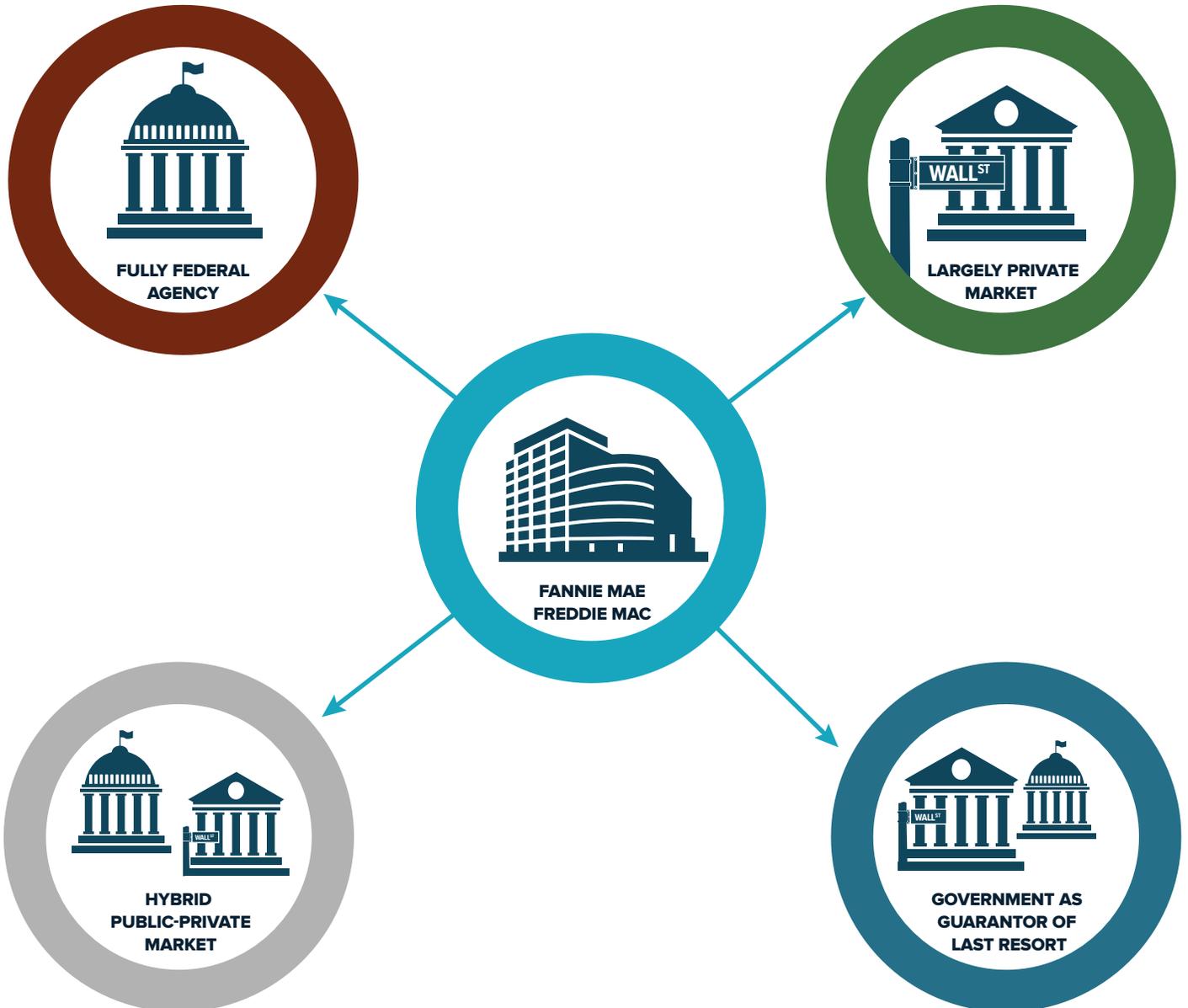


# CBO

## Transitioning to Alternative Structures for Housing Finance: An Update



AUGUST 2018

## At a Glance

The Congressional Budget Office has updated a 2014 analysis to inform policymakers about how different approaches to restructuring the housing finance system would affect federal costs, risks to taxpayers, and mortgage interest rates. The study focuses on the secondary mortgage market, in which financial institutions buy residential mortgages, pool them into mortgage-backed securities (MBSs), and sell the securities to investors with a guarantee against defaults on the underlying loans. That market is dominated by Fannie Mae and Freddie Mac, two government-sponsored enterprises (GSEs) that have been under the control of the federal government since the financial crisis of 2008.

- **Federal Costs.** CBO projects that under current policy, the GSEs will guarantee almost \$12 trillion in new MBSs over the next 10 years and that those guarantees will cost the government about \$19 billion on a fair-value basis. That cost represents the estimated amount that the government would have to pay private guarantors to bear the credit risks of the new guarantees.

New structures for the secondary mortgage market that emphasized private capital would greatly reduce federal costs, compared with current policy, and would decrease taxpayers' exposure to credit risk, but mortgage borrowers would face slightly higher costs.

- **Risks to the Government.** Three of the four approaches to restructuring the secondary market that CBO analyzed would keep some type of explicit federal guarantee of MBSs to provide stability to the market during a financial crisis. Under those approaches, the government would continue to bear most of the risks on new guarantees during a financial crisis, but the approaches differ in the extent to which private guarantors and investors would share risks under normal market conditions.

Alternatively, if the secondary market were largely privatized, there would be no explicit federal guarantees on most residential mortgages. But some type of government intervention might be necessary to stabilize mortgage markets during a financial crisis.

- **Availability of Mortgages and Changes in Interest Rates.** New structures for the secondary market that emphasized private capital would lead to slightly higher interest rates and slightly lower home prices under normal conditions (because the fees that the GSEs currently charge for their guarantees are close to the prices that CBO judges private firms would charge). If the market were controlled by a single, fully federal agency, interest rates could fall slightly. During a financial crisis, however, borrowers could face significant constraints on the availability of mortgages and higher interest rates under a largely private secondary market, though not under the other structures, unless the government chose to intervene.



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## Notes

Unless this report indicates otherwise, all years referred to are federal fiscal years, which run from October 1 to September 30 and are designated by the calendar year in which they end.

Numbers may not add up to totals because of rounding.

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# Transitioning to Alternative Structures for Housing Finance: An Update

## Summary

Policymakers are considering ways to restructure the housing finance system that could attract more private capital and could change the secondary (resale) market for mortgages. That market is dominated by Fannie Mae and Freddie Mac, two government-sponsored enterprises (GSEs) that have been under the control of the federal government since the financial crisis of 2008. Fannie Mae and Freddie Mac help finance the majority of home loans in the United States by purchasing and securitizing new mortgages. In the securitization process, mortgages are pooled into mortgage-backed securities (MBSs), which represent claims on the principal and interest payments that borrowers make on the loans in the pool. The GSEs guarantee those securities against most losses from defaults on the underlying loans and sell them to investors. The Congressional Budget Office projects that under current policy, the GSEs will guarantee almost \$12 trillion in new MBSs over the next 10 years and that those guarantees will cost the government about \$19 billion.

Alternative proposals for the secondary mortgage market involve different choices about whether the federal government should continue to guarantee payment on certain types of mortgage-backed securities—and if so, what the scope, structure, and pricing of those guarantees should be. Policymakers also face choices about how the secondary market should be structured. For example, should it be organized around a single federal agency, a limited number of highly regulated private firms, or many private firms?

This report updates a 2014 study by CBO that analyzed various broad approaches for the future of the secondary mortgage market.<sup>1</sup> This report considers the same alternative market structures as the 2014 study, but CBO's illustrative transition paths to those structures are now only half as long because of improvements in the

mortgage and housing markets since 2014. In addition, unlike the previous study, this report provides estimates of federal costs under the new approaches as well as under the transitions to them.

## Which Illustrative Structures for the Secondary Market Did CBO Consider, and What Would a Transition to Them Involve?

For this analysis, CBO created illustrative transition paths that, between 2019 and 2023, would move the secondary mortgage market from dominance by Fannie Mae and Freddie Mac to one of four alternative structures:

- A secondary market in which **a single, fully federal agency would guarantee qualifying MBSs**. That approach would leave taxpayers exposed to much of the securities' credit risk (the net losses incurred when borrowers default on their mortgages); they would also benefit from the revenues that those securities provide. Because no significant amount of new private capital would be required, the transition from the two GSEs to a fully federal agency could be accomplished without changing the structure of the guarantees, raising the guarantee fees that the GSEs charge, or altering the current limits on the size of mortgages that the GSEs are allowed to guarantee.
- A hybrid public-private market in which **the government and several private guarantors would share the credit risk on eligible MBSs**. In that approach, private guarantors would bear most of the losses on MBSs in normal economic times, but the federal government would share more of those losses in a financial crisis. Policymakers would need to make some critical design choices about the structure of a public-private system and the capital requirements for private guarantors. During the transition to that system, the main change would be that the

1. Congressional Budget Office, *Transitioning to Alternative Structures for Housing Finance* (December 2014), [www.cbo.gov/publication/49765](http://www.cbo.gov/publication/49765).

GSEs would share more of the credit risk on their mortgages with private investors.<sup>2</sup>

- A secondary market in which **the government would play a very small role during normal times but would act as the “guarantor of last resort” during a financial crisis** by *fully* guaranteeing most new mortgages issued during the crisis (absorbing all losses and gains on the securities backed by those mortgages, which it would not do in the hybrid market). Compared with the hybrid structure, under this arrangement the government would bear less risk on mortgages issued in normal times and more risk on mortgages issued in periods of financial crisis. The key policy change during the transition to that system would be the use of auctions to allocate limited amounts of federal guarantees.
- A largely private model in which **there would be no federal guarantees in the secondary mortgage market** (beyond those currently provided by the Government National Mortgage Association, or Ginnie Mae). During the transition to such a structure, policy-makers could begin attracting more private capital to the secondary market by raising Fannie Mae’s and Freddie Mac’s guarantee fees and lowering the size limits on mortgages they can guarantee.

### **How Would the New Illustrative Structures Affect the Government’s Exposure to Credit Risk and Estimated Costs?**

CBO currently views Fannie Mae and Freddie Mac as fully federal agencies because they are controlled and mostly owned by the government. Therefore, if lawmakers opted for a market structure with a single, fully federal agency and kept the existing pricing policies for federal mortgage guarantees, the government’s exposure to credit risk would essentially remain the same. As a result, estimates of federal subsidy costs for those guarantees would not change much (when measured using the budgetary approach that CBO employs for the two GSEs).

New market structures that emphasized private capital would significantly reduce federal costs, compared with

current policy, and would decrease the government’s risk exposure by having private guarantors and investors bear more of the risk of losses from defaults (see Figure 1). CBO’s estimates of federal subsidy costs and of the amount of new federally guaranteed mortgages decline as more private capital enters the secondary market under those illustrative structures (see Figure 2). However, mortgage borrowers would face slightly higher interest rates under those approaches.

In a hybrid public-private market or a market with the government as guarantor of last resort, the government’s risk exposure would be reduced not only by the addition of private guarantors and investors but also by the reduction in the volume of federal loan guarantees. During normal economic times, explicit credit risk to the government would be much lower under a hybrid public-private system than under current policy, would be nearly eliminated if the government served as guarantor of last resort, and would be eliminated under a largely private system.

During a severe financial crisis, by contrast, the government would probably bear most of the risks and costs of new guarantees under all of the structures except a largely private market—as it would under current policy. On guarantees issued before a crisis, however, the government’s exposure to losses would be greater under the fully federal approach than under either a hybrid market or a market with the government as guarantor of last resort.

Under a largely private approach, the government would bear no explicit risk. But in a crisis, the government might ultimately be expected to step in to guarantee privately issued MBSs and prevent the supply of private financing from drying up, resulting in costs to taxpayers. Such an implicit federal guarantee would be free for private issuers of MBSs, allowing them to pay lower interest rates on their securities.

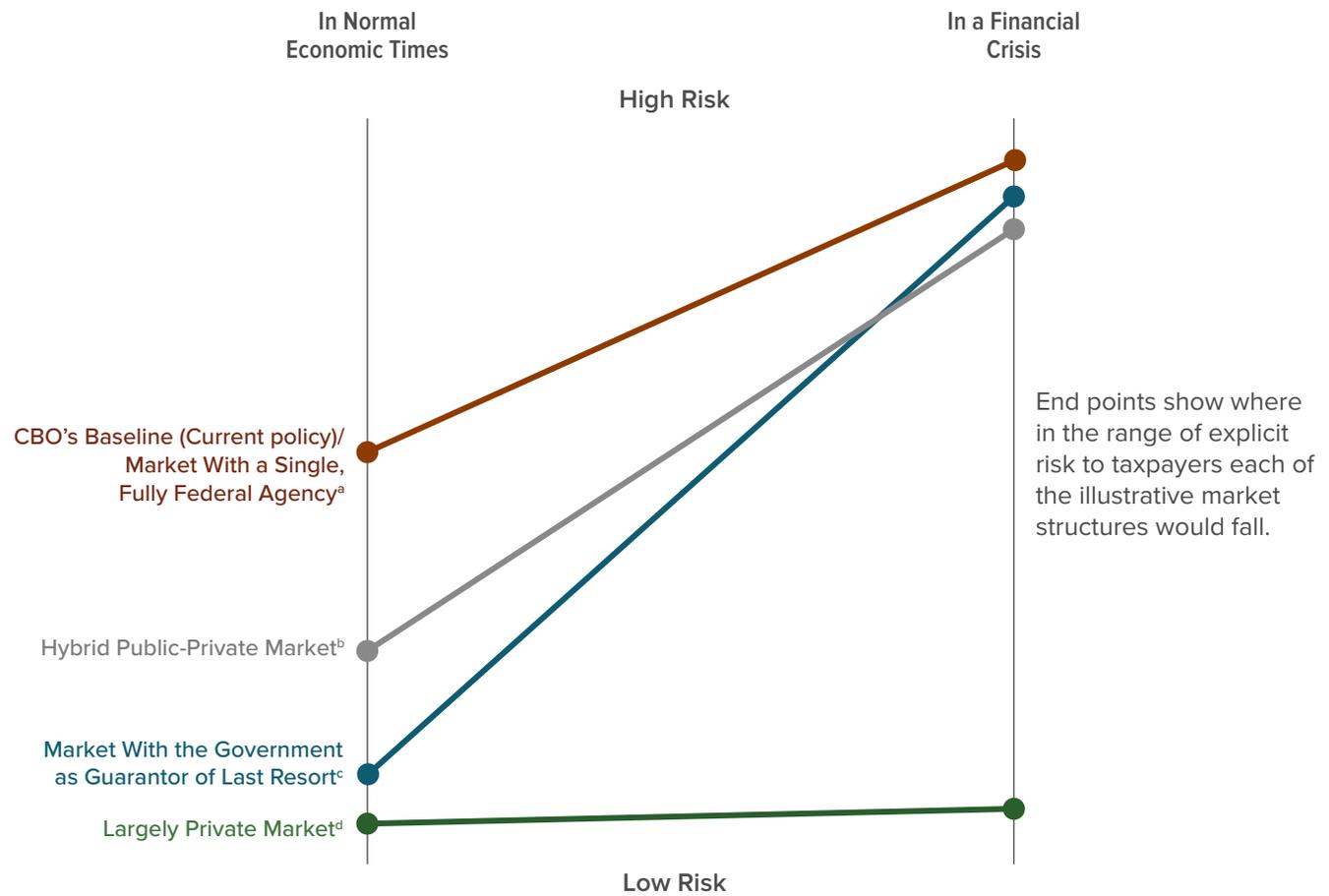
### **How Would the New Illustrative Structures Affect Mortgage Borrowers, the Housing Market, and the Federal Housing Administration?**

The effects of new structures for the secondary mortgage market would depend on the extent of the decline in federal subsidies, the degree of the market’s reliance on the private sector, and the speed of the transition.

2. For details about the GSEs’ current risk-sharing transactions with private investors, see Congressional Budget Office, *Transferring Credit Risk on Mortgages Guaranteed by Fannie Mae or Freddie Mac* (December 2017), [www.cbo.gov/publication/53380](http://www.cbo.gov/publication/53380).

Figure 1.

**Explicit Risk to Taxpayers Under Alternative Structures for the Secondary Mortgage Market**



Source: Congressional Budget Office.

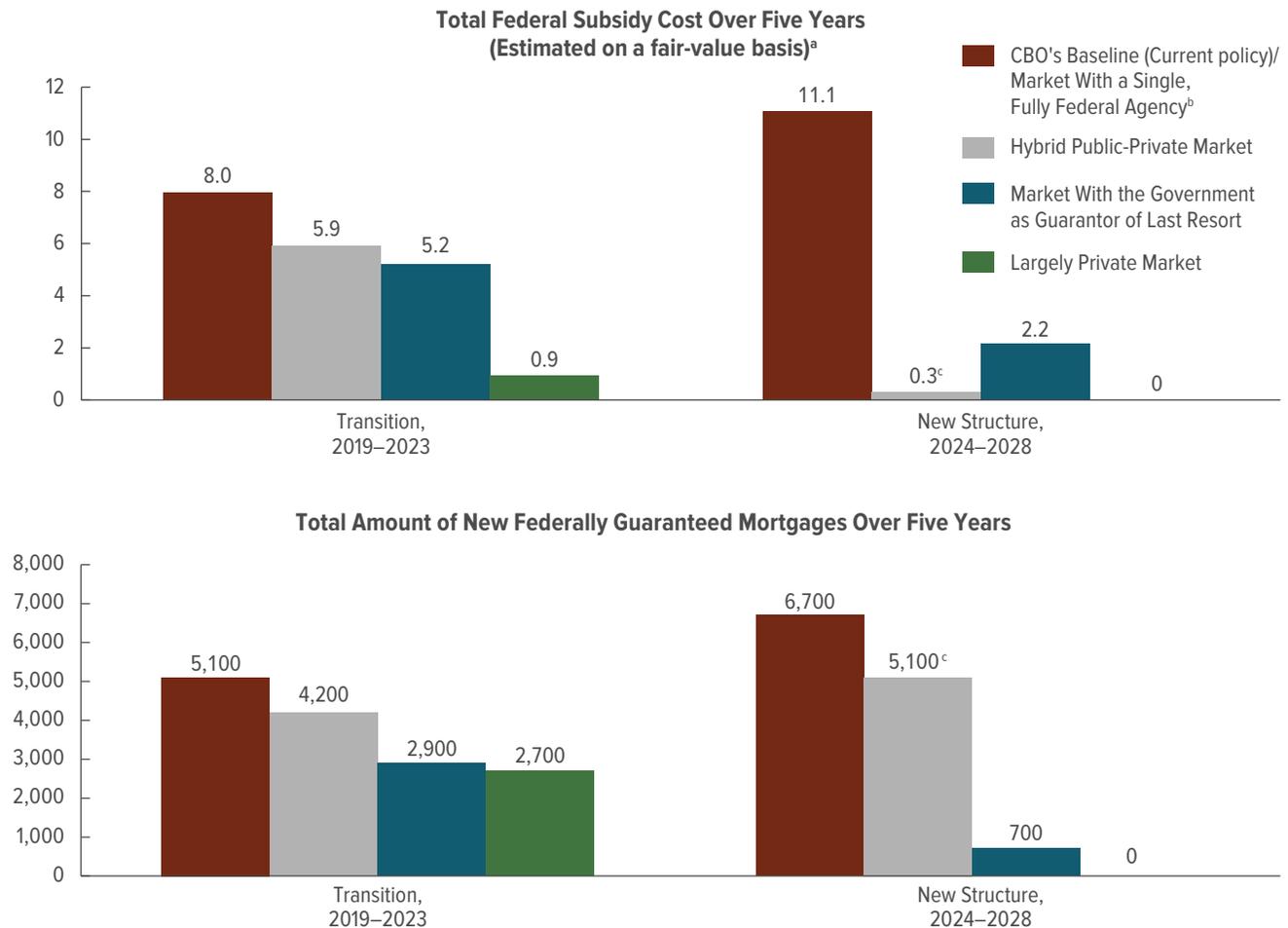
- a. Risk to taxpayers could be reduced if the federal agency conducted more credit-risk-transfer transactions with private investors.
- b. Risk to taxpayers could be reduced if there was more private capital in the secondary mortgage market.
- c. Risk to taxpayers could be reduced if private-label mortgage-backed securities had a greater share of the market.
- d. In a severe crisis, the government might ultimately have to provide assistance and thus expose taxpayers to significant risk.

- During normal economic times, most mortgage borrowers would face somewhat higher interest rates under the structures that attracted more private capital, CBO estimates (because the GSEs' current guarantee fees are probably a bit lower than the prices that CBO judges private firms would charge). Home prices, however, are not particularly sensitive to small increases in interest rates, so the downward pressure on home prices from those increases would probably be modest. Under the fully federal approach, by contrast, mortgage interest rates would probably decline slightly, and home prices might edge up a bit.
- During a financial crisis, borrowers could face significant constraints on the availability of mortgages and higher interest rates under the largely private market (but not under the other three approaches) if the government did not step in to guarantee privately issued MBSs. The resulting downward pressure on home prices could be significant.
- Under the approaches that would raise the cost or otherwise limit the volume of guarantees by a new federal entity, some borrowers would shift to mortgages insured by the Federal Housing

Figure 2.

### Fair-Value Subsidy Costs and the Amount of New Federal Loan Guarantees Under Alternative Structures for the Secondary Mortgage Market, 2019–2028

Billions of Dollars



Source: Congressional Budget Office.

These numbers exclude mortgage guarantees by the Federal Housing Administration, the Department of Veterans Affairs, and smaller federal agencies.

- a. CBO accounts for Fannie Mae's and Freddie Mac's activities (and, in this report, the activities of any new federal guarantor) on a fair-value basis, in which estimated costs represent the price that the federal government would need to pay a private mortgage insurer to make loan guarantees on the same terms as those government guarantors. Such fair-value estimates incorporate a premium for market risk—the additional compensation that private investors would demand to invest in risky assets such as mortgages. As a result, fair-value estimates provide a more comprehensive measure of the costs of federal loan guarantees than do projections of the net cash costs associated with the guarantees.
- b. This option is the same as CBO's current baseline. It incorporates the effects of the Temporary Payroll Tax Cut Continuation Act of 2011, which increased the fees that Fannie Mae and Freddie Mac charge for their mortgage guarantees by 10 basis points (0.1 percentage point). That increase is set to expire on October 1, 2021. After that provision expires, subsidy costs would rise, which is the main reason that subsidy costs are projected to be higher between 2024 and 2028 than during the 2019–2023 transition period. In addition, this option, like CBO's baseline, reflects the fact that the federal government's explicit exposure to losses from Fannie Mae and Freddie Mac is capped at \$254 billion under current law. If federal guarantees covered an unlimited amount of losses under a fully federal agency, the government's exposure to losses would be greater, and CBO would report modestly higher estimated subsidy costs.
- c. Under the hybrid public-private structure, the government would guarantee all of the principal and interest payments on qualifying mortgage-backed securities but would make guarantee payments only if private guarantors defaulted on their obligations. The government would bear substantial risk of losses in a financial crisis, but private guarantors' and other private entities' capital would absorb most losses in normal economic times.

Administration (FHA) or other government agencies. The government's exposure to credit risk would not change. But because the government generally collects higher fees on FHA-backed loans than the GSEs do on their guarantees, if everything else remained the same, such a switch would reduce federal costs.

## The Secondary Mortgage Market Under Current Policy

Fannie Mae and Freddie Mac were established by federal law with the mission of promoting access to home loans by providing a stable flow of funding for such loans. Their activities have long been a key 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.<sup>3</sup> As of March 31, 2018, the two government-sponsored enterprises owned or guaranteed about \$5 trillion in single-family mortgages—roughly half of the outstanding single-family mortgage debt in the United States.<sup>4</sup>

The two GSEs do not originate mortgages—that is, they do not conduct business in the primary market with people who take out a mortgage to buy a home. Instead, they operate in the secondary market as intermediaries between retail mortgage lenders and investors (see Figure 3).<sup>5</sup>

The two GSEs buy mortgages from lenders (thus providing lenders with the funds to make more loans) and pool those mortgages to create mortgage-backed securities, which they guarantee against most losses from defaults and sell to investors. An investor who buys a single-family MBS guaranteed by Fannie Mae or Freddie

Mac will be paid the principal and interest that are due on the underlying mortgages even if borrowers default on those loans. In exchange for guaranteeing MBSs, the GSEs receive guarantee fees from the originators of the mortgages. Borrowers effectively pay those fees as part of their interest payments on their loans.

With Fannie Mae and Freddie Mac under the control of the government for the past decade, the secondary mortgage market is now almost entirely federal. In calendar year 2017, about 63 percent of new MBSs were guaranteed by Fannie Mae or Freddie Mac. Most of the rest were guaranteed by Ginnie Mae, which guarantees MBSs backed by pools of mortgages insured by the Federal Housing Administration, the Department of Veterans Affairs (VA), or the Department of Agriculture's Rural Housing Service.<sup>6</sup> Just 3 percent of new MBSs in 2017 were "private-label" securities issued by private firms without a federal guarantee.<sup>7</sup>

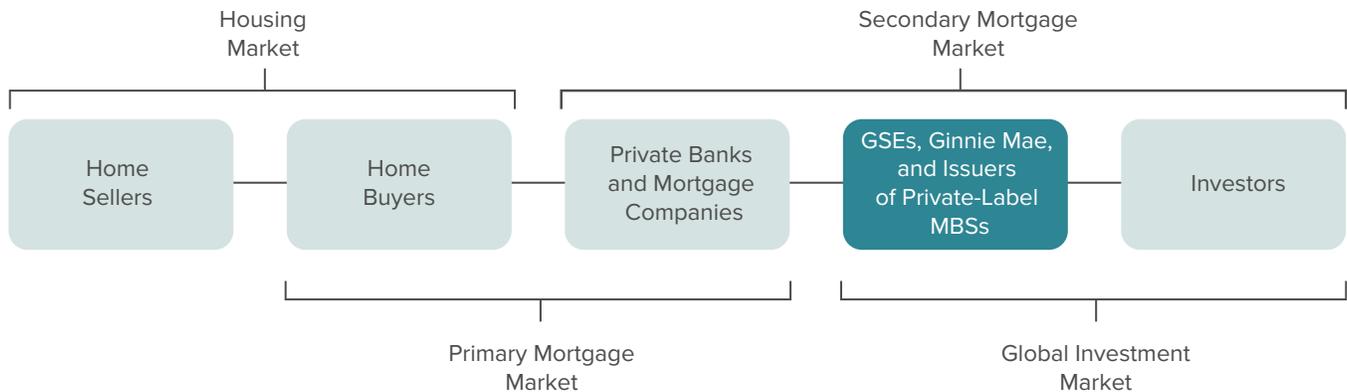
In recent years, about 70 percent of mortgages that were originated in the primary market were securitized in the secondary market.<sup>8</sup> (Loans that are not securitized are generally held by the financial institutions that originate them.) During the financial crisis of 2008, securitization rates topped 85 percent because financial institutions were less willing to accept the risk of holding mortgages. At that time, private securitization virtually ceased,

3. Fannie Mae and Freddie Mac are statutorily required to support a secondary market for mortgages on housing for low- and moderate-income families in various ways. For details, see Federal Housing Finance Agency, "Duty to Serve Program" (accessed August 13, 2018), <https://tinyurl.com/ybms8wzc>.
4. See Board of Governors of the Federal Reserve System, "Mortgage Debt Outstanding" (June 2018), [www.federalreserve.gov/data/mortoutstand/current.htm](http://www.federalreserve.gov/data/mortoutstand/current.htm). The two GSEs also own or guarantee about \$500 billion in mortgages on multifamily properties. For an analysis of the multifamily market, see Congressional Budget Office, *The Federal Role in the Financing of Multifamily Rental Properties* (December 2015), [www.cbo.gov/publication/51006](http://www.cbo.gov/publication/51006).
5. For a primer on housing finance, see N. Eric Weiss and Katie Jones, *An Overview of the Housing Finance System in the United States*, Report for Congress R42995 (Congressional Research Service, January 18, 2017).

6. FHA insures single-family and multifamily mortgages that private lenders make to borrowers who might otherwise have trouble getting a loan, particularly first-time homebuyers and low-income borrowers seeking to purchase or refinance a home. VA insures mortgages that private lenders make, generally without requiring a down payment, to veterans and members of the military reserves. The Rural Housing Service provides direct loans and loan guarantees for low- and moderate-income borrowers in rural areas.
7. For an analysis of the market for private-label MBSs, see Laurie Goodman, *The Rebirth of Securitization: Where Is the Private-Label Mortgage Market?* (Urban Institute, September 2015), <https://tinyurl.com/y747kvn7>. Compared with the market for the GSEs' MBSs, the private mortgage securitization market is less standardized and transparent and suffers from a lack of alignment between the interests of mortgage issuers, servicers, and investors. See Larry Cordell and others, *The Incentives of Mortgage Servicers: Myths and Realities*, Finance and Economics Discussion Series Paper 2008-46 (Board of Governors of the Federal Reserve System, revised October 13, 2008), <https://tinyurl.com/ybuubb42> (PDF, 177 KB).
8. See Inside Mortgage Finance, *2018 Mortgage Market Statistical Annual* (2018), p. 84, <https://tinyurl.com/y8xo8o5u>.

Figure 3.

### Linkages in Housing and Mortgage Markets



Source: Congressional Budget Office.

GSEs = government-sponsored enterprises (specifically, Fannie Mae and Freddie Mac); Ginnie Mae = Government National Mortgage Association; MBSs = mortgage-backed securities.

however. As a result, the primary market for originating mortgages that were not eligible for purchase by the GSEs or Ginnie Mae severely contracted for several years. Since then, the primary market has recovered for those nonconforming jumbo loans (which exceed the size limit for mortgages that the GSEs are allowed to buy), but banks are holding most of those loans.<sup>9</sup>

CBO projects that under current law, the share of new single-family mortgages guaranteed or held by the GSEs will slowly recede, and the share guaranteed or held by private firms will increase (see Figure 4). The market shares of FHA and VA have expanded greatly in the past decade, from a total of less than 5 percent in the mid-2000s to about 14 percent for FHA and 10 percent for VA in 2017.<sup>10</sup> CBO projects that FHA's share will stabilize at about 10 percent because private lenders have not shown much renewed willingness to finance relatively risky mortgages, especially loans to borrowers who have modest credit scores and down payments of 5 percent or less (characteristics that are common among

first-time homebuyers, who disproportionately take out FHA-insured loans).

#### Weaknesses of the Precrisis Model for the GSEs

The current secondary market for mortgages is heavily influenced by the financial crisis of 2008 and its impact on the GSEs. The rules and market structure under which Fannie Mae and Freddie Mac operated before the financial crisis had numerous weaknesses, many of which were exacerbated by the federal government's implicit guarantee of securities issued by the two GSEs. Although the GSEs were not federal agencies, the government was widely expected to cover their guarantee commitments if the GSEs could not do so. That implicit federal guarantee gave Fannie Mae and Freddie Mac lower funding costs than potential competitors in the secondary market. As a result, the GSEs grew to dominate the segments of the market in which they were allowed to operate.<sup>11</sup>

Because of their size and interconnectedness with other financial institutions, Fannie Mae and Freddie Mac posed substantial systemic risk (the risk that their failure could impose very high costs on the financial system and the economy). The consequences of letting Fannie Mae

9. See Andreas Fuster, James Vickery, and Akhtar Shah, "Landing a Jumbo Is Getting Easier," *Liberty Street Economics* (blog entry, Federal Reserve Bank of New York, February 14, 2018), <https://tinyurl.com/ybqqkq2u>.

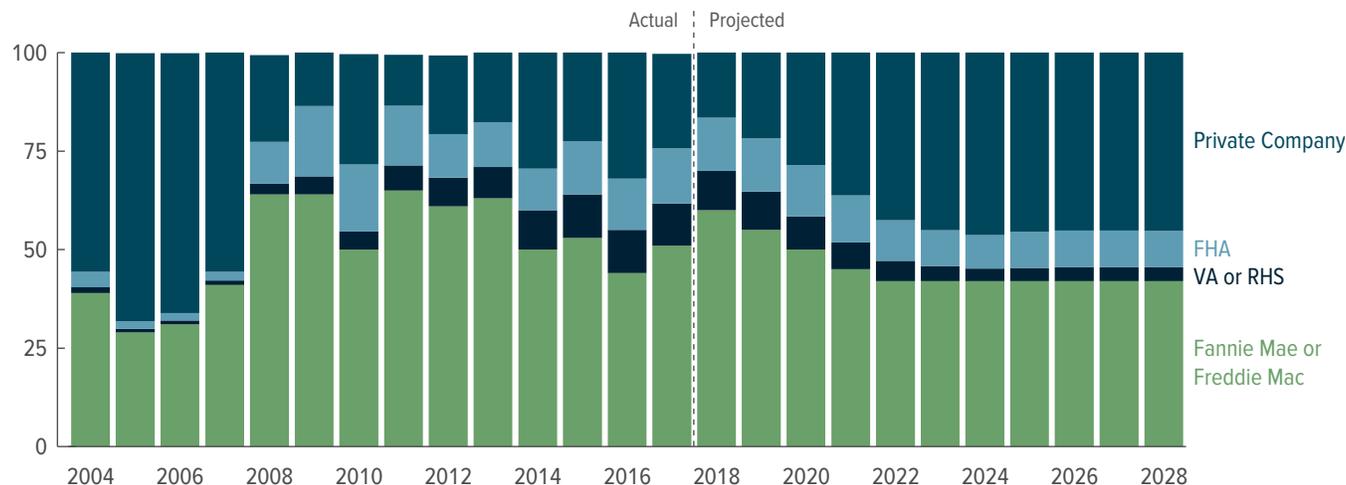
10. FHA's share was depressed in the early to mid-2000s and was above its historical average in the late 2000s because the private sector had temporarily played a large role in originating mortgages to riskier borrowers.

11. The loans that Fannie Mae and Freddie Mac are allowed to buy must meet certain size requirements and credit standards (including a minimum down payment of 20 percent or private mortgage insurance). The GSEs generally do not purchase mortgages that have been insured by FHA or VA.

Figure 4.

**Shares of the Market for New Single-Family Residential Mortgages, by Guarantor or Holder, 2004–2028**

Percent



Source: Congressional Budget Office, using data from the Mortgage Bankers Association provided by Haver Analytics.

The market shares shown here represent all of the single-family residential mortgages originated in a given year, grouped by the entities that guarantee or (in the case of unguaranteed mortgages) hold those loans. “Single-family” mortgages are loans for units that house one to four families.

FHA = Federal Housing Administration; RHS = Rural Housing Service; VA = Department of Veterans Affairs.

or Freddie Mac fail could have been extremely damaging to the mortgage and housing markets—and, to a lesser extent, to investors in the GSEs’ debt securities and MBSs. Those investors include many U.S. banks and foreign central banks. If Fannie Mae or Freddie Mac had defaulted on its obligations, the solvency of other financial institutions would have been threatened. As the GSEs grew over the years, the perception that they had become “too big to fail” reinforced the idea that they were federally protected.

The GSEs’ low funding costs, combined with the very low capital requirements set for them by the government, encouraged Fannie Mae and Freddie Mac to take more risks than they might have otherwise. One way that the GSEs increased their risk was by investing in lower-quality mortgages, such as subprime and Alt-A loans, thus increasing their exposure to losses from defaults.<sup>12</sup>

12. 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.

Because the federal guarantee of the GSEs’ securities was implicit rather than explicit, the costs and risks to taxpayers did not appear in the federal budget before the financial crisis. That lack of transparency made it more difficult for policymakers to assess and control the GSEs’ costs and risks. In addition, the unpriced implicit guarantee, which reduced interest rates for mortgage borrowers, helped cause more of the economy’s capital to be invested in housing than might otherwise have been the case.

### The GSEs in Conservatorship

Investors’ assumption that Fannie Mae’s and Freddie Mac’s securities carried an implicit federal guarantee was proved correct when the federal government took over the two GSEs in September 2008 rather than let them become insolvent. The Housing and Economic Recovery Act of 2008 (Public Law 110-289)—which established the Federal Housing Finance Agency (FHFA) and gave it the authority to place Fannie Mae and Freddie Mac in conservatorships—allows the Treasury to provide funds to the GSEs to keep their net worth from falling below zero.

The GSEs' securities are now effectively guaranteed by the federal government, and that backing substitutes for the capital that the GSEs would otherwise need to cover their guarantees. In return for federal support, Fannie Mae and Freddie Mac now pay essentially all of their net income to the Treasury.<sup>13</sup> (However, under recent changes to their agreements with the government, they will each be allowed to keep \$3 billion in capital.)

The government's financial support enables the GSEs to increase the availability of mortgage financing and provide debt-restructuring options to help borrowers avoid foreclosure—functions that were particularly critical to supporting the economy during the financial crisis.<sup>14</sup> That support and effective federal guarantee also largely eliminate the systemic risk that the GSEs previously posed to the financial system. But federal control and support also explicitly expose the government to credit risk from the mortgages that the GSEs guarantee. Since the financial crisis, the GSEs have imposed tighter standards on the types of mortgages they purchase and securitize, which has decreased credit risk to the government.

13. The federal government owns 79.9 percent of the GSEs' common stock. In addition, between November 2008 and March 2012, the Treasury purchased \$187 billion of their senior preferred stock to cover the GSEs' losses and ensure that they could continue to operate in the secondary market. After they experienced losses in the fourth quarter of 2017, the Treasury purchased another \$4 billion of their senior preferred stock. (The GSEs reported losses in that quarter because the value of their net deferred tax assets dropped after lawmakers reduced corporate tax rates in December 2017.) As of March 31, 2018, under the agreements between the government and the two GSEs, the Treasury can provide additional assistance of up to \$254 billion by purchasing more senior preferred stock. The GSEs have paid \$278.8 billion to the Treasury in dividends on their stock holdings and an additional \$13 billion under the provisions of the Temporary Payroll Tax Continuation Act of 2011 (P.L. 112-78). For an overview of the federal government's support of the GSEs, see Congressional Budget Office, *The Effects of Increasing Fannie Mae's and Freddie Mac's Capital* (October 2016), [www.cbo.gov/publication/52089](http://www.cbo.gov/publication/52089).

14. See Deborah Lucas, "Credit Policy as Fiscal Policy," *Brookings Papers on Economic Activity* (Spring 2016), pp. 1–50, <https://tinyurl.com/hjsra3j>; Wayne Passmore and Alexander H. von Hafften, "GSE Guarantees, Financial Stability, and Home Equity Accumulation," *Economic Policy Review* (Federal Reserve Bank of New York, forthcoming); and Wayne Passmore and Shane M. Sherlund, *Government-Backed Mortgage Insurance, Financial Crisis, and the Recovery From the Great Recession*, Finance and Economics Discussion Series Paper 2016-031 (Board of Governors of the Federal Reserve System, April 2016), <http://dx.doi.org/10.17016/FEDS.2016.031> (PDF, 901 KB).

Fannie Mae's and Freddie Mac's agreements with the government require that they each hold no more than \$250 billion in mortgages in their investment portfolios by the end of calendar year 2018.<sup>15</sup> That maximum is far smaller than the nearly \$800 billion in mortgage assets that each GSE held as investments at the end of 2008. Fannie Mae and Freddie Mac largely fund the purchase of mortgages and MBSs for their portfolios by issuing debt securities. Thus, the sharp decline in portfolio holdings has allowed the GSEs to significantly reduce their debt.

### **Policymakers' Actions to Increase Private Capital in the Secondary Market and Reduce Risk to Taxpayers**

The government bears credit risk on the GSEs' \$5 trillion in MBSs because it guarantees timely payment of principal and interest to investors even when borrowers do not make their promised payments on the mortgages underlying those securities. To reduce credit risk to the government—and thus taxpayers—FHFA and lawmakers have taken several actions since the financial crisis to encourage greater involvement by the private sector in the secondary market:

- Raising the GSEs' guarantee fees,
- Developing a common securitization platform, and
- Introducing transactions to share the credit risk on MBSs with private investors.<sup>16</sup>

**Guarantee Fees.** Setting federal guarantee fees to reflect the risks that taxpayers bear is challenging.<sup>17</sup> Before the

15. As of May 31, 2018, Fannie Mae was nearly \$30 billion under that cap, and Freddie Mac was about \$10 billion under it.

16. For a brief overview of those actions, see the testimony of Melvin L. Watt, Director, Federal Housing Finance Agency, before the House Financial Services Committee, *Sustainable Housing Finance: An Update From the Director of the Federal Housing Finance Agency* (October 3, 2017), <https://tinyurl.com/y726u4eg>; and Federal Housing Finance Agency, *An Update on the Single Security Initiative and the Common Securitization Platform* (December 2017), <https://tinyurl.com/yc52m3qt>. For an analysis of additional actions that FHFA could take, see Jim Parrott and Mark M. Zandi, *GSE Reform Is Dead—Long Live GSE Reform!* (Urban Institute, May 2018), <https://tinyurl.com/y6w9c2dp>.

17. See Diana Hancock and Wayne Passmore, "Catastrophic Mortgage Insurance and the Reform of Fannie Mae and Freddie Mac," in Martin Neil Bailly, ed., *The Future of Housing Finance: Restructuring the U.S. Residential Mortgage Market* (Brookings Institution Press, 2011), pp. 111–145, [www.brookings.edu/book/the-future-of-housing-finance](http://www.brookings.edu/book/the-future-of-housing-finance).

financial crisis, the GSEs' guarantee fees averaged about 20 basis points (0.2 percentage points) of the outstanding amount of a mortgage. Now, under current law, CBO projects that their guarantee fees on new loans will average about 55 basis points through 2021 and then will drop to 45 basis points in 2022. (The Temporary Payroll Tax Cut Continuation Act of 2011, P.L. 112-78, increased the GSEs' guarantee fees by 10 basis points; that increase is set to expire on October 1, 2021.) In addition to raising fees, policymakers have increased the extent to which fees vary with the riskiness of the mortgages underlying the GSEs' MBSs.<sup>18</sup> Because those fees are passed along to borrowers, mortgage interest rates generally rise in tandem with the fee increases.

**Common Securitization.** Under FHFA's direction, the GSEs are developing a joint securitization platform—the operational and technical infrastructure system to allow them to issue standardized, or “common,” securities. That standardization will improve the liquidity of the secondary mortgage market. (In a liquid market, investors can quickly buy or sell large quantities of an asset without affecting its price.) Moreover, standardization should eliminate the pricing differences between Fannie Mae's and Freddie Mac's MBSs. The net result will probably be slightly lower mortgage interest rates.

In addition, the common securitization platform could be made accessible to other participants in the secondary market, which would promote competition. Without the platform, competitors face barriers to entering that market because they must invest in their own securitization infrastructure.

**Risk-Sharing Transactions.** To bring more private capital into the housing finance system, FHFA directed the GSEs in 2013 to transfer some of the credit risk of their guarantees to private investors. FHFA estimates that from July 2013 through December 2017, the GSEs

transferred a portion of the credit risk on more than \$2 trillion in mortgages to private investors.<sup>19</sup>

In most of those credit-risk-transfer (CRT) transactions, the GSEs issue bonds, called credit-risk notes, that pay principal and interest to investors based on the performance of an underlying pool of mortgages guaranteed as part of traditional MBSs. Credit-risk notes insulate Fannie Mae and Freddie Mac from a specified amount of mortgage losses by having those losses reduce the amount of principal repaid to holders of the notes. (Credit-risk notes do not reduce the volume of mortgages that the GSEs guarantee.) The GSEs have also experimented with decreasing their exposure to credit risk by issuing subordinate MBSs that they do not guarantee, by having mortgage originators retain some of the risk on the loans sold to the GSEs, and by purchasing insurance on pools of mortgages.<sup>20</sup>

To date, the GSEs' CRT transactions have not reduced costs to the government. In return for transferring some of their risk, the GSEs effectively give up some of their income from guarantee fees to the private investors who buy credit-risk notes. Private investors must be compensated at market interest rates for assuming that risk, and thus they effectively charge more than the GSEs do to bear the risk. However, the GSEs have not raised their guarantee fees to cover the costs of those transactions. CRT transactions will reduce expected costs to the government only if the GSEs pass those costs along to mortgage borrowers.<sup>21</sup>

18. The structure of the GSEs' guarantee fees subsidizes some borrowers at the expense of others; Fannie Mae and Freddie Mac charge relatively more to borrowers with stronger credit and relatively less to riskier borrowers. That pricing structure helps the GSEs meet their affordable-housing goals. See Federal Housing Finance Agency, *Fannie Mae and Freddie Mac Single-Family Guarantee Fees in 2016* (October 2017), <https://tinyurl.com/ybfmuor2>.

19. The amount of risk transferred is just a small share of the unpaid principal balance of those mortgages. See Federal Housing Finance Agency, *Credit Risk Transfer Progress Report: Fourth Quarter 2017* (March 2018), <https://tinyurl.com/y9lg964z>.

20. For more details, see Congressional Budget Office, *Transferring Credit Risk on Mortgages Guaranteed by Fannie Mae or Freddie Mac* (December 2017), [www.cbo.gov/publication/53380](http://www.cbo.gov/publication/53380).

21. To date, the GSEs' CRT transactions have focused on back-end structures—structures that are executed after the guarantee fees on mortgages included in the transactions have been set. That focus means that those costs have not yet been completely reflected in the guarantee fees charged to borrowers when a mortgage is originated (known as a front-end structure). The GSEs are experimenting with different structures for CRT transactions, which may be necessary to find the most efficient approach; however, that experimentation may reduce the liquidity and transparency of the CRT market in the short run. Settling on a standardized approach would probably minimize costs in the long run.

Some analysts believe that over the long term, CRT transactions will help to create a broader, more liquid market for mortgage-backed securities—and the risk they involve—by introducing multiple sources of private capital.<sup>22</sup> A disadvantage of CRT transactions is that they could attract few investors during a financial crisis and thus be very limited and expensive at such a time. Another risk is that investors in credit-risk notes do not control the GSEs' credit decisions, although they bear some of the risk of losses from those decisions.

### **Budgetary Treatment of Fannie Mae, Freddie Mac, and the Federal Housing Administration**

In this analysis, estimates of federal costs under alternative structures for the secondary mortgage market depend on the accounting treatment that CBO uses for the two GSEs and for the Federal Housing Administration.<sup>23</sup> Those accounting treatments differ, which affects CBO's estimates of the budgetary impact of potential policy changes.<sup>24</sup> Such estimates matter because policy options that are projected to produce savings face fewer hurdles in the budget process, and thus may be easier to enact, than policies that are projected to raise costs.

#### **Accounting for the GSEs' Activities**

Although Fannie Mae and Freddie Mac were established as private corporations with Congressional charters, CBO includes their financial transactions alongside all other federal activities in the budget because the government currently owns and controls them and is operating them for the benefit of the public. In its budget projections, CBO shows as federal outlays the estimated present value of the GSEs' new credit activity each year.<sup>25</sup> (That present value expresses the estimated future cash

flows from the GSEs' new credit activity in a given year as an equivalent lump-sum amount in that year.)

CBO measures the costs of Fannie Mae's and Freddie Mac's activities on a fair-value basis, in which estimated costs represent the price that the federal government would need to pay a private mortgage insurer to make loan guarantees on the same terms as the GSEs. Those fair-value estimates incorporate a premium for market risk—the additional compensation that private investors would demand to invest in risky assets such as mortgages.<sup>26</sup> As a result, fair-value estimates provide a more comprehensive measure of the costs of federal loan guarantees than do projections of the net cash costs associated with the guarantees.<sup>27</sup>

Measured on a fair-value basis, Fannie Mae's and Freddie Mac's activities are being subsidized by the government, because the fees that the two GSEs charge are slightly below those that private insurers would charge, in CBO's estimation. CBO projects that under current law, federal subsidies would total \$19 billion between 2019 and 2028 on the almost \$12 trillion of new loan guarantees that the two GSEs are expected to make during that period (see Table 1).<sup>28</sup> (That relatively low subsidy rate, about 0.2 percent, is consistent with the virtual disappearance in recent years of the gap between interest rates on GSE-backed conforming mortgages and interest rates

22. See David Finkelstein, Andreas Strzodka, and James Vickery, *Credit Risk Transfer and De Facto GSE Reform*, Staff Report 838 (Federal Reserve Bank of New York, February 2018), [www.newyorkfed.org/research/staff\\_reports/sr838.html](http://www.newyorkfed.org/research/staff_reports/sr838.html).

23. See Congressional Budget Office, *Accounting for Fannie Mae and Freddie Mac in the Federal Budget* (forthcoming).

24. For information about the models that CBO uses to produce estimates for Fannie Mae, Freddie Mac, and FHA, see Congressional Budget Office, *Modeling the Subsidy Rate for Federal Single-Family Mortgage Insurance Programs* (January 2018), [www.cbo.gov/publication/53402](http://www.cbo.gov/publication/53402).

25. Unlike CBO, the Administration treats the GSEs as nongovernmental and reports their annual cash transactions with the Treasury (currently, mostly dividend payments to the Treasury) in the budget.

26. Market risk premiums for mortgages can be based on an economic capital approach. Private companies use capital to protect against the risk of unexpectedly high losses, and they need to pay the owners of that capital an excess return (one higher than the return on risk-free assets) in exchange for putting that capital at risk. The risk premium for mortgages equals the amount of capital put at risk times the excess return per unit of capital. That premium is currently about 40 basis points, CBO estimates.

27. For an analysis of the advantages and disadvantages of fair-value accounting, see the testimony of Douglas W. Elmendorf, Director, Congressional Budget Office, before the House Committee on Financial Services, *Estimates of the Cost of the Credit Programs of the Export-Import Bank* (June 25, 2014), [www.cbo.gov/publication/45468](http://www.cbo.gov/publication/45468).

28. In its baseline projections for Fannie Mae and Freddie Mac, CBO uses fair-value accounting for all years except the current fiscal year, which it treats on a cash basis, in the same manner as the Administration. That treatment helps CBO align its estimate of the current year's budget deficit with the Administration's estimate.

Table 1.

**CBO's Baseline Projection of the Budgetary Impact of Fannie Mae and Freddie Mac, 2019–2028**

Billions of Dollars

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	Total, 2019– 2028
Annual Loan Volume	917	898	928	1,055	1,276	1,374	1,315	1,301	1,331	1,368	11,763
Annual Subsidy Costs <sup>a</sup>	2.5	1.5	0.4	1.5	2.1	2.4	2.2	2.1	2.1	2.2	19.0
Subsidy Rate <sup>b</sup> (Percent)	0.3	0.2	*	0.1	0.2	0.2	0.2	0.2	0.2	0.2	n.a.

Source: Congressional Budget Office.

CBO's baseline incorporates an assumption that laws governing federal revenues and spending generally remain unchanged.

\* = between zero and 0.05 percent; n.a. = not applicable.

a. For 2019 through 2028, the baseline shows CBO's estimates of federal subsidy costs for Fannie Mae's and Freddie Mac's new loan guarantees, projected on a fair-value basis. Those fair-value estimates represent the price that the federal government would need to pay a private mortgage insurer to make loan guarantees on the same terms as Fannie Mae and Freddie Mac. Such fair-value estimates incorporate a premium for market risk—the additional compensation that private investors would demand to invest in risky assets such as mortgages. As a result, fair-value estimates provide a more comprehensive measure of the costs of federal loan guarantees than do projections of the net cash costs associated with the guarantees.

b. The subsidy rate is the subsidy cost per dollar of new guarantee.

on privately issued jumbo mortgages.)<sup>29</sup> Subsidy costs are projected to rise after 2021 because of the scheduled expiration of the 10 basis-point fee increase enacted in the Temporary Payroll Tax Continuation Act of 2011. Federal subsidy costs are reported in CBO's budget projections as a single lump-sum outlay in the year in which the GSEs' guarantees are expected to be made.

By contrast, on a cash basis or under the accounting approach specified in the Federal Credit Reform Act of 1990 (FCRA), the GSEs' current activities are expected to produce savings for the government. The reason is that Fannie Mae and Freddie Mac charge enough for their loan guarantees to more than cover the projected losses on those guarantees (though not enough to cover the risks that a competitive private insurer would factor in

when charging for the same guarantees).<sup>30</sup> That situation is why analysts expect that Fannie Mae and Freddie Mac will continue to report accounting profits. However, because both cash and FCRA estimates do not incorporate market risk, they ignore the higher costs that result when losses on mortgage guarantees rise during bad economic times, when taxpayers value resources more highly than at other times.

For any option to change the federal role in the secondary mortgage market, using fair-value estimates would align the budgetary costs of the option with its economic costs, as measured by market prices. Fair-value estimates would show savings from options that would decrease the volume of new guarantees that the GSEs offered at below-market prices. However, such estimates would show no costs for transactions that occurred at market prices in liquid and orderly markets. Thus, fair-value estimates would show no costs from selling the GSEs' existing mortgage assets to private investors at market prices and no costs for CRT transactions conducted at market

29. Conforming mortgages are loans that are eligible to be purchased and guaranteed by the GSEs; jumbo mortgages are loans too large to qualify as conforming mortgages. The spread between interest rates on 30-year jumbo and conforming mortgages was about 25 basis points in the decade leading up to the financial crisis but jumped to well over 100 basis points during the crisis. For an overview, see Congressional Budget Office, *Transitioning to Alternative Structures for Housing Finance* (December 2014), pp. 11–12, [www.cbo.gov/publication/49765](http://www.cbo.gov/publication/49765).

30. For a comparison of the costs of Fannie Mae and Freddie Mac under different accounting measures, see Congressional Budget Office, letter to the Honorable Barney Frank about the budgetary impact of Fannie Mae and Freddie Mac (September 16, 2010), [www.cbo.gov/publication/21707](http://www.cbo.gov/publication/21707).

prices.<sup>31</sup> If, instead, CBO accounted for the GSEs' activities on either a cash basis, as the Administration does, or under FCRA, those actions would probably result in large estimated costs to the government.

### Accounting for FHA's Activities

Unlike its budgetary treatment of Fannie Mae and Freddie Mac, CBO is required to account for FHA's mortgage guarantees using the procedures specified for most federal credit programs in the Federal Credit Reform Act. Like fair-value accounting, FCRA accounting is a present-value method of estimating subsidy costs that uses interest rates on Treasury securities to translate (or discount) expected future cash flows into a single lump-sum estimate today. Unlike fair-value estimates, FCRA measures do not incorporate market risk.

Because of the differences in accounting methods that CBO uses for the two GSEs and for FHA, additional savings would be reported in its budget estimates if—as under certain options—some borrowers shifted from mortgages backed by the GSEs to those insured by FHA. FHA's guarantees have a negative subsidy rate when estimated on a FCRA basis. In other words, the present value of the payments that the government will receive over the lifetime of the loans that FHA will insure over the next 10 years is projected to exceed the present value of the payments that the government will make for defaults on those loans.

The budgetary treatments of FHA and the two GSEs also differ in another way: The Congress controls FHA's mortgage guarantee program through the annual appropriation process, whereas the operations of Fannie Mae and Freddie Mac are not subject to appropriations. Even though the FHA program has a negative subsidy rate, lawmakers control the amount of its new guarantees.

### Alternative Approaches for the Future of the Secondary Mortgage Market

In this analysis, CBO considers illustrative transition paths that would bring the secondary market, over a five-year period, to one of four alternative structures:

- A market controlled by a single, fully federal agency;
- A hybrid public-private market, in which private guarantors and the government shared credit risk on eligible MBSs;
- A market in which the government served as guarantor of last resort; and
- A largely private market (see Table 2).

Those alternative structures seek to address weaknesses of the precrisis model that the GSEs operated under before conservatorship, particularly the implicit federal guarantee.<sup>32</sup>

The alternative structures have some common features.<sup>33</sup> A new federal entity would explicitly guarantee only mortgages that met certain eligibility criteria—which could differ from the criteria used now—and private financial institutions would provide financing for other mortgages not backed by FHA, VA, the Rural Housing Service, or smaller federal agencies. Neither a new federal entity nor private guarantors would be allowed to hold portfolios of mortgages as investments. FHA would continue to provide assistance to low- and moderate-income homebuyers and could play a larger role in financing mortgages for such buyers under the alternative structures.<sup>34</sup>

Depending on the new structure, Fannie Mae and Freddie Mac could be incorporated into a federal agency; placed in receivership and liquidated, with

31. Although CRT transactions generate administrative expenses for the GSEs, they do not change CBO's estimates of the GSEs' fair-value subsidy costs. See Congressional Budget Office, *Transferring Credit Risk on Mortgages Guaranteed by Fannie Mae or Freddie Mac* (December 2017), p. 2, footnote 5, [www.cbo.gov/publication/53380](http://www.cbo.gov/publication/53380).

32. If the precrisis model was restored, CBO would need to decide whether the GSEs should be considered government entities. See Congressional Budget Office, *How CBO Determines Whether to Classify an Activity as Governmental When Estimating Its Budgetary Effects* (June 2017), [www.cbo.gov/publication/52803](http://www.cbo.gov/publication/52803).

33. For a discussion of the common and disparate features of various legislative proposals to alter the housing finance system, see David Scharfstein and Phillip Swagel, *Legislative Approaches to Housing Finance Reform* (Milken Institute, October 2016), [www.milkeninstitute.org/publications/view/810](http://www.milkeninstitute.org/publications/view/810). Some investors argue that the secondary market needs only modest changes. See, for example, Libby Cantrill and others, *U.S. Housing Finance Reform: Why Fix What Isn't Broken?* (PIMCO, February 2018), <https://tinyurl.com/ybcruzq7>.

34. See Congressional Budget Office, *Options to Manage FHA's Exposure to Risk from Guaranteeing Single-Family Mortgages* (September 2017), [www.cbo.gov/publication/53084](http://www.cbo.gov/publication/53084).

Table 2.

**Key Features of Alternative Structures for the Secondary Mortgage Market**

	<b>Market With a Single, Fully Federal Agency</b>	<b>Hybrid Public-Private Market</b>	<b>Market With the Government as Guarantor of Last Resort</b>	<b>Largely Private Market</b>
Existing Operating Assets of Fannie Mae and Freddie Mac	Used for operations of federal guarantee agency, sold to issuers of private-label MBSs, or liquidated	Handed over to specialized issuers of federally backed MBSs (could be nonprofit, cooperative, or private firms), sold to issuers of private-label MBSs, or liquidated	Used for operations of federal guarantee agency, sold to issuers of private-label MBSs, or liquidated	Sold to issuers of private-label MBSs or liquidated
Number of Private Firms Issuing Federally Guaranteed MBSs	None; operations undertaken by federal guarantee agency	Under some models, only a few; under competitive market-maker model, any firm meeting specified criteria	Firms meeting specified criteria are allowed to participate in auctions for federal guarantees	None; private firms issue their own guarantees
Explicit Federal Guarantee for Loans or MBSs	Yes	Yes, possibly covering only catastrophic risks	Yes, covering a small share of the MBSs issued under normal market conditions but most of the MBSs issued during a financial crisis	No
Private Capital's Role in the Secondary Market	Restricted to credit-risk-transfer transactions on federally guaranteed MBSs; absorbs all losses on private-label MBSs	Absorbs most or all losses, except in cases of unusually large shocks to the financial market	Absorbs most losses under normal market conditions; absorbs no losses on federally guaranteed MBSs issued during a financial crisis	Absorbs all losses
Support for Affordable Housing	Could occur through federal guarantee agency	Could occur through terms on federal guarantees, fees on issuers of federally backed MBSs, or government agencies	Could occur through government agencies	No special role; could occur through government agencies

Source: Congressional Budget Office.

MBSs = mortgage-backed securities.

their operating systems and other assets sold to private investors; converted into regulated utilities; or privatized. The details of organizational changes to Fannie Mae and Freddie Mac as corporations, and the implications of those changes for their shareholders, are beyond the scope of this analysis.

Those alternative market structures were discussed in a 2014 CBO report, but the illustrative transition paths leading to them have been updated because of changes in

market conditions since then.<sup>35</sup> The continued recovery of the housing market, the decline in the GSEs' market share, and the expansion of CRT transactions all allow a shorter transition period than CBO envisioned previously: 5 years instead of 10. This report also presents estimates of federal subsidy costs under the alternative approaches and the transitions to them, whereas the

35. Congressional Budget Office, *Transitioning to Alternative Structures for Housing Finance* (December 2014), [www.cbo.gov/publication/49765](http://www.cbo.gov/publication/49765).

2014 report included estimates only for the transition paths.

CBO expects the GSEs' share of the market for new residential mortgages to continue to shrink over the next decade under current policy (see Figure 4 on page 7).<sup>36</sup> If policymakers wanted to reduce the role of Fannie Mae and Freddie Mac and lessen the advantages that federal support gives the two GSEs, they could use various mechanisms to facilitate a transition:

- Raise the GSEs' guarantee fees, which are currently about 55 basis points (0.55 percentage points of the amount of a mortgage) and which are scheduled to decline to 45 basis points in 2022.
- Lower the limits on the size of loans that the GSEs can guarantee. The current limits are \$679,650 in areas with high housing costs and \$453,100 in the rest of the country. By comparison, the average size of the new mortgages that the GSEs guaranteed in 2017 was about \$220,000.
- Expand the GSEs' use of credit-risk-transfer transactions.
- Set a limit on the amount of new mortgages that the GSEs can guarantee and auction off those guarantees to the highest bidders to determine their market price.<sup>37</sup>

How to use those mechanisms, whether alone or in combination, would depend on which new structure for the secondary market policymakers wanted to encourage. The illustrative five-year transition paths that CBO created use some of those mechanisms to help achieve the alternative structures examined in this analysis (see Table 3). For example, changes in the GSEs' guarantee fees and loan limits could be useful for many types of restructuring, whereas CRT transactions and auctions would be more appropriate for a transition to a continuing federal presence in the market.

36. Congressional Budget Office, "Federal Programs That Guarantee Mortgages—CBO's April 2018 Baseline" (April 2018), [www.cbo.gov/sites/default/files/recurringdata/51297-2018-04-mortgages.pdf](http://www.cbo.gov/sites/default/files/recurringdata/51297-2018-04-mortgages.pdf) (51 KB).

37. The design of such auctions would be an important determinant of their success. See Congressional Budget Office, *Transitioning to Alternative Structures for Housing Finance* (December 2014), pp. 27–28, [www.cbo.gov/publication/49765](http://www.cbo.gov/publication/49765).

Legislative proposals to alter the housing finance system could borrow elements from different illustrative transitions and market structures. However, for this analysis, CBO chose to make sharp distinctions among the alternative approaches and illustrative transition paths to highlight their fundamental differences. Those sharp distinctions also show that savings to the government increase with the amount of new private capital backing mortgage guarantees (because the cost of private capital is passed on to borrowers rather than being paid from existing guarantee fees).

In estimating the budgetary impact of the transitions and the alternative approaches, CBO assumed that those activities would be accounted for on a fair-value basis. If, instead, the transactions of a new federal guarantor were estimated on a FCRA basis without an adjustment for market risk, the estimates would be considerably different (see Box 1). In addition, cost estimates for proposed legislation would take into account the effects that the options would have on the activities of FHA and the housing programs of other federal agencies.

### **A Market with a Single, Fully Federal Agency**

In this structure for the secondary mortgage market, a federal agency would carry out what is now the main function of Fannie Mae and Freddie Mac: buying eligible mortgages and turning them into securities that are guaranteed against losses from defaults on the underlying loans. The premiums collected on those guarantees would remain with the government. That structure is very similar to current policy since, under conservatorship, Fannie Mae and Freddie Mac are essentially functioning as federal agencies.

Under a fully federal structure, some of the current operations of Fannie Mae and Freddie Mac could become part of a new or existing federal agency. No significant amounts of new private capital would be required, beyond those that are expected under current policy. Thus, the transition to a single agency would require little or no change to the present structure of the GSEs' guarantees, the fees charged for them, the GSEs' loan limits, or their CRT transactions. (However, some analysts have suggested that a federal agency could rely more heavily on CRT transactions to reduce the risk retained by the government.)<sup>38</sup> Policymakers could design the

38. See Jim Parrott and others, *A More Promising Road to GSE Reform* (Moody's Analytics, March 2016), <https://tinyurl.com/y7czj9ao> (PDF, 153 KB).

Table 3.

### Key Features of Illustrative Five-Year Transition Paths to Alternative Structures for the Secondary Mortgage Market

	Transition to a Market With a Single, Fully Federal Agency	Transition to a Hybrid Public-Private Market	Transition to a Market With the Government as Guarantor of Last Resort	Transition to a Largely Private Market
Key Policy Changes	No changes required	More credit risk sharing	Auctions	Lower loan limits
GSEs' Guarantee Fees <sup>a</sup>	No change; current fee schedule, including 10 basis-point drop in 2022, remains (fees averaged 55 basis points in June 2018)	Small increase <sup>b</sup>	Fees set by auction; would probably rise toward fair value	Small increase <sup>b</sup>
GSEs' Loan Limits <sup>c</sup>	No change; limits remain at \$679,650 in high-cost areas, \$453,100 elsewhere	Decline to \$453,100 in high-cost areas	No change	Fall gradually to zero
Credit-Risk-Transfer Transactions <sup>d</sup>	No change; credit-risk notes cover losses up to 3.75 percent of the original UPB of the reference pool of loans	Increase; credit-risk notes would cover losses up to 6 percent of the original UPB of the reference pool of loans	No change	No change
Auctions for the GSEs' Guarantees	None	None	The amount of new GSE guarantees auctioned off would gradually decline until the GSEs covered only a small share of the market	None

Source: Congressional Budget Office.

A basis point is 0.01 percentage point.

GSEs = government-sponsored enterprises (specifically, Fannie Mae and Freddie Mac); UPB = unpaid principal balance.

- In exchange for guaranteeing the timely payment of interest and principal on a mortgage, the GSEs receive fees from the lender (or the company servicing the lender's loans).
- In this transition path, the 10 basis-point increase in the GSEs' guarantee fees that is due to expire on October 1, 2021, is assumed to be extended permanently. (That increase was enacted in the Temporary Payroll Tax Cut Continuation Act of 2011.)
- Lawmakers limit the size of mortgages that are eligible to be included in pools of loans guaranteed by the GSEs.
- Under credit-risk-transfer transactions, private parties share in the credit losses on certain pools of loans.

agency's guarantee fees so as to provide subsidies to low-income borrowers or providers of low-income rental housing.

**Advantages and Disadvantages of the Structure.** A federal guarantee agency could have some advantages over alternative market structures that would rely on

the private sector. In particular, a government agency might be more likely than private investors to ensure a fairly steady flow of funds to the secondary market—particularly during periods of financial stress—by minimizing uncertainty about the strength of federal guarantees (see Table 4). Most of the federal subsidies would probably flow to mortgage borrowers, in the form of

## Box 1.

**Accounting for a New Federal Guarantor**

The Federal Credit Reform Act of 1990 (FCRA) specifies the procedures to be used for recording the budgetary impact of most of the federal government's loan and loan guarantee programs. FCRA accounting is a present-value method for estimating the government's subsidy costs that uses interest rates on Treasury securities to discount expected future cash flows (that is, to translate a flow of future cash income or payments into a single amount received or paid at a specific time). Unless lawmakers specified a different treatment, the subsidy costs of the mortgage guarantees provided by a new federal guarantor would be accounted for in the budget in accordance with FCRA.

Currently, the Congressional Budget Office does not account for the cost of the loan guarantees made by Fannie Mae and Freddie Mac on a FCRA basis. Instead, it uses fair-value accounting, a decision that was made after consulting with the House and Senate Committees on the Budget.<sup>1</sup> Fair-value estimates are more comprehensive than FCRA estimates because they use market interest rates, rather than Treasury rates, to discount expected future cash flows and thereby incorporate the costs that private investors would attach to the government's financial risks. The costs of those risks are generally higher than the expected losses included in FCRA estimates. For other federal mortgage guarantee programs, however, such as those operated by the Federal Housing Administration, CBO is required by law to use FCRA accounting.

When estimating the effects of policy alternatives in this report, CBO assumed that the cost of loan guarantees by Fannie Mae and Freddie Mac would continue to be accounted for on a fair-value basis (as they are in CBO's baseline budget projections) and that the cost of any new federal guarantor would also be accounted for on a fair-value basis. That treatment has the advantages of reporting budgetary effects using a consistent set of accounting measures and aligning the budgetary costs of a policy alternative with its economic effects.

1. For an analysis of the advantages and disadvantages of fair-value accounting, see the testimony of Douglas W. Elmendorf, Director, Congressional Budget Office, before the House Committee on Financial Services, *Estimates of the Cost of the Credit Programs of the Export-Import Bank* (June 25, 2014), [www.cbo.gov/publication/45468](http://www.cbo.gov/publication/45468).

Lawmakers might, however, choose to use FCRA accounting for a new federal guarantor. That decision would affect CBO's cost estimates for legislation to establish such a guarantor. Under current law, CBO estimates that the mortgage guarantees that Fannie Mae and Freddie Mac are projected to make over the 2019–2028 period would result in costs to the government (that is, positive subsidy costs) of about \$19 billion, calculated on a fair-value basis. Under FCRA accounting, by contrast, CBO estimates that the guarantees projected to be made during that period under current law would result in savings to the government (that is, negative subsidy costs) of about \$172 billion.<sup>2</sup>

The potential impact of using different accounting measures for federal mortgage guarantees is illustrated by CBO's cost estimate for the Housing Finance Reform and Taxpayer Protection Act of 2014 (S. 1217, 113th Cong.), a bill to create a hybrid public-private secondary market with catastrophic federal guarantees.<sup>3</sup> Under that bill, Fannie Mae and Freddie Mac would stop guaranteeing new mortgage-backed securities at the end of 2019. CBO estimated in 2014 that under current law, the guarantees that Fannie Mae and Freddie Mac were projected to make over the 2020–2024 period would result in *positive* subsidy costs of about \$5 billion, calculated on a fair-value basis. The guarantees made by a new federal guarantor during that period under S. 1217 would result in *negative* subsidy costs (that is, net gains) of about \$47 billion, calculated on a FCRA basis. Those widely divergent budgetary effects stem mostly from the different accounting methods used to estimate the cost of the guarantees. In its cost estimate for S. 1217, CBO estimated the changes in spending on a FCRA basis, as required by law, and provided a fair-value estimate as additional information.

2. See Congressional Budget Office, *Accounting for Fannie Mae and Freddie Mac in the Federal Budget* (forthcoming). For an earlier comparison of Fannie Mae's and Freddie Mac's costs on a fair-value basis 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), [www.cbo.gov/publication/21707](http://www.cbo.gov/publication/21707).

3. See Congressional Budget Office, cost estimate for S. 1217, the Housing Finance Reform and Taxpayer Protection Act of 2014 (September 5, 2014), [www.cbo.gov/publication/45687](http://www.cbo.gov/publication/45687).

Table 4.

### Major Factors for Assessing Alternative Structures for the Secondary Mortgage Market

	Market With a Single, Fully Federal Agency	Hybrid Public-Private Market	Market With the Government as Guarantor of Last Resort	Largely Private Market
Supply of Financing for Mortgages	Stable, both under normal market conditions and during a financial crisis	Fairly stable under normal market conditions; could shrink during a financial crisis	Depends mainly on private financing under normal market conditions; stable during a financial crisis because of federal guarantee	Depends on private financing under normal market conditions; could become extremely scarce during a financial crisis without federal intervention
Taxpayers' Exposure to Risk	Medium under normal market conditions; very high during a financial crisis	Low to medium under normal market conditions (because private capital would bear most credit losses); very high during a financial crisis	Low under normal market conditions; very high during a financial crisis	Very low under normal market conditions; low explicit exposure during a financial crisis but potentially high implicit exposure to losses from firms seen as critical to the functioning of the mortgage markets
Pricing of Federal Guarantees	Possibly underpriced; the government would have less incentive than private entities to charge fees that cover costs	Possibly underpriced; the government would have less incentive than private entities to charge fees that cover costs	Priced correctly by auctions under normal market conditions; underpriced during a financial crisis	No explicit federal guarantees, but any implicit federal guarantees that occurred would be not be priced
Incentives to Control Risk Taking	Mortgage originators would have an incentive to take excessive risk; the government could counter that incentive by using credit-risk- transfer transactions and by limiting eligibility for federal guarantees to safer mortgages	Financial intermediaries would have an incentive to manage risk under normal market conditions; they would have less incentive to manage risk during a financial crisis because their capital requirements would be lower	Financial intermediaries would have a relatively strong incentive to manage risk under normal market conditions; they would have less incentive to manage risk during a crisis	Financial intermediaries would have a relatively strong incentive to manage risk, but that incentive would be weakened if their obligations were seen as implicitly guaranteed by the government
Other Considerations	The government could control a large segment of the capital market  The secondary mortgage market would be less dynamic, and there would be less incentive for product innovation	Tensions between public and private purposes might remain, particularly under models with a small number of highly regulated intermediaries	Whether the government could efficiently and quickly increase its volume of guarantees during a financial crisis (and then withdraw after a crisis) is uncertain	The government would regulate the secondary mortgage market but otherwise would not intervene  The market would not rely on the viability of any one firm or business model

Source: Congressional Budget Office.

lower interest rates, rather than to private financial institutions. Moreover, because this approach would resemble the current system, the mortgage markets would not face any new sources of uncertainty, in contrast to the uncertainty that would accompany the structural changes to the secondary market under the other approaches.

At the same time, however, creating a federal guarantee agency would strengthen the government's control over a large segment of the capital market, which might have negative consequences. The government has less incentive than private entities do to charge guarantee fees that cover costs (on a fair-value basis). Thus, some borrowers would probably still be subsidized by taxpayers. Furthermore, taxpayers, rather than private financial institutions, would continue to bear much of the credit risk on guaranteed mortgages (although policymakers could adjust the amount of risk borne by the government by increasing or decreasing the volume of CRT transactions).

Compared with the other approaches, if the government bore most of the credit risk, mortgage originators might have less reason to thoroughly evaluate borrowers' credit risk, which could increase losses. In addition, product innovation would tend to be slower than it would be with a more dynamic, private secondary market. The government might also operate less efficiently than private guarantors and could set rules that hindered competition in the primary market, where mortgages are originated.

**Effects of the Illustrative Transition Path and New Structure.** Under CBO's illustrative path to a fully federal secondary market, policymakers would leave the GSEs' loan limits and guarantee fees unchanged. (Those fees would still decline by 10 basis points in 2022, as scheduled under current law.) Because this structure is similar to the current structure of the secondary market—though with one federal guarantor rather than two—the budgetary effects of the transition path would match CBO's current-law baseline projections (under fair-value accounting). The single agency would guarantee almost \$12 trillion in new loans between 2019 and 2028, and federal subsidies on those guarantees would have a fair value of about \$19 billion, CBO estimates (see Table 5).

Like its baseline, CBO's estimates for this approach incorporate the assumption that the current statutory

cap on losses covered by federal guarantees would remain in place. That assumption may not be realistic, but it facilitates the analysis. Under current law, the federal government's explicit exposure to losses from Fannie Mae and Freddie Mac is capped at \$254 billion, which is the remaining amount of senior preferred stock that the government could purchase from the GSEs. If federal guarantees covered an unlimited amount of losses under a fully federal agency, the government's exposure to losses would be greater, and CBO would report modestly higher estimated subsidy costs.<sup>39</sup>

The amount of credit risk facing the government—and thus taxpayers—would be little changed under this approach because the transition path does not include any changes to guarantee fees, CRT transactions, or the volume of federal guarantees.

### **A Hybrid Public-Private Market With Limited Federal Guarantees**

Many proposals for the secondary market involve a hybrid approach in which qualifying MBSs would be guaranteed by a combination of private for-profit or nonprofit entities and the federal government.<sup>40</sup> That combination of guarantees would eliminate credit risk for investors who purchased the MBSs. As part of a new hybrid structure, Fannie Mae and Freddie Mac could be privatized and allowed to compete in the secondary market, or be used to form a nonprofit organization to issue federal guarantees, or be liquidated. The government could provide additional housing assistance to low- and moderate-income families by subsidizing guarantee fees for qualifying borrowers, or it could collect fees from participating private guarantors and use the fees to fund

39. See Congressional Budget Office, *The Effects of Increasing Fannie Mae's and Freddie Mac's Capital* (October 2016), pp. 16–17, 30, [www.cbo.gov/publication/52089](http://www.cbo.gov/publication/52089).

40. See, for example, Office of Management and Budget, *Delivering Government Solutions in the 21st Century: Reform Plan and Reorganization Recommendations* (June 2018), pp. 75–78, [www.whitehouse.gov/omb/management/government-reform](http://www.whitehouse.gov/omb/management/government-reform); Michael Bright and Ed DeMarco, *Toward a New Secondary Mortgage Market* (Milken Institute, September 2016), [www.milkeninstitute.org/publications/view/823](http://www.milkeninstitute.org/publications/view/823); Mortgage Bankers Association, *GSE Reform: Creating a Sustainable, More Vibrant Secondary Mortgage Market* (April 2017), [www.mba.org/issues/gse-reform](http://www.mba.org/issues/gse-reform); and Congressional Budget Office, cost estimate for S. 1217, the Housing Finance Reform and Taxpayer Protection Act of 2014 (September 2014), [www.cbo.gov/publication/45687](http://www.cbo.gov/publication/45687).

Table 5.

### Effects of Illustrative Transition Paths to Alternative Structures for the Secondary Mortgage Market, 2019–2028

Billions of Dollars

	Total Federal Subsidy Cost Over 10 Years <sup>a</sup> (Estimated on a fair-value basis)	Total Amount of New Federally Guaranteed Mortgages Over 10 Years
<b>CBO's Baseline</b>		
Current Policy	19.0	11,800
<b>Difference From CBO's Baseline Under Illustrative Transition Paths and New Market Structures</b>		
Market With a Single, Fully Federal Agency <sup>b</sup>	0	0
Hybrid Private-Public Market	-12.8	-2,500
Market With the Government as Guarantor of Last Resort	-11.7	-8,200
Largely Private Market	-18.1	-9,100

Source: Congressional Budget Office.

These numbers exclude mortgage guarantees by the Federal Housing Administration, the Department of Veterans Affairs, and smaller federal agencies.

CBO accounts for Fannie Mae's and Freddie Mac's activities (and, in this report, the activities of any new federal guarantor) on a fair-value basis, in which estimated costs represent the price that the federal government would need to pay a private mortgage insurer to make loan guarantees on the same terms as those government guarantors. Such fair-value estimates incorporate a premium for market risk—the additional compensation that private investors would demand to invest in risky assets such as mortgages. As a result, fair-value estimates provide a more comprehensive measure of the costs of federal loan guarantees than do projections of the net cash costs associated with the guarantees.

- a. Costs exclude potential effects on federal spending by the Federal Housing Administration (FHA) and the Government National Mortgage Association (Ginnie Mae). Spending on those agencies is set through annual appropriation acts and thus is classified as discretionary spending, whereas spending by Fannie Mae and Freddie Mac is not determined by appropriation acts and thus is classified as mandatory spending. In addition, FHA's annual commitments for new guarantees of single-family mortgages are subject to a limit set each year.
- b. This option is the same as CBO's current baseline. It reflects the fact that the federal government's explicit exposure to losses from Fannie Mae and Freddie Mac is capped at \$254 billion under current law. If federal guarantees covered an unlimited amount of losses under a fully federal agency, the government's exposure to losses would be greater, and CBO would report modestly higher estimated subsidy costs.

programs operated by FHA or other federal agencies that target such families.

A hybrid approach could be implemented in ways that involved broader or narrower federal guarantees, with private capital (including private mortgage insurance) absorbing credit losses before the federal guarantee would be called on. Under many proposals, private capital would effectively bear most of the credit risk in normal economic times, and the federal government would bear much of the credit risk during severe downturns in the housing market. However, the secondary market could still be vulnerable to a retreat by private investors during a financial crisis, which could make it difficult for homebuyers to obtain new mortgages—although regulators

might have wide latitude to step in quickly and support the flow of mortgage credit when markets were disrupted. For example, they could reduce the amount of new credit risk that private investors would be expected to absorb for the duration of a crisis, or they could lower capital requirements on private guarantors. Such steps would allow the government's guarantee to play a greater stabilizing role in the secondary market, but they would also increase the risk to the government.

In designing a hybrid public-private market, policymakers would have to make some critical choices about the structure of the housing finance industry: How many firms would operate in the secondary market? What types of business would they be allowed to pursue? And

where would the line be drawn between regulation and competition?

The hybrid structure that CBO envisioned for this analysis is a competitive market-maker model.<sup>41</sup> Under that structure, any private financial institution that met certain regulatory criteria would be allowed to package pools of eligible mortgages into MBSs, which would be insured by a federal guarantor. The government's guarantee would be secondary, in that it would come into play only after the private guarantors took substantial first-dollar losses. The federal guarantor could take various forms, such as a new federal entity or a new function within FHA or Ginnie Mae. Whatever its form, the federal guarantor would be responsible for ensuring timely payment of principal and interest to investors on federally insured MBSs and for covering losses that remained after private issuers had fulfilled their guarantee obligations or exhausted their resources. Several proposals to create such a market have been introduced in past sessions of Congress.

Standardizing MBSs and using a common securitization platform could prevent any loss of liquidity that might otherwise result from having many companies—rather than just the current two—issue federally guaranteed MBSs. The market would be less dependent on any single company, and if competition was robust, even large firms could be allowed to fail. Mortgages that were not eligible for federal backing would be financed privately, and companies could continue to issue private-label MBSs with no government guarantee.

For this analysis, CBO assumed that the new federal guarantor would essentially be providing a catastrophic

guarantee, meaning that the government would effectively bear substantial risk of losses on new and outstanding MBSs only during periods of severe financial distress. (Private guarantors would still bear the initial losses during a crisis.) In most other periods, losses would be absorbed by a combination of private guarantors' capital and the private investors involved in credit-risk-transfer transactions. Capital standards for private guarantors would be countercyclical—higher (10 percent) in normal times and lower (1 percent) in times of crisis, when risk premiums on capital would spike and CRT transactions could potentially be frozen (see Box 2).<sup>42</sup> Because of those features, CBO expects that the government would bear less risk under this approach than it would from the continued operation of the GSEs under current law and thus would incur smaller costs.

CBO also assumed that the federal guarantor would initially charge fees that would cover its expected losses and administrative costs and allow it to build up reserves. As a result, the guarantee program could be self-sustaining in the long run. The guarantor's reserves (or insurance fund) would have a target ratio equal to 2.5 percent of the balance of outstanding federal mortgage guarantees, similar to the statutory capital requirement for FHA.<sup>43</sup> As a result, the federal guarantor would charge fees for several years that were very close to fair value. The cost of the private portion of the guarantees would be passed on to borrowers as part of their mortgage interest rate.

**Advantages and Disadvantages of the Structure.** With private capital bearing initial credit losses, a hybrid market would have the advantage of reducing credit risk to

41. An alternative hybrid structure is the public-utility model, in which federally insured MBSs would be created by one or a small number of specialized, possibly nonprofit, institutions that would be regulated fairly tightly. For a comparison of the competitive market-maker and public-utility models, see Congressional Budget Office, *Fannie Mae, Freddie Mac, and the Federal Role in the Secondary Market* (December 2010), pp. 36–42, [www.cbo.gov/publication/21992](http://www.cbo.gov/publication/21992); and Eric Kaplan and others, *Bringing Housing Finance Reform Over the Finish Line* (Milken Institute, January 2018), [www.milkeninstitute.org/publications/view/898](http://www.milkeninstitute.org/publications/view/898). For an analysis of the public-utility approach, in which capital requirements would differ for each new cohort of loan guarantees, see Patricia C. Mosser, Joseph Tracy, and Joshua Wright, *The Capital Structure and Governance of a Mortgage Securitization Utility*, Staff Report 644 (Federal Reserve Bank of New York, October 2013), <http://tinyurl.com/p59atqz>.

42. Those countercyclical capital standards approximate the ones proposed in the Housing Finance Reform and Taxpayer Protection Act of 2014 (S. 1217). In that proposal, legislators used the term “exigent circumstances” rather than “crisis” and defined those circumstances as a decline in the house price index for eight consecutive quarters, at which point, capital requirements for private guarantors would fall to 1 percent on newly originated mortgages. In its analysis of that legislation, CBO estimated that the probability that those circumstances would occur ranged between 2 percent and 3 percent over the 2018–2024 period; see Congressional Budget Office, cost estimate for S. 1217, the Housing Finance Reform and Taxpayer Protection Act of 2014 (September 5, 2014), [www.cbo.gov/publication/45687](http://www.cbo.gov/publication/45687).

43. FHA's reserves are calculated on a net-present-value basis. See Congressional Budget Office, “How FHA's Mutual Mortgage Insurance Fund Accounts for the Cost of Mortgage Guarantees,” *CBO Blog* (October 22, 2013), [www.cbo.gov/publication/44634](http://www.cbo.gov/publication/44634).

## Box 2.

**Setting Capital Requirements for Private Guarantors in a Hybrid Public-Private Market**

A critical factor affecting the government's exposure to risk in a hybrid secondary market is the amount and quality of capital that policymakers would require private guarantors to raise, mostly from shareholders, to back their guarantees. Requirements could be based on the riskiness of the guarantees, so that more capital would automatically be required when an institution took on greater risk. (In addition, riskier loans could be required to carry higher amounts of private mortgage insurance.) Capital requirements could also vary depending on how capital was defined—that is, what would count as capital and how it would be measured (on a market basis or an accounting basis).

Under many proposals for a hybrid market, requirements for private risk bearing—whether through capital standards or credit-risk-transfer (CRT) transactions—are set high enough that the government would be expected to incur few credit losses except in a financial crisis.<sup>1</sup> Capital equal to roughly 4 percent to 5 percent of the value of guarantees would have covered the losses that Fannie Mae and Freddie Mac experienced on their 2007 cohort of guarantees, the one that performed worst during the most recent financial crisis.<sup>2</sup> However, today's underwriting standards for mortgages are much tighter than the loose standards that preceded that crisis. Consequently, the amount of capital that might provide adequate protection against credit losses now could prove inadequate in the future if credit standards were loosened again.

Another factor to consider in setting capital standards is making those standards consistent among financial institutions. Such consistency might avoid giving institutions an opportunity to engage in “regulatory arbitrage” to increase their risk and return without increasing their required capital.<sup>3</sup> Federal

regulators set risk-based capital standards for the mortgages, mortgage-backed securities, and other assets that large financial institutions hold on their balance sheets. Ideally, financial institutions' decisions about whether to hold mortgages or sell them in the secondary market should be driven by market factors rather than by regulations. Regulatory arbitrage can reduce the efficiency of the financial system and undermine the purpose of capital requirements.

In setting those requirements, policymakers would have to determine the appropriate balance between costs to the private sector and risks to the government. Although higher capital requirements would reduce the probability of losses to the government, and thus allow the government to decrease guarantee fees, they would tend to increase mortgage interest rates. If higher capital requirements were imposed on private guarantors in a hybrid market, however, they would probably have small effects on borrowers' costs. In general, as capital requirements are raised (for example, from 5 percent to 10 percent), the probability that the investors providing the additional capital will bear losses decreases.<sup>4</sup> Therefore, costs are lower for such incremental capital than for the initial layers of capital that cover expected losses—which means that raising capital requirements from 5 percent to 10 percent would not increase mortgage interest rates by as much as the initial 5 percent capital requirement would.<sup>5</sup>

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institutions, consistency does not necessarily mean setting identical capital requirements. One reason for the growth of Fannie Mae and Freddie Mac before conservatorship was the low minimum capital requirements that they faced (compared with those of banks) for most of that period: 2.5 percent on their balance-sheet assets and 0.45 percent on their outstanding guarantee commitments. See Congressional Budget Office, *Measuring the Capital Positions of Fannie Mae and Freddie Mac* (June 2006), [www.cbo.gov/publication/17889](http://www.cbo.gov/publication/17889).

1. For example, under one proposal, CRTs would amount to roughly 4 percent of capital, and shareholders of the private guarantors would provide an additional 2 percent. See Michael Bright and Ed DeMarco, *Toward a New Secondary Mortgage Market* (Milken Institute, September 2016), [www.milkeninstitute.org/publications/view/823](http://www.milkeninstitute.org/publications/view/823).
2. See Laurie S. Goodman and Jun Zhu, *The GSE Reform Debate: How Much Capital Is Enough?* (Urban Institute Housing Finance Policy Center, October 24, 2013), <https://tinyurl.com/yb2guhqf> (PDF, 732 KB). Also see Michael A. Stegman, “How Much Capital Is Enough?” (blog entry, Bipartisan Policy Center, August 15, 2016), <https://tinyurl.com/ydbg7ytm>.
3. Regulatory arbitrage refers to situations in which companies exploit regulatory differences between economically similar activities. Because private guarantors might not be as diversified as other financial

4. That statement follows from the Modigliani Miller theorem, which states that under certain assumptions, the value of a firm must be independent of its debt-equity mix. See Franco Modigliani and Merton Miller, “The Cost of Capital, Corporation Finance, and the Theory of Investment,” *American Economic Review*, vol. 48 (1958), pp. 261–297. However, because firms can deduct the cost of debt from their income for tax purposes but cannot deduct the cost of equity, higher equity-capital requirements are not costless.
5. See, for example, David Scharfstein and Phillip Swagel, *Legislative Approaches to Housing Finance Reform* (Milken Institute, October 2016), pp. 7–10, [www.milkeninstitute.org/publications/view/810](http://www.milkeninstitute.org/publications/view/810).

taxpayers. The degree to which risk would decline would vary depending on the capital requirements for private guarantors (and, to a lesser extent, on the amount of CRT transactions conducted by the new federal guarantor). Higher capital requirements for private guarantors would decrease risk to taxpayers, as would higher reserve requirements for the federal guarantor.

Another advantage is that the prices that private institutions would charge for federally guaranteed MBSs would provide more transparency about the perceived amount and cost of risk in the secondary market. That information could be valuable to policymakers and market participants by allowing them to limit risk taking when market conditions were overheating and to relax those limits when risk was low.<sup>44</sup> As a result, the mortgage and housing markets could experience smaller fluctuations in mortgage interest rates and home prices than under current policy. In addition, competition would force firms to pass along any federal underpricing of risk to borrowers, in the form of lower interest rates, rather than keeping those subsidies themselves.

Compared with establishing a fully federal agency, a hybrid public-private approach would alleviate concerns about putting a large portion of the capital market under government control. Compared with a market in which the government acted as guarantor of last resort, a hybrid approach would better maintain borrowers' access to federally guaranteed mortgages in normal economic times. And compared with a largely private secondary market, a hybrid structure would probably improve the liquidity of the market, especially during times of financial stress.

Relying on explicit government guarantees of qualifying mortgages would also have some disadvantages. If competition remained limited—with only a few specialized firms participating in the secondary market—any single firm's financial difficulties could pose a systemic risk to the entire financial system. Moreover, a firm's market power might allow it to retain federal subsidies rather than passing them on to borrowers. In addition, experience with other federal insurance and credit programs suggests that the government might have trouble setting

risk-sensitive guarantee fees and would most likely end up imposing some unintended costs and risk on taxpayers. Finally, with a hybrid structure, mortgage financing might be less available during periods of severe market stress than it would be in a market with a fully federal agency or with the government acting as guarantor of last resort.<sup>45</sup>

**Effects of the Illustrative Transition Path and New Structure.** To move the secondary market to a hybrid public-private structure over five years, CBO created a transition path that combines higher fees and lower loan limits for federally guaranteed mortgages with greater use of risk-sharing transactions. Specifically, the GSEs' loan limits would drop to \$453,100 (eliminating the special limit for high-cost areas), and their guarantee fees would rise to 60 basis points through 2023, the end of the transition period. In addition, the GSEs would issue credit-risk notes covering a portion of the losses on a reference pool of mortgages up to 6 percent of the original unpaid principal balance (UPB) of those loans, compared with 3.75 percent of UPB under current policy.<sup>46</sup> (The higher guarantee fees would effectively ensure that at least some of the cost associated with the CRT transactions would be reflected in the interest rates charged to borrowers.)

The volume of new guarantees by the GSEs would be about \$900 billion (or 18 percent) lower during the illustrative transition path than under current policy (see Figure 2 on page 4). The main reason for that reduction is that the higher federal guarantee fees would lead some borrowers to seek other financing options. The federal subsidy costs for new guarantees would be about \$2 billion lower, on a fair-value basis, than under current

44. Some analysts have pointed out that pricing discipline might falter if a firm sought to gain market share by underpricing its MBSs while ignoring the dangers of very low probability credit risks. (That concept is similar to the "race to the bottom" that can occur with underwriting standards for loans as lenders try to maintain or gain market share.)

45. That outcome would depend on how responsive the mechanism used to set the countercyclical capital requirements was, how high the requirements were, and what counted as capital. Stronger requirements would reduce the availability of credit during a crisis but would also reduce costs and risk to the government.

46. The current average loss coverage in Fannie Mae's and Freddie Mac's CRT programs, 3.75 percent of UPB, is generally considered sufficient to shield the GSEs from the losses on any cohort of loans they guaranteed during the most recent financial crisis. However, CBO estimates that certain high-risk categories of loans have experienced losses greater than 5 percent, and the mortgage market could experience greater stresses in the future than those of 2007 and 2008. See Congressional Budget Office, *Transferring Credit Risk on Mortgages Guaranteed by Fannie Mae or Freddie Mac* (December 2017), [www.cbo.gov/publication/53380](http://www.cbo.gov/publication/53380).

policy. In addition, more risk would be transferred from the GSEs to private investors in credit-risk transactions. CBO estimates that those transactions would occur at market prices, so they would not affect the amount of federal savings from this approach on a fair-value basis.

Once the hybrid public-private structure was in place (by 2024, in this analysis), the federal government would guarantee less of the total mortgage market than the GSEs would under current policy, CBO estimates. The reason is that borrowers would face higher net mortgage costs because private guarantors would bear more of the risk of credit losses. The volume of new federal guarantees over the 2024–2028 period would be \$1.6 trillion (or 24 percent) lower than it would be under current policy, and estimated federal subsidy costs would be almost \$11 billion lower on a fair-value basis (see Figure 2 on page 4). That large decline in estimated costs would occur mostly because the federal guarantor would be charging higher fees in order to establish a 2.5 percent reserve fund by 2033. With those higher federal fees and the market prices assessed by private guarantors, the least risky borrowers would find private financing more attractive, thus decreasing the volume of new federally guaranteed mortgages and contributing to the decline in costs.

Risks to taxpayers would be lower under a hybrid structure than with a fully federal agency during normal economic conditions (see Figure 5). One reason is that in a hybrid market, the new federal entity would be guaranteeing a smaller volume of loans; another reason is that private guarantors would be absorbing most of the losses ahead of the federal guarantor. During a financial crisis, however, taxpayers' exposure to losses on new federal guarantees would be high because private guarantors' capital requirements would fall to very low levels. Another concern is that once the federal guarantor reached its reserve target, it might face pressure to reduce its fees below the levels that would protect taxpayers. Such underpricing of risk would increase the amount of federal guarantees and limit opportunities for private financing.

### **A Market With the Government as Guarantor of Last Resort**

CBO analyzed another version of a public-private secondary market, one in which a new federal agency would serve as guarantor of last resort. Under that approach, most new mortgages issued in normal economic times

would not be eligible for a federal guarantee but could be privately guaranteed. During a financial crisis, however, the new federal guarantor would increase its role and fully guarantee most new mortgages.<sup>47</sup> Such an expansion of the government's role could be tied to a significant drop in private mortgage lending or to some other triggering event. Once the financial crisis had passed, the volume of new guarantees made by the government would decline sharply. (During normal times, the government would guarantee a very small sample of mortgages to maintain its capability to do so.)

The new federal agency could be fashioned from Fannie Mae or Freddie Mac. Because it would usually operate on a much smaller scale than either of those GSEs, some of their operations could be sold. Alternatively, FHA or Ginnie Mae could take on the role of federal guarantor of last resort.

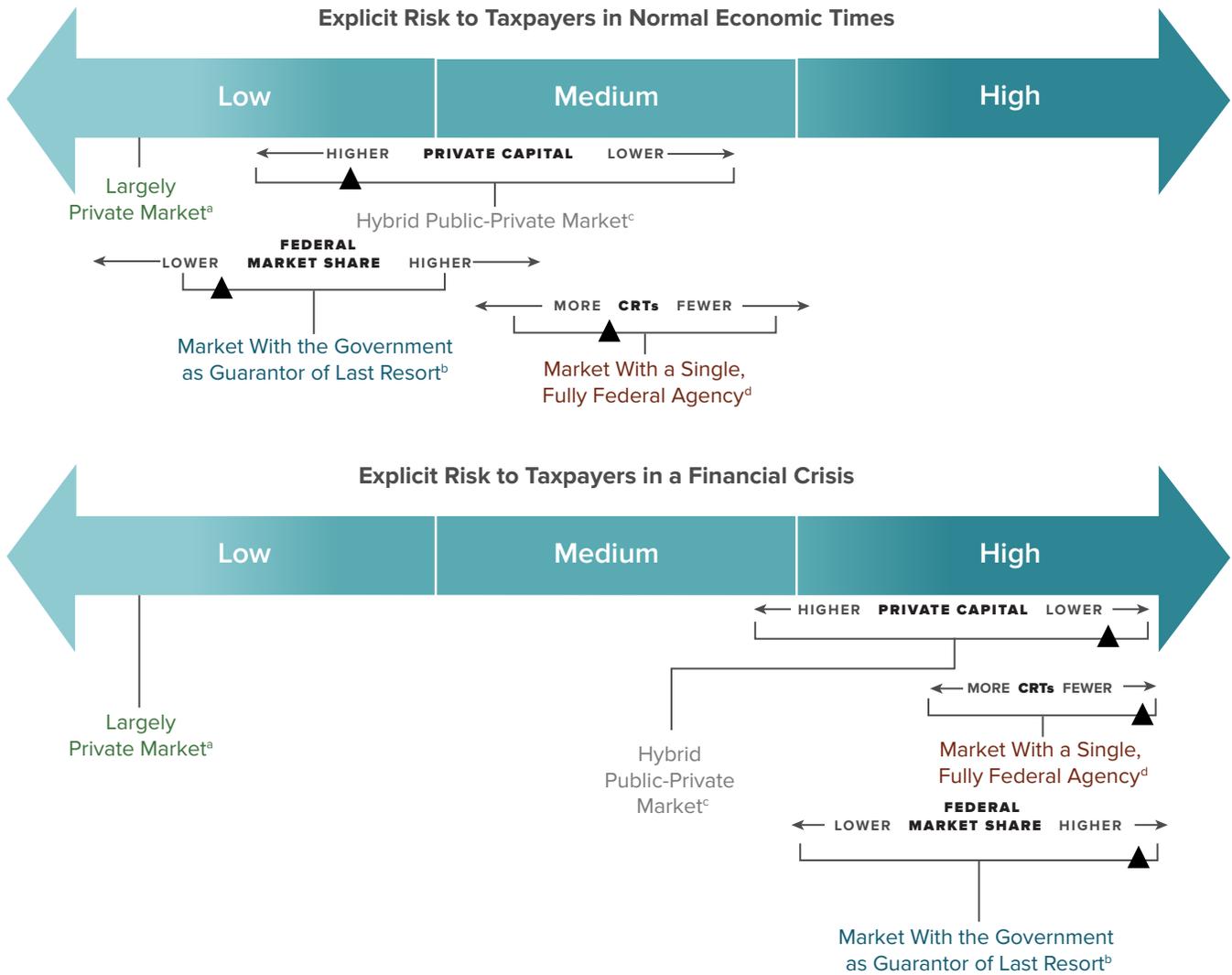
A market in which the government served as guarantor of last resort would differ in two main ways from a hybrid public-private market in which the government and private guarantors shared losses. First, because the government would provide a full guarantee during times of crisis under this approach, taxpayers would be exposed to all losses on those newly guaranteed mortgages, without private firms' sharing any of the credit risk (as they would under the hybrid structure). Second, because the federal guarantor would have a very small market share in normal times, taxpayers would have relatively little exposure to risk on loans guaranteed before a crisis. That distinction is important because credit losses tend to be greatest on mortgages originated just before a financial crisis, when home prices are high.

The market share of the federal guarantor in normal economic periods and during a financial crisis would be the main factor determining risk to taxpayers under this approach. By adjusting those shares, policymakers could marginally increase or decrease taxpayers' exposure to credit risk on federally guaranteed loans. For

47. See David Scharfstein and Adi Sunderam, "The Economics of Housing Finance Reform: Privatizing, Regulating, and Backstopping Mortgage Markets," in Martin N. Bailey, ed., *The Future of Housing Finance: Restructuring the U.S. Residential Mortgage Market* (Brookings Institution Press, 2011), pp. 146–198, <http://tinyurl.com/kd5zjna>; and Department of the Treasury and Department of Housing and Urban Development, *Reforming America's Housing Finance Market: A Report to Congress* (February 2011), <https://tinyurl.com/3v8y7bh> (PDF, 406 KB).

Figure 5.

**Range of Explicit Risk to Taxpayers Under Alternative Structures for the Secondary Mortgage Market**



Source: Congressional Budget Office.

CRTs = credit-risk-transfer transactions; ▲ = where CBO’s illustrative approach falls in the range for each secondary-market structure.

- a. If the private firms operating in the secondary market were seen as critical to the functioning of the housing finance system, investors might again treat them as implicitly guaranteed by the federal government.
- b. Risk to taxpayers would depend on what share of the market was covered by the government as guarantor of last resort. In CBO’s illustrative approach, the federal guarantor backs 5 percent of the market in normal economic times and matches the fully federal agency’s market share in a financial crisis. Proposals for such an approach generally limit the federal guarantor’s market share to no more than 10 percent in normal economic times.
- c. Risk to taxpayers in a hybrid public-private market would depend largely on the capital requirements for private guarantors. In CBO’s illustrative approach, capital requirements are 10 percent in normal economic times and 1 percent in a financial crisis. Those requirements resemble ones proposed in S. 1217, the Housing Finance Reform and Taxpayer Protection Act of 2014.
- d. Risk to taxpayers in a market with a single, fully federal agency could be lowered by increasing credit-risk-transfer transactions with private investors, but CRT transactions might not be an option during a financial crisis. In CBO’s illustrative approach, the volume of CRT transactions matches the volume underlying CBO’s current baseline projections for Fannie Mae and Freddie Mac.

example, during a crisis, all mortgages that are currently eligible for purchase by the GSEs could qualify for a federal guarantee, or the government's guarantee could be extended to some mortgages whose balances exceed the limit for conforming loans. Risk to taxpayers could also be reduced if the federal guarantor shared risk with private investors through CRT transactions.

The key policy change leading to this market structure would be to limit new guarantees by Fannie Mae and Freddie Mac and auction off those guarantees to the highest bidders (or use some other competitive process to set prices), rather than requiring the GSEs to continue to guarantee all eligible mortgages submitted by lenders for preset fees. Auctions would determine the market prices of those guarantees and allocate them to the lenders who valued them the most, reducing the size of the GSEs' guarantee business. The government uses auctions to allocate leases for off-shore oil and gas production and for the right to use portions of the electromagnetic spectrum, but it has not tested auctions for federal loan guarantees.<sup>48</sup>

**Advantages and Disadvantages of the Structure.** An advantage of limiting the government's role to that of guarantor of last resort is that it would address a potentially critical shortcoming of the mortgage markets: the inability of the private sector to provide a steady flow of credit during a financial crisis. In addition, using auctions (or some other competitive process) to determine federal guarantee fees would address the weak incentive that the government has traditionally had to price loan guarantees or set federal insurance premiums that reflect the full cost of those activities. By determining the market price of credit risk, auctions would better ensure that taxpayers were compensated for bearing that risk.

A disadvantage of this structure, compared with the hybrid public-private approach, is that the government would have to cover the full amount of losses on all of its guarantees of new MBSs issued during a financial crisis. Thus, taxpayers could be exposed to most of the credit risk from mortgages originated at that time. (CBO assumes that, during a crisis, the government would guarantee the same volume of loans that it would in a

market controlled by a single, fully federal agency, but the volume could be higher.)

Moreover, how adroit the federal guarantor would be in responding to an emerging crisis and then letting its role decrease afterward is uncertain. In addition, some analysts worry that investors would presume that MBSs guaranteed by private companies carried an implicit federal guarantee because of their expectation that the government would step in during a crisis to prevent large credit losses on those privately guaranteed MBSs from spilling over to the rest of the economy.<sup>49</sup> If such an intervention occurred, the government would have significantly greater exposure to credit risk on mortgages issued before the crisis.

**Effects of the Illustrative Transition Path and New Structure.** For this analysis, CBO created a transition path in which policymakers would use auctions to gradually reduce the GSEs' share of the market for new residential mortgages and then to set the federal guarantee agency's share at about 5 percent by 2024—a target consistent with minimizing the federal role in the secondary market during normal periods.<sup>50</sup> Specifically, auctions would reduce the volume of federal guarantees by 10 percent in 2019 and then by 15 percent in each of the following four years (see Figure 6). That steady decline is intended to limit the potential for disrupting the mortgage markets during the transition.

With auctions restricting access to GSE-backed mortgages, the volume of new guarantees by Fannie Mae and Freddie Mac during the 2019–2023 period would be \$2.2 trillion (or 43 percent) smaller under the illustrative transition path than it would be under current policy (\$2.9 trillion versus \$5.1 trillion), CBO projects (see Figure 2 on page 4). Federal subsidy costs for new

48. See Congressional Budget Office, *Options for Increasing Federal Income From Crude Oil and Natural Gas on Federal Lands* (April 2016), [www.cbo.gov/publication/51421](http://www.cbo.gov/publication/51421), and letter to the Honorable Dean Heller about proceeds from auctions held by the Federal Communications Commission (April 21, 2015), [www.cbo.gov/publication/50128](http://www.cbo.gov/publication/50128).

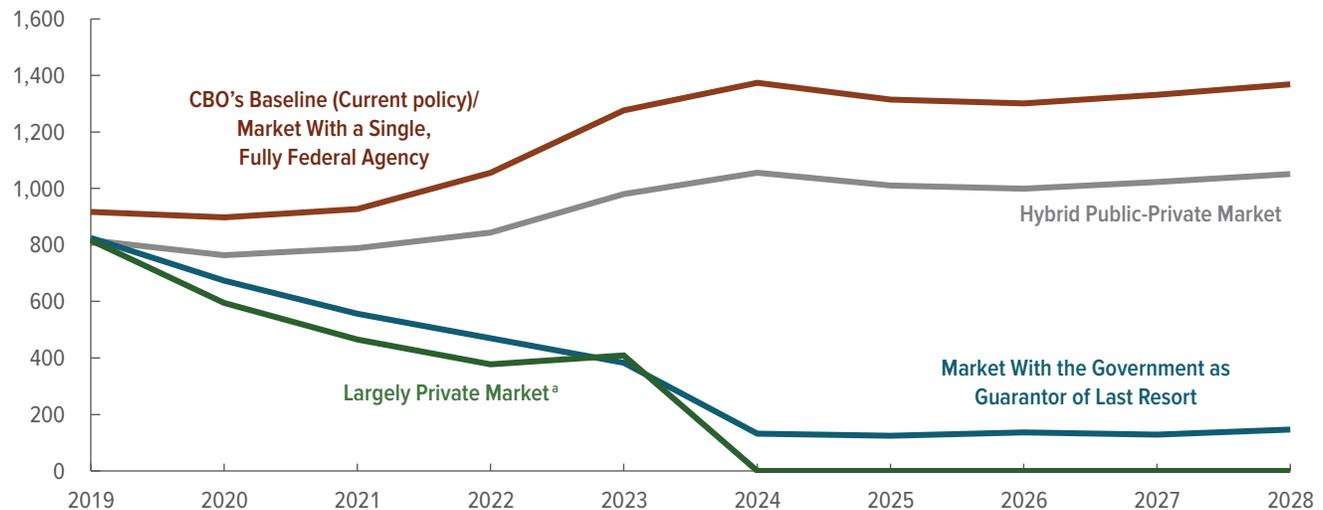
49. See Diana Hancock and Wayne Passmore, "Macroprudential Mortgage-Backed Securitization: Can It Work?" in Susan M. Wachter and Joseph Tracy, eds., *Principles of Housing Finance Reform* (University of Pennsylvania Press, 2016), pp. 68–104, [www.upenn.edu/pennpress/book/15603.html](http://www.upenn.edu/pennpress/book/15603.html).

50. Proposals for such an approach would generally limit the federal guarantee agency's market share to no more than 10 percent of the market in normal economic times. See David Scharfstein and Adi Sunderam, "The Economics of Housing Finance Reform: Privatizing, Regulating, and Backstopping Mortgage Markets," in Martin N. Bailey, ed., *The Future of Housing Finance: Restructuring the U.S. Residential Mortgage Market* (Brookings Institution Press, 2011), pp. 146–198, <http://tinyurl.com/kd5zjna>.

Figure 6.

### Annual Amount of New Federal Loan Guarantees Under Illustrative Transition Paths to Alternative Structures for the Secondary Mortgage Market, 2019–2028

Billions of Dollars



Source: Congressional Budget Office.

Excludes mortgage guarantees by the Federal Housing Administration, the Department of Veterans Affairs, and smaller federal agencies.

a. In CBO's illustrative transition path to a largely private market, more private capital is gradually attracted into the market, reducing the role played by Fannie Mae and Freddie Mac. Although Fannie Mae's and Freddie Mac's market shares would continue to fall, a projected decline in mortgage interest rates would increase the total volume of mortgage refinancing, particularly in 2023, resulting in a small increase in the amount of their loan guarantees in that year under the illustrative path.

guarantees during that five-year period would be almost \$3 billion lower, on a fair-value basis, than under current policy.

Once the new structure was in place, the volume of new federal guarantees during the 2024–2028 period would be \$6 trillion (or 90 percent) lower—and estimated federal costs for those guarantees would be \$9 billion (or 80 percent) lower—than under current policy. Federal costs would not disappear, however, because CBO's estimate accounts for the small probability of a financial crisis. Specifically, CBO estimates that there is a probability of about 1 percent to 2 percent each year of a financial crisis that would be severe enough to spill over into the rest of the economy and cause a recession.<sup>51</sup>

In normal economic periods, taxpayers would face less risk under this approach than under current policy or with a fully federal agency because the volume of federal loan guarantees would be much smaller (see Figure 5 on page 24). However, in a severe financial crisis, the federal guarantor would see a large increase in its activity. For example, if such a crisis occurred during the 2024–2028 period, the volume of federal guarantees would total \$4.3 trillion over those five years, CBO estimates, compared with \$700 billion in the absence of a crisis. In that case, both federal subsidy costs and risks to taxpayers would resemble those under the market structure with a fully federal agency. (For details about how CBO estimated costs under a scenario of economic stress, see the appendix.)

#### A Largely Private Market

Another approach for the secondary mortgage market—at the opposite end of the spectrum from control by a single, fully federal agency—would be to move to

51. That definition of a severe crisis is different from the definition of “exigent circumstances” in the Housing Finance Reform and Taxpayer Protection Act of 2014, which formed the basis for CBO's modeling of the hybrid public-private market structure.

a largely private market.<sup>52</sup> In such a market, private companies would securitize mortgages, and the only MBSs with explicit federal guarantees would be those backed by Ginnie Mae. (That entity, which is part of the Department of Housing and Urban Development, guarantees MBSs that private firms create from pools of mortgages insured by FHA, VA, and some smaller federal agencies.)

Under this approach, the government could 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 that it was continued, could be transferred to a government agency, such as FHA. The main policy changes during the transition to a largely private market would be to raise the GSEs' fees and lower their loan limits until they no longer guaranteed new mortgages.

Private firms would then form the secondary mortgage market—just as they did for private-label MBSs before the most recent financial crisis, and as they continue to do for securities backed by other types of assets (such as auto, student, and credit card loans). In times of severe distress, the government could still step in to promote liquidity in the mortgage markets. For instance, it could make FHA's guarantees available to more borrowers, or it could buy MBSs, as the Treasury and the Federal Reserve did during the most recent financial crisis. However, expanding the activities of federal agencies usually requires Congressional action.

#### Advantages and Disadvantages of the Structure.

Privatizing the secondary mortgage market would minimize the explicit credit risk borne by taxpayers (see Figure 5 on page 24). This approach would probably provide the strongest incentive for financial institutions

to be prudent in their lending and securitizing, because private investors, rather than taxpayers, would bear all losses.<sup>53</sup> An expanded private market could also ultimately increase access to mortgage financing for higher-risk borrowers who now face constraints because of the GSEs' credit standards, but that access would mean increased costs for those borrowers.

A private secondary market would also ensure that incentives to invest in housing were not distorted by having the government channel credit toward housing and underprice guarantees. (However, incentives to invest in housing would still be affected by many other aspects of government policy, especially the tax treatment of housing.) Furthermore, by increasing competition in the secondary market, privatization would be likely to reduce the market's reliance on the viability of any single firm, which could lessen the systemic risk borne by taxpayers.

Full privatization could have several drawbacks, however, including that a private secondary market would probably be significantly less liquid than a market with some federal backing, especially during periods of acute financial stress.<sup>54</sup> In addition, committing to a policy of federal nonintervention in the secondary market might not prove politically and economically sustainable if the availability of mortgages was disrupted in the future. If the private companies operating in the secondary market were seen as critical to the functioning of the mortgage finance system, some investors might underprice the risk of larger firms' MBSs and treat the firms and their securities as implicitly backed by the federal government.

**Effects of the Illustrative Transition Path and New Structure.** CBO analyzed a transition path in which policymakers would gradually reduce Fannie Mae and Freddie Mac's loan limits to zero by 2024. Specifically, the \$679,650 limit in high-cost areas would be eliminated immediately, and the remaining \$453,100 limit would be reduced by 20 percent in each of the following four years. In addition, guarantee fees would rise to

52. For examples of legislative proposals that take the privatization approach, see Congressional Budget Office, cost estimate for H.R. 2767, the Protecting American Taxpayers and Homeowners Act of 2013 (October 2013), [www.cbo.gov/publication/44672](http://www.cbo.gov/publication/44672); and House Budget Committee, *Building a Better America: A Plan for Fiscal Responsibility* (July 2017), pp. 25–26, <https://tinyurl.com/ybmdlt6> (PDF, 2.9 MB). For an example of how FHFA, as the GSEs' conservator, could take actions to achieve similar ends, see Peter J. Wallison and Edward J. Pinto, eds., *The Taxpayer Protection Housing Finance Plan: Gradually Winding Down Fannie Mae and Freddie Mac and Improving the FHA* (American Enterprise Institute, February 2018), <https://tinyurl.com/ya4kwagr> (PDF, 2.6 MB).

53. That incentive, however, did not prevent issuers of private-label MBSs from securitizing the riskiest, least well underwritten, and most poorly documented mortgages in the run-up to the 2008 financial crisis. Those MBSs had much greater credit losses during the crisis than MBSs guaranteed by the GSEs did.

54. The Protecting American Taxpayers and Homeowners Act of 2013 (H.R. 2767) addressed that drawback by allowing FHA to expand its role in the market during a crisis, which would lessen the disruption in credit.

60 basis points through 2023, the end of the transition period. Those policy changes would cause the volume of new GSE guarantees to be \$2.4 trillion (or 47 percent) lower over the 2019–2023 period than it would be under current policy and would reduce federal subsidy costs for those guarantees by \$7 billion, CBO estimates (see Figure 2 on page 4).

Once the market was fully privatized, no new federal guarantees would be made, whereas under current policy, CBO projects that \$6.7 trillion in GSE guarantees would be made during the 2024–2028 period. No further subsidy costs would be incurred, so savings during that period (on a fair-value basis) would total \$11 billion. Taxpayers would bear no explicit credit risk under a largely private market, although they would be exposed to some risk that the government would feel compelled to intervene in the market during a future crisis.

### Effects on Borrowers, the Housing Market, and FHA

The new structures for the secondary mortgage market would affect mortgage borrowers, the housing market, and the mortgage guarantee operations of the Federal Housing Administration (see Table 6). Those effects would vary depending on the reduction in federal subsidies for the secondary mortgage market, the degree of the market's reliance on the private sector, and the speed of the transition.

#### Effects on Borrowers and the Housing Market

The market structures that CBO examined, other than the fully federal approach, would lead to small increases in mortgage interest rates. However, those increases would probably not have much impact on home prices (unless a financial crisis occurred in a largely private market). Long-term fixed-rate mortgages—the most common type of home loan today—would still be available under the alternative structures, but the extent of their availability would depend mainly on the size and liquidity of the securitization market. Investment in housing would decline slightly under market structures that reduced federal subsidies. Such a decline would go a small way toward reducing the overallocation of capital to housing that results from the current system.

**Interest Rates and Home Prices.** If policymakers implemented a new approach that was more reliant on private capital than the current secondary market, borrowers would probably face somewhat higher interest rates on

mortgages. Rates would rise because federal subsidies would be smaller and because firms would charge market rates for the risks they bore. That increase in mortgage interest rates would slow the growth of home prices slightly.

However, the rise in interest rates from restructuring the secondary market would probably be smaller than the fluctuations in rates that typically occur during a year. For example, CBO estimates that over the 2024–2028 period, borrowers' interest rates on mortgages would be 10 basis points to 20 basis points higher, on average, under a hybrid public-private structure than under current policy.<sup>55</sup> By comparison, the average rate on 30-year fixed-rate mortgages rose by more than 70 basis points during the past year (from 3.91 percent on June 15, 2017, to 4.62 percent on June 14, 2018).<sup>56</sup>

Greater reliance on private capital would have only modest effects on mortgage interest rates for two main reasons. First, the guarantee fees that the GSEs currently charge the average borrower are close to the fees that private guarantors would charge. (As a result, fair-value estimates of federal subsidy rates for the GSEs' guarantees are near zero.) Second, providing a potentially unlimited amount of federal guarantees (rather than the current limit of \$254 billion in losses on federal guarantees) and introducing standardized MBSs (as FHFA is pursuing) would increase the liquidity of the secondary market and slightly reduce interest rates. That slight reduction could offset increases in interest rates stemming from a modest rise in federal guarantee fees imposed to fund affordable-housing programs currently assisted by the GSEs.<sup>57</sup>

55. See Congressional Budget Office, cost estimate for S. 1217, the Housing Finance Reform and Taxpayer Protection Act of 2014 (September 5, 2014), p. 5, [www.cbo.gov/publication/45687](http://www.cbo.gov/publication/45687). Other analysts have generally estimated that changes to the secondary market would have larger effects on mortgage interest rates. See, for example, Jim Parrott and others, *A More Promising Road to GSE Reform* (Moody's Analytics, March 2016), p. 8, <https://tinyurl.com/y7czj9ao> (PDF, 153 KB); and Laurie S. Goodman and Jun Zhu, *The GSE Reform Debate: How Much Capital Is Enough?* (Urban Institute Housing Finance Policy Center, October 24, 2013), <https://tinyurl.com/yb2guhqt> (PDF, 732 KB).

56. See Freddie Mac, "Mortgage Rates Back on the Rise" (press release, June 14, 2018), <https://tinyurl.com/yakpzwfr>.

57. See Congressional Budget Office, cost estimate for S. 1217, the Housing Finance Reform and Taxpayer Protection Act of 2014 (September 5, 2014), p. 5, [www.cbo.gov/publication/45687](http://www.cbo.gov/publication/45687).

Table 6.

### How Alternative Structures for the Secondary Mortgage Market Would Affect the Mortgage and Housing Markets

	Market With a Single, Fully Federal Agency	Hybrid Public-Private Market	Market With the Government as Guarantor of Last Resort	Largely Private Market
Interest Rates for Most Mortgage Borrowers	Small decrease because of enhanced federal guarantee and liquidity of the secondary market	Small increase	Small increase	Small increase under normal economic conditions; large increase during a financial crisis
Home Prices	Not noticeably affected	Slight decrease	Slight decrease	Slight decrease under normal economic conditions; large decline possible during a financial crisis
Availability of 30-Year Fixed-Rate Mortgages	Not affected	Not affected	Widely available when the securitization market is liquid or when the government steps in during a financial crisis; susceptible to disruptions if the government responds slowly in a crisis	Widely available when the securitization market is liquid; probably disrupted when that market is frozen during a financial crisis
Investment in Housing	Not affected (underpricing of risk would persist, continuing the current overallocation of capital toward housing)	Very small decrease because underpricing of risk would decline	Small decrease because risk would be appropriately priced, except during a financial crisis	Small decrease because risk would be appropriately priced
Volume of Loans Insured by FHA <sup>a</sup>	Not affected	Small increase	Large increase	Large increase

Source: Congressional Budget Office.

These effects are relative to CBO's projection of outcomes during the 2019–2028 period under current policy.

a. For this analysis, CBO assumed that the Federal Housing Administration (FHA) would continue to operate as it does under current policy.

Increases in mortgage interest rates would cause home prices to rise more slowly than they would under current policy. The downward pressure on home prices would probably be modest in most periods because home prices are not very sensitive to small increases in interest rates. During a financial crisis, however, borrowers could face significant constraints on the availability of mortgages and bigger increases in interest rates; in a largely private secondary market, those changes could lead to sizable declines in home prices because of the lack of explicit federal guarantees.

**Availability of 30-Year Fixed-Rate Mortgages.** Currently, most newly originated mortgages are fixed-rate loans that must be paid off within 30 years.<sup>58</sup> The availability of such mortgages under an alternative approach would depend mainly on the robustness of the securitization

58. In recent years, between 80 percent and 90 percent of residential mortgages were issued at fixed rates, and most were for a 30-year period. See Laurie Goodman and others, *Housing Finance at a Glance: A Monthly Chartbook* (Urban Institute, May 2018), p. 9, <https://tinyurl.com/yblx2j77>.

market. As long as that market was large and liquid, lenders would probably continue to make 30-year fixed-rate mortgages widely available, whether or not the market had government backing.<sup>59</sup> Therefore, such mortgages would probably remain prevalent with either a single, fully federal guarantor or a hybrid public-private secondary market. However, in a largely private secondary market or one in which the government acted only as guarantor of last resort, the size and liquidity of the securitization market—and thus the availability of long-term fixed-rate mortgages—would depend on the condition of the private securitization market.

Banks are more likely to originate 30-year fixed-rate mortgages when those loans can be sold to securitizers, thus removing the credit, interest rate, and prepayment risk on those loans from banks' balance sheets.<sup>60</sup> (Big banks can also securitize mortgages that they originate.) During the most recent financial crisis, disruptions in private securitization caused originations of fixed-rate mortgages to decline. If that happened again, 30-year fixed-rate mortgages would probably carry higher interest rates and be more susceptible to disruptions in supply under a guarantor-of-last-resort or a largely private market structure than under the other two structures.

Borrowers' current preference for 30-year fixed-rate loans may have stemmed in part from the government's efforts to make the secondary market more liquid, which has tended to subsidize those mortgages more than other types. Although 30-year fixed-rate loans have predictable payment schedules, borrowers pay more for them than they would for less predictable, adjustable-rate mortgages. Some borrowers might be better off with home loans that had different risk-sharing provisions than fixed-rate mortgages. For example, the contract rigidity of 30-year fixed-rate loans contributed to costly foreclosures during the financial crisis. New mortgage designs that would allow homeowners to accumulate home equity more quickly or to automatically benefit from a

drop in interest rates might reduce future financial distress and risk to taxpayers.<sup>61</sup>

**Investment in Housing.** Federal subsidies for mortgage guarantees lead to the underpricing of mortgage risk. As a result, they cause more of the economy's capital to be directed to housing than might otherwise be the case. In particular, federal subsidies shift some investment toward housing that might otherwise go toward business equipment and structures that increase workers' productivity. (However, the tax treatment of home ownership provides much larger federal subsidies than the GSEs' guarantees do.) Overinvestment in housing contributed to foreclosures during the financial crisis, which proved costly to taxpayers and the economy.

Some advocates of federal subsidies maintain that home ownership is worth encouraging because it gives households a greater stake in their community and makes communities more stable.<sup>62</sup> For example, neighborhoods with a higher concentration of homeowners are thought to be better maintained and have lower crime rates than neighborhoods with fewer homeowners.

Of the four alternative structures that CBO analyzed, a largely private secondary market or one with the government acting as guarantor of last resort would cause the biggest reductions in federal subsidies and thus the

59. See Andreas Fuster and James Vickery, *Securitization and the Fixed-Rate Mortgage*, Staff Report 594 (Federal Reserve Bank of New York, January 2013), <http://tinyurl.com/mjxq4d6>.

60. Under certain conditions, particularly with private-label securitization, banks may be required to buy back nonperforming loans from the issuer of the MBSs or to hold some of the credit risk of those loans on their balance sheets.

61. See Wayne Passmore and Alexander H. von Hafften, *Financing Affordable and Sustainable Homeownership With Fixed-COFI Mortgages*, Finance and Economics Discussion Series Paper 2018-009 (Board of Governors of the Federal Reserve System, January 2018), [www.federalreserve.gov/econres/feds/files/2018009pap.pdf](http://www.federalreserve.gov/econres/feds/files/2018009pap.pdf) (KB 652); Wayne Passmore and Alexander H. von Hafften, *Improving the 30-Year Fixed-Rate Mortgage*, Finance and Economics Discussion Series Paper 2017-090 (Board of Governors of the Federal Reserve System, August 2017), [www.federalreserve.gov/econres/feds/files/2017090pap.pdf](http://www.federalreserve.gov/econres/feds/files/2017090pap.pdf) (762 KB); and Tomasz Piskorski and Amit Seru, "Mortgage Market Design: Lessons From the Great Recession," *Brookings Papers on Economic Activity* (Spring 2018), <https://tinyurl.com/ycpzva4v>.

62. For a review of the literature on the possible positive social benefits associated with housing, as well as arguments for a public role in housing, see Edward L. Glaeser and Joseph Gyourko, *Rethinking Federal Housing Policy: How to Make Housing Plentiful and Affordable* (American Enterprise Institute, December 2008), pp. 48–57, [www.aei.org/press/rethinking-federal-housing-policy](http://www.aei.org/press/rethinking-federal-housing-policy). Also 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, [www.jstor.org/stable/4123109](http://www.jstor.org/stable/4123109).

greatest reductions in housing investment (shifting capital away from housing and toward other investments). Those reductions would probably be relatively small, however, because the increases in interest rates under those market structures are expected to be modest. The reduction in housing investment would be even smaller under a hybrid public-private system. A transition to a secondary market dominated by a single, fully federal agency would have little effect on investment in housing because federal subsidies for mortgage guarantees would be largely unchanged.

### Effects on the Federal Housing Administration

The transition paths and new market structures that include more private capital would reduce the government's exposure to credit risk on guarantees made by the GSEs or successor agencies. However, some of the borrowers who would have taken out GSE-backed mortgages under current policy would turn to loans insured by FHA (or other government agencies) instead of privately insured loans. FHA-backed mortgages might be more appealing to them than privately insured mortgages if FHA charged lower interest rates or if FHA's credit standards were lower than those of private lenders and mortgage insurers, who might deny access to relatively risky borrowers.

**Increases in FHA Guarantees.** FHA insures certain mortgages made to borrowers who do not have a large enough down payment or income, or a good enough credit history, to qualify for private mortgage insurance. Thus, the borrowers most likely to secure FHA-backed mortgages rather than privately backed loans would be the riskiest ones—those who had relatively low credit scores or who could not meet the private market's requirement for a 10 percent or 20 percent down payment.

Borrowers who could make such a down payment would have little incentive to switch to FHA-backed mortgages because, unlike fees in the private market, FHA's fees do not vary significantly with the size of a borrower's down payment and do not vary at all with a borrower's credit score.<sup>63</sup> As a result, in CBO's assessment, the fees that less risky borrowers would face from FHA would be higher than those charged by Fannie Mae, Freddie Mac,

or private mortgage insurers under current policy or any of the alternative structures.<sup>64</sup>

CBO projects that under current policy or the market with a fully federal agency, FHA would guarantee a total of \$2.7 trillion in single-family mortgages during the 2019–2028 period. Under the largely private market and the one in which the government served as guarantor of last resort, about \$1 trillion (or more than 10 percent) of the mortgage guarantees that would no longer be made by the GSEs would shift to FHA, CBO estimates. (Because Ginnie Mae backs almost all mortgages insured by FHA, Ginnie Mae's volume of guarantees would rise by a similar amount.) Such a shift would increase the size of FHA's mortgage insurance program by nearly 40 percent. That estimate is uncertain and could vary by several percentage points in either direction because it depends on the private sector's tolerance for the risks posed by borrowers with relatively low credit scores or down payments of 10 percent or less. The extent to which borrowers could increase their down payments is another source of uncertainty.

With the hybrid public-private market, a much smaller percentage of borrowers would shift to FHA, because under that approach, most of the borrowers who would forgo federally backed mortgages would do so to get a better interest rate in the private market. Moreover, far fewer borrowers would lose access to federal guarantees under the hybrid approach than under the market with the government as guarantor of last resort or the largely private market. CBO estimates that FHA's volume of loan guarantees would rise by almost \$100 billion (or 4 percent) during the 2019–2028 period under the hybrid approach.

**Budgetary Effects.** When a borrower switches from a mortgage backed by Fannie Mae or Freddie Mac to one guaranteed by FHA, the government's costs are affected. Although its exposure to credit risk is the same, the government collects higher fees on FHA-insured loans. Thus, if everything else remains the same, such a switch appears to lower the government's net costs.

63. FHA's fees are slightly lower for borrowers who make 5 percent down payments rather than 3.5 percent down payments, but its fees do not decline for down payments of more than 5 percent.

64. For a recent comparison of mortgage fees, see Bing Bai and Laurie Goodman, "The Private Mortgage Insurance Price Reduction Will Pull High-Quality Borrowers From FHA," *Urban Wire: Housing and Housing Finance* (blog entry, Urban Institute, May 2, 2016), <https://tinyurl.com/ycyfbq4e>.

Estimates of the government's subsidy costs on FHA guarantees are reported on a FCRA basis, which requires discounting expected cash flows using interest rates on Treasury securities. Under FCRA accounting, FHA's single-family loan guarantees are recorded in the budget as having a negative subsidy cost. If lawmakers approved a larger amount of loan guarantees by FHA, and borrowers sought out those guarantees, the additional loans would generate greater estimated budgetary savings.

On a fair-value basis, by contrast, CBO estimates that FHA's single-family loan guarantees typically have a positive subsidy cost—reflecting the amount that the government would need to pay private entities to assume the receipts and obligations of those guarantees.<sup>65</sup> Thus,

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65. See Congressional Budget Office, *Budgetary Estimates for the Single-Family Mortgage Guarantee Program of the Federal Housing Administration* (September 2014), [www.cbo.gov/publication/45740](http://www.cbo.gov/publication/45740); Francesca Castelli and others, *Modeling the Budgetary Costs of FHA's Single-Family Mortgage Insurance*,

if fair-value accounting was used for FHA, the shift in loan guarantees from the GSEs to FHA would boost subsidy costs for that agency and would reduce the savings estimated for the illustrative transition paths (under the assumption that lawmakers would keep appropriations for FHA consistent with the expected increase in demand for its guarantees). If cost estimates for a legislative proposal affecting FHA were prepared on a FCRA basis, CBO would provide measures calculated on a fair-value basis as supplemental information.

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Working Paper 2014-05 (Congressional Budget Office, September 11, 2014), [www.cbo.gov/publication/45711](http://www.cbo.gov/publication/45711); Congressional Budget Office, "FHA's Single-Family Mortgage Guarantee Program: Budgetary Cost or Savings?" *CBO Blog* (October 21, 2013), [www.cbo.gov/publication/44628](http://www.cbo.gov/publication/44628), and *Accounting for FHA's Single-Family Mortgage Insurance Program on a Fair-Value Basis* (attachment to a letter to the Honorable Paul Ryan, May 18, 2011), [www.cbo.gov/publication/41445](http://www.cbo.gov/publication/41445).



## Appendix: Federal Subsidy Costs in a Stress Scenario

Unless the secondary mortgage market is completely privatized, the federal government will continue to explicitly guarantee some volume of mortgage-backed securities. Estimates of federal subsidy costs for those guarantees could be higher or lower than initially projected because of unexpected changes in the risky cash flows of the loans being guaranteed. Like other mortgage insurers, the government is exposed to the risk of higher-than-expected losses mainly because of credit risk, which stems from its obligation to repay the mortgage holder when a borrower defaults. The credit risk of a mortgage results from the possibility that the amount recovered after a default (by, for instance, selling the property) will not be sufficient to repay the balance of the loan.

An increasingly common approach to measuring risk exposure is to use stress tests—simulations that provide estimates of losses under adverse economic conditions. From the perspective of federal budgeting, stress-test scenarios tied to adverse economic conditions have the desirable trait of drawing attention to outcomes that can occur when the pressure on federal spending and revenues is likely to be greatest. But a limitation of stress tests is that they depend on specific economic scenarios that provide little guidance about the likelihood of the estimated losses. (The Congressional Budget Office estimates that there is an average probability of 1 percent to 2 percent that a financial crisis significant enough to push the economy into a recession will occur in any given year.)

To illustrate how economic stress would affect the estimates in this analysis, CBO estimated federal subsidy costs under two of the illustrative structures—a secondary market dominated by a single, fully federal agency and a market with the government as guarantor of last resort—in a stress scenario. The scenario that CBO used resembles the “severely adverse” stress scenario that

the Federal Reserve uses in its Comprehensive Capital Analysis and Review (CCAR) exercise for banks. That scenario features a severe recession and heightened financial distress, along with a decline of 25 percent in home prices and an unemployment rate rising to 10 percent.<sup>1</sup> The CCAR scenario begins in 2017, but CBO’s stress scenario starts in 2023 and continues through 2026 in order to capture effects on the secondary market after the illustrative transition to a new structure.

In such a crisis, the government’s subsidy costs (estimated on a fair-value basis) would increase under any market structure that included federal guarantees, and the volume of new federal guarantees would be close to the level projected to occur under current policy.<sup>2</sup> Under the two illustrative structures that CBO included in its stress test, federal costs would be roughly \$40 billion higher over the 2019–2028 period on a fair-value basis under the stress scenario than under CBO’s baseline macroeconomic forecast (see Table A-1).

With those economic stresses, federal subsidy costs for new cohorts of mortgage guarantees over the 2019–2028 period would total \$60 billion in the fully federal market and \$46 billion in the market with the government as guarantor of last resort, CBO estimates. Those costs differ mainly because if the government served as guarantor of last resort, it would be less exposed to losses on cohorts issued before the crisis, when it would be

1. For more details, see Board of Governors of the Federal Reserve System, *2017 Supervisory Scenarios for Annual Stress Tests Required Under the Dodd-Frank Act Stress Testing Rules and the Capital Plan Rule* (February 2017), pp. 5–6, <http://tinyurl.com/yclyaxfk> (PDF, 331 KB).
2. For the stress scenario, CBO did not adjust its estimate of the premium that private investors would require to bear market risk. If that risk premium rose, so would the government’s costs.

Table A-1.

**Federal Subsidy Costs for New Cohorts of Guarantees in a Stress Scenario, 2019–2028**

Billions of Dollars

	Transition, 2019–2023	New Structure, 2024–2028	Total, 2019–2028
<b>Market With a Single, Fully Federal Agency</b>			
Subsidy Costs Under CBO's Baseline Macroeconomic Forecast	8.0	11.1	19.0
Subsidy Costs Under a Scenario of Economic Stress	42.6	17.6	60.2
<b>Difference</b>	<b>34.7</b>	<b>6.5</b>	<b>41.2</b>
<b>Market With the Government as Guarantor of Last Resort</b>			
Subsidy Costs Under CBO's Baseline Macroeconomic Forecast	5.2	2.2	7.4
Subsidy Costs Under a Scenario of Economic Stress	35.1	10.8	46.0
<b>Difference</b>	<b>29.9</b>	<b>8.7</b>	<b>38.6</b>

Source: Congressional Budget Office.

The numbers shown here are fair-value estimates. CBO accounts for the costs of Fannie Mae's and Freddie Mac's activities (and, in this report, the activities of any new federal guarantor) on a fair-value basis, in which estimated costs represent the price that the federal government would need to pay a private mortgage insurer to make loan guarantees on the same terms as those government guarantors. Such fair-value estimates incorporate a premium for market risk—the additional compensation that private investors would demand to invest in risk assets such as mortgages. As a result, fair-value estimates provide a more comprehensive measure of the costs of federal loan guarantees than do projections of the net cash costs associated with the guarantees.

The economic stress scenario was designed to be consistent with the “severely adverse” stress scenario that the Federal Reserve uses in its Comprehensive Capital Analysis and Review exercise for banks. The scenario features a decline of 25 percent in home prices and an unemployment rate rising to 10 percent. In CBO's scenario, the economic stress is assumed to start in 2023 and continue through 2026. In the market in which the government is serving as guarantor of last resort, the government stops auctioning guarantees in 2024 and begins again in 2027.

In the market with a single, fully federal agency, the government's volume of loan guarantees is the same under the baseline forecast and the stress scenario. In the market with the government as guarantor of last resort, the volume of government loan guarantees is \$3.6 trillion higher over the 2024–2028 period in the stress scenario than under the baseline forecast (\$4.3 trillion versus \$700 billion).

guaranteeing only a small amount of mortgages.<sup>3</sup> The cohort of loans guaranteed just before the crisis would probably suffer the highest default rates because those mortgages have the greatest exposure to the decline in home prices.

3. During the crisis, both of those structures would have similar exposure to the losses, and thus costs, of the cohorts of guarantees made from 2024 to 2026. Over the entire 2019–2028 period, however, the government would incur greater costs in a fully federal market because of the higher volume of federal guarantees made from 2021 to 2023. CBO's estimates reflect the losses that the precrisis cohorts would incur during a crisis. Those losses are calculated as the difference between the subsidy cost under CBO's baseline macroeconomic forecast and the subsidy cost under the stress scenario.

The volume of new federal loan guarantees would be unaffected by the economic stress scenario in a market controlled by a single, fully federal agency. That volume would remain at a total of \$6.7 trillion over the 2024–2028 period (the first five years after the new structure is assumed to be in place), CBO estimates. In the market with the government as guarantor of last resort, however, the volume of new federal guarantees would rise considerably under the stress scenario—totaling \$4.3 trillion over those five years, compared with an estimated \$700 billion under baseline macroeconomic conditions. That increased volume would not reach the level projected for the fully federal market because, as the guarantor of last resort, the government would curtail its guarantee operations considerably in 2027 after the economic stress

abated. (Under both of those illustrative structures, the market for new credit-risk-transfer transactions—in which federal guarantors share some of the risk of mortgages with private investors—would be frozen in the stress scenario.)

Under a hybrid public-private market with limited federal guarantees, risks and costs to the government could be lower than under those other two structures, depending on capital requirements for private guarantors during the crisis. Estimated federal subsidy costs would be somewhat lower for new guarantees in the crisis period as long as private guarantors were still bearing some losses. In the illustrative hybrid market that CBO analyzed,

which features countercyclical capital requirements, private guarantors would be holding capital equal to as little as 1 percent of assets during the crisis, compared with as much as 10 percent in normal periods (for more details, see Box 2 on page 21). Moreover, because of credit-risk-transfer transactions, private investors would be bearing a significant share of the losses on outstanding mortgages.<sup>4</sup>

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4. For more information about such transactions, see Congressional Budget Office, *Transferring Credit Risk on Mortgages Guaranteed by Fannie Mae or Freddie Mac* (December 2017), [www.cbo.gov/publication/53380](http://www.cbo.gov/publication/53380).



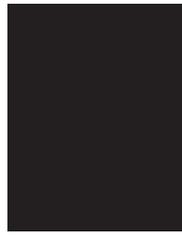
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## About This Document

This report was prepared at the request of the Chairman of the House Committee on Financial Services. In keeping with the Congressional Budget Office's mandate to provide objective, impartial analysis, the report makes no recommendations.

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CBO continually seeks feedback to make its work as useful as possible. Please send any feedback to [communications@cbo.gov](mailto:communications@cbo.gov).

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