Introduction to the Issue

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> *While the vulnerabilities that created the potential for crisis were years in the making, it was the collapse of the housing bubble—fueled by low interest rates, easy and available credit, scant regulation, and toxic mortgages—that was the spark that ignited a string of events, which led to a full-blown crisis in the fall of 2008.*
> – Financial Crisis Inquiry Commission (2011)

A decade after the financial crisis, the U.S. mortgage finance system remains largely untouched by legislative reforms. Policy deliberations have focused on Fannie Mae and Freddie Mac—the two enormous government-sponsored enterprises (GSEs) that were placed into federal conservatorship in September 2008. The conservatorships were initially thought of as a temporary arrangement during which U.S. mortgage markets could be stabilized and function as intended, while providing time for Congress to consider the appropriate long-term federal role in the secondary mortgage market. To date, however, legislators have yet to resolve some basic issues: Should government guarantees continue to be available for a large swath of loans? If so, what types of institutions should have direct access to guarantees and how would their access be facilitated and regulated?

This special issue of the Federal Reserve Bank of New York's *Economic Policy Review* presents a set of articles that developed from presentations given at "The Workshop on the Appropriate Government Role in U.S. Mortgage Markets," held at the Bank on April 27-28, 2017. The workshop was organized in association with the Board of Governors, the Federal Reserve Bank of Atlanta, the Anderson School of Management at the University of California–Los Angeles, and the Wharton School of the University of Pennsylvania. We emphasize at the outset that the opinions expressed in the articles are those of the authors and do not necessarily reflect the views of any of the organizing institutions. In this introduction, we provide some context for the workshop and highlight the articles' key findings.

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1. Overview of the U.S. Mortgage Finance System

The U.S. residential mortgage market is principally financed by capital markets with significant support from the federal government. Mortgage origination is dominated by depository institutions and certain nonbank financial institutions ("mortgage banks"). Given their access to federally insured deposits, depository institutions have a funding advantage relative to mortgage banks. Hence, depository institutions choose whether to hold on their balance sheets the mortgages they originate or to sell them into the secondary market. In contrast, mortgage banks transfer virtually all of their loan production to the secondary market. The secondary mortgage market, which operates principally through securitization, is segmented into three parts on the basis of borrower and loan characteristics: government, conventional conforming, and conventional non-conforming.

The "government market" refers to loans carrying mortgage insurance provided by the Federal Housing Administration (FHA), the Department of Veterans Affairs (VA), or the Rural Housing Service (RHS). These programs are generally targeted toward first-time buyers and households with low to moderate incomes and/or weaker credit profiles. Virtually all government-insured mortgages are subsequently securitized through the Government National Mortgage Association ("Ginnie Mae"), which is an agency within the U.S. Department of Housing and Urban Development (HUD) created for this sole purpose. Ginnie Mae mortgage-backed securities (MBS) carry an explicit U.S. government guarantee of the timely payment of all principal and interest.

Conventional conforming mortgages are those eligible to be purchased or securitized by either the Federal National Mortgage Association ("Fannie Mae") or the Federal Home Loan Mortgage Corporation ("Freddie Mac"). These two government-sponsored enterprises (GSEs) were created by the U.S. Congress, and their charters include several unique provisions that, coupled with past government actions, have long created strong investor perceptions that their obligations are implicitly guaranteed by the U.S. government. These perceptions strengthened further after the two firms were placed into federal conservatorship in 2008—an issue we discuss below.

A "conventional" mortgage is simply any non-government mortgage, while "conforming" relates to the loan's eligibility for sale to Fannie Mae or Freddie Mac. For a conventional mortgage to also be conforming, it must meet several criteria. The first is that the loan balance must not exceed the conforming loan size limit set by the federal government, which today in most parts of the country is $453,100 for single-family residences. Another criterion is that the GSEs may purchase only those mortgages that have a down payment of at least 20 percent, or that maintain an equivalent credit enhancement like private mortgage insurance. The two GSEs otherwise define their own underwriting standards in terms of acceptable credit scores, debt-to-income ratios, and documentation. Like Ginnie Mae, Fannie Mae and Freddie Mac each provide guarantees of timely principal and interest payments on the mortgage-backed securities that they issue; and their ability to do this successfully rests on their special relationship with the U.S. government. Collectively, the mortgage-backed securities issued and guaranteed by Ginnie Mae, Fannie Mae, and Freddie Mac are often referred to as "agency MBS".

The conventional non-conforming residential mortgage market is largely composed of loans that exceed the conforming loan limit—referred to as "jumbo mortgages." Given the absence of available government guarantees in the secondary market for non-conforming mortgages, many jumbo mortgages are held in portfolio by depository institutions. However, when securitized privately, the structure is generally like that of other consumer credit products: In this case, lenders work with an investment bank to create a set of securities backed by a loan pool—with security cash flows structured and prioritized for different investor classes.

2. Fannie Mae and Freddie Mac

Fannie Mae and Freddie Mac are publicly held financial institutions that were created by Acts of Congress to fulfill a public mission: that is, to enhance the liquidity and stability of the U.S. secondary mortgage market and thereby promote access to mortgage credit, particularly among low- and moderate-income households and neighborhoods. Their federal charters provide important competitive advantages, including (1) exemptions from state and local taxes, (2) lines of credit up to $2.25 billion with the U.S. Treasury, (3) the ability to issue "government securities" as defined by the Securities Exchange Act of 1934, and (4) the use of the Federal Reserve as their fiscal agent. These charter benefits, coupled with past government actions to assist the GSEs when they were financially stressed, have long created the investor perception that U.S. taxpayers stand behind GSE financial obligations.

Fannie Mae and Freddie Mac's activities take two broad forms. First, their "credit guarantee" business involves the creation of agency MBS by purchasing a pool of conforming mortgages from originators and then issuing a security that receives cash flows from the mortgage pool.[1] The GSEs promise investors timely payments of principal and interest, even if there are defaults and losses on the underlying loans. In return for this guarantee, the firms receive for each mortgage a monthly "guarantee fee," which is effectively an insurance premium. Second, the firms' "portfolio investment" business involves holding assets on their own balance sheets (for example, agency MBS and whole mortgages) that are largely financed by issuing agency debt. The two firms have historically been highly leveraged, with book equity typically below 2 percent of total assets plus off-balance-sheet guarantees in the decade before the financial crisis.

In 2008, as the U.S. housing crisis intensified, Fannie Mae and Freddie Mac became financially distressed. Congress initially responded by passing in July of 2008 the Housing and Economic Recovery Act (HERA), which created a new safety-and-soundness framework for the GSEs and gave the U.S. Treasury unlimited, but temporary, investment authority in the two firms. Less than two months later, on September 6, their new regulator, the Federal Housing Finance Agency (FHFA), placed Fannie Mae and Freddie Mac into conservatorship, taking control of the two firms in an effort to support the provision of mortgage credit, curtail any financial contagion, and conserve the firms' value.[2] Concurrently, the Treasury entered into senior preferred stock purchase agreements with each GSE to ensure that they maintained positive net worth going forward.[3] The agreements also required Fannie Mae and Freddie Mac to steadily shrink their portfolio investment businesses. Ultimately, U.S. taxpayers injected $187.5 billion into the two firms. Frame, Fuster, Tracy, and Vickery (2015) provide a detailed discussion and analysis of the federal rescue of Fannie Mae and Freddie Mac.

3. Housing Finance Reform and the Articles in This Issue

Although the GSE conservatorship, at its advent, was described by Treasury Secretary Henry Paulson as a "time out," it has continued for almost a decade. Legislative reform of housing finance has proved to date to be elusive, in part because of a lack of consensus on the issue of the appropriate role of the government in mortgage finance. Nonetheless, as this debate has persisted, there has been some convergence around the idea of replacing the earlier implicit government guarantee for Fannie Mae and Freddie Mac with an explicit guarantee for MBS issued by one or more secondary market guarantors. But existing proposals still differ significantly in their vision for the future industrial organization of mortgage finance, the universe of loans eligible for government-sponsored securitization, the role and amount of private capital, and the mechanism to best support affordable housing initiatives.

The 2017 workshop at the Federal Reserve Bank of New York included presentations related to all of these issues. The articles gathered in this volume, each based on a presentation, can be seen as contributing to the discussion of four broad topics: (1) the use of explicit government guarantees, (2) the structure of secondary market institutions, (3) the sourcing of private capital through credit risk transfer, and (4) affordable housing and program evaluation.

3.1 Explicit Government Guarantees

The economic policy rationale for Fannie Mae and Freddie Mac specifically, and for the government role in mortgage finance generally, has evolved over the years. For much of their history, the GSEs helped to facilitate nationally integrated mortgage markets and geographic diversification of housing risk, a shift from earlier periods when mortgage finance was a largely local enterprise. Deregulation and advances in information technology slowly eroded this rationale going forward, as many banks and finance companies began to operate nationwide. During the 1990s and up until the financial crisis, Fannie Mae and Freddie Mac came to be viewed more as a mechanism to support the thirty-year fixed-rate mortgage, to deliver modest interest rate subsidies to borrowers, and to support homeownership for a broader set of households. However, studies showed that the GSEs had only modest effects on mortgage rates (less than 25 basis points); and likely no effect on homeownership rates. In the post-crisis environment, institutional structures like Fannie Mae and Freddie Mac are now principally evaluated in terms of their ability to maintain financial stability generally, and to ensure mortgage credit availability with reduced mortgage rate volatility during periods of market stress. Many argue that a requisite feature of these institutional structures is an explicit government guarantee for agency MBS.

First principles would suggest, however, that government guarantees for agency MBS are unnecessary and create macroeconomic distortions. However, by including political economy considerations in the mix, it is quite reasonable to ask whether the government will absorb housing finance tail risk ex post regardless of the ex ante structure. Put differently, governments may choose not to stand on the sidelines, recognizing that the health of the housing market is important to the overall economy and that housing market collapses can adversely affect many voters. If this is the case, then the government owns the tail risk in housing finance and may as well make it explicit. In exchange for agency MBS guarantees, government policy could be reshaped to (1) establish strict and transparent underwriting standards to limit the frequency and severity of losses being borne by the public, (2) define the boundaries of any public sector exposure and how the government will intervene ex ante; (3) formulate transparent and credible exit plans for any government intervention during times of extremis and to resolve private sector insolvencies that arise ex post; and (4) collect ex ante premiums from market participants to reasonably compensate taxpayers for providing the insurance.

In the first article in the volume, Passmore and von Hafften (2018) discuss how the implicit guarantee underlying GSE debt and mortgage-backed securities was politically useful insofar as it allowed Congress to sponsor a program without the attendant costs being recognized in the federal budget.[4] Over time, GSE management leveraged this guarantee to maximize shareholder and management returns. Their balance sheets expanded to the point that institutional failure was almost certain to require government assistance to maintain credit availability. Hence, taxpayers were holding the catastrophic risk related to a national housing market collapse without receiving ex ante any compensation for their backstop. Passmore and van Hafften argue that moving to an explicit guarantee would allow the government to better control the scope and pricing of any assistance up front.[5] They also note that, for mortgages with low down payments, financial stability would be enhanced by a shift to products that build up equity faster than the thirty-year fixed-rate mortgage.

The article by Passmore and Sherlund also touches on the differences between explicit and implicit government guarantees by discussing the roles of the FHA/VA mortgage insurance and the GSEs as countercyclical mortgage policies. The authors describe the results of an empirical analysis (detailed in their recent working paper, Passmore and Sherlund [2016]) that examines the relationship between county-level federal mortgage program participation and a variety of local economic outcomes (for example, mortgage delinquency rates, unemployment rates, and home prices). Their research suggests that greater pre-crisis program participation was associated with better post-crisis outcomes, but that in this regard FHA/VA lending was even more effective than GSE lending. The authors link their findings to housing finance reform—specifically, the benefit of having the government act as an insurer of catastrophic mortgage credit risk.

Ambrose and Yuan discuss how the federal government should think about pricing catastrophic mortgage insurance in the context of its broader portfolio of credit programs. The authors develop a method for estimating the government's overall programmatic exposure that recognizes the covariance across its guarantee programs. A key point is that the capital reserve that the government must hold to cover aggregate losses can be lower than the sum of the capital reserves appropriate for each separate guarantee program. Taking into account that individual program losses are not perfectly correlated allows for a lower pricing of each guarantee. In the context of Fannie Mae and Freddie Mac, the authors present evidence of strong dependence in the tail of the GSEs' loss distributions—a finding that suggests there should be only a modest reduction in the government tail-risk guarantee fees.

3.2 Structure of Secondary Market Institutions

While explicit guarantees for mortgage-backed securities have drawn some broad support, there is little agreement about the industrial organization of a new secondary mortgage market. Should there be one, a few, or many guarantors? Could such entities be owned by bank holding companies and issue government-guaranteed securities (as is currently the case with Ginnie Mae), or should they be freestanding (like Fannie Mae and Freddie Mac)? Should these entities take a typical corporate form or be mutually owned by mortgage originators? A variety of structures have been suggested by think tanks, trade associations, and academics. Frame, Wall, and White (2013) review some of the early proposals and Wachter (2018) identifies more recent contributions to the discussion.

Berg, Nielsen, and Vickery (2018) examine the Danish mortgage market and draw out some implications for U.S. housing finance reform. Denmark provides a natural comparison since it is the only other nation that principally relies on capital markets to finance thirty-year fixed-rate pre-payable mortgages. Danish mortgage banks are vertically integrated and originate mortgages and then issue covered bonds collateralized by these same loans on a match funded basis. As with GSE securitization, mortgage credit risk remains with Danish mortgage banks and interest rate and prepayment risk are assumed by investors. Danish covered bonds are guaranteed only by the mortgage bank issuer and have no explicit government guarantee. This arrangement is facilitated by the fact that issuers have historically held large capital buffers relative to very low credit losses. Loss rates were minimal during the Danish housing bust last decade, an outcome that is consistent with a mortgage system that features lower borrower leverage and strong creditor protections in terms of foreclosure and deficiency judgments.

3.3 Sourcing Private Capital through Credit Risk Transfer

Since the imposition of the conservatorships, the federal government has taken on the vast majority of the credit risk associated with mortgage lending—both through the GSEs and through the increased usage of government mortgage insurance programs. One area of broad agreement in the housing finance reform debate is the need to reduce taxpayer exposure by substantially increasing the amount of private capital at risk in the system. One way in which this is being done, absent reform, is through credit risk transfer (CRT) programs operated by Fannie Mae and Freddie Mac since 2013.

Finkelstein, Strzodka, and Vickery (2018) provide an overview of the GSEs' CRT programs and document how the market for these securities has grown and become more liquid without disrupting the agency MBS market. Although the CRTs take many forms, the most common approach has been the issuance of credit linked notes—in effect, unsecured debt whose payments are tied to the performance of a specified reference pool of mortgages. These notes are designed to absorb "unexpected losses"—that is, losses that might occur above a normal threshold but that fall below a catastrophic level. Hence, this form of CRT can be thought of as a substitute for GSE capital, with commensurate investor compensation. With this particular design, Fannie Mae and Freddie Mac retain the risk associated with "expected losses," which should be covered by guarantee fees, and any "catastrophic losses," which are covered by taxpayers. (Using a structured finance analogy, one can think of the GSEs as selling a mezzanine tranche while retaining both the equity and senior tranches.) An advantage of using credit-linked notes as a risk-transfer mechanism is that there is no counterparty credit risk (as, for example, there would be in the case of private mortgage insurance). Noting that money managers have been the most active CRT investors, the authors discuss some regulatory factors that have thus far kept mortgage REITs (real estate investment trusts) and banks largely out of this market.

An important question is whether increased private capital support for mortgage finance would enhance financial stability by providing a restraint to credit bubbles. As noted earlier, agency MBS provided either an implicit or an explicit government credit guarantee, a feature that limits market discipline. In addition, during the early phase of the mid-2000s housing boom, it was difficult to short the housing market to express a negative view about future home prices. However, in her article, Wachter (2018) voices caution about the efficacy of market discipline. She describes how private securitization markets and related derivative indexes failed to constrain the buildup of excess mortgage credit risk during the U.S. housing boom, and she contemplates whether CRTs would fail in similar fashion in the future. The author also links the potential efficacy of CRTs in the future housing finance market to the number of securitizers, suggesting that CRT market liquidity would be harmed by having several issuers. However, the article notes that this problem could potentially be overcome if securitizers were insuring very similar loans.

3.4 Affordable Housing and Program Evaluation

A myriad of government programs at local, state, and federal levels are aimed at supporting affordable housing options for low- and moderate-income families. In the context of home mortgage markets, the government mortgage insurance programs (FHA, VA, and RHS) act in particular to relieve down payment constraints for first-time and low- and moderate-income households. Fannie Mae and Freddie Mac were also long subject to percent-of-business housing goals administered by HUD for low-income neighborhoods, areas with a high proportion of minority residents, and low-income households. While broad access to mortgage finance for homeownership and equal treatment in obtaining such finance are well-accepted principles in this country, it is unclear whether the GSEs' housing goals were effective at actually improving housing affordability.

The article by Dokko (2018) discusses the relationship between economic research and public policy in the context of housing affordability. The author begins by seeking to rationalize government intervention in housing markets in terms of both economic efficiency and social equity. Dokko notes, however, that there is limited empirical research about the specific drivers of high relative housing costs in certain geographic areas and about the efficiency and effectiveness of the many existing national and local policies that seek to address affordability. With regard to program effectiveness, the author observes that housing subsidies can act to spur demand and further push up prices, and that many beneficiaries of such subsidies may not actually be in the appropriate target population. The mortgage interest deduction principally comes to mind here.

Lee and Tracy (2018) note that the Federal Housing Administration describes its mission as providing affordable mortgages and creating sustainable homeownership. In their article, the authors discuss the early history of the FHA, when the agency focused heavily on sustainability as part of the rationale for introducing government mortgage insurance during the housing crisis that followed the Great Depression. They contend, however, that starting in the 1950s, the focus of the FHA shifted toward affordability and away from sustainability. For the 2000s, the authors illustrate the effects of this shift by developing metrics to evaluate the sustainability of FHA homeownership for first-time buyers. Examining mortgages originating in 2001 and

2002 (these were less impacted by the housing bust), the authors find that about 12 percent of FHA first-time buyers defaulted. However, when the authors include those buyers that transitioned back to renting, they conclude that nearly 25 percent of FHA first-time buyers had unsustained homeownership experiences. The use of metrics can help to evaluate how effectively a program such as the FHA is meeting its mission, and to inform directions for program design changes to improve performance over time.

4. Conclusion

The U.S. mortgage finance system was one of the focal points of the 2007-08 financial crisis, yet legislative decisions about the appropriate role of the federal government in the system remain unsettled. Policy deliberations have focused on Fannie Mae and Freddie Mac—the two enormous government-sponsored enterprises that were placed into federal conservatorship in September 2008. The two GSEs have long been the centerpieces of a mortgage finance system that relies on capital market financing of U.S. residential mortgages. This volume contains eight articles that touch on several key components of housing finance reform. We hope that the insights offered here will assist legislative efforts aimed at promoting a more efficient, equitable, and financially sound mortgage system in the future.

Notes

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[1] Strictly speaking, both GSEs operate "swap" as well as "cash" programs. In a swap transaction, a mortgage originator delivers a pool of mortgages and, in exchange, receives an agency MBS backed by the same loans. By contrast, a cash transaction involves simply selling the loans outright to one of the two firms; these loans may or may not ultimately be bundled into an agency MBS.

[2] By becoming a conservator, the Federal Housing Finance Agency assumed the responsibilities of the directors, officers, and shareholders of both Fannie Mae and Freddie Mac with the purpose of conserving their assets and rehabilitating them into safe-and-sound condition. Hence the two firms have remained going concerns, carried out their usual market functions, and continued to pay their financial obligations.

[3] The U.S. Treasury's senior preferred stock purchase agreements sought to ensure that Fannie Mae and Freddie Mac maintained positive net worth going forward. Under the agreements, if the Federal Housing Finance Agency determined that either institution's liabilities exceeded their assets under generally accepted accounting principles (GAAP), the Treasury would contribute cash capital equal to the difference, in exchange for senior preferred stock. The amount of this stock was initially capped at $100 billion per GSE, but was later raised to $200 billion and then to an unlimited amount through 2012. Originally, this stock paid an annual dividend of 10 percent, but a subsequent amendment replaced this dividend with a "full income sweep."

[4] Fannie Mae was founded in 1938 as a government corporation. In 1968, it was spun off to become a private firm with publicly traded equity, in part to remove it from the U.S. government's balance sheet.

[5] Frame, Wall, and White (2013) and Hancock and Passmore (2016) note, however, that the pricing of catastrophic risk is difficult because of the infrequency of occurrence and the likelihood that market participants may not be willing to pay for the insurance during good times and only seek safety during bad times.

References

Ambrose, B. W., and Z. Yuan. 2018. "Pricing Government Credit: A New Method for Determining Government Credit Risk Exposure." Federal Reserve Bank of New York Economic Policy Review 24, no. 3 (December): 41-62.

Berg, J., M. Nielsen, and J. Vickery. 2018. "Peas in a Pod? Comparing the U.S. and Danish Mortgage Finance Systems." Federal Reserve Bank of New York Economic Policy Review 24, no. 3 (December): 63-87.

Dokko, J. 2018. "Housing Affordability: Recommendations for New Research to Guide Policy." Federal Reserve Bank of New York Economic Policy Review 24, no. 3 (December): 138-44.

Financial Crisis Inquiry Commission. 2011. "Financial Crisis Inquiry Report." Final Report of the National Commission on the Causes of the Financial and Economic Crisis in the United States.

Finkelstein, D., A. Strzodka, and J. Vickery. 2018. "Credit Risk Transfer and De Facto GSE Reform." Federal Reserve Bank of New York Economic Policy Review 24, no. 3 (December): 88-116.

Frame, W. S., A. Fuster, J. Tracy, and J. Vickery. 2015. "The Rescue of Fannie Mae and Freddie Mac." Journal of Economic Perspectives 29, no. 2 (Spring): 25-52.

Frame, W. S., L. Wall, and L. J. White. 2013. "The Devil's in the Tail: Residential Mortgage Finance and the U.S. Treasury." Journal of Applied Finance 23, September: 61-83.

Hancock, D., and W. Passmore. 2016. "Macroprudential Government-backed Securitization: Can It Work?" In Susan Wachter and Joseph Tracy, eds., Housing Finance Reform: Principles of Stability, 68-104. Philadelphia: University of Pennsylvania Press.

Lee, D., and J. Tracy. 2018. "Long-Term Outcomes of FHA First-Time Homebuyers." Federal Reserve Bank of New York Economic Policy Review 24, no. 3 (December): 145-65.

Passmore, W., and A. H. von Hafften. 2018. "GSE Guarantees, Financial Stability, and Home Equity Accumulation." Federal Reserve Bank of New York Economic Policy Review 24, no. 3 (December): 11-27.

Passmore, W., and S. M. Sherlund. 2016. "FHA, Fannie Mae, Freddie Mac, and the Great Recession." Federal Reserve Board Working Paper no. 2016-031.

———. 2018. "The FHA and the GSEs as Countercyclical Tools in the Mortgage Markets." Federal Reserve Bank of New York Economic Policy Review 24, no. 3 (December): 28-40.

Wachter, S. M. 2018. "Credit Risk Transfer, Informed Markets, and Securitization." Federal Reserve Bank of New York Economic Policy Review 24, no. 3 (December): 117-37.