



NATIONAL
ASSOCIATION *of*
REALTORS®

John Smaby
2019 President

Bob Goldberg
Chief Executive Officer

ADVOCACY GROUP

William E. Malkasian
Chief Advocacy Officer/Senior Vice President

Shannon McGahn
Senior Vice President of Government Affairs

Joe Ventrone
Vice President, Federal Policy and Industry Relations

500 New Jersey Avenue, N.W.
Washington, DC 20001-2020
Phone: 202.383.1000

Working Paper:
**A Vision for Enduring
Housing Finance Reform**

**The National Association of REALTORS®,
Richard Cooperstein, Ken Fears, and Susan Wachter**

February 7, 2019

REALTOR® is a registered collective membership mark which may be used only by real estate Professionals who are members of the NATIONAL ASSOCIATION OF REALTORS® and subscribe to its strict Code of Ethics.



Table of Contents

Section 1	History and Justification	3
Section 2	Industrial Organization and Market Needs	7
Section 3	Public Role and Support Needed	12
Section 4	Examination of Existing Models and the Impact on the Entities	18
Section 5	A Model for the Future	22
Section 6	Transition to a New Paradigm	30
Bibliography		32

I. History and Justification

More than 10 years after the announcement of their conservatorship, the Government Sponsored Enterprises (GSEs) remain in the same “temporary” arrangement put into place to calm the storms of the housing and financial crises of 2006 through 2008. Housing finance reform remains the single largest unfinished business of the financial crisis.

Without financing, most Americans would not be able to purchase their homes. Today, most Americans use the “American Mortgage,”¹ the long-term, fixed-rate prepayable mortgage, which allows households to leverage their savings to purchase a home and protects them against interest rate increases. Reforming the housing finance system to achieve financial stability while preserving access to the 30-year fixed rate mortgage remains a commonly accepted goal. Yet there is significant disagreement about how to achieve this. Numerous competing proposals disagree on the basics of reform. Choosing among or combining these proposals and getting the mortgage system’s restructuring right, is paramount to preventing a recurrence of the financial collapse of 2008 and for ensuring a stable housing finance system going forward.

Historically, the worst financial crises globally have resulted from real estate bubbles fueled by risky mortgage lending. For example, in the U.S., prior to the New Deal, most mortgage debt took the form of short-term, interest-only bullet loans, which made borrowers highly vulnerable to downturns. With the onset of the Great Depression, borrowers were unable to refinance or pay off their mortgages. A surge of defaults followed: more than 25 percent of mortgages were foreclosed, and the banking system collapsed.

Fast-forward to the beginning of the early 21st century, risky lending returned followed by massive defaults and a systemic crisis.² The resurgence of risky lending, including short-term, interest-only bullet loans, was possible because of a shift in the financing of mortgages away from the mainstream U.S. financial market that had evolved protections over decades. The New Deal’s reforms which set the foundation for mainstream lending included the Federal Housing Administration (FHA)-guaranteed long term-year self-amortizing mortgage (the “American Mortgage”) and Fannie Mae, the government-owned secondary market entity established to purchase FHA mortgages from banks. Following World War II, lenders originated and held in portfolio most mortgages, but the savings and loan (S&L) crisis showed the folly of doing so. Funding long-term mortgages with short-term liabilities, combined with restrictions on the interest they could pay on deposits used to fund the mortgages, led to the failure of the thrift industry as interest rates rose. In the aftermath, secondary market entities purchased and securitized those mortgages, selling them to willing investors who were in a position to take the long-term interest rate risk.

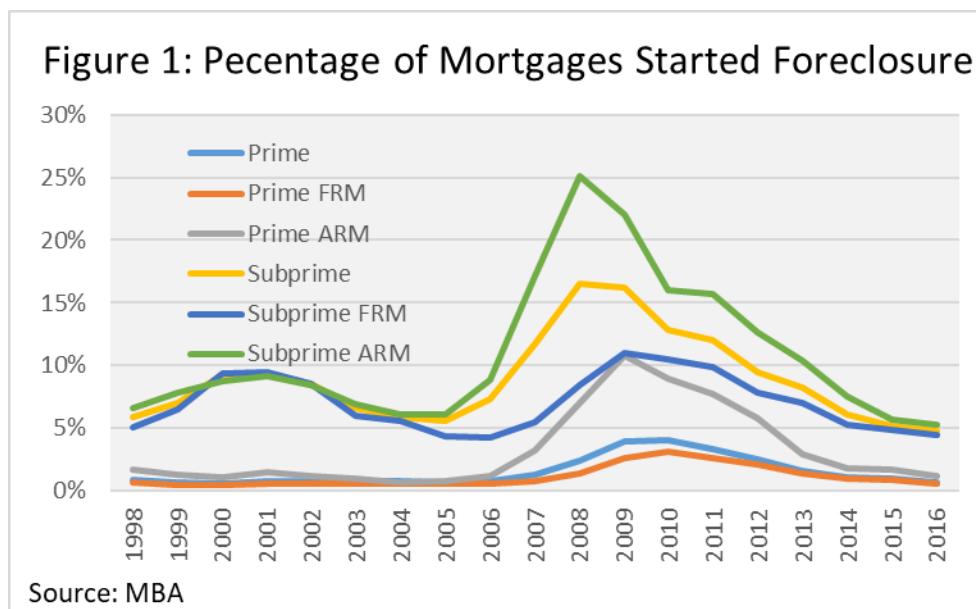
¹ Richard K. Green and Susan M. Wachter, “The American Mortgage in Historical and International Context,” *Journal of Economic Perspectives* 19, no. 4 (2005): 93-114.

² For a history see Adam J. Levitin and Susan M. Wachter, “Explaining the Housing Bubble,” *Georgetown Law Review* 100, no. 4 (2012): 1177-1258.

Decades of financial calm followed, a period that economists call the “Great Moderation.” Fannie Mae, Freddie Mac, and Ginnie Mae (GMNA), secondary market entities subject to regulation and receiving special privileges for facilitating housing finance, securitized mortgages and maintained lending standards while doing so. They insured investors in mortgage-backed securities (MBS) against credit risk, while passing on interest rate risk—the risk of mortgages being at a below-market rate or refinanced—to investors.

By the second half of the 1990s, non-bank lenders began securitizing subprime mortgages, which were originated at far lower standards than traditional prime lending. In the 1999 recession, these loans defaulted at rates exceeding 20 percent.³ With excess capacity after the early 2000s refinance boom ended, Wall Street firms financed mortgages through so-called private-label securitization (PLS) in force. PLS provided trillions of dollars of financing for non-traditional and subprime mortgage debt, funding more than half of mortgage originations at its peak in 2005.

By 2003, the American Mortgage was displaced as housing finance securitization shifted away from Fannie Mae, Freddie Mac, and Ginnie Mae (collectively, “agency securitization”) to short-term, adjustable rate mortgages. Investment banks became adept at assembling risky PLS and selling them to willing investors around the world. The losses fell on these private investors. Worse, the surge of risky secondary bets on PLS known as derivatives started a domino chain of collapse in the financial system, leading to an implosion of lending and a peak annual foreclosure rate of 25 percent for subprime ARMs in 2008⁴. The result was the loss of millions of homes in foreclosure.

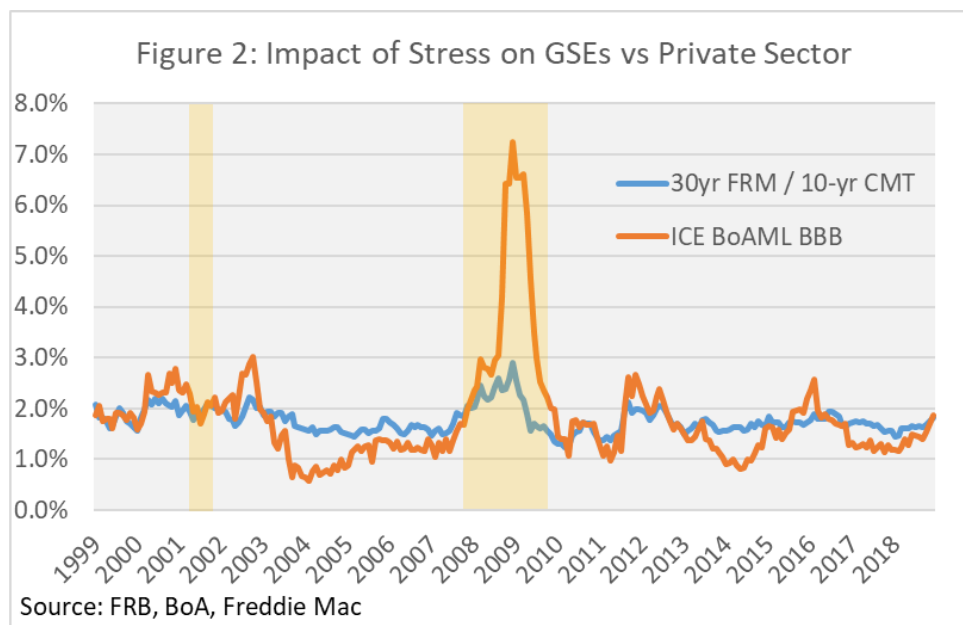


³Paul S. Calem, Kevin Gillen, and Susan M. Wachter, “The Neighborhood Distribution of Subprime Mortgage Lending,” *Journal of Real Estate Finance and Economics*, Vol. 29, No. 4 (2004): 393-410.

⁴ Mortgage Bankers Association Quarterly National Delinquency Survey.

The housing bubble temporarily hid the consequences of risky mortgage lending because higher prices forestalled foreclosures and allowed the unrealized risk to accumulate. Private-label securitized loans were much riskier, at origination, than loans securitized by agencies, but this higher risk was vastly underpriced. Investors, blind to the consequences of market-wide price declines, continued to finance borrowing with increasingly complex and double-leveraged securities until the Panic of 2007.⁵ Rating Agencies withdrew their AAA ratings across the board after recognizing that high leverage would wipe out investment grade bonds, if they needed to be sold, with even small declines in housing prices nationwide.⁶ The extra trillion dollars of funding that came through PLS annually from 2004 to 2006 dropped to zero within a year.

By the fall of 2008, Wall Street firms were collapsing and the uncertainties of the housing and financial markets seemed unlimited. The *Housing and Economic Recovery Act* (HERA) of 2008 placed Fannie Mae and Freddie Mac under the conservatorship of the Federal Housing Finance Agency (FHFA) through Congressional legislation.



The GSEs and Ginnie Mae were able to fund sustainable mortgages in the aftermath of the crisis due to the government’s role in stabilizing markets. *Figure 2* above shows the value of confidence in the government stabilizing the system as reflected by deviations between GSE fixed-rate mortgage rates and the 10-year constant maturity U.S. Treasury rate, compared to deviations in corporate spreads. Before conservatorship, and before the guarantee for Agency MBS was re-confirmed, GSE spreads widened from just under 200 basis points (bps) to nearly 300 bps. Further, the chart above shows that while mortgage spreads have been comparable to BBB corporate spreads for the last 20 years, corporate spreads widened 700 bps, an additional 500 bps over GSE spreads during the crisis and did not recover

⁵ In fact borrowing costs decreased over time from 2003 through 2006 as the risk increased. See Levitin, Adam J., Desen Lin and Susan M. Wachter, “Mortgage Risk Premiums during the Housing Bubble,” *Journal of Real Estate Finance and Economics*, forthcoming.

⁶ PLS securities suffered significant liquidity problems that were exacerbated by the lack of data and transparency into the underlying mortgages in the securities.

until 2010. The housing market and broader economic decline would have been far worse if mortgage rates had been 5 percentage points higher during the recession. This evidence illustrates the value of a clear federal backstop and consistently tradable markets, and how fragile the financing system is when confidence is shaken.

The spike in GSE spreads depicted in the chart above reflects systemic risk. The tsunami of PLS had created a financing glut that drove down lending standards, increased fraud, and caused a dramatic rise and subsequent fall in housing prices. The GSEs were not off the hook. In particular, as their share of the market shrank due to the growth of PLS, and under shareholder pressure, they chased the market for risky non-conforming credits to maintain market share, exploiting their low cost funding. Many of loans lacked the required documentation to qualify for the GSE affordable lending goals, making it clear this activity was solely profit-driven. Hence, the GSEs incurred the losses of PLS as well as losses due to broad housing price declines.

In the ensuing years, under the direction of the FHFA, the GSEs substantially reformed their practices. They wound down their portfolios, increased transparency, and de-risked their portfolios through tighter credit standards and risk sharing. In 2012, the FHFA made their historical mortgage data public and called for the adoption of credit-risk transfer (CRT) programs to allocate risk to the private sector and minimize taxpayer exposure. Fannie Mae and Freddie Mac issued CRTs as unsecured debt obligations with returns tied to the performance of the GSEs' loan pools, hence enabling a private sector pricing of risk. The GSEs have subsequently expanded into other forms of risk sharing with reinsurance contracts as well as boards of reinsurers bidding on pools and flow contracts. Additionally, the GSEs began the development of a common security to ensure liquidity for the trading of MBS and interest rate risk. While the GSEs are now less risky, the lack of equity capital to absorb losses leaves taxpayers still exposed to credit risk.

There is some agreement that these reforms should remain in place in any future restructuring of the GSEs, the newly developed CRT market, along with preservation of the so-called To-Be-Announced (TBA) market for the efficient trading of interest rate risk a necessary component of the long-term fixed-rate mortgage. There is also some agreement on the benefit of the creation of a Common Securitization Platform (CSP) to provide enhanced transparency, liquidity, and oversight of credit standards, as well as the need to address affordable housing.

There is also consensus that the "temporary" GSE conservatorship should not persist. Today, the Agencies, Fannie and Freddie along with Ginnie Mae, together provide nearly all the funding for securitized housing finance in an essentially nationalized system. But what should replace the status quo? The major proposed reforms include: (1) recapitalizing and privatizing the GSEs; (2) adopting a multi-guarantor system; and (3) consolidating Freddie Mae and Fannie Mac into a single, government-owned and -regulated corporation. There is another way forward, a redesigned alternative based on economic principles and national objectives. The sections that follow explain why housing finance markets differ from purely competitive markets, but are similar to markets for public utilities. This approach informs the nature of reform needed to ensure financial stability going forward.

II. Industrial Organization and Market Needs

A well-established set of conditions characterize competitive markets; if met, competition leads to efficient and socially desirable outcomes. When violated, unaltered competition leads to poor outcomes and even catastrophe. Thus, competition is a means to an end; markets that meet these conditions without federal government intervention function well, and those that do not will require intervention to succeed.

The mortgage ecosystem is large and diverse, being composed of several connected segments that include origination, servicing, fulfillment and infrastructure, investment, and regulation. The financial crisis of the last decade provided a stern test, illuminating and differentiating the well-designed segments from those that were not.

The Parts that Work; Individual Transactions

The focus of reform needs to be on the segments of the mortgage market that do not meet the criteria for efficient competition and thus could benefit from government intervention. Nevertheless, it is useful to summarize those competitive requirements that are generally met and by which segments.

- **Property Rights:** Individuals or entities can own and control property, including financial property. Ownership protections enable a mortgage market in the first place at a cost that is far below the cost of consumer credit and at an annual cost that makes ownership often less costly than renting, while at the same time hedging against rent increases.
- **Excludability, Diminishability, and Rejectability:** Consumers who pay gain the benefits of consumption (there are limited “free-riders”); the available supply of goods will diminish with the purchase of the good; and symmetrically, consumers can reject goods if they do not want or need them. While there are neighborhood effects and social needs that must be addressed, housing is largely a private, rather than a public good and can be efficiently produced and supplied by competitive markets.

Conditions Contributing to Competitive Failures of the Mortgage Market

1. **Incomplete Markets and Delayed Feedback:** The full benefits, and more importantly, the full costs of getting or providing mortgages may not show up for years, and these costs can far outweigh the benefits. There are two core reasons for this that have broad consequences:
 - Housing markets are incomplete and only weakly efficient.
 - The consequences of mortgage credit decisions are typically unrealized for years.

Housing prices ultimately reflect supply and demand. However, housing prices are subject to bubbles, with market prices potentially far exceeding prices justified by fundamentals. Bubbles can develop and persist because owners cannot short housing markets as they can the stock or commodity markets. It is not possible to short your own home if it is overpriced, selling it and buying it back at a lower price. Such arbitrage, which limits bubbles, does not work for homes. Homes provide shelter, which reduces the motivation to sell overpriced houses compared with selling overpriced stocks. Without short selling, bubbles form based on past price increases, with backward looking expectations, and are financed by credit, which takes housing market prices as given. More

generally, unlike other assets, housing prices are path dependent and spatially correlated. That is, they move together across space and over time due to contagion, not fundamentals. There are significant transaction costs to buying and selling houses, and the housing stock is not on roller skates; it cannot quickly move from shrinking markets to growing markets.

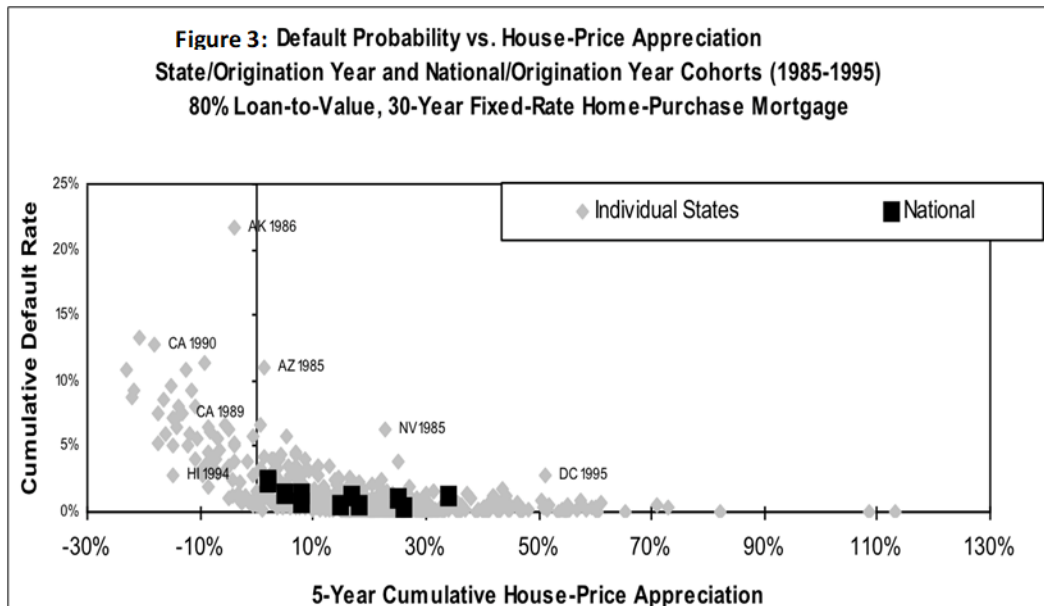
Next, consider the impact of financing. Companies fund themselves with equity and debt so that franchise value is reasonably independent of funding source. If there are profit opportunities, funding will follow. But imagine the housing market suddenly without access to mortgages. Interrupting the continuous availability of fairly-priced mortgages would likely cause catastrophic declines in housing prices with contagions to other parts of the economy. Funding will decrease due to contagion. Symmetrically, mortgage markets that badly underprice credit risk will drive housing prices above value, and this can easily happen because of delayed consequences, with busts that undershoot fundamentals in the aftermath.

On the one hand, housing prices can be expected to fluctuate higher than more efficient asset markets because homeowners consume shelter services along with the housing asset, it is expensive to sell overvalued houses, and investors cannot short housing markets. The tendency towards easing of credit because consequences can be delayed, exacerbates this upward drift. When risk and downward pressure on prices finally break through the frictions in the housing market, prices will decline more severely. When credit losses surge through the mortgage markets, this can lead to a sudden loss of liquidity as investors deal with their own problems. This systemic risk can make housing price declines vastly worse.

Hidden (or delayed) costs of mortgages arise from the risks in loans, counter-parties, and infrastructure. In each case, firms ignoring these risks can increase short-term profitability through higher volumes and apparently lower costs. Shareholder-driven firms with poor supervision face short-term profitability goals to improve share prices and to increase management compensation, and may succumb to these temptations or not even realize the risk. However, when economic conditions change, devastatingly large losses are not only possible, but likely.

2. **Asymmetry of Information:** Lenders and borrowers (and others) generally possess information that is valuable to investors. Securitization markets, which separate investors from borrowers, amplify this risk. Enjoying the liquidity and global access to capital that securitization brings requires disclosure and persistent enforcement of standards. Failures to provide this leads to adverse selection, moral hazard, and even catastrophic contagions and elimination of markets such as the non-Agency market in the last decade.
3. **Scale Economies:** A national market for MBS enables large-scale diversification benefits. For example, in the mid-1990s California suffered substantial defaults coming out of a statewide boom and bust. As the *Figure 3* on the following page shows, state portfolios, like California, experienced 13 percent defaults while the national rate was less than 5 percent. National market exposure enables the benefits of diversification and lowers the cost of insurance compared with regionally concentrated insurers. Diversification allows insurance against regional downturns that otherwise could turn into long-term depressed housing markets, as regional lenders are themselves affected by local conditions, and as lenders withdraw funding from risky regions. Economic declines generally

affect households across the region, and housing price declines are correlated spatially. This means that national insurers against default risk have a natural advantage in raising capital in times of regional distress and even in good times.



The TBA market is another important contributor to economies of scale. The TBA market functions in its current form through a reliance on the minimized credit risk of agency securities. This allows borrowers to lock into mortgage rates months before they close and have the certainty that they will be able to close on their mortgages. In addition, this allows the widest possible market (\$250 billion daily in trades) and lowers liquidity risk and therefore overall mortgage rates. Achieving national scale and size unlocks the large positive efficiencies of the MBS market that is jointly regulated by the Bond Market Association (BMA), primary dealers, and Fannie Mae and Freddie Mac.

To maximize volume, only a small set of factors and conditions are required for mortgages to be included in TBA pools. For example, geographical information is not currently provided in order to maintain the size and liquidity of the TBA market. With firms exposed to regional downturns and therefore regional default and prepayment risks, mortgage interest rate risk premiums would have to be higher, and would be pro-cyclical as prepayment risk would increase with downturns if geography was identified. Thus, the TBA market would be threatened even in good times, as the geographical predictability of prepayment would cause loans to be taken out of the pool and fragment the market.

There are other synergies that result from size and a national footprint. For example, a large information infrastructure on repeat sales is critical for managing appraisal risk. The more information and the greater the market coverage, the lower this important risk. In addition, standardization is critical for investors and multiplying firms, each with their own underwriting and servicing standards, which generally makes investor oversight of risk more difficult.

Detractors argue that having many competing firms limits the damage from one firm failure, but that is a mirage. Whether one firm or many may be mismanaged and fail without damaging the market in normal times is irrelevant. By design these firms are likely to be mono-lines and cannot diversify away the systemic risk in housing. The core problem is that the performance of firms in the mortgage guarantee market will be highly correlated under economic stress. Failures will not be isolated in a stress event, but rather will cause an epidemic, and the economy will have to manage with systemically consequential failures of many firms instead of one or two. The 2007 financial crisis is a perfect example.

4. **Externalities:** The full costs and benefits of mortgages are not borne by service providers and borrowers as compared, for example, with buying a loaf of bread. Externalities (positive and negative) grow in importance with large-scale, incomplete markets and as asymmetry, time lags, and scale economies grow, with potentially global consequences of resulting systemic risk. By definition, society gets less than it wants when producers cannot capture all the benefits. Conversely, too much gets generated of products where the full costs are not borne by those involved in specific transactions. Appropriate market interventions can help to internalize these externalities and correct these failures.

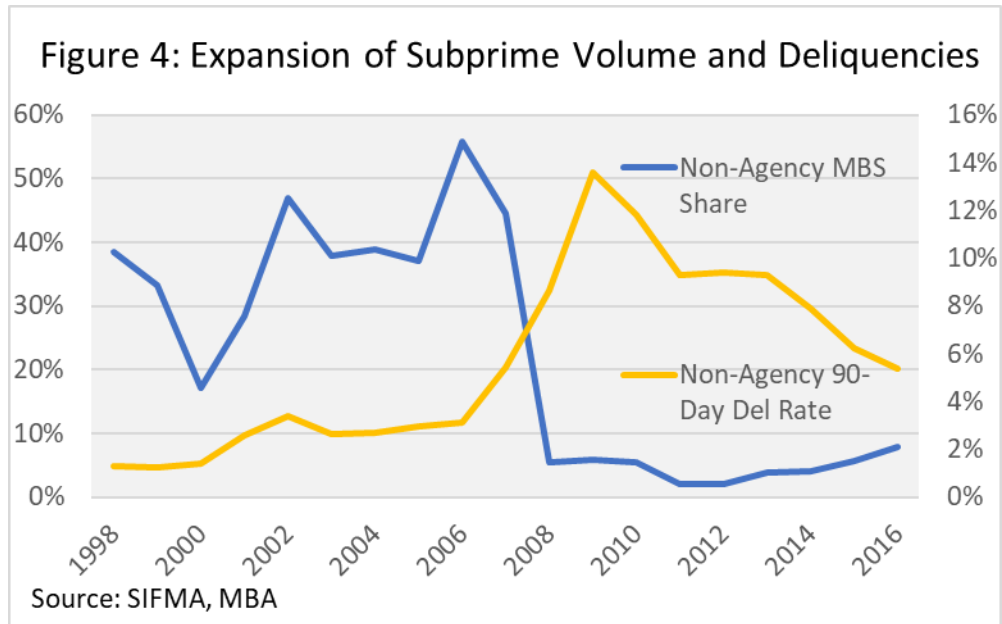
Negative externalities of a poorly structured secondary market include the cost of market disruptions. This extends first from foreclosures' impact on local real estate markets through to systemic risk when large counterparties fail, with correlated pricing. Essentially, these negative externalities derive from the impact of ruinous competition on the undisciplined availability of credit. It is especially clear that the delayed consequences of credit risk are ripe for being transferred to parties not involved in the mortgage transaction in question, including both home buyers, who purchase at the artificially inflated prices due to profligate credit and then suffer the consequences of market-wide price declines, and, of course, taxpayers.

Positive externalities of a well-structured market include the benefits of uniform national lending and servicing standards, payment infrastructure and capital standards, and access to affordable loans for a broad swath of consumers across regional markets. There must be a regulator to enforce these standards.⁷ The ultimate benefit from economies of scale is the ability and incentive to identify, monitor, and maintain credit standards to prevent the externality of systemic crises.

Figure 4 below illustrates the impact of the credit standards externality. During the years that Agency market penetration exceeded 70 percent, they effectively set credit standards and delinquencies were low. When the non-Agency share surged to 50 percent, delinquencies for the broader conforming market rose sharply with contagion to credit markets generally and the worst

⁷ The Bond Market Association successfully regulated the TBA through the crisis. In contrast, credit standards deteriorated in the market because there was not an effective regulator of the GSEs and the overall market.

global recession in 80 years. Finally, for the systemically important mortgage market, the sudden disappearance of originators, servicers, and investors as occurred in the non-Agency market.



Systemic risk is an externality born of counter-party risk. The keys to successful securities markets are good delivery with no counter-party risk. With these principles met, investors need only value the economics of the security. They do not have to price for the risk that the security they receive may diverge from what they were led to believe, or that the counter-party behind the instrument may fail. This is true for stock, bond, and option markets and was a key difference between the subprime bond market and GSE/Ginnie Mae (GNMA) market. These qualities underlie the gains from scale, transparency, consistency, and reliability.

Summary

The secondary mortgage market failures to achieve several core conditions required for competitive markets. The efficiency gains from standardizing credit and prepayment risk for the TBA and CRT markets require enormous scale and a small number of counterparties without failure risk. Information asymmetry is especially acute when moving from loan originators to securities investors. A large national infrastructure is necessary for global mortgage securities debt markets, for the TBA market to enable competition in setting interest rate risk premia, for the CRT market to enable competition in setting credit risk premia, and for containing credit risk through maintaining underwriting and servicing standards, counter-party management, and others. Such attributes are present in markets served by public utilities.

III. Public Role for Well-Functioning Markets

When markets have attributes that satisfy competitive requirements, and the benefits and costs are fully borne by the buyers and sellers, there is little need for government intervention. However, as just explained the housing finance market does not meet these criteria. Historically and globally, real estate markets have led to financial crises, with and without securitization.⁸ The systemic risk resulting from incomplete housing markets in which bubbles are created and amplified by leverage leads to the inextricable involvement of government, either reactively to stop market-wide economic meltdowns or preventatively. It is therefore important to structure the federal role wisely, which can be informed by a few guiding principles. Implementation of a framework of principles for government intervention can guide the development of remedies and prevent the competitive failures of the mortgage market that sadly led to the financial crisis.

Guiding Principles for Federal Intervention

1. **Stability—Orderly markets** (persistence of market-clearing prices, minimized contagion)
2. **Allocative Efficiency—Incentives flow through efficient pricing** (price is related to risk; subsidies are justified when intentionally structured to accomplish social ends)

The marketplace can achieve price discovery provided there are no unpriced externalities. Logically, the government's role is to make sure that externalities are priced in, liquid markets provide price discovery, clearing markets do not vanish in times of stress, and the private market operates companies.

Remedies for Market Failures

With feedback delays and externalities, markets are likely to endure damaging cycles as firms acquire share by taking on delayed risks that eventually emerge. Economists have identified appropriate regulatory responses to failures of competitive conditions. Guided by "The General Theory of Second Best,"⁹ these are not ways to make intrinsically imperfect markets competitive, but rather methods to move intrinsically imperfect market towards better outcomes for society.

Taking Stock: What Works Today and Remains to Be Done

A final step before prescribing GSE reforms is to be clear on necessary GSE activities.

What do the GSEs do? Fannie Mae and Freddie Mac buy mortgages, package them into securities and sell them to investors with a guarantee that assures them of timely payment. However, the GSEs are much more. They set, monitor, and enforce standards subject to their regulator for origination, credit, servicing, and prepayment for the \$5 trillion conventional mortgage market. The GSEs also provide the

⁸ Susan M. Wachter, "Housing and Credit Bubbles in the U.S. and Europe: A Comparison," *Journal of Money, Credit and Banking* 47, no. S1 (2015): 37-42.

⁹ R. G. Lipsey and Kelvin Lancaster, "The General Theory of Second Best," *Review of Economic Studies* 24, no. 1 (1956): 11-32.

large infrastructure and scale required in the investment markets for interest rate and credit risk, and facilitate more competition than would exist without them.

Why did the GSEs Fail? The GSEs failed due to: insufficient risk-based capital and guarantee fees that were set too low; private shareholders without effective limits on return or mission; inadequate regulatory oversight lacking externally imposed capital standards; and ruinous competition. The GSEs were disintermediated by unregulated risk providers (subprime) and then chased the market because returns and mission were not regulated. They could not capture the benefits of setting good credit standards.

Why do They Appear to be Succeeding Now? Today the GSEs effectively enforce credit standards for the market with regulatory oversight, a focused mission and transparency.

What Remains to be Done? Currently, the GSEs lack both the capital to take losses ahead of taxpayers and an effective ownership structure to manage the companies to achieve the mission. A regulated utility structure to accomplish this end is proposed below.

The Correct Structure

A utility structure solves a number of potential problems in the current set-up: taxpayer exposure to risk without private capital as a cushion and capital chasing risk. More specifically a public utility solution responds to specific intrinsic problems in the current set-up more effectively than alternatives.

- **How to overcome the large-scale economies and information asymmetry of mortgage secondary markets:** By granting a limited number of franchises that can enforce transparency and standards.
- **How to price for risk and avoid monopoly profits:** By intermediating most of the risk into competitive markets, setting prudent capital and return standards, and limiting mission.
- **How to ensure rational pricing and fairness?** By selling most of the risk, working to set capital standards consistent with other regulators, and providing meaningful and concrete duty-to-serve obligations.

Regulated Utilities: One Example

Since regulated utilities are a common solution to markets like this, it is useful to explore the similarities between financial market utilities and power utilities (which also have network effects that cause externalities in failure and that, consequently, must be regulated) as we seek to structure an enduring market for mortgage finance.

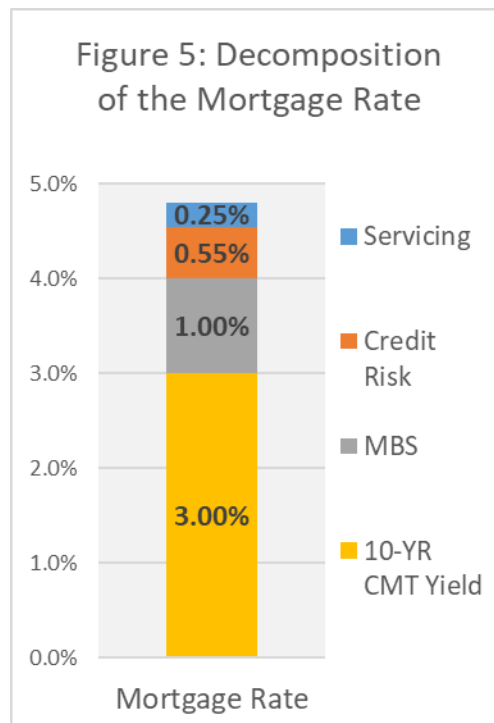
Energy has been provided through regulated utilities for more than 100 years. Regulation generally evolved from the local to the state level, as electricity consumption became universal and thereupon providers grew along with their footprints. Some utilities are government-owned or mutual companies, but a significant majority of power is distributed through stockholder-owned franchises that are state and federally-regulated (FERC). There are hundreds of examples with experience dating back to the beginning of the 20th century. So what insights can we draw from energy utility regulation to financial market utility regulation?

1. Private shareholders are the preferred operating company model.
2. Retail distribution infrastructure is limited to one or a few providers due to natural monopoly elements.
3. Electricity is standardized and regulated so it can be sold within regional and national power grids.
4. The regulator's mission is to assure reliable and affordable energy, accomplished through prior approval of pricing, infrastructure investment, and business lines.

The Efficiency of Intermediating Franchises

The benefits that the GSEs provide to borrowers and other participants in the mortgage market can be taken for granted in stable markets, and there may be concern that GSE market power drives mortgage rates up when they retain excess profits. However, it is provable that through the GSEs, rates are as low as they can efficiently be, given competitively determined required yields to cover interest rate risk and credit risk. The GSEs currently intermediate most of the interest rate and credit risk into capital markets. Borrowers must ultimately pay for both credit risk and interest rate risk. The TBA market enables the efficient trading of interest rate risk. The structuring of CRTs enables markets to trade and competitively price credit risk separately.¹⁰

Hence, mortgage rates are composed of U.S. Treasury yields (shown in *Figure 5* as the 10-Year Constant Mortgage Treasury yield), spread to compensate for prepayment risk (MBS), credit risk, and servicing costs. The competition in the setting of credit risk premia in the CRT market and interest rate premia in the TBA market enable a competitive rate for mortgages.



Furthermore, with their large size, the GSEs can minimize overhead costs for their large investments in infrastructure spread over large volumes. Finally, FHFA regulates capital and pricing (returns) for credit risk now verified by the CRT market, which entails no counter-party risk. The CRT market requires much greater transparency into data and performance than the GSEs previously provided. Since each component of the mortgage rate has unbeatable liquidity and with relevant risks internalized, other broad executions could not be better; they are more illiquid, less standardized, and less certain under stress. Only loans with the lowest possible risk could be cheaper to fund, but by definition they would not be available to the broader market. Any other cheaper execution is probably underpricing a risk. While it is true that the CRTs were developed in a period of robust credit performance, they are expected to perform well in the next downturn and better than any alternative.

How Affordability and Stability are Delivered Over the Cycle

The criticism of utilities is that they become inefficient over time. However, due to the price discovery and efficiency in the CRT and TBA markets incorporated into this proposal, pricing remains efficient and

¹⁰ Susan M. Wachter, "Credit Risk Transfer, Informed Markets, and Securitization," *New York Fed Economic Policy Review* 24, no. 3 (2018): 117-137.

Akash Kanojia and Meghan Grant, "The TBA Market: Effects and Prerequisites," Chapter in *Principles of Housing Finance Reform*, eds. Joseph Tracy and Susan M. Wachter, Philadelphia, PA: University of Pennsylvania Press, 2016: 167-186.

the system continues to deliver efficiently priced mortgages while securing stability over the cycle. Details of this proposal follow in Section 5.

Pricing of the guarantee fee is critical to accomplish the mission and to attract private investors, but raises a number of important questions. What is the right guarantee fee that fairly prices risk and protects taxpayers? How much should the utilities charge to raise and maintain equity and sell risk into the market? Will the market be disrupted in achieving a market rate?

For an extended period before the financial crisis, the GSEs had 0.45 percent statutory capital for credit risk and 2.50 percent for portfolio assets, charged about 20 basis points (bps) guarantee fees, and generated high returns on their highly-levered balance sheet. During the crisis the GSEs cost the taxpayers nearly \$200 billion, which was subsequently paid back, or about 4 percent of \$5 trillion notional balance mortgages, a loss nearly ten times their required capital. Since then, about \$2.5 trillion of notional balance CRT has been issued, transferring risk and providing extensive discovery on the price of risk and implied capital required for GSE credit risk. From 2011 to 2014, guarantee fees were raised in a series of steps to roughly 55 bps to be consistent with implied price of credit risk. This amount is consistent with credit risk and a return on capital in the market and is consistent with pricing under a regulated utility as proposed. The chart below shows analytic results based on CRT market pricing and modeling.¹¹

For the past several years, the GSEs have been charging 50 to 60 bps guarantee fees, and the table below shows a rough calculation of the components. This proposal uses conservative estimates and comes to about the same fee level effectively using market prices for debt and equity. In the current system, about 15 bps are residually available to cover the risk that taxpayers bear.

Protecting taxpayers to a 97¹² percent confidence level could require about 4 percent to 5 percent¹³ claims paying resources. Current CRT sizing of 3.5 percent provides the equivalent of about 2.5 percent equity to combine with 2.5 percent equity capital. Similar to deposit insurance fees, risk-based catastrophic protection purchased from the U.S. Treasury would protect taxpayers from virtually any outcome.

In the height of the financial crisis, subprime and corporate spreads widened by hundreds of basis points. CRT spreads might widen that much in a future crisis, though they probably would be more stable, provided there is confidence in the continued functioning of the GSEs with the U.S. Treasury behind them. A CRT program provides crucial market pricing, as well as continuing discipline for transparency and consistency of risk. A mature outstanding book of transferred risk will protect against losses, but it is unclear how saleable new risk transfer deals will be once a downturn has begun. Equity

¹¹ Richard Cooperstein, "A Capital Standard for the GSEs," The Pipeline, AD&Co, #149 May 2017.

¹² A more severe case than experienced during the subprime crisis and great recession.

¹³ The four percent to five percent claims paying resources is likely high and conservative for these purposes.

capital and pricing for risk fills this gap. Nevertheless, GSE risk transfer cost should be limited by the option to issue additional equity at the 10 percent regulated return. In a repeat of the 2007 financial crisis, our *Stress Example* shows that credit costs might rise about 40 bps.¹⁴

	Current System			Proposed System			Stress Example		
	Capital	Cost	G Fee	Capital	Cost	G Fee	Capital	Cost	G Fee
Capital			0.29%	6.00%	6.50%	0.39%	6.00%	10.0%	0.60%
Equity				2.50%	10.0%	0.25%	3.00%	10.0%	0.30%
Debt¹⁵	1.00% ¹⁶	4.0%	0.04%	3.50%	4.00%	0.14%	3.00%	10.0%	0.30%
Overhead¹⁷			0.08%			0.08%			0.08%
Expected losses¹⁸			0.08%			0.08%			0.20%
Treasury Premium						0.05%			0.10%
TCCA¹⁹			0.10%						
Benefit of a Federal Guarantee²⁰						-0.05%			-0.05%
Total			0.55%			0.55%			0.93%

However, in order to support their countercyclical mission and buttressed by their deeper capital position and diversified outlets, the entities would not have to raise guarantee fees in lock step with CRT or capital costs. This would hold for any system having a reliable federal backstop. Under a fully private structure, results would likely to be far worse, with no guarantee that the mortgage market would continue to function, recalling the collapse of the subprime and Alt-A markets.

¹⁴ These results are consistent with the previous crisis and the Urban Institute’s comment on the FHFA’s Proposed Capital Framework (see table 11

https://www.urban.org/sites/default/files/publication/99433/analysis_of_fhfa_proposal_on_enterprise_capital_1.pdf).

¹⁵ Six percent nominal total of equity and debt combine for about 4-5% effective capital.

¹⁶ Based on roughly \$50 B of CRT outstanding.

¹⁷ Regulators can use transparency and incentive-based returns for investors to maintain low overhead as discussed below. This estimate is higher than the 7bp listed by the FHFA in its 2014 request for input on guarantee fee pricing

<https://www.fhfa.gov/PolicyProgramsResearch/Policy/Documents/GfeeRFI060514F.pdf>.

¹⁸ Cumulative default rates on new GSE business are projected a bit over 1 percent with severity slightly under 40 percent. This leads to average cumulative losses under 50 bps over the life of typical loans and works out to a guarantee fee equivalent of roughly 8 bps with a multiple of six. Expected losses are increased 2.5 times in the stress event as an approximation.

¹⁹ This 10 bp fee is the Temporary Payroll Tax Cut Continuation Act of 2011 (TCCA) to fund an extension of the payroll tax cut and is set to expire in 2021. Assuming a two-year transition, the TCCA fee would end before the new system takes hold.

²⁰ This estimate is the low end of the impact of a federal guarantee. Estimates by Barclays (Barclays, *Implications of Possible GSE Reform for the MBS and CRT Markets* (July 14, 2017) put the benefit at 6 to 10bp, while Zandi, Parrot, Stegman, and Swagel have argued for a 20bp reduction in rates (“Access and Affordability in the New Housing Finance System”). Regulating returns ensures that the benefits are passed onto consumers.

Summary

Publicly regulated private utilities are a common solution in markets with scale economies and shared infrastructure, a standardized product, and broad community value. This is true for financial markets in particular. Standardizing and intermediating risk to global markets provides efficiency and price discovery and brings in private capital. As with any public utility, the federal government's responsibility is to implement effective governance that ensures a focused mission and regulated returns in exchange for the valuable government franchise. The objectives are that the regulated entities support orderly markets with rational and fair pricing, including for inclusive lending objectives, and that the entities limit and price externalities.

IV. Examination of Existing Models and Impact on the Entities

While they have many commonalities, GSE reform proposals differ on key issues: the structure of securitization markets, the number of guarantors, ownership structure, and the extent that private markets function on their own. These proposals are evaluated below against the basic principles that described for competitive markets and effectiveness of a federal role.

Various proposals have coalesced on the prerequisites for a successful securitization market.²¹ There is at least conceptual agreement on the need for TBA markets to efficiently price interest rate risk to support the long-term fixed rate mortgage and to use credit risk sharing to reduce taxpayer exposure. Two proposals explicitly call for mandatory CRTs and others for their use to some degree, as discussed below. There is also widespread agreement on the need for a government backstop to sustain orderly markets during times of catastrophic risk, and for positioning private capital in a first-loss position to absorb “ordinary” downturns to limit taxpayer losses, as well as for the use of a common securitization platform (CSP) to provide enhanced liquidity and transparency.

Nonetheless, there are major disagreements on how to restructure the guarantor market, specifically, as noted, on the number of guarantors and on the oversight of credit pricing by regulators. The lessons of the recent crisis show that these differences can profoundly affect financial stability, how well securitization markets function, and access to housing finance in all market conditions. Moreover, continuance of the successful advances the GSEs have implemented at the FHFA’s direction is uncertain under some proposals. Longstanding and well-recognized advantages of the current structure may also be inadvertently undermined. For instance, some proposals could undermine the TBA market and the efficient trading of interest rate risk, and others could impair the liquidity of the CRT market. Here, the many variants of GSE reform proposals are organized into three major categories: public (government owned), private (recap and release), and multi-guarantor models.

Government Owned Entity

The Promising Road plan proposes a regulated government corporation, tentatively named the National Mortgage Reinsurance Corporation (NMRC), which would combine Fannie Mae and Freddie Mac.²² Although the authors envision the NMRC as free from the profit-driven or market share-driven motives inherent in a stock corporation, they contemplate private investment in NMRC consisting of common equity of 3.5 percent and preferred equity of the same percentage. The NMRC would perform the same core functions as the GSEs do today: buying and pooling loans, issuing MBS, and overseeing master servicing activities.

However, government ownership raises issues of efficiency. Government corporations support public missions, but it is unclear whether they can harness the benefits of private market discipline and be free

²¹ Patricia McCoy and Susan M. Wachter, “A New Coalescence in the Housing Finance Reform Debate?” *Wharton Public Policy Initiative Issue Brief* 4, no. 6. (2016).

²² J. Parrott, L. Ranieri, G. Sperling, M. Zandi, and B. Zigas, “A More Promising Road to GSE Reform,” Urban Institute, 2016.

of partisan influence. Without shareholders to drive efficiency, government-run operations often succumb to political pressures, and even in the absence of this, they are likely to become inefficient and be unable to drive innovation. As a result, mortgage rates may rise and be far higher than those a shareholder driven entity could provide.

Recap and Release

A second proposal offers a recap and release plan that would largely leave the existing two entities in their current form but privately recapitalized.²³ In this plan, the authors contend that given the improvements that are in place, all that is necessary to complete reform is to recapitalize the GSEs. Sufficient private equity capital is therefore intended to serve as a cushion against future losses to taxpayers and will bring back market incentives to the guarantor function. Such a plan emphasizes recapitalization and compensation of shareholders with no prioritization and assurance of Congressional action to create an explicit backstop, a super-regulator, a mission, or duty to serve, which are key elements to the public mission.

Shareholder-controlled entities without regulated returns and definitive missions have the incentive and legal right to compete for market share and often do so by way of lower standards or underpricing of risk. In good times, self-adjusting markets on their own cannot prevent the underpricing of credit risk because underpricing credit may maximize short-run profits. Housing price increases can hide risky lending with underpriced credit risk, undermining market discipline. Shareholder owned entities will expand in good markets and shrink in stress markets, exacerbating cyclicalities. This procyclicality is exactly what caused the crisis and the reason the government took the GSEs into conservatorship under HERA in the fall of 2008. Moreover, markets demonstrate how quickly credit expansion can produce a tsunami of financing and a price bubble of historic proportions, which occurred in the subprime crisis within two years, too short a period for reactive policy intervention to stop the bids for market share.

Multi-guarantors

A proposal from the Milken Institute²⁴ puts forth Ginnie Mae to provide a government wrap on securities issued through the CSP. This plan replicates the current GNMA model with multiple issuers who would select credit enhancement for MBS from among multiple private guarantors. Historically, GNMA has not had an adequate budget or capacity to oversee its current portfolio of issuer/servicers.²⁵ A proposal from the Mortgage Bankers Association²⁶ also has come out in favor of multiple guarantors, with all guarantors using the CSP, under a government wrap. This third category of proposals focuses on the need for market competition, which is the basis for multiple issuers or issuer/guarantors rather than

²³ Moelis and Company, LLC, "Blueprint for Restoring Safety and Soundness to the GSEs," 2017.

²⁴ Ed DeMarco and Michael Bright, "Toward a New Secondary Mortgage Market," The Milken Institute Center for Financial Markets, 2016.

²⁵ Wachter (2018).

²⁶ Mortgage Bankers Association, "GSE Reform: Creating a Sustainable, More Vibrant Secondary Mortgage Market," 2017.

the two now in place. An argued advantage of this proposal is that there is no need to rely on just one or two GSEs. However, in a systemic crisis, all the guarantors would be subject to the same declines in the housing market and surge in defaults, generally resulting in correlated failures.

The need for competition, presumably on rates and credit standards, is the major rationale put forth by multi-guarantor proponents, but history shows that competition among guarantors is the problem—not the solution. The multi-issuer/guarantor model is more likely to undermine the uniformity of standards that allows the CRT market to price credit risk and that allows the TBA market to price interest rate risk through informed competition. Furthermore, if issuer pools are standardized to facilitate TBA and liquid CRT markets, issuers will have an incentive to undermine the pool quality by inserting lower-quality loans into the securities.²⁷

One major concern regarding a multi-guarantor system is that the plurality of entities would damage the very foundation of the TBA system. Without systematic program design and oversight, the result would be a fragmentation of standards across guarantors, and the TBA market would cease to function. In the multi-guarantor scenario, therefore, a regulatory entity that does not currently exist and of significantly larger scope and scale would be essential to ensure common security design across the market.²⁸

The multi-guarantor structure may also undermine the CRT market. With multiple guarantors, it would be even more difficult to maintain robust CRT and TBA markets, simply because liquidity declines with multiple issuers. If there are multiple firms each offering their own CRT programs that are geographically concentrated, and if there is an income shock to their geography, there is likely to be an outflow of capital, which would lead to a reinforcing downward price spiral given the path dependency of housing prices.²⁹ While guarantee fees might signal such risk, the path dependency of prices would reinforce the withdrawal of funding to riskier markets, undermining the national mortgage market. Guarantors would have to raise their guarantee fees at a time of regional market declines, leading to feedback loops of declining credit provision and prices.

One way to avoid this outcome is to create a joint CRT, but this would inevitably lead to moral hazard of free riding on the standards of others while gaining market share by lowering standards. To avoid this would require tight regulation of multiple firms on mortgage lending criteria and require the same mortgage guarantee fees and lending rates (given mortgages terms and characteristics), reflecting the characteristics of the pooled portfolios of the firms, much as Ginnie Mae functions today through the Federal Housing Administration (FHA), Veterans Affairs (VA), and Rural Housing Service (RHS) enforcement of mortgage terms across all issuers.

²⁷ See <https://www.pimco.com/en-us/insights/viewpoints/higher-mortgage-rates-are-likely-with-proposal-of-single-security/> and <https://www.blackrock.com/corporate/literature/whitepaper/viewpoint-federal-housing-finance-agency-single-security-initiative-march-2016.pdf>.

²⁸ Kanojia and Grant (2016).

²⁹ Andrey D. Pavlov, Albert Zevelev and Susan M. Wachter, “Transparency in the Mortgage Market,” *Journal of Financial Services Research* 49, no. 2 (2016): 265-280.

This option might work, and the CRT market could price credit risk in the overall book of business, consistent with the proposals that put forth more than a few guarantors. With the regulatory setting of standardized lending standards and g-fee pricing, multiple guarantors can issue CRTs referenced to the market wide book of business, with the market pricing of CRTs providing feedback to regulators about credit risk. In this regulatory setup, guarantee fees are determined either at the discretion of regulators or in a nondiscretionary way and are linked to CRT pricing. However, the result would not be a competitive market among the guarantors, which is the point of the proposal, but rather a government-regulated market.

V. A Model for the Future

A Structure to Satisfy Market Requirements for Efficiency and Fulfill the Mission

The charters task the Enterprises with providing liquidity to the secondary market for residential mortgages. Even generations ago, these charters recognized the failures within the private market that must be addressed, as well as the important role of the secondary mortgage market not just for housing, but the greater economy. The charters balance the need to support both consumers and the mortgage market. *Section 301* of both Fannie Mae and Freddie Mac's charter acts states that:

“The Congress declares that the purposes of this title are to establish secondary market facilities for residential mortgages, to provide that the operations thereof shall be financed by private capital to the maximum extent feasible, and to authorize such facilities to:

- 1. provide stability in the secondary market for residential mortgages;*
- 2. respond appropriately to the private capital market;*
- 3. provide ongoing assistance to the secondary market for residential mortgages (including activities relating to mortgages on housing for low- and moderate-income families involving a reasonable economic return that may be less than the return earned on other activities) by increasing the liquidity of mortgage investments and improving the distribution of investment capital available for residential mortgage financing;*
- 4. promote access to mortgage credit throughout the Nation (including central cities, rural areas, and underserved areas) by increasing the liquidity of mortgage investments and improving the distribution of investment capital available for residential mortgage financing”³⁰*

The need for a liquid, national mortgage market that is efficient and resilient to stress has not changed.³¹ The mission to support the home financing needs of middle-class Americans and to improve access for underserved communities continues. Furthermore, the Great Recession itself, the continued absence of the private-label securities market, and the drop in homeownership (especially for minorities) reinforce this previously recognized need for federal support of the secondary mortgage market. Based on the preceding discussion, a government-chartered entity or utility is most capable of satisfying these objectives.

Fannie Mae and Freddie Mac were government-chartered entities for decades before the crisis and conveyed very large value to the mortgage finance ecosystem. However, insufficient accountability and regulatory oversight tolerated limited transparency and inadequate capital standards. The absence of return limits allowed the GSEs to respond to the relentless pull to maximize short-run profits and

³⁰ Federal National Mortgage Association Charter Act, Title III of National Housing Act, 12 U.S.C. 1716 *et seq.*, amended May 24, 2018, available at https://www.fhfa.gov/SupervisionRegulation/FannieMaeandFreddieMac/Documents/Fannie_Mae_charter_Act_N508.pdf. Federal Home Loan Mortgage Corporation Act, Public Law No. 91-351, 84 Stat. 450, amended July 21, 2010, available at <http://www.freddie.com/governance/pdf/charter.pdf>.

³¹ Congressional Research Service, “The Loan Limits for Government-Backed Mortgages,” 2017, available at <https://www.everycrsreport.com/reports/R44826.html>.

franchise value. They guaranteed excessively risky loans to grow market share and amassed trillion-dollar MBS portfolios, among other activities.

This proposal rebalances the tension between market incentives and the public mission by establishing a regulated utility. This form of governance strengthens adherence to the mission and regulated returns leverage the discipline of private capital while limiting the profit motive. The GSEs of 2018 are not the GSEs of 2005. Today, Fannie Mae and Freddie Mac have a stronger regulator in the FHFA with public oversight in Congress. The FHFA has proposed a risk-based capital rule and directs adequate pricing based on stress tests and a market rate cost of capital. The GSEs are restricted in both the products they can purchase and the size of their retained portfolios. The entities intermediate most of the interest rate and credit risk on the mortgages they guarantee to the private sector. This process has begun to de-risk the GSEs, bringing private capital and the discipline of capital markets to guarantee pricing and to mortgage rates for consumers. Their operations are reformed, but their ownership structure and oversight remain to be determined.

This analysis suggests that a regulated utility with private shareholders is best suited, though variations on this structure may work as well. The structure outlined below internalizes the benefits of private market discipline and cost efficiency with governance and oversight that maintain focus on the public mission.

SIMMUs: Government Chartered, Private Utility(s)

This proposal would re-charter the GSEs as Systemically Important Mortgage Market Utilities (SIMMUs), similar to Systemically Important Financial Market Utilities (SIFMUs). After being established in the Dodd-Frank legislation, the Financial Stability Oversight Council (FSOC) in the U.S. Department of Treasury) designated eight private market entities as SIFMUs because, *“a failure or a disruption to the functioning of an FMU could create, or increase, the risk of significant liquidity or credit problems spreading among financial institutions or markets and thereby threaten the stability of the U.S. financial system.”*³² This precisely describes the GSEs. SIFMUs are part of the financial structure and provide services between financial entities in the same way that the GSEs provide the standard setting, counterparty monitoring, and stability that allow for smooth dispersion of credit and interest rate risk into the secondary market. With SIFMU status comes enhanced oversight by the FSOC, whose members include the FHFA and other regulatory agencies. Similarly, the FHFA would oversee the SIMMUs. The FHFA’s enhanced oversight of the MMUs would be tailored to their unique mission of mortgage market liquidity and advancing access to affordable home financing to credit-worthy borrowers across the country. Its powers and abilities should adapt to the changing challenges of regulating the GSEs.

³² Depository Trust and Clearing Corporation, “Systematically Important Financial Market Utilities,” available at <http://www.dtcc.com/about/managing-risk/sifmu>.

In support of their public mission, the SIMMUs would fund their operations outside the government appropriations process through fees as the GSEs do now. They would regularly testify before Congress on their operations and mission objectives, but they would not be allowed to lobby in their own interest.

This well-tested structure supports the public missions of liquidity and broad access through its board and its enhanced oversight. Shareholder equity generates the discipline to use resources efficiently to maintain regulated returns. It is worth noting that the FHFA's white paper on GSE reform called for "shareholder-owned secondary market entities (SMEs) operating as utilities with regulated, overall rates of return and appropriate capital requirements."³³

Shareholder Considerations and the Public Mission

A critical step in this process is raising private capital to a level determined by the FHFA with rights and returns clearly defined. Shareholder participation provides two important advantages: putting private equity ahead of taxpayers and incentivizing private owners with operational control to conserve resources and maintain regulated returns on equity.³⁴ To incent managers of the utility to make prudent investments in infrastructure and operations, the regulator could implement a performance-based regulation (BPR)³⁵ system.

A regulator to set returns and monitor adherence to the mission is still needed. It is crucial to maintain this balance because shareholders were a significant driver of the problems that undermined the GSEs' mission prior to the crisis.

There are three means of addressing the balance between private shareholders and public mission: a government corporation, a hybrid public-private ownership structure, and a federally-regulated, privately-owned utility (i.e. SIMMUs). First, rather than a private utility with a government charter, the entity could be a government corporation like AMTRAK. There are several potential issues with government corporations as discussed above. Another path to address the balance issue is to have the government own a controlling percentage of equity. Unless carefully structured, however, this model could increase taxpayers' exposure in non-stress periods, since the government would contribute equity toward non-catastrophic losses on guaranteed MBS. The government could be called upon to expand its role in the market during a stress event by purchasing new share issuances and thereby quell market

³³ National Council of State Housing Agencies, "Federal Housing Finance Agency Perspectives on Housing Finance Reform," January 16, 2018.

³⁴ An alternative to a shareholder or government form of is a mutual. While a mutual form of ownership would be consistent with many of our goals there is the complicated question of who controls the mutual. One possibility exemplified by the largest Danish mortgage company is a mutual owned by borrowers themselves. While this has some attraction, only shareholder owned entity would enable a quick buildup of capital. See <https://forenetkredit.com/about-forenet-kredit/#who> also see Patricia Moser, Joseph Tracy, and Joshua Wright, "The Capital Structure and Governance of a Mortgage Securitization Utility." Federal Reserve Bank of New York, Staff Report No. 644 (October 2013) and Richard Cooperstein and Andrew Davidson, "Is there a Competitive Equilibrium for the GSEs," Journal of Structured Finance. Fall 2017.

³⁵ BPR is in which the shareholders' regulated return is adjusted around a base return in line with performance as deemed by the regulator. See Sonia Aggarwal, Steve Kihm, and Ron Lehr, "From Old to New: How Rethinking Regulation Can Deliver a Smarter Electricity System," Green Tech Media (2015) <https://www.greentechmedia.com/articles/read/how-utility-regulation-can-deliver-value-for-customers-and-society#gs.APC9kcXa>.

over-reaction or contagion, as the Federal Reserve and U.S. Treasury did before and could do again. Moreover, in non-stress times, the government may implement financial or mission discipline adding to pro-cyclicality. Nonetheless, both models achieve the two important objectives of ensuring that a continuously functioning mortgage market exists and that private equity holders and credit investors take first losses.

As discussed above, the regulated private utility structure would also achieve these goals, but in addition this structure would avoid the conflicts noted. The most common structure for regulated utilities includes private shareholders, a privately elected board, and an effective regulator. As is typical for regulated utilities, decisions on pricing, returns on equity, infrastructure, products, businesses, etc. require prior approval by the regulator. This governance structure allows the private company to operate while the regulator retains final say in matters that affect taxpayers, borrowers, shareholders, and the public mission. The charge of the board in all three models is foremost to promote the public mission of the utility.

Under a hybrid structure, the board could be populated in a number of ways. A voting majority of this board could be FSOC members and include interest groups in addition to private shareholders. The majority could be made up of the FHFA director, an FSOC representative, and a representative from the U.S. Department of Housing and Urban Development (HUD) with the remainder being shareholder representatives.³⁶ Alternatively, the government could have a voting majority on the board of directors that oversees the utility without an explicit equity stake. Shareholders would have influence over their investment through a minority stake.³⁷ Finally, shareholders would elect all members of the board under a private system.

The costs and bearers of risks are explicit in all of these structures, and it is critical in each that the regulator have sufficient powers and effectively enforce the mortgage utilities' mission, risk, and returns. There must be no doubt to this governance hierarchy, and the regulator must have the resources and ability to look through, analyze, and guide all aspects of the business. Furthermore, the public mission of the SIMMU should supersede the competitive motivations and benefits of shareholders with private capital at risk. This is consistent with the legal construct of a Beneficial Corporation³⁸, which allows public purpose to be explicitly included as a shareholder objective and enables the board to consider the GSE's mission in their role of representing the best interests of shareholders.

³⁶ In contrast to private boards, there is risk that the seats on a public board may not be filled at all times.

³⁷ The tradeoff for stronger government control is that the government may have too much control of day-to-day operations and undermine the separation between the FHFA as operator of the utility and its simultaneous role as regulator.

³⁸ <http://benefitcorp.net/businesses/why-become-benefit-corp>.

Duties, Capital (Cyclicality) and Governance

As with all regulated utilities, these firms would be closely regulated by the FHFA. Prices and business activities would require prior approval by the regulator. The entities would report to Congress on the strength of the business and performance against their public mission on a quarterly basis.

The regulated utilities would continue the mission of maintaining liquid and fair markets for residential mortgages by setting standards and continuing to intermediate most of their risk to the private capital markets—interest rate and prepayment risk through the TBA market and the CSP, and credit risk through existing CRT and related credit risk programs. MBS would carry an explicit, paid-for, catastrophic guarantee provided by the US government to enhance liquidity and support the TBA and CRT markets and long-term financing in turn. The entities would intermediate credit risk through several vehicles, taking advantage of mortgage insurers, re-insurers, and capital markets without a government guarantee. Capital rules should achieve two objectives: (a) reflect risk and (b) avoid making business cycles worse.³⁹

The entities would retain enough risk to align incentives and enough capital to protect taxpayers from losses such as those incurred in the great recession. This reflects their role as insurance utilities and includes product, counter-party, and balance sheet risks, along with their countercyclical obligations. The utilities would transfer programmatic levels (a substantial majority determined by their regulator) of credit risk to private capital.

For sustainability, the entities would have claims-paying ability to comfortably survive the 2007 crisis; *about* 5 percent from guarantee fees, capital, and risk transfer. This level is consistent with the FHFA's recent proposed capital rule and current guarantee fees, with other proposals, and with the price of risk implied by the CRT markets. Under extreme stress, the U.S. Treasury backstop would provide liquidity to ensure that the guarantors could continue operating and, crucially, to maintain confidence in the mortgage debt markets. What is missing is private capital to absorb other-than-catastrophic losses and a fully developed utility regulator.

The regulator would determine when and how much new equity must be raised if suspending dividends is not enough to recapitalize in the event of losses, and, more generally, the amount of equity, regulated return, etc. Similar to the prior crisis, the regulator (likely with the FSOC) would determine when U.S. Treasury support is triggered and how long such liquidity payments would be needed, reassessed quarterly. When the mortgage market re-stabilizes, the regulator would direct the utilities to issue new shares to recapitalize, diluting existing shareholders.

³⁹ For example, two levers might accomplish this: (a) reprice the cost of the U.S. Treasury backstop annually, and (b) restrict dividends to be less than net income. The U.S. Treasury backstop assures the enterprises can survive cycles, but they should pay higher prices for the insurance if they pose increased risk, such as in recessions. Restricting dividends assures that the enterprises cannot shrink their capital base in strong economies.

To support prudent underwriting standards and to focus the resources of the federal franchises, the entities would only guarantee mortgages that comply with the Qualified Mortgage (QM) standard of the Ability to Repay rule (ATR) and other standards as deemed fit by the regulator. Mortgages guaranteed by the entities that include less than 20 percent borrower equity would continue to require credit enhancement to substitute for the homeowner's stake.⁴⁰ Likewise, the entities would continue to enforce capital and operational standards for servicers and credit counterparties that protect taxpayers while achieving the public mission. The entities would be responsible for providing clear rules regarding warranties made by counterparties and for related repurchases. Incentives should motivate shareholders to enforce prudent standards to maintain their regulated returns.

Private and public actors should be able to monitor the work of the utilities, so origination and performance data on the entire portfolios should be freely available, along with information on the performance of the utilities themselves and their servicing and private risk-taking counterparties. This transparency should help allay some common concerns about utilities with regulated returns, such as mission creep and opaqueness.⁴¹ The entities would compete on service levels for business from their customers in the primary and secondary markets, rather than exploiting their capital arbitrage or watering down of standards for extra profits.

Finally, the entities themselves would provide and maintain a national infrastructure for securitization and credit risk sharing with private markets. Along with their regulator and board, they would determine the nature of their liquidity, new products, and non-performing loan portfolio, access for small lenders through an equivalent of the GSEs' cash window, clear and fair pricing to lenders of all sizes and structures and affordable financing for consumers that is approximate to the current system or cheaper (discussed earlier). They would be required by the regulator to maintain a national presence at all times and to support 30-year fixed rate mortgages and other long-term fixed rate products. The mission supports a healthy market for homeownership by purchasing a representative demographic distribution of the conforming market, to provide countercyclical financing and to invest in order to expand the market to meet changing market demographic needs.

A Super Regulator

A critical component of this proposal and difference from the pre-2008 GSEs is the power and abilities of the regulator. As mentioned above, the regulator would take on the current duties of the FHFA as outlined by Interim Director Otting in a January 30, 2019 letter to U.S. House Financial Services Committee Chairwoman Maxine Waters and U.S. Senate Banking, Housing, and Urban Affairs Committee Ranking Member Sherrod Brown.

⁴⁰ The FHFA has recognized the lack of homogeneity of credit risk providers and has proposed managing the risk of counterparties with ratings and capital grids.

⁴¹ Mark A. Jamison, "Rate of Return: Regulation," available at https://bear.warrington.ufl.edu/centers/purc/docs/papers/0528_Jamison_Rate_of_Return.pdf, 2005.

“The statutory duties of the FHFA Director support this mission:

- *Oversee the prudential operation of each regulated entity;*
- *Ensure that each regulated entity operates in a safe and sound manner, including maintenance of adequate capital and internal controls;*
- *Ensure the operations and activities of each regulated entity foster liquid, efficient competitive, and resilient national housing finance markets, including activities relating to mortgages on housing for low- and moderate-income families involving a reasonable economic return that may be less than the return earned on other activities;*
- *Ensure each regulated entity complies with the law and the rules, regulations, guidelines and orders issued under the law and the authorizing statutes;*
- *Ensure each regulated entity carries out its statutory mission only through activities that are authorized under and consistent with the law and the authorizing statutes;*
- *Ensure the activities of each regulated entity and the manner in which each regulated entity is operated are consistent with the public interest...”*

To achieve these goals, the regulator would be vested with increased oversight and funded outside of the government funding process, so as to ensure its independence and ability to hire and retain qualified staff. Staff, resources, and the reporting requirements mentioned earlier will help the regulator to effectively oversee the SIMMUs.⁴²

Broad Access to Mortgage Finance

The new utilities would continue to have an obligation to advance prudent access to homeownership financing. It is crucial to spell out this obligation so that it is meaningful and does not endanger solvency.

1. Purchase a representative mix of the potential conforming market.
2. Target a lower rate of return for qualified mortgages that result in lower fees for these mortgages for social ends.
3. Make long-term significant investments in fundamental data and research as well as programs and infrastructure to expand access to mortgage finance.
 - i) For example, this could include but is not limited to improving the digital footprint of ‘credit-invisibles’ or future credit innovations through improved consumer credit reporting requirements, using non-traditional credit data, and investing in improved integration and reporting of credit data.
 - ii) As directed by the regulator, allocate a share of budget to first-time homebuyer programs and infrastructure for targeted populations.

⁴² The director of the FHFA or a bi-partisan panel would be selected by the President.

4. Support the affirmative obligations as directed in HERA, including the Enterprise housing goals, Duty to Serve mandates and dedicated funding to the Capital Magnet Fund and Housing Trust Funds.

Government programs may support a similar mission, but without reliance on private capital. Proposals that would eliminate or shrink the GSEs would reduce liquidity in the market and cause government programs to expand risk to tax payers.

Summary

The primary mission of a conforming mortgage market utility(s) is to address the intrinsic failures of a competitive market—namely, to leverage common infrastructure, set durable standards for credit risk and fairness, and convey the benefits of the federal backstop during extreme economic stress. The mission also includes guaranteeing mortgages for all who can qualify for sustainable homeownerships across America. We accomplish both efficiency and equity goals through the SIMMUs, informed by past failures and by the potential for a utility framework to assure market stability—financial market utilities that exchange regulated returns for executing the government’s mission for housing finance.

VI. Transition to a New Paradigm

The first directive for transition of any systemically important financial markets is no disruption. Mortgage markets are functioning smoothly now and there can be no interruption in the daily availability of mortgages or in the continuous functioning of the \$5 trillion conventional mortgage debt market. The current system grew organically over time; some changes were constructive to the mortgage market, others were not. The danger of a major disruption to this market is real.

Advantages of this proposal are that it builds on the two existing Enterprises and their valuable infrastructure, retaining the many reforms made to date, and takes advantage of mechanics laid out in HERA. Congressional action would be needed to re-charter Fannie Mae and Freddie Mac into federally-chartered SIMMUs. The final model and transition process need to be telegraphed to the market to assure stability and liquidity. Congress will need to:

- Affirm the public mission,
- Affirm the explicit government role as catastrophic insurer,
- Delineate the ownership, governance, and regulatory structure of the new utilities,
- Establish a timetable to implement the new regulatory structure, issue stock, and establish governance, and
- Concurrently, expand the FHFA's powers to oversee all GSE operations as a SIMMU regulator
 - Powers typical of utility regulators, including pricing, capital, mission, infrastructure and product decisions, would be subject to approval of the strengthened FHFA.

Once Congress has ratified the new arrangement, the Enterprises would be placed in Limited-Life Regulated Entity (LLRE)⁴³ status for their transition to SIMMUs. All assets and obligations of the GSEs would transfer and payments to existing MBS would continue. These LLREs as specified under HERA would give the SIMMUs two to five years to manage the transition. If a longer timeframe is necessary, the LLREs could be modified by Congress to extend the process. This proposal is agnostic on the outcome of the lawsuit by current shareholders against the government, and this transition structure should not interfere with that process of determination, which would be resolved prior to the entities being placed in the LLREs.

The SIMMUs would continue to maintain and develop the infrastructure of the conventional mortgage market, and the regulator would oversee the issuance of required stock analogous to an initial public offering. The authors estimate that \$100-\$200 billion (2-3 percent) of equity capital would be needed to back the SIMMUs, supplementing the existing guarantee fees and risk sharing structures. Discussions with market experts in raising capital indicate that this could be achieved in a few stages over a couple of years. Once recapitalized, a new board would be seated and the FHFA would determine the risk-based insurance fee that shareholders will begin paying for the U.S. Treasury backstop. Once well-capitalized, this fee should be less than five basis points and recalculated annually. This structure would

⁴³ See Jim Sivon and Ray Natter, "The Mechanics of a Receivership for Fannie Mae and Freddie Mac". July/August, 2017 for more detail: http://www.bsnlawfirm.com/newsletter/OP1707_Extra1.pdf.

be resilient to financial stress with a regulator empowered to respond appropriately to support the nation's interests.

Thus, in about two years, the new SIMMUs could emerge well-capitalized and with a stronger regulator and clearer public mission to support a liquid and fair national market for mortgages—one that is disciplined by the interests of private shareholders.

VII. Conclusion

Finalizing Secondary Reform: The Last Vestige of the Great Recession

This vision of a reformed secondary market for housing finance first recognizes the critical role the GSEs play in housing finance—the same need that led to their initial creation. Second, this proposal builds upon the transformed enterprises following conservatorship. Third, this proposal codifies a structure that is effective, resilient, and fair, balancing the tension of private operating companies with the public mission. It builds on what works today and creates a system that will serve middle America and the Nation for the long run.

Bibliography

- Calem, Paul S., Kevin Gillen and Susan M. Wachter. "The Neighborhood Distribution of Subprime Lending." *Journal of Real Estate Finance and Economics* 29, no. 4 (2004): 393-410.
- Congressional Research Service. "The Loan Limits for Government-Backed Mortgages." 2017. Available at <https://www.everycrsreport.com/reports/R44826.html>.
- DeMarco, Ed and Michael Bright. "Toward a New Secondary Mortgage Market." The Milken Institute Center for Financial Markets. 2016.
- Depository Trust and Clearing Corporation. "Systematically Important Financial Market Utilities." Available at <http://www.dtcc.com/about/managing-risk/sifmu>.
- Federal Home Loan Mortgage Corporation Act. Public Law No. 91-351, 84 Stat. 450. Amended July 21, 2010. Available at <http://www.freddiemac.com/governance/pdf/charter.pdf>.
- Federal National Mortgage Association Charter Act. Title III of National Housing Act, 12 U.S.C. 1716 *et seq.* Amended May 24, 2018. Available at https://www.fhfa.gov/SupervisionRegulation/FannieMaeandFreddieMac/Documents/Fannie_Mae_charter_Act_N508.pdf.
- Green, Richard K. and Susan M. Wachter. "The American Mortgage in Historical and International Context." *Journal of Economic Perspectives* 19, no. 4 (2005) 93-114.
- Jamison, Mark A. "Rate of Return: Regulation." (2005) Available at https://bear.warrington.ufl.edu/centers/purc/docs//papers/0528_Jamison_Rate_of_Return.pdf
- Kanojia, Akash and Meghan Grant. "The TBA Market: Effects and Prerequisites." Chapter in *Principles of Housing Finance Reform*, eds. Joseph Tracy and Susan M. Wachter, Philadelphia, PA: University of Pennsylvania Press, 2016: 167-186.
- Levitin, Adam J., Desen Lin and Susan M. Wachter. "Mortgage Risk Premiums during the Housing Bubble." *Journal of Real Estate Finance and Economics*. Forthcoming.
- Levitin, Adam J. and Susan M. Wachter. "Explaining the Housing Bubble." *Georgetown Law Review* 100, no. 4 (2012): 1177-1258.
- Lipsey, R.G. and Kelvin Lancaster. "The General Theory of Second Best." *Review of Economic Studies* 24, no. 1 (1956): 11-32.
- McCoy, Patricia and Susan M. Wachter. "A New Coalescence in the Housing Finance Reform Debate?" *Wharton Public Policy Initiative Issue Brief* 4, no. 6 (2016).
- Moelis and Company, LLC. "Blueprint for Restoring Safety and Soundness to the GSEs." 2017.

Mortgage Bankers Association. "GSE Reform: Creating a Sustainable, More Vibrant Secondary Mortgage Market." 2017.

National Council of State Housing Agencies. "Federal Housing Finance Agency Perspectives on Housing Finance Reform." January 16, 2018.

Parrott, J., L. Ranieri, G. Sperling, M. Zandi, and B. Zigas. "A More Promising Road to GSE Reform." Urban Institute. 2016.

Pavlov, Andrey D., Albert Zevelev and Susan M. Wachter. "Transparency in the Mortgage Market." *Journal of Financial Services Research* 49, no. 2 (2016): 265-280.

Wachter, Susan M. "Credit Risk Transfer, Informed Markets, and Securitization." *New York Fed Economic Policy Review*. 24, no. 3 (2018): 117-137.

Wachter, Susan M. "Housing and Credit Bubbles in the US and Europe: A Comparison." *Journal of Money, Credit and Banking* 47, no. S1 (2015): 37-42.