an academic study concluded that the government would have to have charged Fannie Mae and Freddie Mac an annual insurance premium of 0.2 to 0.3 percentage points to cover the federal cost of the implicit guarantee.³

That implicit guarantee allowed the GSEs to issue a large volume of unsecured debt securities. It also led investors to pay more for those securities, and for the GSEs' credit guarantees on MBSs, than they would have for similar obligations that lacked federal support. Investors in the secondary market require greater capital backing in order for fully private guarantees to be perceived as safe, and putting that capital at risk is costly to private firms. Free of that need, Fannie Mae and Freddie Mac were able to charge fees in excess of their guarantee costs but below those of their competitors. That advantage allowed them to become the dominant players in the secondary market for conforming mortgages and to grow rapidly in other areas where they gained regulatory permission to operate, such as the markets for subprime and Alt-A securities.

Systemic Risk

Fannie Mae and Freddie Mac are restricted by law in the types of investments they can make for their portfolios and the types of mortgages they can guarantee. Although such restrictions limit their exposure to risk by controlling their growth and activities, the restrictions also limit their ability to reduce risk through diversification. (Fannie Mae and Freddie Mac could also try to reduce risk through the use of derivatives and other risk-sharing contracts, but they have chosen not to do so for the risk associated with their guarantees.)

2. Congressional Budget Office, *Updated Estimates of the Subsidies to the Housing GSEs*, attachment to a letter to the Honorable Richard C. Shelby (April 8, 2004).
3. The fair premium rate rises with the GSEs' ratio of debt to equity, which suggests that fair premiums would have been much higher after the decline in mortgage values that started in late 2007. See Deborah Lucas and Robert McDonald, "Valuing Government Guarantees: Fannie and Freddie Revisited," in Lucas, ed., *Measuring and Managing Federal Financial Risk* (Chicago: University of Chicago Press, 2010), pp. 131–154.

The GSEs' lack of diversification, coupled with low levels of capital reserves prior to conservatorship, left them highly exposed to large, sudden changes in housing prices or prepayment rates. That exposure posed a risk to the larger financial system because the consequences of letting Fannie Mae or Freddie Mac fail could have been extremely damaging to the mortgage and housing markets—and, to a lesser extent, to investors in agency debt and MBSs.⁴ Those investors include numerous U.S. banks and foreign central banks. Although banks are normally restricted in the amount of credit exposure to a given company they can take on (at least on their balance sheets), such limits do not apply to agency debt. If Fannie Mae or Freddie Mac defaulted on its obligations, the solvency of other financial institutions would be threatened. Moreover, the willingness of some other nations' central banks to hold Treasury securities might suffer if they saw such a default as a signal of greater risk in Treasury obligations.

Incentives for Risk Taking

Fannie Mae and Freddie Mac were rewarded for taking risks because the riskiness of their operations had little effect on their credit costs and their access to the market. When times were good, the GSEs' stakeholders received the gains in the form of higher profits on riskier investments, but when times were bad, taxpayers were left with the losses.

That divergence was most apparent with the GSEs' large portfolio holdings, which historically were highly profitable but also risky.⁵ (In addition to credit risk, the mortgages held in their portfolios carried substantial interest

4. Gary H. Stern and Ron J. Feldman, *Too Big to Fail: The Hazards of Bank Bailouts* (Washington, D.C.: Brookings Institution, 2004).
5. See the statement of Alan Greenspan, Chairman of the Federal Reserve Board, before the Senate Committee on Banking, Housing, and Urban Affairs, *Government-Sponsored Enterprises* (February 24, 2004), www.federalreserve.gov/boarddocs/testimony/2004/20040224/default.htm; and Ben. S. Bernanke, Chairman of the Federal Reserve Board, "GSE Portfolios, Systemic Risk, and Affordable Housing" (remarks by satellite presented to the Independent Community Bankers of America Annual Convention and Techworld, Honolulu, Hawaii, March 6, 2007), www.federalreserve.gov/newsevents/speech/bernanke20070306a.htm. Also see Robert A. Eisenbeis, W. Scott Frame, and Larry D. Wall, "An Analysis of the Systemic Risks Posed by Fannie Mae and Freddie Mac and An Evaluation of the Policy Options for Reducing Those Risks," *Journal of Financial Services Research*, vol. 31, no. 2 (April 2007), pp. 75–99.

rate and prepayment risks that were only partially mitigated by hedging.)⁶ Specifically, the implicit federal guarantee allowed Fannie Mae and Freddie Mac to finance their portfolio holdings by borrowing (issuing agency debt) at interest rates only slightly higher than those on Treasury securities. The GSEs realized earnings from the difference between the higher average returns on the mortgages they owned and the interest rate they paid on the agency debt they issued. Without a federal guarantee, increasing their portfolio risk would not have been profitable because the costs of new borrowing would presumably have risen commensurately with the increase in expected returns on their assets: Investors in agency debt would have required higher interest rates as Fannie Mae and Freddie Mac became riskier.

Several factors made risk taking by the GSEs less likely to be detected and harder to evaluate. The implicit guarantee greatly reduced incentives for prospective investors in agency debt to monitor and discipline the GSEs' risk taking and growth. In addition, the ability of investors and regulators to evaluate the riskiness of Fannie Mae and Freddie Mac was hindered because the GSEs were exempt from the Securities and Exchange Commission's reporting requirements and more generally because their financial reporting was opaque. The GSEs' extensive use of derivatives to manage interest rate and prepayment risk made it complicated to determine their risk exposure. The lack of transparency in their accounting for those activities, in particular, was a major reason that Fannie Mae and Freddie Mac had to restate their income and balance sheet positions in the mid-2000s. Such problems were not unique to the GSEs, however. The risk exposure of other large financial institutions also was not obvious to regulators or investors.

Lack of Transparency in the Federal Budget

Because the federal subsidy arising from the implicit guarantee was not reflected in the federal budget, the size of the subsidy was less apparent to policymakers and the public. That omission also weakened the discipline of the

budget process, which is designed to identify the costs of pursuing different policy goals.⁷ As a result, carrying out housing policy goals through Fannie Mae and Freddie Mac appeared to be free, whereas providing similar assistance through on-budget programs could entail a cost.

Even if the implicit guarantee had been accounted for in the budget, the reported subsidy might not have been a comprehensive measure of the guarantee's cost to taxpayers. The Federal Credit Reform Act of 1990 (FCRA) stipulates that the cost shown in the budget for a federal loan guarantee be the discounted present value of the future stream of net payments projected to stem from that guarantee. FCRA specifies that interest rates on Treasury securities be used as discount rates in estimating present value, but use of those risk-free rates neglects the cost of market risk (the risk that defaults will occur most frequently in times of economic stress, when losses are most costly). Under FCRA, estimates of the budgetary impact of loans and loan guarantees are systematically lower than the fair value, or market value, of those loans and loan guarantees, which has the effect of making such federal support for housing appear cheaper than noncredit forms of support. (CBO projects the costs of Fannie Mae and Freddie Mac under conservatorship on a fair-value basis that includes the cost of market risk; for more details, see Box 1-1 on page 4.)⁸

Limited Effects on Affordable Housing

Their charters require Fannie Mae and Freddie Mac to provide ongoing assistance to the secondary mortgage market and to promote access to mortgage credit throughout the nation, including for low- and moderate-income families and residents of central cities. Subsequent legislation, the 1992 Federal Housing Enterprises and Financial Safety and Soundness Act, required the Department of Housing and Urban Development (HUD) to establish affordable-housing goals expressed in percentages of total housing units financed by Fannie Mae and Freddie Mac.

6. Dwight Jaffee, "The Interest Rate Risk of Fannie Mae and Freddie Mac," *Journal of Financial Services Research*, vol. 24, no. 1 (August 2003), pp. 5–29, and "On Limiting the Retained Mortgage Portfolios of Fannie Mae and Freddie Mac" (paper prepared for the American Enterprise Institute conference "Should Fannie Mae's and Freddie Mac's Mortgage and MBS Portfolios Be Capped, Reduced, or Eliminated?" Washington, D.C., April 26, 2005), www.aei.org/docLib/20050426_Jaffee.pdf.

7. For an analysis of how implied guarantees could be treated in the budget, see Marvin Phaup, "Federal Use of Implied Guarantees: Some Preliminary Lessons from the Current Financial Distress," *Public Administration Review* (July/August 2009), pp. 651–659.

8. Congressional Budget Office, *letter to the Honorable Barney Frank about the budgetary impact of Fannie Mae and Freddie Mac* (September 16, 2010).

Since then, regulators have set annual targets for all mortgages and, beginning in 2005, separate goals for home purchases (as opposed to refinanced loans). Those goals apply to low- and moderate-income families (defined as those with income at or below an area's median income), families who have very low income (no more than 60 percent of the area median), and underserved areas (generally census tracts with large percentages of low-income people or minorities). Since 2001, slightly more than half of the loans purchased or guaranteed by the GSEs have counted toward those goals. Regulators have also set targets for mortgages on affordable multifamily rental housing, expressed in fixed dollar volumes for low-income renters overall and for low-income renters living in poor neighborhoods. In pursuit of those targets, Fannie Mae and Freddie Mac purchase mortgages on multifamily rental properties—which account for about 10 percent of the housing units they finance—and issue multifamily-housing MBSs.

Although the GSEs have usually met or exceeded the affordable-housing goals set by regulators, it is unclear whether those goals are the most effective or efficient way to support housing for low- and moderate-income families.⁹ The current approach has two principal drawbacks:

- Mortgage purchases by the GSEs may not significantly increase home-ownership rates for low-income families. Mortgage purchases that satisfy the goals for low- and moderate-income borrowers help those borrowers by reducing the interest rates they pay and by making credit more available than it would be otherwise. But small reductions in interest rates have only marginal effects on rates of home ownership, in part because down payments appear to be a bigger obstacle for first-time buyers. Some research suggests that the GSEs have satisfied their affordable-housing goals without having any significant impact on home ownership among lower-income families.¹⁰ Assistance provided through the Federal Housing Administration and the Department of Veterans Affairs, which insure loans that have lower down-payment requirements, is

likely to be more effective at increasing home ownership.

- Mortgages for lower-income borrowers are generally riskier than those for higher-income borrowers. Because the larger federal subsidy implicit in buying riskier mortgages is not accounted for in the budget, it is not possible to assess whether the benefits of supporting such mortgages justifies the subsidy costs or the added risks to taxpayers and the financial system.

Weak Regulation

Since their inception, Fannie Mae and Freddie Mac have been regulated separately from other federally insured financial institutions. Their regulators—first HUD and later the Office of Federal Housing Enterprise Oversight—were equipped with relatively weak tools for controlling risk taking. Capital requirements for the two GSEs were set in statute rather than by regulation, and according to some measures, those requirements were more lax than for depository institutions. Moreover, regulators lacked the ability to put the GSEs into receivership, which is the mechanism that bank regulators use to begin to resolve failed institutions. The need for Congressional action in the event of insolvency reinforced the perception that the government stood behind Fannie Mae and Freddie Mac.¹¹

The Housing and Economic Recovery Act of 2008 strengthened the power of the GSEs' regulator. It created the Federal Housing Finance Agency to oversee Fannie Mae, Freddie Mac, and the Federal Home Loan Banks. The agency was given the power to set requirements for minimum leverage and risk-based capital, receivership powers, and budgetary resources independent of the Congressional appropriation process. However, the incentives for prudent regulation may still be weakened by the agency's dual responsibility to set and enforce affordable-housing goals.

Tensions Between Public and Private Purposes

Before conservatorship, Fannie Mae and Freddie Mac had a responsibility as private companies to operate in the

9. Federal Housing Finance Agency, *The Housing Goals of Fannie Mae and Freddie Mac in the Context of the Mortgage Market: 1996–2009*, Mortgage Market Note 10-2 (February 1, 2010), www.fhfa.gov/webfiles/15419/.

10. Ron Feldman, "Mortgage Rates, Homeownership Rates, and Government-Sponsored Enterprises," *The Region*, Federal Reserve Bank of Minneapolis, vol. 16, no. 1 (2002), pp. 4–24.

11. Richard Scott Carnell, "Handling the Failure of a Government-Sponsored Enterprise," *Washington Law Review*, vol. 80 (August 2005), pp. 565–642.

interest of their shareholders. At the same time, they were obligated to fulfill their public mission in return for the benefits conferred by their charters. The GSEs faced inherent tensions between those private and public objectives. Most notably, the implicit federal guarantee gave them an incentive to take excessive risk because it increased the expected returns to their shareholders at the expense of taxpayers. Tensions also arose between the need for prudent risk management and the affordable-housing goals set by regulators. Because those goals targeted lending toward borrowers who generally pose more risk than borrowers of traditional conforming mortgages do, they tended to work at cross-purposes with the safety and soundness goals of regulators.¹²

How the GSEs weighed those conflicting public and private purposes is unclear. For example, the affordable-housing goals could largely be satisfied by purchasing and guaranteeing mortgages of middle-income families, suggesting that those investments probably required little sacrifice of profits.¹³ However, recent research has found that loans that counted toward the housing goals had higher delinquency rates than loans that did not meet any of the goals, which implies that the GSEs accepted more risk in the process of meeting those goals.¹⁴ As another example, some analysts have attributed the GSEs' purchases of subprime mortgages (and their subsequent losses) to the affordable-housing goals, but those purchases may also have been motivated by the desire for

profits.¹⁵ In particular, subprime private-label MBSs generally contained a relatively high concentration of loans that met the affordable-housing criteria; however, such purchases by the GSEs were made on the same terms as those offered to other investors, so the GSEs did not expect to sacrifice profits when they made those purchases.

To avoid encouraging excessive risk taking, the Federal Housing Finance Agency has proposed new rules that would not allow the GSEs to count purchases of private-label MBSs toward their housing goals. In addition, as required under HERA, the agency has proposed new housing goals that are designed to better target lower-income households.¹⁶ More generally, some observers argue that it would be advantageous to separate policies designed to support liquidity in the broader secondary market from policies aimed at subsidizing the cost of mortgage financing for low- and moderate-income borrowers. One way to do that would be to expand FHA programs, whose subsidies are more visible because they appear in the budget.¹⁷

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12. Some observers have argued that regulatory pressure to meet the affordable-housing goals exposed Fannie Mae and Freddie Mac to excessive credit risk that ultimately contributed to their large losses. More generally, those observers assert that the goals may have helped fuel the housing bubble by accommodating the increasing demand for housing. See, for example, Ross Levine, *An Autopsy of the U.S. Financial System*, Working Paper 15956 (Cambridge, Mass.: National Bureau of Economic Research, April 2010), www.nber.org/papers/w15956.
13. Neil Bhutta, *GSE Activity and Mortgage Supply in Lower-Income and Minority Neighborhoods: The Effect of the Affordable Housing Goals* (unpublished paper, 2009), which revised Bhutta, *Regression Discontinuity Estimates of the Effects of the GSE Act of 1992*, Finance and Economics Discussion Series Paper 2009-03 (Federal Reserve Board, November 2008).

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14. Robert S. Seiler Jr., "Affordable Housing Goals and the Performance of Single-Family Mortgages Acquired by Fannie Mae and Freddie Mac, 2004–2008" (presentation given at the FDIC/Federal Reserve System symposium "Mortgages and the Future of Housing Finance," Arlington, Va., October 25–26, 2010).
15. For a summary of the opposing views on that issue, see Peter J. Wallison and Charles W. Calomiris, *The Last Trillion-Dollar Commitment: The Destruction of Fannie Mae and Freddie Mac*, Financial Services Outlook (Washington, D.C.: American Enterprise Institute, September 2008), www.aei.org/outlook/28704; and the statement of Franklin D. Raines, former Chairman and Chief Executive Officer of Fannie Mae, before the House Committee on Oversight and Government Reform, December 9, 2008.
16. See the remarks by Edward J. DeMarco, Acting Director, Federal Housing Finance Agency, given at the Women in Housing and Public Policy Luncheon, Washington, D.C., February 18, 2010, www.fhfa.gov/webfiles/15411/.
17. See Dwight M. Jaffee and John M. Quigley, "Housing Subsidies and Homeowners: What Role for Government-Sponsored Enterprises?" in Gary Burtless and Janet Rothenberg Pack, eds., *Brookings-Wharton Papers on Urban Affairs: 2007* (Washington, D.C.: Brookings Institution Press, 2007), pp. 103–149.

Alternative Approaches for the Future of the Secondary Mortgage Market

The cost to taxpayers of assisting Fannie Mae and Freddie Mac and continuing their operations under conservatorship—and the structural weaknesses that contributed to their financial problems—have prompted policymakers to consider various alternatives for the future federal role in the secondary mortgage market. Possible approaches vary widely in the degree of federal involvement in that market, ranging from a government-run program that would guarantee and securitize qualifying mortgages to a fully private secondary mortgage market. Any new approach would involve transitional issues, such as what to do with the operations, existing portfolios, and outstanding guarantee obligations of Fannie Mae and Freddie Mac. Although transitional issues are challenging and important, they are discussed only briefly in this study because their resolution is unlikely to affect the relative merits of the various approaches for the long-term organization of the secondary mortgage market.

In choosing policies for the future of the market, policymakers face a number of major design issues. Some approaches would involve federal credit guarantees. For those alternatives, design issues include how the guarantees would be structured (what types of borrowers, properties, and mortgage products would qualify for them); how the guarantees would be priced; and how much private capital would be required in order to limit the federal government's exposure to risk. In addition, with any approach, policymakers would face the issue of how much, and by what means, federal intervention in the secondary market would be used to support affordable housing. Another broad issue is how the secondary market would be structured and regulated. For instance, if private entities securitized federally backed mortgages, would those entities consist of a small number of specialized and heavily regulated institutions, or would most large financial institutions be allowed to participate?

For this analysis, the Congressional Budget Office examined three broad approaches to structuring the secondary mortgage market.¹ The first alternative was a hybrid public/private approach that would involve explicit federal guarantees of certain privately issued mortgage-backed securities. The second approach was the establishment of a fully federal agency that would purchase and guarantee qualifying mortgages. The third alternative was the promotion of a fully private secondary market with no federal guarantees. (For a summary of the main features of those approaches, see Table 4-1, which is the same as Summary Table 1.) To understand the relative strengths and weaknesses of those three broad options, CBO evaluated them against various criteria:

- How well would an approach promote a stable supply of financing for residential mortgages nationwide?
- How effectively would it address affordable-housing goals?
- How well would taxpayers be protected from risk?
- Would federal guarantees be fairly priced?
- Would there be adequate incentives to control risk taking?

1. For other analyses of proposals for the future of that market, see Government Accountability Office, *Fannie Mae and Freddie Mac: Analysis of Options for Revising the Housing Enterprises' Long-Term Structures*, GAO-09-782 (September 2009), www.gao.gov/products/GAO-09-782; N. Eric Weiss, *Options to Restructure Fannie Mae and Freddie Mac*, CRS Report for Congress R40800 (Congressional Research Service, September 17, 2009); and Ingrid Gould Ellen, John Napier Type, and Mark A. Willis, *Improving U.S. Housing Finance Through Reform of Fannie Mae and Freddie Mac: Assessing the Options* (New York: New York University, Furman Center for Real Estate and Urban Policy, May 2010), www.urban.org/publications/1001382.html.

Table 4-1.**Key Features of Alternatives for the Secondary Mortgage Market**

	Hybrid Public/Private Model	Fully Federal Agency	Fully Private Market
Existing operating assets of Fannie Mae and Freddie Mac	Handed over to specialized issuers of federally backed MBSs (could be non-profit, cooperative, or private firms), sold to private-label issuers, or liquidated	Used for operations of agency, sold to private-label issuers, or liquidated	Sold to private-label issuers or liquidated
Licenses to issue federally guaranteed MBSs	Under “public-utility model,” only a few; under “competitive market-maker model,” available to any firm meeting specified criteria	None; operations undertaken by agency	None
Federal guarantees for loans or MBSs	Explicit, possibly covering only catastrophic risks	Explicit	None (Phased out)
Private capital’s role in secondary market	Absorbs most or all losses, except in cases of unusually large shocks	None on federally guaranteed securities; absorbs all losses on private-label securities	Absorbs all losses
Allowable activities for federally guaranteed securitizers	Under “public-utility model,” restricted to issuing MBSs and holding very limited portfolios; under “competitive market-maker model,” restricted only enough to limit spillover of risk to government	Issuing guarantees and possibly holding portfolios of mortgages and MBSs	Not applicable
Support for affordable housing	Could occur through terms on federal guarantees, fees on issuers of federally backed MBSs, or government agencies	Could occur through agency	No special role; could occur through government agencies
Role of issuers of private-label MBSs	Serve borrowers whose mortgages do not qualify for federal guarantees	Serve borrowers whose mortgages do not qualify for federal guarantees	Dominant players in secondary market, along with other private financial institutions

Source: Congressional Budget Office.

Note: MBSs = mortgage-backed securities.

CBO’s evaluation of the different approaches according to those criteria is summarized in Table 4-2 on page 30 (which is the same as Summary Table 2).

As a further alternative to those approaches, the government could encourage greater reliance on funding mechanisms that serve as partial substitutes for securitization, such as covered bonds (bonds collateralized by residential mortgages). Greater use of covered bonds is one of numerous ways in which mortgage financing in many other countries differs from that in the United States.

This study discusses covered bonds briefly but does not examine that alternative in depth.

Managing the Transition to a New Approach

Any new model for the secondary mortgage market would necessitate a transition from the current operations of Fannie Mae and Freddie Mac under conservatorship, requiring decisions about how to manage the government-sponsored enterprises’ retained portfolios and

existing obligations and what to do with their operating assets. Those transitional issues are important to execute efficiently and without disruption to the secondary market, particularly because the housing market remains extremely weak and the private-label mortgage market has only barely reemerged. Nevertheless, how those issues are resolved would probably have little impact on the relative merits of the broad approaches for the long-term future of the secondary market discussed in this chapter.

At the end of September 2010, Fannie Mae and Freddie Mac had a total of \$1.6 trillion of outstanding debt—which (together with equity) financed the more than \$1.5 trillion of mortgages, agency mortgage-backed securities, and private-label MBSs in their portfolios. In all, \$3.9 trillion of MBSs guaranteed by the two entities were outstanding at the end of September. Their assets and obligations also include financial contracts entered into to reduce interest rate and prepayment risk.

The GSEs expect sizable future losses on their guarantees and portfolio holdings in addition to the losses already recorded (as indicated by the negative fair value they report for equity in their financial statements). Whatever model is ultimately adopted for the future of the secondary mortgage market, those losses will largely be borne by taxpayers, because private investors would be unwilling to assume the GSEs' liabilities without being compensated for the expected losses and for the uncertainty about the size of those losses. The government could pay a private entity to assume the GSEs' guarantee obligations and sell off their portfolios, or it could choose to keep the existing portfolios and responsibility for the outstanding guarantees and allow both to run out as mortgages are paid off.

Liquidating the GSEs' retained mortgage portfolios within a few years would probably not improve the government's financial position and might well worsen it. Selling a large share of assets in a short period could drive down their prices significantly. Even liquidating the portfolios over a long period could involve considerable transaction costs. Hence, the strategy of holding most of the assets to maturity and managing the GSEs' agency debt to minimize costs could involve the least expense for taxpayers. That strategy could be implemented, for instance, by keeping on the current employees of Fannie Mae and Freddie Mac to handle those responsibilities. Under such a strategy, as the mortgages in the GSEs'

portfolios were paid off, the government could retire an equal amount of agency debt; and as agency debt matured, it could be replaced with lower-cost Treasury securities as needed. (Another alternative would be to repurchase outstanding agency debt in the open market and replace it with Treasury issues. However, the government would probably have to pay a premium to repurchase a large portion of the agency debt, which could offset the potential savings from slightly lower interest rates on the Treasury securities.) Retaining rather than selling the \$1.5 trillion of mortgage assets held in the GSEs' portfolios would avoid depressing market prices for MBSs and avoid the transaction costs associated with complicated sales.

If the government instead wanted to actively reduce the GSEs' portfolio holdings, how could it do so at the lowest cost to taxpayers and with the least disruption to financial markets? One alternative would be a so-called "good bank/bad bank" approach: The government would place assets that were high-risk, nonperforming, or hard to value (mainly private-label securities) into a "bad bank," which the government would continue to own and control. At the same time, it would put the GSEs' good assets (mainly MBSs guaranteed by the GSEs themselves) into a new and legally separate "good bank," which could raise private capital more easily. Another option would be for the government to rely on public/private investment partnerships, in which the government would effectively retain most of the default risk in order to attract private capital. Those approaches bear some resemblance to the way in which the Federal Deposit Insurance Corporation resolves most bank failures: absorbing the losses on a failed bank's nonperforming assets and finding a buyer (usually another bank) to acquire and operate the viable parts of the failed bank's business.

Beyond their portfolios and guarantee obligations, Fannie Mae and Freddie Mac have valuable operating assets, including origination and information systems and the specialized expertise of their employees. If the government decided to liquidate the GSEs, it could sell their systems to other financial institutions or incorporate those systems into a new federal agency. Alternatively, if the government pursued a fully private or hybrid public/private approach to the secondary mortgage market, it could recapitalize Fannie Mae and Freddie Mac and sell them to investors as going concerns.

Table 4-2.

Key Factors for Assessing Alternatives for the Secondary Mortgage Market

	Hybrid Public/Private Model	Fully Federal Agency	Fully Private Market
Supply of financing for mortgages	Under normal market conditions, the supply of funding for federally backed mortgages would be fairly stable. During periods of market stress, financing could become less available, especially under versions with narrower federal guarantees and more reliance on private capital.	The supply of funding for federally backed mortgages would be fairly stable—both in normal times and during periods of market stress—because uncertainty about the strength of the federal guarantee would be minimized.	The market would be more susceptible to fluctuations in the supply of funding. During periods of acute market stress, funding could become extremely scarce without federal intervention.
Support for affordable housing	Mortgages that satisfied affordable-housing goals could be subsidized through lower federal guarantee fees, with the subsidy cost shown in the budget. Or responsibility could be transferred to a fully federal agency, such as the Federal Housing Administration.	Subsidies could be delivered by the agency and would be shown in the federal budget.	Responsibility would be transferred to a fully federal agency, such as the Federal Housing Administration, or subsidies would be discontinued.
Taxpayers' exposure to risk	Intermediaries in the secondary market would bear all credit losses until their capital was exhausted, limiting the credit risk that taxpayers would face. If only a few specialized firms participated in the market, they might receive government support if their solvency was threatened.	Taxpayers would bear the entire credit risk on guaranteed mortgages. Private-label issuers seen as critical to the functioning of the mortgage market might receive government support during periods of acute market stress.	Taxpayers' exposure to credit risk would be very small under normal market conditions. Taxpayers could be exposed to greater risk through federal deposit insurance if banks bore more credit risk. Firms seen as critical to the functioning of the mortgage market might receive government support during periods of acute market stress.
Pricing of federal guarantees	The government could have trouble fully pricing catastrophic risk or setting risk-sensitive prices, which would probably shift some cost to taxpayers.	The government probably has weaker incentives than private guarantors do to charge fees that would fully compensate for the risks associated with guarantees, suggesting that taxpayers would probably bear a cost.	No explicit federal guarantees; however, any implicit federal guarantees that arose would be free to the private issuers of MBSs and hence would entail a cost to taxpayers.

Continued

Table 4-2.

Continued

Key Factors for Assessing Alternatives for the Secondary Mortgage Market

	Hybrid Public/Private Model	Fully Federal Agency	Fully Private Market
Incentives to control risk taking	The presence of federal guarantees would create an incentive for excessive risk taking. Limiting government guarantees and charging risk-based prices for them would reduce that incentive. In addition, private intermediaries would have an incentive to set risk-based prices and monitor risk taking.	Having the government absorb all credit losses would create a strong incentive for excessive risk taking by originators. The government could counter that incentive by setting risk-based prices for guarantees and by restricting eligibility for guarantees to safer mortgages. Incentives to limit risk taking would probably be weaker than if private capital was in the position to absorb some losses.	Financial intermediaries would have a relatively strong incentive to manage risk, but it would be weakened if their obligations were seen as implicitly guaranteed by the government.
Other considerations	<p>Depending on the model implemented, government control over the secondary mortgage market could be greater or less than under the precrisis model.</p> <p>Tensions between public and private purposes might remain, particularly under models with a small number of highly regulated intermediaries.</p> <p>Subsidies could tilt the allocation of capital in the economy too far toward housing and away from other uses.</p>	<p>The government would control a large segment of the capital market.</p> <p>The market would probably be less dynamic, and there would be less incentive for product innovation.</p> <p>Tensions between public and private purposes would be minimized.</p> <p>Subsidies could tilt the allocation of capital in the economy too far toward housing and away from other uses.</p>	<p>The government would regulate the secondary mortgage market but otherwise not intervene.</p> <p>The market would not rely on the viability of any one firm or business model.</p> <p>Tensions between public and private purposes would be minimized.</p>

Source: Congressional Budget Office.

Major Design Issues

Design choices that would arise under various approaches for the future of the secondary mortgage market include three major issues:

- How to structure and price any federal guarantees;
- Whether to support affordable housing and, if so, by what means; and
- How to structure and regulate the secondary market.

The disruptions that occurred in the secondary market during the recent financial crisis suggest that some type of

federal support may be necessary to ensure an uninterrupted flow of mortgage credit during times of acute financial stress. Federal intervention is costly, however. The costs and other effects of proposals that include federal guarantees depend critically on the design of those guarantees.

In terms of supporting housing for people with low or moderate income, the main design issues involve what to do about the GSEs' current affordable-housing goals. Should the government maintain such goals? If so, should responsibility for pursuing them be transferred to some fully federal entity, such as the Federal Housing Administration, and funded with broad-based taxes? Or should

efforts to promote affordable housing be supported through taxes or mandates on institutions operating in the secondary market?

Key issues related to the competitive structure of the market include what role private-label securitization would play and how it would be regulated; whether various regulatory advantages that the GSEs enjoy, such as access to the “To Be Announced” market (which lets mortgage originators lock in interest rates in advance), should be extended to other market participants or abolished; and, under a hybrid public/private approach, how many and what types of private entities would be allowed to create federally backed MBSs.

Structuring Federal Guarantees

Explicit federal guarantees are one way to ensure a fairly stable supply of funding for the secondary mortgage market, and several of the proposals that CBO examined would rely on them. Federal guarantees could be attached to individual mortgages, to MBSs, or to other types of claims secured by mortgages that qualified for federal support. Unlike the implicit guarantees of the precrisis model, the subsidy cost of those explicit federal guarantees would be reported in the budget. Critical issues in designing federal guarantees include which mortgages (or other types of transactions) would qualify for a federal guarantee and how the price of the guarantee would be determined. For approaches that include a role for the private sector, another key issue is to what extent private capital would absorb losses. One way to proceed is to leave much of the credit risk with the private sector while having the federal government explicitly bear only the risk of catastrophic credit losses.

The Scope of Qualifying Mortgages. Mortgage products that qualified for a federal guarantee would tend to be more popular than ones that did not qualify; hence, the guarantee could be targeted in such a way as to encourage best practices by lenders. Some proposals involve limiting federal guarantees to fixed-rate mortgages of standard maturities and perhaps to certain types of adjustable-rate mortgages (ARMs). Other proposals would permit a wider range of products to be covered and new products to be introduced. Which types of mortgages are best for consumers is not obvious, however; a particular product may suit certain borrowers but not others.

For instance, a 30-year fixed-rate mortgage offers borrowers who plan to stay in their current residence for many

years the prospect of predictable payments and the opportunity to refinance if interest rates fall. However, those same features expose investors to considerable interest rate and prepayment risk. As a result, such mortgages are likely to bear higher interest rates and to be more susceptible to disruptions in supply than mortgages that are easier for investors to evaluate and price. Thus, for home buyers who expect to move in a few years (perhaps because of a new job or a shift to a different home), taking out a 30-year fixed-rate mortgage involves paying (through a higher interest rate) for protection against possible future rate increases that is not needed or desired. Certain adjustable-rate mortgages, which amortize over 30 years but have an interest rate that is fixed for a shorter period, avoid some of those risks while also giving borrowers significant protection against changes in interest rates.²

A federal guarantee could cover a broad range of mortgages or be limited to a narrower set of products, property types, and borrowers in order to achieve specific goals. Stricter eligibility requirements for a federal guarantee would further the goals of limiting the government’s exposure to risk and focusing subsidies more narrowly on targeted groups. Such requirements would also give the private market a larger role in financing mortgages that did not qualify for a federal guarantee. (Ginnie Mae, the Federal Housing Administration, and the Department of Veterans Affairs could continue to play their current roles in assisting certain groups of borrowers.) For those reasons, some proposals call for limiting guarantees to a narrower range of mortgages than those now securitized by Fannie Mae and Freddie Mac. For instance, once the financial crisis is over, federal guarantees for high-balance loans could gradually be eliminated to give more scope to private markets and avoid providing subsidies to upper-income home buyers.³ The government’s risk exposure could be reduced by tightening the definition

2. One common example of such a product is a 5-1 ARM, which carries a fixed interest rate for the first 5 years and a floating rate for the next 25 years. Rate caps and floors limit the annual and lifetime changes in the interest rate. The fixed-rate period provides borrowers with predictable payments over a 5-year planning horizon, during which many of them plan to sell or refinance their home.

3. The Housing and Economic Recovery Act of 2008 (Public Law 110-289) allows the GSEs to guarantee loans that formerly would have been classified as jumbo mortgages and thus would have been ineligible for such guarantees.

of conforming fixed- and adjustable-rate mortgages to exclude Alt-A loans, option ARMs (which give borrowers the right to decide how much principal and interest to repay), and other nontraditional mortgage products.

Conversely, proponents of less stringent eligibility requirements worry that liquidity would be compromised if federal guarantees were limited to a narrow segment of the mortgage market. Some of those proponents want greater reliance on federal guarantees in order to establish consumer protections that apply as broadly as possible or to provide the benefits of such guarantees to a larger number of borrowers on a wider variety of products.

The federal government could also guarantee other types of securities that financial institutions sell to fund mortgages, such as covered bonds. Although securities other than MBSs are widely used in other countries, they are much less common in the United States. CBO did not analyze such alternatives in depth, but covered bonds and other ways in which foreign countries support housing finance are discussed briefly at the end of this chapter.

Pricing of Federal Guarantees. The government could cover some or all of its costs for a guarantee program by assessing fees on issuers or purchasers of MBSs that carried a federal guarantee. Those fees (like current guarantee fees) would be passed on to mortgage borrowers in the form of higher interest rates or up-front charges.

Government guarantee fees could be based on risk, with a higher premium attached to riskier mortgages. For example, fees might be lower for pools of fixed-rate mortgages and higher for pools containing ARMs, which historically have had higher default rates. Risk-based guarantee fees would provide an incentive for lenders to steer borrowers toward safer products. They would also minimize the extent to which safer borrowers would cross-subsidize riskier ones. In addition, the fee structure could be used to subsidize certain types of borrowers or mortgages to achieve affordable-housing goals.

Experience with other federal guarantee and insurance programs suggests that the government seldom finely tailors premiums to risks.⁴ Part of the reason is that the government has less incentive than private firms do to ensure that premiums cover costs because those costs are not fully reflected in the budget. The budgetary treatment of

federal loans and loan guarantees, which is governed by the Federal Credit Reform Act of 1990, does not include the cost of market risk.⁵ That budgetary treatment makes it difficult to identify and charge the full price of risk. (Exceptions to that treatment have been made in some cases, such as for the obligations that the government incurred under the Troubled Asset Relief Program.)⁶ If market risk was incorporated into budgetary costs, the government might have a greater incentive to pass the cost of risk along to the beneficiaries of its guarantees, except in cases in which it explicitly chose to offer a credit subsidy.

One way to have budget estimates incorporate the cost of the risk associated with government guarantees would be to report the fair-value cost of those guarantees. The fair value of a liability, such as a loan guarantee, usually corresponds to its market value. That value is defined as the price that would have to be paid to induce a participant in a well-functioning market to assume the liability. Thus, fair-value estimates include the cost of market risk. The prices of transactions in the private-label mortgage market—and the rates charged for private mortgage insurance—offer information about the value of mortgage guarantees that the government could use to infer the cost of providing federal guarantees.⁷

Risk Sharing Between the Public and Private Sectors.

When guarantees are made at the level of individual mortgages or on pools of mortgages, the government's exposure to risk depends on the characteristics of the underlying loans (such as the maximum allowable loan-to-value ratio). It also depends on the extent to which losses would first be absorbed by a layer of private capital or private mortgage insurance.

4. See Congressional Budget Office, *Federal Reinsurance for Disasters* (September 2002).

5. Market risk is the common component of risk that investors cannot protect themselves against by diversifying their portfolios. Investors require compensation for market risk because investments exposed to such risk are more likely to have low returns when the economy as a whole is weak and resources are highly valued.

6. Congressional Budget Office, *Report on the Troubled Asset Relief Program—November 2010* (November 2010).

7. Other mechanisms that might help to provide price information include auctioning off the guarantees or buying private reinsurance for a portion of the government's risk exposure.

Providing federal credit guarantees fosters a more liquid secondary market, but it puts taxpayers at risk and weakens the incentive for intermediaries in the market to prudently control and price risk. To balance the objectives of protecting investors and promoting liquidity on the one hand, and of protecting taxpayers and strengthening incentives to manage risk on the other hand, most proposals for a hybrid public/private approach call for having private or nonprofit intermediaries retain a portion of the credit risk on federally guaranteed mortgages. In those proposals, most losses would be absorbed by private capital before the federal guarantee would be invoked. In addition, to accommodate borrowers who could not afford the down payment required to obtain a federal guarantee, some proposals would allow certain borrowers to buy private mortgage insurance.

In those cases, the capital held by financial institutions and the private mortgage insurance obtained by borrowers (together with borrowers' down payments) could be the first lines of defense for the government against losses. Capital requirements could be based on risk, so that more capital would automatically be required when an institution took on greater risk. In addition, riskier mortgages could be required to carry higher amounts of private insurance. Although higher requirements for capital and mortgage insurance would reduce the probability of losses to the government, they would tend to increase mortgage interest rates. Setting those requirements would require policymakers to determine the appropriate balance of private costs and government risks. Under a wide range of alternatives, however, the government would be protected against small and moderate losses but would remain exposed to losses in the event of a large negative shock to housing prices nationwide.

Catastrophic Guarantees. Proposals that would leave much more credit risk with the private sector—but would stop short of relying on a purely private secondary mortgage market—would involve having the federal government explicitly bear only the systemic or catastrophic credit risk of the secondary market.⁸ Some such proposals would attach insurance to pools of mortgages and have the government absorb losses only if many of

the mortgages became delinquent. An alternative would be for the government to offer protection to investors in qualifying mortgages or MBSs only if total losses on such securities exceeded a threshold level or if housing prices nationally fell by more than a fixed percentage. The government uses the catastrophic-risk approach to reinsure commercial properties against the risk of terrorism, and similar proposals have been made for federal reinsurance against the risk of natural disasters.⁹ Nevertheless, some investors might be willing to purchase only securities that were guaranteed against all credit losses. To meet the demand for safe securities, private mortgage insurance and other private guarantees would be expected to absorb any noncatastrophic losses.

Limiting government insurance to catastrophic risk would address a specific problem—that the private secondary mortgage market has trouble providing liquidity during periods of acute financial stress. A narrow guarantee would avoid exposing taxpayers to losses from isolated defaults caused by poor risk management or fraud. One rationale for having an explicit federal guarantee of catastrophic losses is that, otherwise, investors might assume that an implicit guarantee existed, even if the secondary mortgage market was completely privatized. Making a catastrophic guarantee explicit and charging for it could give the government a smaller role than in the past. An explicit guarantee with risk-based pricing would also reduce the moral hazard associated with implicit guarantees by making the cost of debt financing sensitive to the riskiness of a mortgage.¹⁰

A drawback of coverage for catastrophic risk is that if it applied only to very large and unlikely events, investors might not believe that the government would be able to avoid bailouts for smaller events. In other words, they might believe that an implicit guarantee remained under certain noncatastrophic circumstances. At the same time, the lack of an explicit guarantee would make the mortgage market less liquid during normal times than if a

8. Statement of James B. Lockhart III, Director, Federal Housing Finance Agency, *The Present Condition and Future Status of Fannie Mae and Freddie Mac*, before the Subcommittee on Capital Markets, Insurance, and Government-Sponsored Enterprises of the House Committee on Financial Services, June 3, 2009.

9. Kent Smetters and David Torregrosa, *Financing Losses from Catastrophic Risks*, Hamilton Project Discussion Paper 2008-03 (Washington, D.C.: Brookings Institution, June 2008), www.brookings.edu/papers/2008/06_risks_smetters.aspx.

10. Moral hazard is the incentive for parties that are insured, whether implicitly or explicitly, to take greater risks because they no longer bear the full costs of their actions. See Joseph E. Stiglitz, "Risk, Incentives, and Insurance: The Pure Theory of Moral Hazard," *Geneva Papers on Risk and Insurance*, vol. 8, no. 26 (January 1983), pp. 4–33.

broader explicit guarantee existed. In particular, MBSs would be harder to value because they would become more diverse in terms of their risk: If the government's guarantees were triggered by total losses for all residential loans or by national declines in housing prices, an investor's losses on any particular mortgage instrument would depend mainly on the strength of the protection provided by private institutions. As a consequence, less sophisticated investors might find the risk exposure too difficult to assess and leave the MBS market.

Support for Affordable Housing

A variety of proposals exist for the future role that institutions in the secondary mortgage market would play in supporting low- and moderate-income housing. Under approaches that include a significant role for the private sector, a fundamental question is whether to continue relying on targets set for firms by regulators, as under the precrisis model, or whether to transfer responsibility to fully federal entities, such as the FHA. A related issue is whether support for affordable housing would be paid for through general revenues, fees charged to institutions securitizing federally guaranteed mortgages, or mandates on those institutions to force them to cross-subsidize mortgage guarantees.

Proponents of transferring the affordable-housing responsibilities of Fannie Mae and Freddie Mac to a federal agency such as the FHA assert that such an approach would lead to greater transparency and government control of subsidies. However, opponents argue that federal agencies do not have expertise in certain areas of the market where the GSEs play an important role—particularly the market for rental housing—and that a federal agency would probably be less flexible and less able to serve borrowers' evolving needs. Their preference would be to have those functions remain at least partly the responsibility of private financial institutions.

Under a hybrid public/private approach with explicit federal guarantees, an alternative to transferring responsibility for affordable-housing activities to a federal agency would be for the government to target assistance toward affordable housing by subsidizing guarantees in certain circumstances or by setting the eligibility criteria for guarantees in particular ways. For example, guarantee fees could be subsidized for mortgages on multifamily rental housing. Alternatively, if giving additional support to first-time home buyers was a policy objective, it could be accomplished by lowering guarantee fees or decreasing

down-payment requirements for such borrowers. Or the government could allow institutions that issued federally insured MBSs to buy mortgages made to low- and moderate-income borrowers that might not otherwise meet their criteria.

If subsidies for affordable housing were delivered through explicit federal guarantees, the subsidy costs would appear in the budget and would have to be funded through higher revenues, reductions in other spending, or federal borrowing. (In contrast, under the precrisis model, the GSEs' affordable-housing activities were effectively funded through the financial advantage generated by the government's implicit guarantees—whose costs were not included initially in the federal budget but have become apparent in the past few years.) Higher revenues could come from increases in general tax revenues or, alternatively, from fees assessed on financial intermediaries.¹¹ Broad-based taxes tend to be less distorting and hence preferable in terms of economic efficiency, although special assessments on financial institutions might be justified as compensation for benefits received from the government.

Structure and Regulation of the Secondary Market

Under any of the approaches discussed in this chapter, private intermediaries would continue to play an important role in the secondary mortgage market. Even if Fannie Mae and Freddie Mac were replaced by a federal agency, the private-label MBS market would most likely remain an important source of funding for mortgages that were ineligible for federal support. The recent financial crisis exposed various weaknesses of the private-label market, which suggests that changes in the regulation of that market might be appropriate to improve liquidity, stability, and transparency. (For a description of the private-label market, see Box 4-1.)

Approaches that would replace Fannie Mae and Freddie Mac with private intermediaries would also have to address whether and how to preserve or replace the "To Be Announced" market. A related issue would be whether to make other regulatory benefits of the agency MBS market available to private intermediaries. (For more information about those issues, see Box 4-2 on page 38.)

11. The Housing and Economic Recovery Act of 2008 included a similar approach, but regulators stopped charging the fees when Fannie Mae and Freddie Mac experienced losses.

Box 4-1.**The Market for Private-Label Mortgage-Backed Securities**

Before the recent financial crisis, many mortgage originators relied on the private-label market to provide funding for certain mortgages—such as jumbo, subprime, and Alt-A loans—that are nonconforming, or ineligible for purchase by a government-backed entity. At its peak, the private-label market represented about 20 percent of outstanding mortgage credit and nearly 40 percent of new originations. During the financial crisis, however, concerns were raised about certain products and practices, and investors shied away from private-label mortgage-backed securities (MBSs); as a result, origination activity in that market ceased. Many observers believe that the private-label MBS is likely to reemerge as an important means of financing mortgages that do not qualify for federal backing.

Protecting most investors from credit risk is generally considered necessary to maintain a highly liquid securitization market. Besides credit protection, other features that are probably essential in order for securitization to provide a stable source of private capital include transparent information about the structure of an MBS and its underlying mortgages, and the ability of investors who are left holding the risk to properly assess and manage it.¹ Because MBS issuers may be able to profit when they have information about the underlying mortgages that potential buyers

do not, regulations that promote adequate disclosures by issuers can also improve the functioning of the market.

Traditionally, credit protection has been achieved in the private-label MBS market by using a “multiclass,” or “subordination,” structure in which credit risk is concentrated in securities held by a group of investors who are willing to assume that risk in exchange for higher expected returns. More generally, each class of securities (known as a tranche) has a different priority claim to the cash flows on the underlying pool of mortgages. The safest securities are paid off first and usually qualify for top credit ratings. (Private mortgage insurance or other third-party guarantees may be used to reduce risk and obtain higher ratings.) The riskiest tranches are the subordinated securities that are exposed to losses from missed payments of principal and interest. MBS issuers frequently retain the riskiest tranches of multiclass securities, which gives them an incentive to understand and properly price the risk associated with the mortgage pool. The

1. Ben S. Bernanke, “The Future of Mortgage Finance in the United States” (speech given at the University of California symposium “The Mortgage Meltdown, the Economy, and Public Policy,” Berkeley, Calif., October 31, 2008), www.federalreserve.gov/newsevents/speech/bernanke20081031a.htm.

Continued

For a hybrid public/private approach, critical design issues involving the structure of the secondary mortgage market include how many and what types of intermediaries would exist and what activities they would be permitted to engage in. Proposals range from licensing a small number of highly regulated private entities to package and sell federally guaranteed MBSs (known as the public-utility model) to letting any private financial institution that met certain regulatory restrictions create and sell federally guaranteed MBSs (the competitive market-maker model). Each of those market structures would have distinct benefits and drawbacks.

Public Utilities Versus Competitive Market Makers Under a Hybrid Approach. In the public-utility model, the creation of federally insured MBSs would be carried out by one or a small number of specialized, possibly nonprofit, institutions. The MBS operations of Fannie Mae and Freddie Mac could be transferred to those new entities. The federal government would be protected from default losses by the entities’ capital and possibly by private mortgage insurance. Other financial institutions would operate the private-label MBS market; they would securitize products, such as jumbo mortgages, that did not carry federal backing, subject to some government regulation.

Box 4-1.**Continued****The Market for Private-Label Mortgage-Backed Securities**

benefit of such complex structures is that the securities in each tranche can be tailored to match the risk preferences of different types of investors, lowering the overall cost of mortgage financing. Complexity has drawbacks, however: It reduces transparency, complicates the renegotiation of contracts, and can distort incentives for prudent risk management.

Changes in the market may be necessary in order for private-label securitization to reemerge strongly and for investors to regain confidence in the market. The American Securitization Forum, which represents market participants, has launched an initiative to improve the standardization and transparency of disclosures about the characteristics of the individual loans in mortgage pools. It is also focusing on improving the accuracy and reliability of the representations and warranties on loan originations, which are critical to the assurances provided to investors about underwriting practices.² Moreover, the recently enacted Dodd-Frank Wall Street Reform and Consumer Protection Act (Public Law 111-203) contains provisions that will require most securitizers to retain 5 percent of the credit risk on an MBS. That require-

2. Statement of George P. Miller, Executive Director, American Securitization Forum, before the Subcommittee on Securities, Insurance, and Investment of the Senate Committee on Banking, Housing, and Urban Affairs, October 7, 2009.

ment will improve incentives for strong credit underwriting, but it could discourage participation in the private-label market. Separately, some observers attribute the slow reemergence of that market in part to the fact that regulators have increased the size limits for loans that Fannie Mae and Freddie Mac are allowed to purchase. Restoring lower loan limits could encourage more private-label activity.

Analysts have also suggested changing the contractual structure of private-label MBSs because the complexity of those structures made some securities hard to value and difficult to compare with other MBSs. No consensus exists on that point, however.³ Less complex structures—in the form of fewer but larger tranches—could also have the benefit of improving liquidity. Whether such changes will occur and be maintained on their own or whether additional regulation would be desirable to create a more stable market is an open question that is beyond the scope of this study.

3. Randall S. Kroszner, “Improving the Infrastructure for Non-Agency Mortgage-Backed Securities” (speech given at the Federal Reserve System Conference on Housing and Mortgage Markets, Washington, D.C., December 4, 2008), www.federalreserve.gov/newsevents/speech/kroszner20081204a.htm.

Some proposals call for implementing the public-utility model by setting up cooperatives—owned by banks and other mortgage originators—that could act as conduits to the capital markets, securitizing federally guaranteed mortgages purchased from member institutions.¹² That approach shares some features with the Federal Home Loan Bank system, but it differs critically in that federal guarantees would be explicit rather than implicit and

12. Toni Dechario and others, *A Private Lender Cooperative Model for Residential Mortgage Finance*, Staff Report 466 (Federal Reserve Bank of New York, August 2010), www.ny.frb.org/research/staff_reports/sr466.pdf.

capital would be raised through securitization rather than collateralized advances. (For more about the mortgage activities of the Federal Home Loan Banks, see Appendix B.)

Under the public-utility model, the activities of the small number of institutions dealing in federally backed mortgages or MBSs would be regulated fairly tightly. Regulators would oversee the structure and pricing of any private mortgage insurance, approve new mortgage products, establish capital requirements, and possibly set a target rate of return on equity. Under most proposals of this type, the institutions would not hold and manage large

Box 4-2.**Preserving the TBA Market and Other Regulatory Features of the Status Quo**

Most mortgage-backed securities (MBSs) guaranteed by Fannie Mae and Freddie Mac are initially sold in the “To Be Announced” (TBA) market, which is currently not subject to regulation by the Securities and Exchange Commission (SEC). The TBA market is a “forward” market in which lenders promise to deliver in the future—generally, in 30, 60, or 90 days—a package of loans with preset interest rates that qualify for an agency guarantee (one by a government entity such as Fannie Mae, Freddie Mac, or Ginnie Mae). The TBA market enables lenders to lock in interest rates for mortgage borrowers in advance at a relatively low cost. That ability encourages participation in the agency MBS market and thus enhances liquidity.¹

Under current law, the TBA market appears to exist only because Fannie Mae and Freddie Mac are exempt from the SEC’s regulations and disclosure requirements. Other participants in the secondary mortgage market must register their MBSs. Such private-label securities are not eligible to be traded in the TBA market; doing so would most likely violate the SEC’s Regulation AB, which requires that information about the assets underlying an asset-backed security be available to investors at the time of purchase. In the TBA market, loan pools have not yet been assembled, and the underlying loans may not have been originated, which would make it difficult or impossible to meet those disclosure requirements.

Consequently, if policymakers wanted to preserve the TBA market in the absence of Fannie Mae and Freddie Mac, the SEC might need to reduce disclosure requirements for privately issued MBSs that carried qualifying government guarantees. A rationale for the two entities’ exemption from those requirements is that agency securities are extremely homogeneous in terms of credit risk, and hence no disclosures about specific mortgages are necessary.² Mortgages that

were fully guaranteed by the federal government would probably be similarly homogeneous, which could justify relaxing disclosure requirements.³

As an alternative to the TBA market, mortgage originators could use interest rate futures markets to reduce their exposure to changes in interest rates when they lock in rates for potential borrowers, although that option would be more expensive and riskier for originators. Currently, the most active interest rate futures markets are for Treasury bonds. Such markets provide only partial protection to mortgage originators because Treasury rates and mortgage rates are closely related but do not move in lock step. It is possible, however, that in the absence of the TBA market, new futures markets would develop that would better meet the needs of originators to hedge against changes in interest rates.

MBSs guaranteed by Fannie Mae, Freddie Mac, and Ginnie Mae enjoy a number of other regulatory advantages. They are eligible to be purchased by the Federal Reserve in its open-market operations and to serve as collateral for Federal Reserve Bank discount loans. In addition, most banks and thrifts can hold unlimited amounts of such securities. Those benefits help broaden the market for agency MBSs and increase their liquidity. Under any future approach that included federal guarantees, policymakers might wish to retain some of those advantages for securities backed by federally guaranteed mortgages.

1. James Vickery and Joshua Wright, *TBA Trading and Liquidity in the Agency MBS Market*, Staff Report 468 (Federal Reserve Bank of New York, August 2010), www.ny.frb.org/research/staff_reports/sr468.pdf.

2. Toni Dechario and others, *A Private Lender Cooperative Model for Residential Mortgage Finance*, Staff Report 466 (Federal Reserve Bank of New York, August 2010), pp. 4–7, www.ny.frb.org/research/staff_reports/sr466.pdf. For an analysis of issues involving Fannie Mae, Freddie Mac, and SEC regulation, see Congressional Budget Office, *Effects of Repealing Fannie Mae’s and Freddie Mac’s SEC Exemptions* (May 2003), p. 13.

3. However, some observers argue that the disclosure requirements on Fannie Mae and Freddie Mac are inadequate because the quality of their MBSs varies considerably, and the lack of disclosure has allowed them to profit by retaining the more desirable securities in their portfolios and selling the less profitable ones to investors.

portfolios of mortgages. They would, however, be allowed to hold a small number of mortgages to support their securitization activities—to form pools of mortgages for securitization, to manage losses through foreclosure or loan modification, and possibly to let investors observe a short payment history on mortgages before the entities issued securities backed by those loans. With limited portfolios, the new entities would have much less need to issue debt and manage interest rate and prepayment risk—and taxpayers’ potential risk exposure would be lower—than under the precrisis model.

The competitive market-maker model, by contrast, would allow a larger number of private financial institutions to form the backbone of the secondary market. Those private institutions would issue federally insured MBSs as well as operating in the private-label MBS market. This model differs from the public-utility model in two main ways. First, more types and greater numbers of financial institutions would be eligible to participate. Second, competitive forces rather than regulation would be the major determinant of structure and pricing in the secondary market.

The competitive market-maker model would permit any financial institution that met specific regulatory criteria, such as capital requirements and restrictions on certain activities, to issue and administer federally guaranteed MBSs. Likely participants would include the large commercial and investment banks that already have expertise in securitizing mortgages in the private-label and commercial real estate markets. Under this model, Fannie Mae and Freddie Mac could be reprivatized (with the government retaining liability for losses on their existing business) and then could compete on a level playing field with other intermediaries in the market to issue MBSs. As in the public-utility model, the capital of the intermediaries and possibly private mortgage insurance would absorb most credit losses; the federal guarantee would be called on only in the event of unusually large losses. (For further discussion of the shared and contrasting features of those two models, see Box 4-3.)

Evaluating the Trade-offs of Different Competitive Structures. Both the public-utility and the competitive market-maker models have certain benefits and drawbacks. An argument offered in favor of a public-utility model is that a nonprofit intermediary could create a more level playing field for mortgage originators, facilitating broad access to the secondary market. Guarantees

would be more homogeneous than with a large number of intermediaries, which would increase the liquidity of MBSs. Nonprofit entities might also have less incentive to take risk than for-profit firms do. Limiting intermediaries to a few core activities would make them relatively transparent and straightforward to regulate.

The public-utility model also has some drawbacks compared with the competitive market-maker model. Secondary-market entities whose only business was securitizing federally backed mortgages would have an undiversified exposure to mortgage credit risk. That exposure would leave them more susceptible to moderate-sized shocks in the housing market than they would be if they could diversify into non-housing-related assets. In addition, having only a few large intermediaries that were essential to the functioning of the secondary market could recreate the “too big to fail” problem of Fannie Mae and Freddie Mac, even if federal guarantees were limited by law.

Moreover, under the public-utility model, stakeholders in the cooperative or nonprofit entities serving as utilities might have conflicting interests that would make governance more difficult than for private firms. For instance, in a cooperative, the interests of large and small members can diverge. Nonprofits (like government agencies) may have weaker incentives than private-sector institutions do to control costs and risks and to innovate. Another concern is “regulatory capture”—over time, regulators may become more responsive to the goals of the regulated firms than to the interests of the general public.¹³ That situation can occur if firms successfully use their political influence to have friendly regulators appointed or if the regulators need to rely heavily on the technical expertise of the regulated firms.

Conversely, investors might not believe they would be allowed to earn a sufficiently high rate of return on their capital, in which case intermediaries operating under the public-utility model might have difficulty attracting enough private capital. The outcome would depend partly on the capital requirements and other rules governing the new entities’ activities and rates of return, which in turn would depend on a new and untested regulatory structure. Finally, if the new entities were allowed

13. George Stigler, “The Theory of Economic Regulation,” *Bell Journal of Economics and Management Science*, vol. 2 (Spring 1971), pp. 3–21.

Box 4-3.**Comparing the Public-Utility Model with the Competitive Market-Maker Model**

Hybrid public/private models for the future of the secondary mortgage market include having a limited number of specialized firms issue federally guaranteed mortgage-backed securities (the so-called public-utility model) or having a larger number of more-diversified financial institutions issue such securities (the competitive market-maker model). Although the specifics of individual proposals vary significantly, in general those two models take a similar approach to several issues: the design of federal credit guarantees, support for affordable housing, and the future roles of Fannie Mae and Freddie Mac. In addition, under both models, private firms would continue to provide financing for mortgages that were ineligible for federal guarantees through the private-label market or other means. Significant differences between the two models involve the organization of the industry: the number of firms operating in the secondary market, permissible lines of business, and the role of regulation relative to competition.

Shared Features

Both the public-utility model and the competitive market-maker model represent a mix of public and private elements. In each case, private firms would securitize mortgages that qualify for a federal guarantee.

Guarantees. Under both models, the federal government would provide an explicit guarantee for qualifying mortgage-backed securities (MBSs) issued by private firms. In return, it would receive a guarantee fee that could depend on the risk characteristics of the mortgages. To protect the government against most losses, and to create appropriate incentives to control risk, private institutions would provide backing through private capital, private mortgage insurance, and some amount of risk retention by loan

originators. The federal guarantee could be attached to MBSs or to individual loans. Alternatively, federal guarantees could be limited to protecting investors against catastrophic losses, in which case federal payouts would occur only if total default rates exceeded some threshold. In either case, the guarantees would not apply to the issuer's corporate debt or equity.

Affordable Housing. The main ways in which the government would support affordable housing through the secondary mortgage market would be via choices about the types of mortgages that would be eligible for a federal guarantee and the size of federal guarantee fees that would be charged. Secondary-market firms could be encouraged to purchase certain types of mortgages by subsidizing federal guarantees, such as on MBSs composed of mortgages on multi-family rental housing; those subsidies would appear in the federal budget. Alternatively, guarantee fees could be set to cover the full cost of the guarantees, and responsibility for affordable housing could be assigned to a fully federal agency, such as the Federal Housing Administration.

Roles of Fannie Mae and Freddie Mac. At least initially, hybrid models envision that Fannie Mae and Freddie Mac would continue, either separately or as a single entity, to administer federal guarantees and securitize federally guaranteed mortgages. The presence of those government-sponsored enterprises (GSEs) would reduce concerns about the transition to a new approach and possibly reassure global investors. Eventually, either the GSEs' operations would be folded into a new entity (under the public-utility model) or the GSEs would be restructured as private financial institutions that would compete on a level playing field in the secondary market (under the competitive market-maker model).

Continued

Box 4-3.**Continued****Comparing the Public-Utility Model with the Competitive Market-Maker Model****Contrasting Features**

The public-utility model would retain much of the structure under which Fannie Mae and Freddie Mac operated before the recent financial crisis, whereas the competitive market-maker model would allow for broader participation of financial institutions and generally feature less government regulation.

Number of Secondary-Market Firms. Under the public-utility model, the government would charter a very limited number of firms to securitize qualifying mortgages, whereas under the competitive market-maker model, a potentially unlimited number of firms would be allowed to compete for that business. The main barrier to participation under the competitive market-maker model is that firms would have to meet capitalization standards and other restrictions set by regulators. In theory, most large commercial and investment banks and some medium-sized banks could issue federally backed MBSs.

Permissible Lines of Business. The public-utility model would create firms whose sole business would be to securitize qualifying mortgages. The competitive market-maker model would allow diversified financial firms to participate in the market.

Firms that specialize in residential mortgages are more vulnerable to shocks to the housing market than more-diversified financial institutions are. The public-utility model would attempt to lessen vulnerability to fluctuations in the housing market through tougher capital standards and strict limits on the

mortgage portfolios retained by the new entities.

Essentially, the entities would hold mortgages mainly for warehousing purposes while they assembled mortgage pools. (Limited holdings of mortgages on multi-family housing could also be permitted.)

In contrast, the competitive market-maker model would allow diversified financial firms to create subsidiaries that would issue federally guaranteed MBSs. It would also permit (but not encourage) those institutions to hold mortgages in their portfolios. Greater diversification would mean that those firms would be less vulnerable to shocks to the housing market. At the same time, however, losses on business by other parts of a firm might spill over and pose risks to taxpayers by absorbing some or all of the capital set aside in case of losses on the firm's mortgage business.

Regulation. Under both models, the government would set regulations for the safety and soundness of participating firms and the types of mortgages eligible for a federal guarantee, but the public-utility model generally envisions greater regulatory oversight. Additional regulation would be necessary under that model because, otherwise, the limited number of charters would allow the secondary-market entities to capture a large share of the benefits and price guarantees above a fair-market value. The public-utility model would have regulators set guarantee fees and the target profit levels. The competitive market-maker model, in contrast, would rely on the market to set guarantee prices and limit profits to competitive levels.

to maintain sizable mortgage portfolios funded by issuing debt (which many observers recommend against), and if either an explicit or implicit federal guarantee applied to that debt, the entities would face less pressure from investors to limit their risk taking.

An argument in favor of the competitive market-maker model is that increasing the number of participating

financial institutions, and relying primarily on private ones, would most likely reduce systemic risk relative to both the precrisis model and the public-utility model by spreading mortgage credit risk more widely among more-diversified institutions. That approach would also foster competition, which could help ensure that the benefits of federal support went to mortgage borrowers rather than to shareholders or employees of financial intermediaries.

In addition, the greater competitive pressure could increase the likelihood of reliance on risk-based pricing and encourage innovation. Finally, liquidity in the broader mortgage market could be improved if the competitive market-maker model led to greater integration between the markets for private-label and federally backed MBSs.

The competitive market-maker model also has disadvantages relative to the public-utility model. Some observers have raised concerns that smaller originators might have trouble gaining access to the secondary market if large private intermediaries were unwilling to buy mortgages from them, although competitive pressures would tend to mitigate such problems. Depending on how MBSs were structured, securities issued by different institutions might not be viewed as interchangeable, even with a federal guarantee, in which case liquidity advantages would be reduced and mortgage borrowers' costs would rise. Allowing broad participation in the secondary market might also increase taxpayers' exposure to risk. Even if participants in the market were subject to capital requirements designed to absorb most of the risk of mortgage guarantees, spillovers from their other lines of business could pose additional risks to taxpayers.

A Hybrid Public/Private Model

Many proposals for the secondary mortgage market involve a hybrid approach with a combination of private for-profit or nonprofit entities and federal guarantees on qualifying MBSs. At its core, the hybrid public/private approach would preserve many features of the way in which Fannie Mae and Freddie Mac have operated, with federal guarantees (combined with private capital and private mortgage insurance) protecting investors against credit risk on qualifying mortgages. However, most hybrid proposals would differ from the precrisis operations of Fannie Mae and Freddie Mac in several important ways: A possibly different set of private intermediaries would participate in securitizing mortgages backed by federal credit guarantees, the guarantees would be explicit rather than implicit, and their subsidy cost would be recorded in the federal budget.¹⁴ As the public-utility and competitive market-maker models illustrate, a hybrid approach could be implemented in a way that involved more or less federal regulation of participants in the secondary market and a smaller or larger number of competitors in that market. (For a summary of the main features

of this and the other broad approaches discussed in this report, see Table 4-1 on page 28.)

Advantages of a Hybrid Approach

Regardless of its exact design, a hybrid model with explicit federal backing for qualifying privately issued MBSs would have several advantages over the precrisis model, as well as over either a fully federal agency or complete privatization (approaches that are discussed below). An explicit federal guarantee would help maintain liquidity in the secondary mortgage market, in normal times and particularly in times of stress, and could retain the standardization of products offered to investors that Fannie Mae and Freddie Mac bring to that market. Compared with the precrisis model, imposing guarantee fees would ensure that taxpayers received some compensation for the risks they were assuming.

Compared with a fully federal agency, a hybrid approach would lessen the problem of putting a large portion of the capital market under government control, encourage the inflow of private capital to the secondary market, and limit the costs and risks to taxpayers by having private capital absorb some or most losses. Putting private capital at risk would also provide incentives for prudent management and pricing of risk.

Compared with a fully private market, hybrid proposals would give the government more ongoing influence over the secondary market and an explicit liability in the case of large mortgage losses that would be reflected in the

14. Numerous proposals have been made along those lines. See, for example, Mortgage Bankers Association, *MBA's Recommendations for the Future Government Role in the Core Secondary Mortgage Market* (Washington, D.C.: MBA, August 2009); Donald Marron and Phillip Swagel, *Whither Fannie and Freddie? A Proposal for Reforming the Housing GSEs* (Washington, D.C.: e21-Economic Policies for the 21st Century, May 24, 2010), www.economics21.org/commentary; Mortgage Finance Working Group, *A Responsible Market for Housing Finance: Draft White Paper on the Future of the U.S. Secondary Market for Residential Mortgages* (Washington, D.C.: Center for American Progress, December 2009), www.americanprogress.org/issues/2009/12/pdf/housing_finance.pdf; and the statement of Anthony T. Reed, Vice President for Capital Markets, SunTrust Mortgage, on behalf of the Housing Policy Council of the Financial Services Roundtable, *Housing Finance—What Should the New System Be Able to Do? Part II: Government and Stakeholder Perspectives*, before the House Committee on Financial Services, April 14, 2010, http://financialservices.house.gov/media/file/hearings/111/reed_4.14.10.pdf.

budget. That arrangement might have the advantage of leading to a more orderly handling of crisis situations.

Disadvantages of a Hybrid Approach

Relative to other approaches, a public/private model has a number of potential drawbacks, the importance of which differs depending in part on the specific design chosen. Experience with other federal insurance and credit programs suggests that the government would have trouble setting risk-sensitive prices for guarantees and probably would shift some risks to taxpayers. A hybrid approach also might not eliminate the tensions that exist—with regard to risk management and pursuit of affordable-housing goals—between serving private shareholders and carrying out public missions.

Another concern is that over time, the secondary-market entities might push for broader guarantees of their product lines and attempt to reestablish themselves as too-big-to-fail institutions backed by implicit federal guarantees. Consequently, regulators would need to be vigilant to control risks to the financial system and avoid regulatory capture, while also being open to market innovations. (For a summary of how this and the other broad approaches that CBO examined would meet various policy criteria, see Table 4-2 on page 30.)

A Fully Federal Agency

As an alternative to relying on private institutions, the federal government could follow the FHA/Ginnie Mae model by creating a government-run program to guarantee and securitize qualifying mortgages. That program would provide explicit protection against default risk to investors in agency-backed MBSs.¹⁵ The cost of the program could be covered in whole or in part by charging guarantee fees, and the net cost would be recorded in the federal budget. Under that approach, elements of the current operations of Fannie Mae and Freddie Mac could be merged into a new or existing federal agency.

Specific Design Issues for a Fully Federal Agency

A critical policy issue is whether a federal agency would retain and manage a large portfolio of mortgages. Holding a mortgage portfolio would expose taxpayers to potentially large losses from prepayment and interest rate risk. In principle, buying mortgages when investors' demand for MBSs is low and selling mortgages when their demand is high can help stabilize mortgage interest rates. However, influencing interest rates to stabilize the

financial system and the economy is generally seen as the responsibility of the Federal Reserve. Moreover, large federal holdings of mortgages or MBSs are probably not necessary for the secondary market to operate efficiently; issuing guaranteed MBSs can largely achieve that outcome.¹⁶ For example, Ginnie Mae, which guarantees timely payment of interest and principal on MBSs that are backed by loans insured by the FHA and VA, provides liquidity for those mortgages without having a retained portfolio.

If the government opted to retain a sizable mortgage portfolio, another question would be whether to finance it by issuing more Treasury securities or by continuing to issue separate agency securities, as Fannie Mae and Freddie Mac do now. Funding such a portfolio with securities issued by a new agency would entail somewhat higher interest costs than funding that portfolio with additional Treasury securities, because the agency debt would be less attractive to investors on account of its lesser liquidity. At the same time, funding such a portfolio with Treasury debt would raise the total amount of federal debt held by the public and require a higher statutory debt ceiling—which in turn could adversely affect public perceptions of

15. See Dwight Jaffee and John M. Quigley, *The Government Sponsored Enterprises: Recovering from a Failed Experiment*, Working Paper W09-001 (Berkeley, Calif.: University of California, Institute of Business and Economic Research, Program on Housing and Urban Policy, February 2009), http://urbanpolicy.berkeley.edu/pdf/JQ_GSEs_Failed_Experiment_031109.pdf; Dwight Jaffee, "Reforming Fannie and Freddie," *Regulation*, vol. 31, no. 4 (Winter 2008–2009), pp. 2–7; Thomas H. Stanton, "The Failure of Fannie Mae and Freddie Mac and the Future of Government Support for the Housing Finance System," *Journal of Law and Policy*, Brooklyn Law School, vol. 18, no. 1 (2009), pp. 217–261; and Thomas H. Stanton, "Lessons from Public Administration: Recommendations for the Future of Fannie Mae and Freddie Mac and Other Aspects of Government's Response to the Financial Debacle" (paper presented at the Federal Reserve Bank of Chicago's 45th Annual Conference on Bank Structure and Competition, Chicago, May 6–8, 2009), www.thomas-stanton.com/pubs/grfd/GRFD-Lessons_from_Public_Administration.pdf.

16. See the statement of Douglas Holtz-Eakin, Director, Congressional Budget Office, *Aligning the Costs and Benefits of the Housing Government-Sponsored Enterprises*, before the Senate Committee on Banking, Housing, and Urban Affairs, April 21, 2005; and the statement of Alan Greenspan, Chairman, Federal Reserve Board, *Government-Sponsored Enterprises*, before the Senate Committee on Banking, Housing, and Urban Affairs, February 24, 2004, www.federalreserve.gov/boarddocs/testimony/2004/20040224/default.htm.

the government's financial condition and thereby increase interest rates on Treasury securities.

Regardless of whether a large federal mortgage portfolio was funded by issuing agency securities or Treasury securities, the credit market obligations of the federal government would be significantly larger than they would be without such portfolio holdings. However, payments on the additional debt would be mostly offset by income from the mortgages held, so issuing such debt would probably not require significant future reductions in federal spending or increases in taxes. Moreover, that debt would largely substitute in private portfolios for the MBSs that private investors would otherwise be holding. Therefore, the additional borrowing by the federal government to fund a mortgage portfolio would probably not crowd out more-efficient investment activity by the private sector.

Advantages of a Federal Agency

A federal agency would ensure a constant flow of funds to the secondary mortgage market during both normal times and times of stress by minimizing any uncertainty about the strength of the federal guarantee. Compared with the traditional operations of Fannie Mae and Freddie Mac, this approach would increase transparency by replacing an implicit guarantee with an explicit one, whose cost would be reported in the budget. Moreover, no subsidies would flow to the shareholders of Fannie Mae and Freddie Mac or successor private entities. In addition, establishing a federal agency would eliminate the conflicts that arise when a government-sponsored enterprise must serve both private and public purposes.

Direct control over the secondary market for qualifying mortgages would also make it easier for the government to encourage better consumer protections, such as simplifying mortgage disclosure forms or limiting guarantees to mortgage products that are considered safer for consumers.¹⁷ Guarantee fees could be adjusted to control the size of any interest rate subsidies to low-income borrowers or providers of low-income rental housing, or targeted groups could be allowed to qualify for federal guarantees with lower down payments or other concessions on loan terms. However, policymakers could also impose consumer protections and control subsidies under any of the other approaches that CBO examined.

Disadvantages of a Federal Agency

Establishing a federal agency to securitize mortgages would place a large and important segment of the capital market under direct government control. Government entities often have weaker incentives to control costs and risks than the private sector does. Historically, the government has been less likely to set risk-based prices, and it rarely charges the full market price of the risks it assumes. The underpricing of risk could tilt the allocation of capital in the economy too far toward housing and away from other activities. The government's tendency to underprice risk may occur partly because the budgetary treatment of credit obligations does not include a charge for market risk. If a fair-value accounting approach was adopted—under which loans and loan guarantees were valued on the basis of comparable market prices—the incentive to charge risk-based prices would probably be stronger than under current rules for budget accounting.

A federally run program would mean that taxpayers, rather than private financial institutions, would bear almost all of the credit risk in the secondary market for qualifying mortgages. (Some of the risk on those mortgages might still be borne by private mortgage insurers on loans with low down payments.)¹⁸ That shifting of risk would create moral hazard; for instance, mortgage originators might have less reason to verify the truthfulness of information provided on mortgage applications. The fact that the FHA's condition worsened after the financial crisis—the serious delinquency rate on FHA-insured mortgages rose from 5.6 percent in the first quarter of 2008 to 8.5 percent in the second quarter of 2010—is a reminder

17. For a sample disclosure form, see Alex J. Pollock, "The Basic Facts About Your Mortgage Loan" (American Enterprise Institute, 2007), www.aei.org/docLib/20070913_20070515_PollockPrototype.pdf. For a behavioral finance analysis of framing mortgage choices, see Michael S. Barr, Sendhil Mullainathan, and Eldar Shafir, *An Opt-Out Home Mortgage System*, Hamilton Project Discussion Paper 2008-14 (Washington, D.C.: Brookings Institution, September 2008), www.brookings.edu/papers/2008/09_mortgage_system_barr.aspx.

18. Joseph E. Stiglitz, "Panel Discussion: What Is the Appropriate Role of the Federal Government in the Private Markets for Credit and Insurance? What Is the Outlook?" *Review*, Federal Reserve Bank of St. Louis, vol. 88, no. 4 (July/August 2006), pp. 391–395. Also see Deborah Lucas and Marvin Phaup, "The Cost of Risk to the Government and Its Implications for Federal Budgeting" in Lucas, ed. *Measuring and Managing Federal Financial Risk* (Chicago: University of Chicago Press, 2010), pp. 29–54.

that government-run programs do not eliminate credit risk and may in fact exacerbate it.¹⁹

The secondary market would probably also be less dynamic under federal control than under approaches with a larger role for the private sector. More-restrictive government standards might curtail innovations in the mortgage market, and government agencies generally have less incentive to innovate than private entities do.²⁰ For example, the FHA was slow to innovate in its product offerings and late to introduce automatic underwriting. It remains somewhat slower at processing applications than private mortgage originators whose loans are often subsequently guaranteed by Fannie Mae and Freddie Mac

A Fully Private Secondary Mortgage Market

Some observers have called for completely privatizing the secondary market for mortgages. Under that approach, there would be no federal charters or explicit federal guarantees of MBSs or debt securities. The federal government could wind down the operations of Fannie Mae and Freddie Mac, sell their assets in pieces to private investors, or sell the entities as a whole to private investors (in which case those successor entities could compete with other financial institutions to originate MBSs in the secondary market).

Private securitization markets function smoothly in most circumstances, and when they do, they may produce a more efficient allocation of capital in the economy and better incentives to properly price and manage risk than alternatives with a larger government role.²¹ When Fannie

Mae and Freddie Mac were chartered, the private-label market for MBSs was negligible; however, that market grew rapidly from the 1990s through 2006. Moreover, markets for the securitization of other types of consumer credit, such as credit card and auto loans, have also grown rapidly. Although the private-label MBS market all but disappeared during the financial crisis, there are signs that it may slowly be starting to return.²² Indeed, its reemergence may be hindered by the GSEs' participation in new areas—such as the market for jumbo mortgages—where private firms cannot compete as long as low-cost federal guarantees are available. In other words, the private-label market might have rebounded more quickly in the absence of Fannie Mae and Freddie Mac.

Even if the government no longer provided standing guarantees, it could affect liquidity in the mortgage market through various means. Policymakers could regulate certain aspects of the market—for instance, setting disclosure and capital requirements and supporting efforts to maintain standardization. In times of severe distress, such as the recent crisis, the government could provide additional liquidity and support for the mortgage market by having the Treasury or the Federal Reserve purchase private-label MBSs. Alternatively, the FHA and Ginnie Mae could increase the volume of mortgages they guarantee, as they have in the past few years. (Expanding the activities of federal agencies, however, generally requires Congressional action.)

Specific Design Issues for a Fully Private Market

To avoid disruptions to the mortgage market, privatization would probably require a gradual transition from the status quo, particularly because Fannie Mae and Freddie Mac now play an even more dominant role in the mortgage market than they did before the financial crisis. One

19. See Diego Aragon and others, *Reassessing FHA Risk*, Working Paper 15802 (Cambridge, Mass.: National Bureau of Economic Research, March 2010), www.nber.org/papers/w15802.

20. See Robert E. Litan, *In Defense of Much, But Not All, Financial Innovation* (Washington, D.C.: Brookings Institution, February 2010), www.brookings.edu/experts/litanr.aspx; Kristopher Gerardi, Harvey Rosen, and Paul S. Willen, “The Impact of Deregulation and Financial Innovation on Consumers: The Case of the Mortgage Market,” *Journal of Finance*, vol. 65, no. 1 (February 2010), pp. 333–360; and Raghuram G. Rajan, “Has Financial Development Made the World Riskier?” (speech given at the Federal Reserve Bank of Kansas City’s symposium “The Greenspan Era: Lessons for the Future,” Jackson Hole, Wyo., August 25–27, 2005), www.kansascityfed.org/publicat/sympos/2005/pdf/rajan2005.pdf.

21. See the statement of Peter J. Wallison, American Enterprise Institute, *On the Future of the Mortgage Market and the Housing Enterprises*, before the Senate Committee on Banking, Housing, and Urban Affairs, October 8, 2009; and the statement of Lawrence J. White, Stern School of Business, New York University, before the Subcommittee on Capital Markets, Insurance, and Government Sponsored Enterprises of the House Committee on Financial Services, June 3, 2009.

22. See Marc Hochstein and Sara Lepro, “Redwood Trust Launches First ‘New’ Private-Label MBS Since ‘08,” *American Banker* (April 22, 2010). Also see Laurie Goodman and others, “Stages in the Restart of Private Label Residential Mortgage Securitization,” *Amberst Mortgage Insight* (May 20, 2010).

way to phase out the expectation of government backing would be to gradually reduce the dollar limit for conforming mortgages.²³

A competitive private secondary market might emerge more quickly if Fannie Mae and Freddie Mac were broken up or liquidated. If they no longer had the advantage of federal backing, those entities probably would not continue to dominate other large financial institutions in the securitization market. Whatever their fate, the two GSEs have a valuable investment in infrastructure and data for securitizing mortgages and in the skills of their employees and their relationships with servicers and lenders. As long as securitization continued, the GSEs' systems could be sold, their data could be made public or sold, and most of the personnel now at Fannie Mae and Freddie Mac could find jobs at the reorganized or privatized institutions.

Private firms operating in the secondary market would probably not provide special assistance to low- and moderate-income borrowers in the absence of federal subsidies or mandates (beyond what is already required under the Community Reinvestment Act). Without federal backing of the secondary market, there would be less justification for assessing fees on those intermediaries to support affordable-housing activities rather than relying on a broader tax base. Assistance that is now channeled through Fannie Mae and Freddie Mac could instead be provided through expanded FHA or other programs.

Advantages of a Private Market

Privatization might provide the best incentive—market discipline—for prudent behavior on the part of intermediaries in the secondary mortgage market. (The magnitude of recent problems in the subprime and Alt-A markets, however, shows that purely private firms also take too much risk at times.) Increasing competition in the secondary market would reduce the market's reliance on the viability of any one firm, which could lessen the systemic risk borne by taxpayers. In addition, privatization would eliminate the tension inherent in the traditional GSE model between public and private missions,

23. Peter J. Wallison, *The Dead Shall Be Raised: The Future of Fannie and Freddie*, Financial Services Outlook (Washington, D.C.: American Enterprise Institute, February 2010), www.aei.org/outlook/100938.

and it could reduce the incentive that would exist under a hybrid model for firms to shift risk to the government.²⁴

A private secondary market would also ensure that incentives to invest in housing were not distorted by having the government channel credit toward housing—although those incentives would still be affected by many other aspects of government policy, especially the tax treatment of housing. Private markets may be best positioned to dynamically allocate the credit and interest rate risk of mortgages among willing parties. In addition, with a fully private market, interest rates on mortgages would be more likely to be tailored to the risk of particular borrowers, resulting in smaller cross-subsidies. For example, mortgage rates might be tied more closely to down payments, credit scores, and price volatility in local housing markets.

Privatization might also provide a market test of whether securitizing mortgages was the most efficient way to raise funds in the secondary market or whether an alternative, such as covered bonds, would be a preferable means of financing. (Covered bonds are discussed below.)

Disadvantages of a Private Market

Full privatization of the secondary mortgage market would pose two major risks. First, the government might not credibly be able to distance itself from an implied federal guarantee, particularly given the number of times it has intervened to save creditors of too-big-to-fail institutions during financial crises.²⁵ Second, privatization might not ensure a stable supply of credit to the mortgage market during periods of financial stress. As the Chairman of the Federal Reserve Board has noted, the near absence of private securitization in the mortgage market under the stressed conditions that prevailed in 2009 and early 2010 begs the question of whether mortgage

24. Dwight M. Jaffee, "The Future Role of Fannie Mae and Freddie Mac in the U.S. Mortgage Market" (paper prepared for the American Economic Association session "The Future of the GSEs," Atlanta, Ga., January 3, 2010).

25. The recently enacted Dodd-Frank Wall Street Reform and Consumer Protection Act (Public Law 111-203) gave the Federal Deposit Insurance Corporation authority for the orderly liquidation of systemically important financial companies. How much that authority will reduce the too-big-to-fail problem is difficult to predict. The intent is for orderly liquidation to impose most losses on companies' shareholders and creditors rather than taxpayers.

securitization would continue to occur in times of future stress without some federal support.²⁶

The risk to the nation's financial system from a deep recession or downturn in housing markets is difficult for private insurance markets to price or to credibly protect against with capital reserves.²⁷ Consequently, even with full privatization, taxpayers could again be called on to rescue firms that were considered too big to fail and whose obligations were thus implicitly guaranteed by the government. If investors came to expect such federal bailouts, financial institutions operating in the secondary mortgage market might continue to take excessive risks. Even apart from that possibility, taxpayers would retain some exposure to risk because, with privatization, some of the credit risk on mortgages would be shifted to banks that had federal deposit insurance.

The Federal Reserve and the Treasury might address those risks by being prepared to purchase or guarantee privately issued mortgages and MBSs during times of severe financial stress, as they did in 2009 and early 2010 with the debt and MBSs of Fannie Mae and Freddie Mac. However, such interventions might be implemented with a lag, in which case the mortgage market could fail to function normally for a while.

Other Mortgage-Financing Approaches

All of the approaches discussed above would continue to rely on the MBS market as the main source of funding for residential mortgages. The federal government could, however, support other funding mechanisms in addition to, or instead of, securitization. A proposal that has received considerable attention would be to provide federal support for covered bonds—a type of borrowing that many large European banks use to fund the mortgages held on their balance sheets.

26. Ben S. Bernanke, “The Future of Mortgage Finance in the United States” (speech given at the University of California symposium “The Mortgage Meltdown, the Economy, and Public Policy,” Berkeley, Calif., October 31, 2008), www.federalreserve.gov/newsevents/speech/bernanke20081031a.htm.

27. Dwight M. Jaffee, “Monoline Regulations to Control the Systemic Risk Created by Investment Banks and GSEs,” *B.E. Journal of Economic Analysis & Policy*, vol. 9, no. 3 (March 2009), www.bepress.com/bejeap/vol9/iss3/art17/.

Other developed countries with high rates of home ownership rely less on government-backed MBSs to fund mortgages than the United States does. Among those countries, there is considerable variation in how mortgages are financed and in what types of mortgages are available. All developed countries, however, seem to depend on some degree of government support to maintain the flow of credit to the mortgage market during periods of heightened financial stress.

Covered Bonds

Covered bonds are a form of collateralized borrowing that banks can use to fund loans retained on their balance sheets. Such bonds have rarely been used in the United States, although they are a major source of funding in Europe.²⁸ Some analysts believe that covered bonds have the potential to gain wider use in this country and that any explicit federal guarantees of qualified MBSs should also be extended to covered bonds, with the goal of promoting competition in mortgage financing.²⁹ Other analysts argue that covered bonds are unlikely to become a popular means of financing in the United States because banks have alternatives that are less costly and that may allocate risk more efficiently among financial institutions, investors, and the government.

Commercial banks have shown some interest in issuing more covered bonds in the United States. Recently, legislation was introduced in the Congress to change the regulatory treatment of covered bonds and reduce some of the existing barriers to growth in that market.³⁰ In addition, to remove possible administrative impediments, the

28. See O. Emre Ergungor, “Covered Bonds: A New Way to Fund Residential Mortgages,” *Economic Commentary* (Federal Reserve Bank of Cleveland, July 15, 2008), www.clevelandfed.org/research/commentary/2008/0708.cfm; and Richard J. Rosen, “What Are Covered Bonds?” *Chicago Fed Letter*, no. 257 (Federal Reserve Bank of Chicago, December 2008).

29. For an analysis, see Diana Hancock and Wayne Passmore, “Retail Investor Runs, Asset Securitization, and An Analysis of Government Secured Bond Insurance” (preliminary draft prepared for the American Economic Association annual meetings, Atlanta, Ga., January 2010); and Diana Hancock and Wayne Passmore, “Three Initiatives Enhancing the Mortgage Market and Promoting Financial Stability,” *B.E. Journal of Economic Analysis & Policy*, vol. 9, no. 3 (March 2009), www.bepress.com/bejeap/vol9/iss3/art16.

30. Congressional Budget Office, *cost estimate for H.R. 5823, United States Covered Bond Act of 2010* (October 1, 2010).

Federal Deposit Insurance Corporation (FDIC) and the Treasury issued new policy statements and best-practices statements in 2008 to lessen some of the uncertainty surrounding the regulatory treatment of covered bonds.³¹ None of those changes have yet led to a significant expansion of the covered-bond market in this country.

Allocation of Risk. Covered bonds are often compared with MBSs because they are backed by pools of mortgages, but they differ fundamentally in the way that risk is shared among banks, other investors, and the government. With covered bonds, the bank that originates a mortgage retains most of the credit and prepayment risk of that mortgage on its balance sheet. Investors in covered bonds are protected from that risk because, when a mortgage is paid off or goes into default, the issuer is contractually obligated to replace the collateral with a new mortgage. Because of those risk-sharing arrangements, covered bonds more closely resemble collateralized advances, which banks use extensively to borrow at relatively low cost from the Federal Home Loan Banks (FHLBanks), as described in Appendix B.

The federal government bears a portion of the default risk associated with covered bonds because the bonds have legal priority over the FDIC; in the event that the issuing bank becomes insolvent, investors have first claim on the mortgages serving as collateral for covered bonds. If banks use covered bonds to increase their lending or replace uninsured deposits, the risk to the FDIC rises. (In general, costs incurred by the FDIC are financed by fees imposed on insured financial institutions.) Partly for that reason, regulators effectively limit covered bonds to 4 percent of a bank's total liabilities.

The extent to which greater use of covered bonds would affect overall costs to the federal government, however, would depend on what the bonds were replacing or augmenting and on how capital requirements were adjusted. For example, if covered bonds simply substituted for similar collateralized advances made by FHLBanks, which also have a priority claim over the FDIC, the agency's exposure to losses would be little changed. But if banks decided to fund riskier mortgages (and possibly other assets) through covered bonds, the FDIC's exposure could rise.

31. Department of the Treasury, *Best Practices for Residential Covered Bonds* (July 2008).

Advantages. Covered bonds may provide a useful supplement to private-label and agency MBSs as a tool for financing mortgages, particularly in light of the slow recovery of the private-label market. Proponents say covered bonds offer the potential for a stable source of mortgage funding, even in times of stress. During the recent financial crisis, such bonds performed relatively well in Europe, although government support of banks may have contributed to investors' continuing confidence in those securities.³²

Because banks retain most of the risk on the mortgages they make when they issue covered bonds, their incentive for prudent risk management is stronger than when the risk is transferred to investors through securitization. Another potential advantage is that impediments to loan modifications may be lower than with securitization because mortgages financed with covered bonds are controlled by a single bank.

Disadvantages. From the perspective of banks, using covered bonds to finance mortgage holdings appears to have a number of drawbacks compared with securitization and FHLBank advances. Banks face higher capital requirements on mortgages funded with covered bonds than on MBSs held as investments: Because banks retain the credit risk, they must hold the same percentage of capital against mortgages that serve as collateral for covered bonds as against individual residential mortgages—4 percent—compared with just 1.6 percent if mortgages are held in the form of highly rated private-label or agency MBSs. Moreover, MBSs—especially those guaranteed by the government—offer greater liquidity to banks. In addition, banks may not want to retain the prepayment risk on the mortgages backing covered bonds—a risk that investors may be more willing and able to bear. The disadvantages of covered bonds are likely to be greatest for smaller banks, which would not be able to issue enough bonds to be liquid and would lose the benefits from diversification that securitization provides.

Banks can borrow relatively inexpensively against their mortgage holdings by taking out FHLBank advances. The FHLBanks have an advantage over private financial institutions in funding costs because, like Fannie Mae and Freddie Mac before conservatorship, they have an

32. Bernanke, "The Future of Mortgage Finance in the United States"; and Hancock and Passmore, "Three Initiatives Enhancing the Mortgage Market and Promoting Financial Stability."

implicit federal guarantee. As long as the FHLBanks retain that advantage, many analysts question the viability of a covered-bond market in the United States. FHLBank advances also have the benefit of more-flexible collateral requirements because more types of assets can be used as collateral on them. (However, advances generally require higher amounts of collateral than covered bonds do.)

For investors, covered bonds currently have two drawbacks. First, they are illiquid in the United States and are likely to remain so if the FDIC does not lift its limits on the sizes of bond issues as a percentage of banks' total liabilities.³³ Second, in the absence of a covered-bond statute, investors face some legal uncertainty about the priority of their claims to collateral if a bond issuer becomes insolvent.³⁴ Legislation like the recently introduced Covered Bond Act of 2010 (H.R. 5823) would address those concerns, but at the cost of increasing the FDIC's exposure to losses.

Covered bonds may also benefit from various forms of government assistance even in the absence of formal guarantees. European nations have opted to provide assistance to some issuers of covered bonds, raising the question of whether an implicit guarantee exists on such bonds. Moreover, the market for new issues of covered bonds experienced stress after the failure of Lehman Brothers in September 2008 until the European Central Bank announced a special purchase program.³⁵

International Approaches to Mortgage Financing

Many developed countries, particularly in Western Europe, have rates of home ownership comparable with

those in the United States but rely less on securitizing mortgages and providing formal government guarantees.³⁶ Instead, mortgages in those nations are financed with deposit-based funding and with covered bonds.

Differences in the way that governments support and regulate their financial systems, and in the laws governing mortgage products, help explain why institutions and products differ among countries. Banks play a bigger role in mortgage financing in Europe, whereas Fannie Mae, Freddie Mac, Ginnie Mae, and (to a lesser extent) the Federal Home Loan Banks play a more dominant role in the United States. Government support for European banks takes many forms—including deposit insurance, state ownership, and capital injections for weak institutions—and varies among nations. In terms of mortgage products, federal support for the secondary mortgage market in the United States has encouraged the issuance of 30-year fixed-rate mortgages, which are much less common in Europe; there, home loans are more likely to be adjustable-rate mortgages or some form of hybrid ARM (with interest rates that are fixed for a period and then float). Penalties for prepaying home loans are also common in Europe, whereas they are not permitted in the United States on conforming mortgages. (Allowing penalties for prepayment reduces mortgage interest rates but gives borrowers less flexibility.) Another difference is that in Europe lenders have recourse to borrowers' non-housing wealth in the case of default, but in many U.S. states they do not. Overall, default rates on mortgages have been lower in Europe than in the United States.

Some observers have pointed to Denmark's housing finance system as a potential model for the United States. In Denmark, 30-year fixed-rate mortgages have been common (at least until recently, when borrowers switched to loans with shorter maturities to take advantage of the prevailing low rates on those mortgages). Under the "principal of balance" approach, mortgage originators

33. Joseph A McKenzie, "Covered Bonds" (presentation given at the Congressional Research Service seminar "Covered Bonds: Issues for Congress," Washington, D.C., July 16, 2010).

34. See the statement of Bert Ely, Principal, Ely & Company, *Covered Bonds: Prospects for a U.S. Market Going Forward*, before the House Committee on Financial Services, December 15, 2009; also see Edward V. Murphy, *Covered Bonds: Issues in the 111th Congress*, CRS Report for Congress R41322 (Congressional Research Service, July 15, 2010).

35. Michael Lea, "Alternative Forms of Mortgage Finance: What Can We Learn from Other Countries?" (paper presented at a conference of the Joint Center for Housing Studies of Harvard University, "Moving Forward: The Future of Consumer Credit and Mortgage Finance—A National Symposium," Cambridge, Mass., February 19, 2010), www-rohan.sdsu.edu/~realest/images/Harvard-Lea.pdf.

36. Exceptions exist: Japan has entities roughly similar to Fannie Mae and Freddie Mac, and the Canadian Mortgage and Housing Corporation provides full guarantees on certain mortgages as well as securitizing those mortgages and backing them with explicit guarantees similar to those provided by Ginnie Mae. The Netherlands has government-backed mortgage insurance. See Michael Lea, *International Comparison of Mortgage Product Offerings* (Washington, D.C.: Research Institute for Housing America and the Mortgage Bankers Association, September 2010), www.housingamerica.org/PublishedReports; and Lea, "Alternative Forms of Mortgage Finance."

fund an individual mortgage by issuing a matching bond. Danish mortgages have a unique feature that allows borrowers to benefit from unexpected increases or decreases in interest rates. When rates rise, borrowers can repurchase their mortgages for less than the amount of the outstanding principal balance and thus reduce the risk of negative equity.³⁷ When rates fall, the borrowers can take advantage of refinancing opportunities. In the Danish system—as in other systems that provide borrowers with options that are costly to lenders—borrowers ultimately pay for those features in the form of higher interest rates or fees up front.

As in the United States, many housing markets in Europe experienced unsustainably rapid rates of price growth in the past decade, culminating in sharp declines in housing prices and skyrocketing default losses.³⁸ European governments took a variety of steps to restore stability to their mortgage markets, including guaranteeing bank debt, nationalizing or recapitalizing weak banks, and

supporting the consolidation of banks.³⁹ In some countries, the government bailed out issuers of covered bonds, and in early 2009, the European Central Bank launched a €65 billion (\$84.5 billion) program to purchase covered bonds in an effort to restore liquidity to that market. The U.K., Dutch, and German governments, among others, also provided large direct injections of capital to banks. In Spain and Germany, the federal government guaranteed more than €300 billion (\$390 billion) worth of bonds by big mortgage lenders, including savings banks owned by state governments. In the United Kingdom, where securitization plays a larger role in mortgage finance, the central bank took the unusual step of accepting MBSs as collateral for loans (much as the Federal Reserve did in the United States).

37. Allen Frankel and others, “The Danish Mortgage Market,” *BIS Quarterly Review*, Bank for International Settlements (March 2004), pp. 95–109, www.bis.org/publ/qtrpdf/r_qt0403h.pdf.

38. Michael Ball, “Overcoming the Crisis in European Housing Markets,” in European Mortgage Federation, *Hypostat 2008: A Review of Europe’s Mortgage and Housing Markets* (Brussels: European Mortgage Federation, November 2009), pp. 16–18, www.hypo.org/Content/default.asp?pageId=578.

39. Walter W. Eubanks, *The European Union’s Response to the 2007–2009 Financial Crisis*, CRS Report for Congress R41367 (Congressional Research Service, August 13, 2010).

History of the Secondary Mortgage Market

The market for buying and selling residential mortgages in the United States—and the federal government’s role in that market—has evolved over the years in response to changes in economic conditions, regulations, and wider financial markets. The 20th century saw the expansion of the secondary market nationwide; its gradual dominance by investor-owned government-sponsored enterprises (GSEs); the increasing use of securitization, whereby pools of mortgages are converted into mortgage-backed securities (MBSs); and the emergence of a vibrant private-sector market for certain types of MBSs. That evolution created the setting for the policy choices that lawmakers face today.

Promotion of a National Market

Many federal housing programs and institutions, including the Federal National Mortgage Association (Fannie Mae), were established in response to the Great Depression, when incomes and housing prices fell sharply and foreclosure rates skyrocketed. Structural features of the mortgage market at that time made it highly susceptible to disruptions in the flow of funding. The market was largely local: Banks and other lenders relied heavily on local deposits to fund mortgages. As a result, if savings in an area were too low to meet the local demand for mortgages, borrowers faced higher interest rates than in markets with a surplus of savings. And although a strong secondary market existed for commercial mortgages in the 1920s, the secondary market for residential mortgages was limited. Life insurance companies purchased some loans from mortgage banks, and mortgage guarantee companies insured mortgages and sold some residential MBSs.¹ But in general, the banks and thrift institutions (such as savings and loans) that originated most mortgages kept the loans and funded them with locally obtained deposits.

Because of banks’ reliance on short-term deposits, regulators restricted their mortgages to relatively short terms (usually three to five years). Borrowers had to refinance large balances fairly frequently when bank loans came due, and if new financing was not available, the alternative was often default. The situation was somewhat different at thrift institutions, which had about 40 percent of the market for residential mortgages in 1929. Thrift institutions offered fixed-rate mortgages whose principal and interest payments were large enough to pay off a loan when it reached maturity.

With the steep declines in incomes and housing prices during the Depression, mortgage delinquencies and foreclosures surged. By 1934, roughly half of home mortgages in urban areas were delinquent, and the annual foreclosure rate was over 13 percent.²

Lawmakers took several steps during the Depression to reduce the reliance on local funding and promote a national mortgage market:

- In 1932, the Federal Home Loan Bank (FHLBank) System was established to provide credit to savings and loans and other thrifts that, at the time, specialized in making home loans (see Appendix B).

1. Private-sector securitization of mortgages largely disappeared for several decades after the Depression. See Sarah Lehman Quinn, “Government Policy, Housing, and the Origins of Securitization, 1780–1968” (Ph.D. dissertation, University of California, Berkeley, Fall 2010); and William N. Goetzmann and Frank Newman, *Securitization in the 1920s*, Working Paper 15650 (Cambridge, Mass.: National Bureau of Economic Research, January 2010), www.nber.org/papers/w15650.

2. David C. Wheelock, *Government Response to Home Mortgage Distress: Lessons from the Great Depression*, Working Paper 2008-038A (Federal Reserve Bank of St. Louis, October 2008), <http://research.stlouisfed.org/wp/2008/2008-038.pdf>.

- In 1933, a federal agency named the Home Owners' Loan Corporation (HOLC) was created to refinance existing residential mortgages as a stopgap measure. Between August 1933 and June 1936, the HOLC refinanced about 1 million loans—or roughly 20 percent of the outstanding mortgages on nonfarm, owner-occupied properties.³ At its height, in 1934, the HOLC accounted for about 70 percent of new mortgages originated.
- In 1934, another federal agency, the Federal Housing Administration (FHA), was established to provide mortgage insurance against defaults. The FHA was instrumental in making long-term, fixed-rate mortgages with low down payments a standard mortgage product. FHA borrowers amortized their mortgages; that is, their scheduled monthly principal and interest payments were sufficient to pay off the loans at maturity (generally after 30 years). That self-liquidating feature removed the instability that some borrowers had faced by having a large balance due at maturity.
- In 1938, lawmakers established Fannie Mae as a government agency to support the nascent secondary mortgage market. Initially, it bought and sold mortgages that were insured by the FHA and originated primarily by mortgage bankers. Lenders were more willing to make FHA-insured loans knowing that they could sell the mortgages to Fannie Mae. Fannie Mae financed its purchases by selling debt securities to the Treasury and the public. For the next 30 years, Fannie Mae remained a government agency, and its secondary-market activities were limited to buying and selling federally insured mortgages.⁴ (In 1948, it was authorized to also purchase mortgages insured by the Veterans Administration, or VA, now the Department of Veterans Affairs.)

Transition to Investor-Owned GSEs

In 1954, the Congress began the process of shifting Fannie Mae to private ownership. Each lender selling

3. C. Lowell Harriss, *History and Policies of the Home Owners' Loan Corporation* (New York: National Bureau of Economic Research, Financial Research Program, 1951), www.nber.org/books/harr51-1.
4. Those activities were not included in the federal budget, partly on the theory that Fannie Mae obtained its financing directly from the financial markets rather than from the Treasury.

mortgages to the agency was required to make a capital contribution to purchase nonvoting common stock in Fannie Mae, which would gradually help retire the preferred stock held by the Treasury. The transition was completed by the 1968 Charter Act, which chartered Fannie Mae as a government-sponsored enterprise and provided for its sale to private shareholders.⁵

The Charter Act also split off the Government National Mortgage Association (Ginnie Mae) from Fannie Mae. Ginnie Mae is an on-budget federal agency whose role is to securitize loans insured by the FHA and VA. In creating Ginnie Mae, the government largely kept the secondary market for federally insured mortgages in federal hands (although Fannie Mae continued to purchase most FHA and VA loans through 1970).

Two years after Fannie Mae was converted into a government-sponsored enterprise, the Emergency Home Finance Act of 1970 created a new GSE, the Federal Home Loan Mortgage Corporation (Freddie Mac). That institution was intended to complement the FHLBank system and to deepen the secondary market. Freddie Mac was initially owned by the member institutions of the FHLBanks, which were primarily thrifts. In 1989, the Financial Institutions Reform, Recovery, and Enforcement Act authorized thrifts to sell their shares in Freddie Mac to the public as a way of injecting more capital into the thrift industry during the savings and loan crisis.⁶

Shares in Fannie Mae and Freddie Mac became more attractive for investors when lawmakers increased the opportunity for the GSEs to grow. The 1970 law that

5. That sale mitigated the pressure that lawmakers had been under to include Fannie Mae in the budget; in addition, the money raised from the sale lowered the budget deficit at the time. See President's Commission on Budget Concepts, *Report of the President's Commission on Budget Concepts* (October 1967), pp. 59–60. Also see Department of Housing and Urban Development, *1986 Report to Congress on the Federal National Mortgage Association* (June 29, 1987), p. 27; and Thomas H. Stanton, *Government-Sponsored Enterprises: Mercantilist Companies in the Modern World* (Washington, D.C.: American Enterprise Institute, March 2002), p. 87, www.aei.org/book/307.
6. In accordance with generally accepted accounting principles, the member institutions carried their stock in Freddie Mac on their balance sheets at well below market value. Selling that stock allowed the thrifts to record the gains on their balance sheets and thus increase the amount of capital they had relative to the minimum required by regulators.

created Freddie Mac authorized both GSEs to purchase conventional, conforming mortgages (loans that satisfy certain requirements in terms of size and leverage and that are not insured by the federal government). Conventional mortgages quickly became the GSEs' major source of new business, while Ginnie Mae dominated the secondary market for FHA and VA loans. The GSEs' expansion was aided by the development of markets for private mortgage insurance on conventional loans and by periodic amendments to the GSEs' charters that increased the size limit for conforming mortgages.

The Shift Toward Securitization

Initially, Fannie Mae and Freddie Mac pursued different strategies with regard to creating mortgage-backed securities. Although the 1968 Charter Act gave Fannie Mae the power to securitize loans, the GSE was slow to adopt that practice, preferring to buy mortgages to hold in its portfolio. In the late 1970s and early 1980s, Fannie Mae suffered a series of deeply unprofitable years that put its viability in doubt. Much like the savings and loan industry, it had financed its mortgage investments by issuing shorter-term debt, seeking to take advantage of lower short-term interest rates. That strategy exposed Fannie Mae to interest rate risk—when interest rates rose, its borrowing costs increased commensurately, while its income from existing mortgages remained fixed. The Department of Housing and Urban Development estimated that between 1978 and 1984, Fannie Mae had a negative net worth on a mark-to-market basis.⁷ Despite its very weak financial condition, Fannie Mae was able to continue issuing debt because of the implicit federal guarantee on that debt. After 1984, as interest rates declined and Fannie Mae did a better job matching the duration of its assets and liabilities, it returned to profitability.

Freddie Mac, in contrast, initially adopted Ginnie Mae's approach and concentrated on securitizing conforming mortgages rather than assembling a large portfolio.

7. Accounting on a mark-to-market basis means recording the market value of all assets and liabilities. When interest rates peaked in 1981, Fannie Mae's negative worth was nearly \$11 billion, or more than 20 percent of the mark-to-market value of its assets; see Department of Housing and Urban Development, *1986 Report to Congress on the Federal National Mortgage Association*, pp. 99–101. Nevertheless, Fannie Mae's balance sheet, which followed generally accepted accounting principles (reflecting a mix of historical and mark-to-market valuations), continued to show a small positive net worth throughout the period.

Because securitization effectively transfers both interest rate and prepayment risk to the holders of MBSs, Freddie Mac was able to remain profitable throughout the early 1980s.

After that period, the two GSEs' business strategies began to converge. Partly in response to its losses, Fannie Mae started securitizing mortgages in 1981. By 1986, the value of its outstanding MBSs exceeded that of its portfolio holdings. Freddie Mac, conversely, steadily increased its holdings of mortgages in the early 1990s. (Until the recent financial crisis, portfolio holdings were generally much more profitable for the GSEs than their guarantee business because those holdings took advantage of the lower borrowing costs that the GSEs enjoyed as a result of the implicit federal guarantee.) By 2001, the operations of the two GSEs looked virtually the same (see Figure 1-1 on page 6).

Emergence of the Private-Label Market

A private secondary market for various types of nonconforming mortgages reemerged in the late 1970s and grew rapidly over the next several decades. That market involved so-called private-label, or nonagency, mortgage-backed securities that were not guaranteed by Fannie Mae, Freddie Mac, or Ginnie Mae. Bank of America issued the first private-label jumbo MBS—backed by prime loans above the conforming limit—in 1977.

In the 1980s, the federal government took several actions to support the market for private-label MBSs, such as clarifying and relaxing the Securities and Exchange Commission's requirements for registering bonds and removing the unfavorable tax treatment of multiclass MBSs.⁸ The government also created the real estate mortgage investment conduit (REMIC), an organizational status

8. Issuers of private-label MBSs manage credit and prepayment risks by structuring the securities with different classes (or tranches) that have different priority claims on the underlying cash flows of the mortgages. The senior tranches have the highest claim on payments, whereas the subordinated classes, which usually carry lower credit ratings, absorb the initial credit losses. See Robert Van Order, *On the Economics of Securitization: A Framework and Some Lessons from U.S. Experience*, Working Paper 1082 (Ann Arbor: University of Michigan, Stephen M. Ross School of Business, May 2007), <http://deepblue.lib.umich.edu/handle/2027.42/55302>; and Joshua D. Coval, Jakub Jurek, and Erik Stafford, "The Economics of Structured Finance," *Journal of Economic Perspectives*, vol. 23, no. 1 (Winter 2009), pp. 3–25.

open to issuers of MBSs in which the credit rating for a security came to depend on the credit quality of the underlying mortgages serving as collateral and on the priority of the claims on the cash flows of those mortgages, not on the rating of the MBS issuer. The introduction of REMIC status spurred growth in the number of firms issuing private-label MBSs.

By 1997, more than \$100 billion in private-label MBSs were being issued each year, and those securities made up nearly a quarter of new MBSs issued (see Figure 1-2 on page 7).⁹ A total of more than \$1 trillion in private-label MBSs were outstanding by 2004, and rapid growth in issues backed by subprime and Alt-A loans pushed that total above \$2 trillion in just two years (see Figure 1-6 on page 11).¹⁰ At its peak in the first quarter of 2006, the private-label market represented about 20 percent of outstanding mortgage credit and 55 percent of new issues.¹¹

9. Inside Mortgage Finance, *The 2009 Mortgage Market Statistical Annual—Volume II: The Secondary Market* (Bethesda, Md.: Inside Mortgage Finance Publications, 2009), p. 9.

10. Subprime and Alt-A loans are offered to some borrowers who do not meet the qualifications for a prime mortgage (one extended to the least risky borrowers) because of such risk factors as a low credit rating, insufficient documentation of income, or the ability to make only a small down payment.

In the following years, private-label securitization collapsed during the financial crisis.¹² Private-label securities accounted for just 3 percent of new MBSs issued in 2009 and remained a negligible share through much of 2010.

Even at the peak of private-label issuance, Fannie Mae and Freddie Mac were able to remain dominant in the secondary market for conforming mortgages because of their regulatory advantages and implicit federal guarantee. Private-label issuers instead focused on markets where the GSEs could participate only to a limited extent, such as most of the subprime market. Because the GSEs and private issuers operated largely in different markets, experience does not provide enough information to assess how liquid the secondary market would be if more reliance was placed on private-label issuance (for instance, if regulators lowered the size limit for conforming mortgages).

11. John Krainer, *Recent Developments in Mortgage Finance*, Economic Letter 2009-33 (Federal Reserve Bank of San Francisco, October 26, 2009), www.frbsf.org/publications/economics/letter/2009/el2009-33.html.

12. Shane M. Sherlund, *The Past, Present, and Future of Subprime Mortgages*, Finance and Economics Discussion Series Paper 2008-63 (Federal Reserve Board, November 2008), www.federalreserve.gov/pubs/feds/2008/200863/200863pap.pdf.

The Federal Home Loan Banks

In 1932, six years before it established Fannie Mae, the federal government created another government-sponsored enterprise to support mortgage lending: the Federal Home Loan Bank (FHLBank) System.¹ As with Fannie Mae and Freddie Mac before they were taken into conservatorship, the FHLBanks' status as GSEs creates the perception among most investors that their debt is protected by an implicit guarantee. That perception allows the FHLBanks to borrow money at lower cost than a comparable fully private financial institution would face. Unlike Fannie Mae and Freddie Mac, the banks are exempt from federal income taxes; however, they are obligated to pay 20 percent of their net income to meet the cost of bonds issued to resolve the savings and loan crisis and to use 10 percent of their net income to support affordable housing.

The FHLBank system is a cooperative one consisting of 12 regional banks, each owned by member institutions—such as commercial banks, thrift institutions, credit unions, and insurance companies—in its region. Unlike Fannie Mae and Freddie Mac, which purchase and securitize mortgages, the FHLBanks provide low-cost funding to their members in the form of highly collateralized loans, called advances. Originally, those advances went mainly to thrifts specializing in mortgage loans, with the mortgages serving as collateral against the advances. As the FHLBank system has evolved, it has expanded its lending to areas other than housing finance, although mortgages still make up the majority of collateral for its advances.

The FHLBanks fund advances by issuing debt securities and selling them to investors, at interest rates somewhat above those on comparable Treasury securities. Each

regional bank operates fairly independently, although it must comply with common regulatory requirements set by the Federal Housing Finance Agency, which oversees the system (and also regulates Fannie Mae and Freddie Mac). The 12 banks are jointly and severally liable for the system's debt obligations, meaning that if any one of the FHLBanks fails, the remaining banks become responsible for making good on its debt. At the end of 2009, the system had a total of \$1 trillion in assets, over \$900 billion in outstanding debt, and more than 8,000 member institutions.

Although some of the FHLBanks have experienced significant losses and declines in capital since the financial crisis began, the system as a whole has remained solvent.² It was made eligible for federal assistance under the Housing and Economic Recovery Act of 2008, but it has not required any capital injections from the Treasury. In the past two years, the Federal Reserve purchased a relatively small amount of the system's debt (less than \$40 billion, or about 4 percent of the debt outstanding at the end of 2009) along with its much larger purchases of debt and mortgage-backed securities (MBSs) from Fannie Mae and Freddie Mac.

The Role of the Federal Home Loan Banks

Today, the FHLBanks are still primarily in the business of making advances to their members, which remain a relatively low cost source of funding to financial institutions. The collateral that smaller institutions are eligible to use for advances has broadened beyond mortgages, and FHLBank advances appear to be just as likely to fund

1. For more details, see Congressional Budget Office, *The Federal Home Loan Banks in the Housing Finance System* (July 1993).

2. The FHLBank system has remained solvent both as measured by generally accepted accounting principles and as measured on a fair-value (or, equivalently, a mark-to-market) basis.

other types of bank loans as to fund single-family mortgages.³

Although advances are not risk-free, no FHLBank has ever suffered a credit loss on an advance. One reason is that at the time one is made, the value of the collateral exceeds the size of the advance. Another reason is that the FHLBanks take priority for repayment over depositors, the Federal Deposit Insurance Corporation, and almost all other creditors if a member institution becomes insolvent. In those respects, FHLBank advances are similar to covered bonds (described at the end of Chapter 4).

The FHLBanks have provided liquidity to the financial system during the recent crisis, but in normal times, they appear to provide few benefits to mortgage borrowers beyond serving as a source of low-cost funding for financial institutions (especially small banks that lack the scale to gain access to capital markets efficiently on their own).⁴ However, the FHLBanks play a statutory role in affordable-housing programs: one-tenth of the system's income (or \$258 million in 2009) goes to community-based programs that provide housing assistance for low-income households.

The Banks' Activities in the Secondary Mortgage Market

Although the main way that the FHLBanks increase liquidity in the mortgage market is by making advances collateralized by mortgages to their members, the banks also purchase and resell individual mortgages through several programs aimed at providing liquidity to their member institutions. In addition, they buy limited amounts of private-label and agency MBSs for their portfolios.

The FHLBanks' mortgage purchase programs help some community banks by offering risk-management benefits similar to those provided by securitization through

Fannie Mae and Freddie Mac, but at a lower cost. The first of those programs began in 1997, when several of the banks began purchasing mortgages from their member institutions, putting them in limited competition with Fannie Mae and Freddie Mac.⁵ Under those programs, members generally retained most of the credit risk on the mortgages, and the FHLBanks usually accepted the interest rate and prepayment risk, which they managed by using derivatives and other hedging techniques. However, two of the FHLBanks (those in Chicago and Seattle) experienced problems managing those risks, which in 2004 led regulators to restrict the growth of the two banks' mortgage purchase programs.⁶

Several of the FHLBanks now have a program under which they aggregate their members' mortgage loans and sell them to Fannie Mae and Freddie Mac at prices more favorable than the members could receive on their own. That program allows member institutions to retain servicing rights on the loans and reduces their requirements for risk-based capital relative to the traditional mortgage purchase programs. Moreover, unlike the situation in some of the earlier programs that helped smaller banks manage risk, the FHLBanks have little exposure to interest rate and prepayment risk.

Portfolio Holdings and Performance

In addition to advances, the FHLBanks hold whole mortgages, private-label MBSs, and agency securities in their portfolios. Those other holdings expose the system to differing amounts of risk.⁷

The system's holdings of whole mortgages peaked at over \$110 billion near the end of 2003, when they represented about 14 percent of total assets. By the end of 2009, those holdings had declined to about \$70 billion, or

3. W. Scott Frame, Diana Hancock, and Wayne Passmore, *Federal Home Loan Bank Advances and Commercial Bank Portfolio Composition*, Working Paper 2007-17 (Federal Reserve Bank of Atlanta, July 2007), www.frbatlanta.org/pubs/wp/working_paper_2007-17.cfm.

4. Adam Ashcraft, Morten L. Bech, and W. Scott Frame, *The Federal Home Loan Bank System: The Lender of Next-to-Last Resort?* Working Paper 2009-4 (Federal Reserve Bank of Atlanta, February 2009), www.frbatlanta.org/pubs/wp/working_paper_2009-4.cfm.

5. W. Scott Frame, "Federal Home Loan Bank Mortgage Purchases: Implications for Mortgage Markets," *Economic Review*, Federal Reserve Bank of Atlanta (Third Quarter 2003), pp. 17–31, www.frbatlanta.org/filelegacydocs/erq203_frame.pdf.

6. Statement of Ronald A. Rosenfeld, Chairman, Federal Housing Finance Board, before the Subcommittee on Capital Markets, Insurance, and Government Sponsored Enterprises, House Committee on Financial Services, March 9, 2005.

7. In addition, the banks hold smaller amounts of other classes of assets, whose amounts and types are limited by the system's regulator.

roughly 7 percent of the system's total assets. Today, only 7 of the 12 regional banks still purchase whole mortgages.

The whole mortgages held by the FHLBanks have had much lower delinquency rates than those guaranteed by Fannie Mae and Freddie Mac. At the end of 2009, less than 2.4 percent of the banks' mortgage holdings were seriously delinquent (90 days past due or in foreclosure), compared with 4.8 percent for Fannie Mae and Freddie Mac and 9.7 percent for the industry as a whole. The lower delinquency rates may be partly attributable to higher lending standards on the part of smaller banks and to the types of mortgages purchased by the FHLBanks. The lower rates also reflect the fact that many of those mortgages were bought prior to 2004, well before housing prices peaked.⁸

Like their holdings of whole mortgages, the FHLBanks' holdings of private-label MBSs have declined in recent years—from more than \$80 billion in total book value at the end of 2007 to \$48 billion at the end of 2009. Those

private-label holdings, which are limited by the banks' regulator and make up less than 5 percent of the system's assets, expose the FHLBanks to credit, interest, and prepayment risk.⁹ Losses on private-label MBSs have weakened the system and adversely affected several of the banks.

Another 10 percent of the system's asset holdings consist of debt securities and MBSs issued by Fannie Mae, Freddie Mac, and other government-sponsored enterprises. Those agency securities pose minimal credit risk to the system, although they entail interest rate and prepayment risk.

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8. Federal Housing Finance Agency, *Securitization of Mortgage Loans by the Federal Home Loan Bank System* (report submitted to the Senate Committee on Banking, Housing and Urban Affairs and the House Committee on Financial Services, July 30, 2009), www.fhfa.gov/webfiles/14699/.
 9. Federal Housing Finance Agency, *Report to Congress: 2009* (May 25, 2010), p. 67, www.fhfa.gov/Default.aspx?Page=240.