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Stabilizing the System of Mortgage Finance in the United States

by Richard Koss

***IMF Working Papers* describe research in progress by the author(s) and are published to elicit comments and to encourage debate.** The views expressed in IMF Working Papers are those of the author(s) and do not necessarily represent the views of the IMF, its Executive Board, or IMF management.

I N T E R N A T I O N A L M O N E T A R Y F U N D

IMF Working Paper

Research Department

Stabilizing the System of Mortgage Finance in the United States

Prepared by Richard Koss ¹

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Abstract

It has been over a decade since the peak of house prices in the US was attained, and while there has been a concerted regulatory response to the subsequent collapse, the two Government Sponsored Enterprises (GSEs) remain in conservatorship. While this action served to forestall a deeper crisis at the time, over the past several years risks related to the system of mortgage finance can be seen building across several dimensions that need to be addressed. While reforms to the GSEs are an important part of dealing with these concerns, this paper argues that broader changes need to be made across the entire mortgage landscape to stabilize the system, even before the final state of the GSEs is fully determined.

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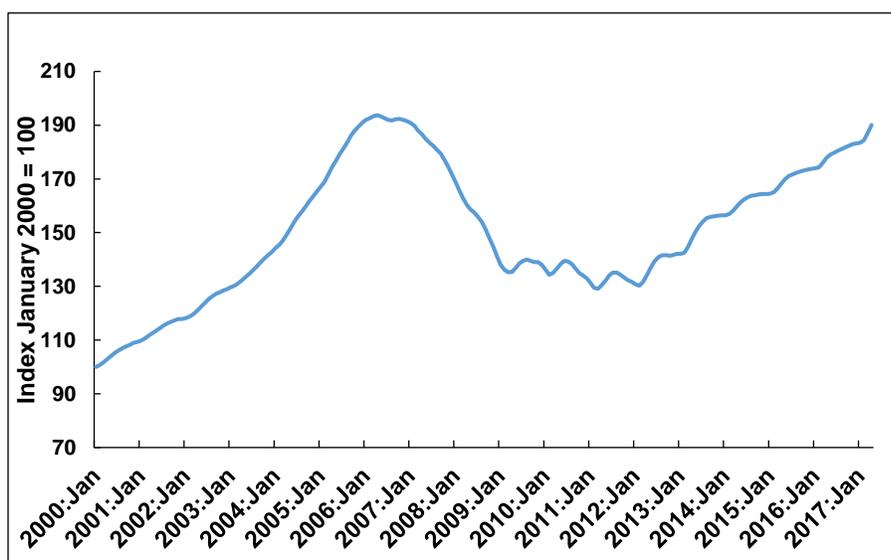
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I. Introduction

It has been eleven years since the start of the plunge in U.S. house prices that led to the biggest financial crisis since the Great Depression (See Figure 1). The aftermath of this event continues to resonate throughout the global economy and the debate over the appropriate policy response remains largely unresolved and as vibrant as ever. A key development was the “temporary” placement of Fannie Mae and Freddie Mac into conservatorship following the passage of the Housing and Economic Recovery Act (HERA) of 2008.² Against most expectations at the time, the conservatorship status of the Government Sponsored Enterprises (GSEs) has persisted and Fannie Mae and Freddie Mac have proved to be largely profitable over the past few years.³ However, there are growing signs that risks are rising in the system of housing finance and actions need to be taken to ameliorate these with some urgency. It is very important in this regard to note that there is much more to the system of provision of mortgages to households than the GSE’s. This paper lists a set of proposals that extend beyond the GSEs to stabilize the mortgage market. These proposals do not constitute a full set of reform proposals that will ultimately be required to efficiently provide mortgages to as many creditworthy borrowers in a safe and sound manner as possible, but rather are designed to forestall another crisis before these larger issues have been resolved.

Figure 1: CoreLogic National House Price Index



Source: CoreLogic, Haver Analytics

² See Frame, Fuster, Tracy and Vickrey, “The Rescue of Fannie Mae and Freddie Mac”, New York Federal Reserve Staff Report 719, March 2015.

https://www.newyorkfed.org/medialibrary/media/research/staff_reports/sr719.pdf

³ GSE’s are corporations created by the Federal government. There are several such institutions in the U.S. but for purposes of this paper the term denotes shorthand for Fannie Mae and Freddie Mac.

II. Introduction to Issues and Summary of Proposals

The main set of issues include:

- The current system of mortgage provision is unnecessarily complicated and the secondary market is opaque.
- The current duopoly allows financial institutions to play one off the other in terms of pricing and credit availability, undermining the financial health of the system.
- The immense financial regulatory infrastructure put into place since the crisis has served to push mortgage provision away from highly-regulated commercial banks and towards riskier non-banks (so-called “mortgage banks”).
- There has been an increase in the market share of the Federal Housing Administration (FHA).⁴ Simultaneously, the share of nonbanks in its loans has risen sharply, leading to a situation where the mortgage security with the safest wrap contains the riskiest mortgages currently being underwritten. FHA’s structure is opaque and their current disclosures are inadequate.
- The structure of the Credit Risk Transfer (CRT) securities currently issued by the GSEs is flawed and needs to be revamped.⁵

Three broad proposals could work to shore up the system:

- The two GSEs, Fannie Mae and Freddie Mac, should be merged into a single enterprise as quickly as possible. Until this happens they should be forbidden to compete for business on the basis of price. The GSE regulator, the Federal Housing Finance Administration (FHFA) should be tasked with monitoring the enterprises to ensure consistency on this basis.
- The regulatory playing field between banks and non-banks needs to be leveled. The role of FHA should be re-examined as part of broad reform, but the agency should immediately clarify the scope of its role in the market and provide a great deal more information about its mortgage book, including the results of stress tests currently

⁴ The Federal Housing Administration is a government agency that sets standards for mortgage underwriting in a manner like the GSE’s. Unlike the GSE’s, FHA does not securitize mortgages, this function is carried out by Ginnie Mae. Another key distinction is that Ginnie Mae securities carry the full faith and credit of the U.S. Government, unlike the securities issued by the GSE’s.

⁵ Beginning in 2013 the GSE’s began to issue securities that share credit risk with investors, see section IV below.

faced by the GSEs. Policies designed to produce a greater supply of affordable rental housing should be enhanced, and rent voucher programs for low income families expanded.

- The CRT “securities” are not securities in the formal sense that they distribute cash flows that are the payment of some entity (like the US government or mortgage borrowers), but are rather reference notes where the outstanding balance is reduced if losses of a reference pool of loans exceed a predetermined threshold. This should be changed to a more straightforward structure where a share of mortgages is diverted from mortgage-backed securities (MBS) pools to securities where losses would flow directly to investors.⁶ These securities would have the advantage of being SEC regulated, which would both enhance their attractiveness and bring useful regulatory scrutiny to the product.

III. Simplifying the System of Mortgage Provision in the US

The system of mortgage finance in the US is exceedingly and unnecessarily complicated. The Fannie Mae selling guide is 1,408 pages while that of Freddie Mac is 2,303 pages.⁷ Originators devote considerable time and effort to understand the differences between the two. Fannie Mae and Freddie Mac also issue distinct securities. Fannie Mae Mortgage Backed Securities (MBS) and Freddie Mac Participation Certificates (PC) are similar in construct and concept but there are many modest differences. The Fannie Mae MBS prospectus is 115 pages long while that for Freddie Mac PC’s is 114 pages.⁸ There is a cottage industry trading the yield gap between the two securities on the part of some investors with short-term horizons, but for most value-added investors the difference is a nuisance factor. In 2012 FHFA issued a ruling directing that a single security be developed that will be issued by both firms, and the program was significantly modified in 2014.⁹ This is a distinct step in the right direction, although implementation will not occur before the second quarter of 2019.¹⁰

⁶ A mortgage-backed security is a form of an asset-backed security that is collateralized by a pool of mortgages.

⁷ See <https://www.fanniemae.com/content/guide/sell20616.pdf> and <https://www.allregs.com/tpl/Viewform.aspx?formid=00051757&formtype=agency>

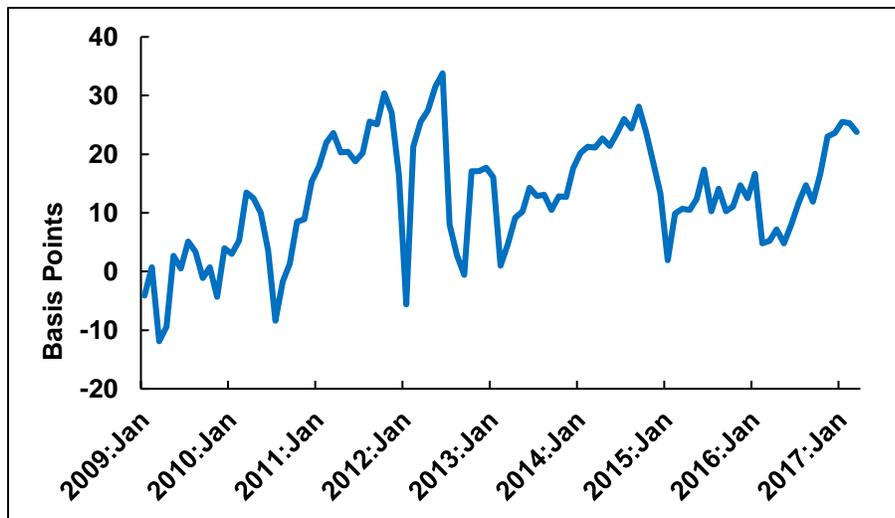
⁸ See http://fanniemae.com/syndicated/documents/mbs/mbspros/SF_June_1_2016.pdf and http://www.freddie.com/mbs/docs/pcoc_071916.pdf

⁹ The new development is known as the Common Securitization Platform (CSP). It is envisioned that many financial institutions will eventually be able to utilize the platform to securitize mortgages, but for now the primary focus is on the GSEs. See <https://www.fhfa.gov/PolicyProgramsResearch/Policy/Pages/Single-Security.aspx>

¹⁰ See <https://www.fhfa.gov/PolicyProgramsResearch/Policy/Pages/Common-Securitization-Platform-and-Single-Security-Timeline.aspx>

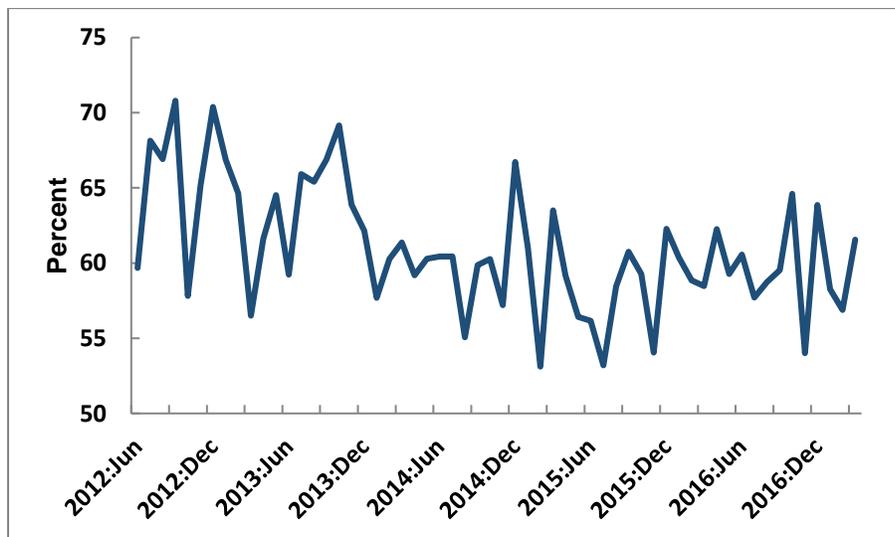
Historically, Fannie Mae has held a price advantage relative to Freddie Mac as Fannie has traditionally had a higher market share in securitizations and corresponding liquidity advantage (See Figures 2 and 3). The Financial Industry Regulatory Authority (FINRA) reports that the daily trading volume of Fannie Mae securities can be as much as ten times that of Freddie Mac securities.¹¹

Figure 2: Freddie Mac – Fannie Mae Yield Gap



Source: Bloomberg

Figure 3: Fannie Mae Share of Conventional Mortgage Securitized Market



Source: eMBS

¹¹ See various reports at <http://www.finra.org/industry/trace/structured-product-activity-reports-and-tables>

The gap in funding costs sets the stage for a destructive “race to the bottom” in terms of price competition between the two entities.¹² Besides the base guarantee-fee (g-fee), competition based on price can be based on differentials in loan-level price adjustments (LLPA’s)¹³ levied on individual lenders as well as the so-called “buy-up buy-down grids”¹⁴ that the GSEs use to determine the rate at which the enterprises swap pools of loans for securities. Unfortunately, it is impossible to track the extent of competition that occurs through these vehicles as the data is not publicly available. FHFA should conduct and release a study of the impact of this form of competition on the financial health of the GSE’s (and the associated risk to taxpayers) as soon as possible.

Finally, the GSEs have active programs of packaging loans into Collateralized Mortgage Obligations (CMO’s), which are structures that are designed to generate cash flows with specialized characteristics of interest to investors. While a useful construct, CMO’s may also be used to pull mortgages out of the more liquid MBS pools, thereby creating an artificial shortage that boosts the prices of their securities. It is interesting to note that while Fannie Mae tends to have a higher share of the production of mortgage-backed securities, the CMO market is more evenly balanced and in the last few years, Freddie Mac’s production has exceeded that of Fannie Mae (See Figure 4).¹⁵ It is important to keep in mind that the same level of production implies a proportionately bigger impact on Freddie Mac given its lower share of securitizations of MBS.

This pattern has been noticed by policymakers who in response have launched an effort to build a Common Securitization Platform (CSP) in which the two entities will issue a single,

¹² See, for example, <http://www.nationalmortgagenews.com/news/origination/small-lenders-worry-gse-moves-will-leave-them-behind-1088772-1.html> and <http://www.aei.org/publication/the-troublesome-competition-among-fannie-mae-freddie-mac-and-fha/>

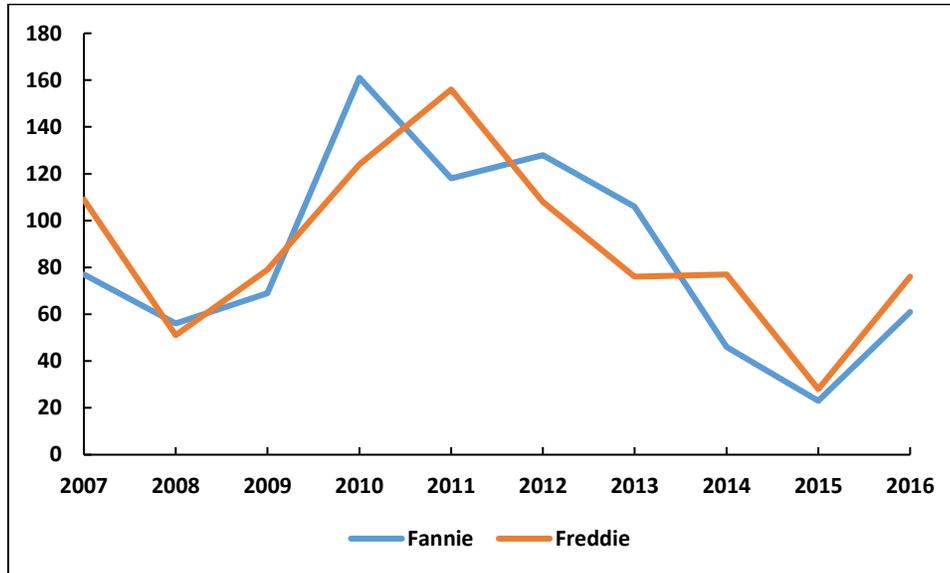
¹³ A loan level price adjustment is an adjustment made to the g-fee that can be based on borrower characteristics such as FICO score and down payment, but can also be lender-dependent based on variables such as prepayment speeds.

¹⁴ A pool of loans that are delivered to a GSE can have various note rates. These pools are then swapped for securities with coupons that reflect the average note rates, minus the g-fee (including llpa’s). MBS securities are issued only in half-percent increments (such as 3.5% or 4.0%), so the g-fee is adjusted according to which coupon is chosen, in exchange for a one-time cash payment. For example, if a pool is delivered with average loan notes of 4.25% and the g-fee is 50 bps, then the lender has to decide whether to receive an MBS with a 3.5% or a 4.0% coupon. In the first case, the g-fee is “bought up” to 75 bps in exchange for a cash payment from the GSE. In the latter case the g-fee is “bought down” to 25 bps, in exchange for making a payment to the GSE. The “buy-up buy-down” grids determine the size of the payment in either direction, and are a key source of price competition between the two entities.

¹⁵ SIFMA has background on the structured market for mortgages at: <http://www.investinginbonds.com/learnmore.asp?catid=11&subcatid=56&id=3103>

presumably more liquid, security.¹⁶ Launched in 2014, the project's completion was recently delayed to the second quarter of 2019 and cost estimates have steadily risen.

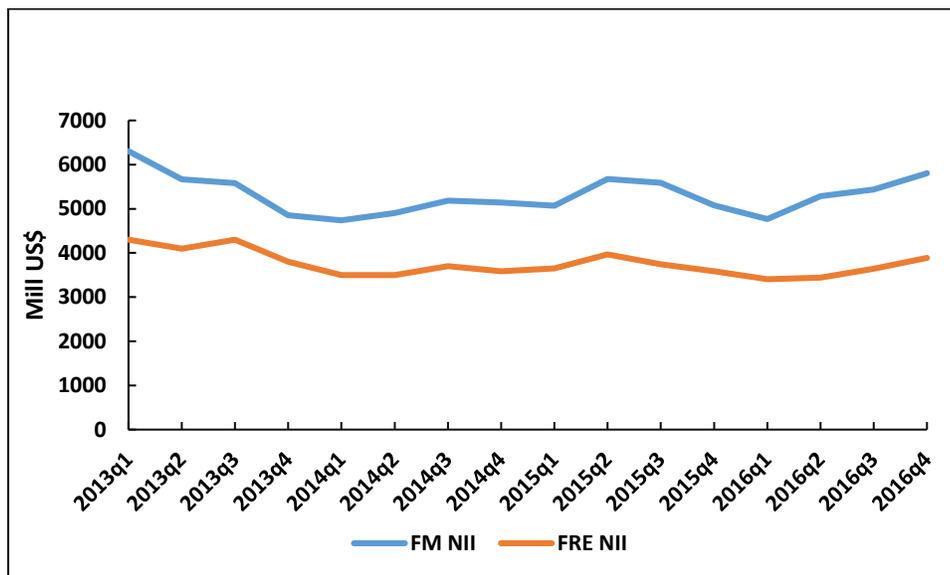
Figure 4: GSE CMO Production



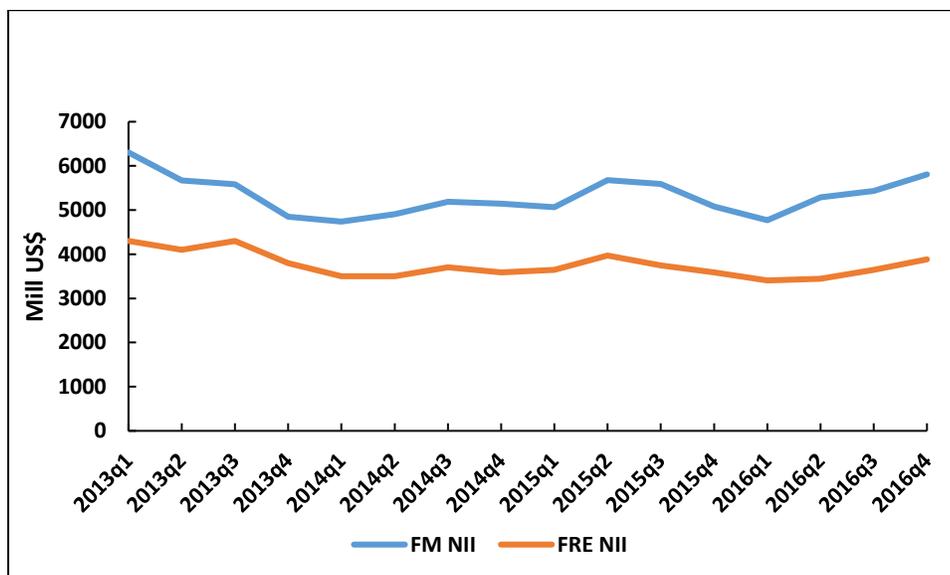
Source: Bloomberg

The profit performance of the GSEs reflects these differences. In the simplest possible terms, the main source of income for both entities is simply the guaranty fee applied to their books of business, or net interest income. Since any one year's production is small relative to their total books, the series of net interest incomes are very smooth, reflecting the long-term average share of 60/40 in Fannie Mae's favor relative to Freddie Mac (See Figure 5). A somewhat different story emerges when looking at before-tax net income, however. Here, the series are more volatile, particularly for Freddie Mac. The main swing factor between net income and net interest income is the mark-to-market performance of derivatives that are used to hedge their portfolios, and other capital markets trading. This impact is of sufficient magnitude that over the past year and a half, Freddie Mac has posted two quarters of losses and one quarter of marginal gain following two years of strong earnings from 2013 – early 2015. Over the same time, Fannie Mae's profits have remained well in positive territory (See Figure 6).

¹⁶ See <https://www.fhfa.gov/PolicyProgramsResearch/Policy/Pages/Securitization-Infrastructure.aspx>

Figure 5: GSE Net Interest Income

Source: Fannie Mae and Freddie Mac 10Q's and 10K's

Figure 6: GSE Net Income Before Tax

Source: Fannie Mae and Freddie Mac 10Q's and 10K's

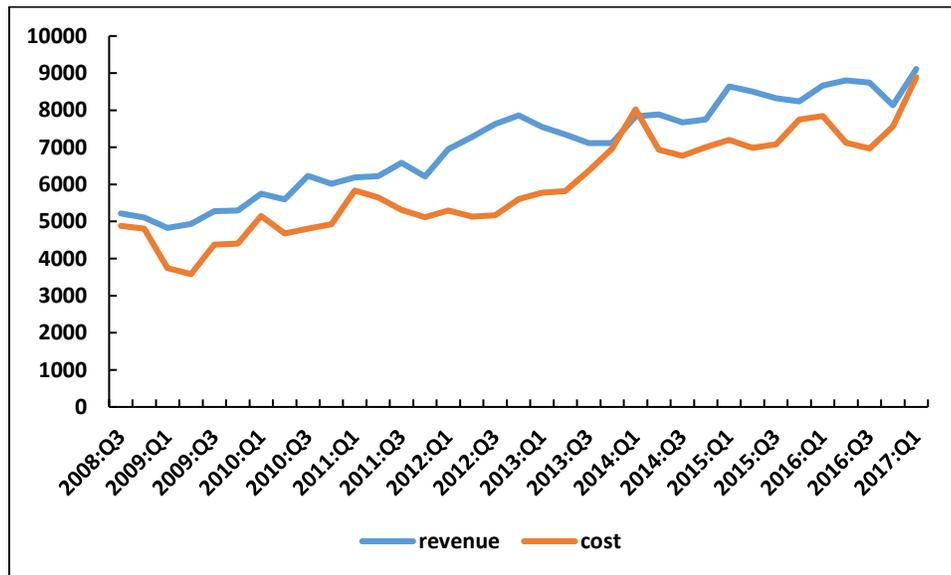
In such an environment, the argument for the creation of a single entity with a single set of underwriting and securitization standards is compelling. This inevitability of this outcome, in the short-run, serves to intensify the drive for market share. The administrative costs of the

two firms in 2016 exceeded \$5 billion, creating the potential for both significant cost savings for taxpayers and lower costs for borrowers.

Finally, as pointed out by Parrott, Ranieri, Sperling, Zandi and Zigas, a single entity controlled by the government has the potential to bring private capital into the market while reducing the risk of too-big-to-fail moral hazard on the part of private agents that has plagued the system over time.¹⁷ Rather than move straight into the government corporation system proposed there, this paper suggests temporarily keeping the new entity in conservatorship while other options are explored. To ensure that moral hazard is minimized, current holders of common shares should be bought out at some nominal cost, or the shares eliminated.

Even with a rise in the costs associated with new regulatory requirements, profitability in the mortgage industry has largely been maintained (See Figure 7). The decline in incomes reported in Q1 2017 was fueled in part by a spike in long-term interest rates following the U.S. election that adversely impacted volumes, but has subsequently subsided. Should adjustments in prices and fees need to be made to shore up lender health, these should be accomplished in transparent fashion and apply to every lender equally.

Figure 7: Revenue and Cost per Loan



Source: MBA, Haver Analytics

¹⁷ See <https://www.economy.com/mark-zandi/documents/2016-03-22-A-More-Promising-Road-To-GSE-Reform.pdf>

There are practical considerations that need to be taken account for the merger to be successful. These include:

- Operational risk – A single entity would be cost effective and efficient, but also result in concentrated operational risks. Consideration should be given to setting up one or more fully functional backup trading desks and data centers outside of the Washington DC area.
- Fiscal impact – The fiscal treatment of the GSE's is complicated by the fact that the two major budget authorities, the Office of Management and Budget (OMB) and the Congressional Budget Office (CBO) account for them in different ways. OMB treats the entities as private institutions with a contractual relationship with the government, and so accounts only for cash flows to and from the government. CBO treats them as government agencies, and thereby quantifies the protection they provide to the system of mortgage finance as a subsidy.¹⁸ Insofar as a merger would restore pricing power and reduce costs, cash flows over time should be enhanced but the value of the subsidy may not be affected.

From a perspective of moral hazard, a single entity would feel no pressure to loosen lending standards to increase or maintain its market share. Prudent regulation by FHFA would be easier to implement without concerns about which entity might be more or less affected by the action. A recent announcement by Fannie Mae that it is raising the debt-to-income ratio to 50% from 45% is counterproductive from a safety and soundness perspective.¹⁹

- Timeline - By far the most complex part of the merger has to do with the differences in the securities issued by the two firms. As noted previously, the GSE's in conjunction with FHFA are working on a project to move to a single security within the mortgage securitization space, expected to go on line during the second quarter of 2019. A key challenge will be to implement fungibility between the old Fannie and Freddie securities and the new security but this challenge is coming in any event. Other significant considerations include the merger and management of the two firm's portfolios and the harmonization of the seller/servicer guides. If planning starts soon this should all be complete by 2020.

The two entities should be merged as soon as practicable. FHFA should immediately ban all competition based on price, and lenders should face the same LLPA schedules and buy-up buy-down grids and these should be completely transparent. FHFA should monitor the entities to ensure compliance. In the end, we want a system of mortgage finance that relies on lenders' ability to underwrite and service mortgages effectively and efficiently and not on

¹⁸ See [https://www.budget.senate.gov/imo/media/doc/Fannie%20&%20Freddie%20BB071516\[1\].pdf](https://www.budget.senate.gov/imo/media/doc/Fannie%20&%20Freddie%20BB071516[1].pdf)

¹⁹ See https://www.washingtonpost.com/realestate/fannie-mae-will-ease-financial-standards-for-mortgage-applicants-next-month/2017/06/05/9b391866-4a0b-11e7-9669-250d0b15f83b_story.html?utm_term=.61f66fd4b532

their ability to play one Enterprise against another to gain a better price, or waivers to their selling guides. And we want the entity setting standards and securitizing mortgages to be wholly focused on its mission of enhancing liquidity and supporting sustainable homeownership, not on its market share.

Finally, it is important to note that the merger of the GSE's is only one step on a long road towards comprehensive GSE reform. This topic is discussed further in Section V.

IV. Housing Policy, Financial Regulation and the Rise of the Mortgage Banks

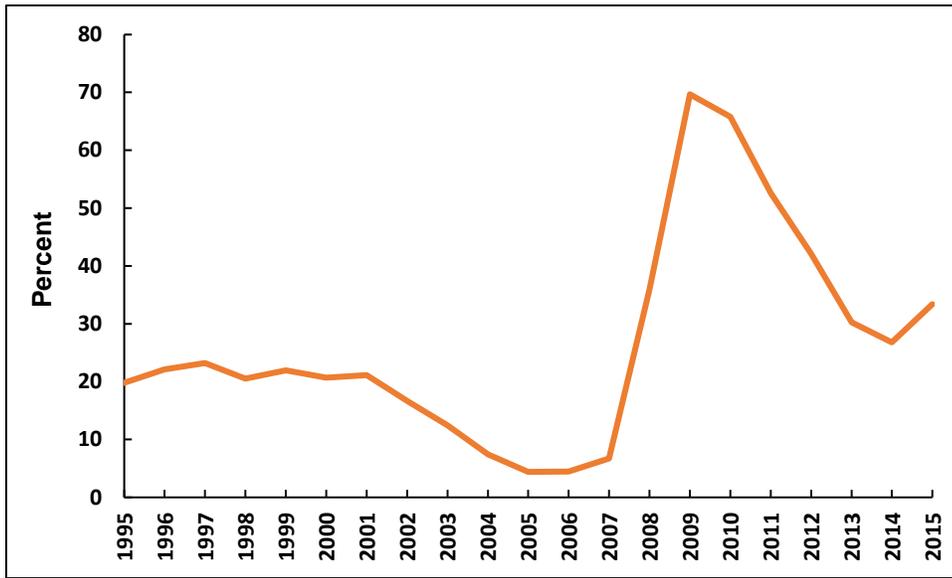
One of the most striking developments in the mortgage market since the Great Recession is the increase in importance of FHA in the provision of mortgage finance in the US. Having been crowded out by private capital during the bubble period,²⁰ FHA stepped in to provide liquidity during the crisis when private sources of capital became much more risk-averse. This development, in addition to the conservatorship of the GSEs, the Fed's program to purchase MBS and the various homebuyer tax credits, was key in stabilizing the housing market after the crash. The share declined for a while after 2009 as lenders regained confidence, but increased again in 2015 following a 50-basis point cut in the mortgage insurance premium (MIP) by FHA early that year (See Figure 8).²¹ Similarly, the Ginnie Mae securitization share of the market rose significantly from 2012-2015, before settling down modestly last year. (See Figure 9). The Ginnie share of the securitized market has been larger than Freddy's for the past several years.²²

²⁰ This was the so-called Private Label Security (PLS) market, which was the core of the mortgage market problems that triggered the global financial crisis.

²¹ A mortgage is either Government i.e. FHA, Veterans' Administration (VA) or Farm Service Agency (FSA) or Conventional. A conventional mortgage is "Conforming" if it meets the standards required to be guaranteed by a GSE. Most conventional non-conforming mortgages are so-called "Jumbos" that exceed the GSE caps. Most of these are held on bank balance sheets. For purposes of this note we look primarily at the conventional conforming market, and FHA.

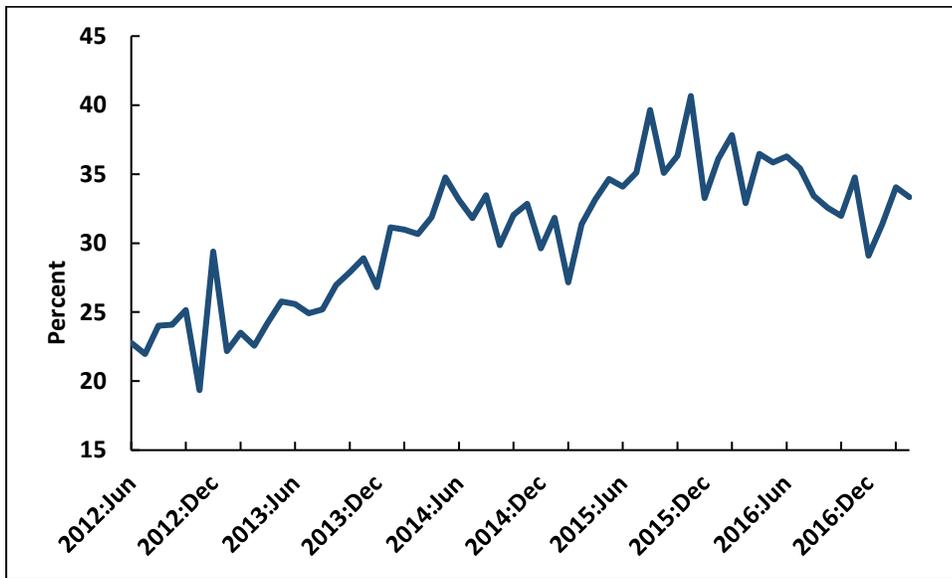
²² The gap between the FHA share of near 18% of mortgages and the 33% Ginnie share of securitization reflects many factors. Of most importance are two: First, about 25% of mortgages are not securitized, and most of these are conventional mortgages. Second, Ginnie Mae securitizes other mortgages besides FHA, notably Veterans Administration (VA) and Rural Housing Service (RHS). FHA comprises about 2/3 of nonconventional mortgage originations.

Figure 8: FHA Share of Mortgage Production



Source: HMDA

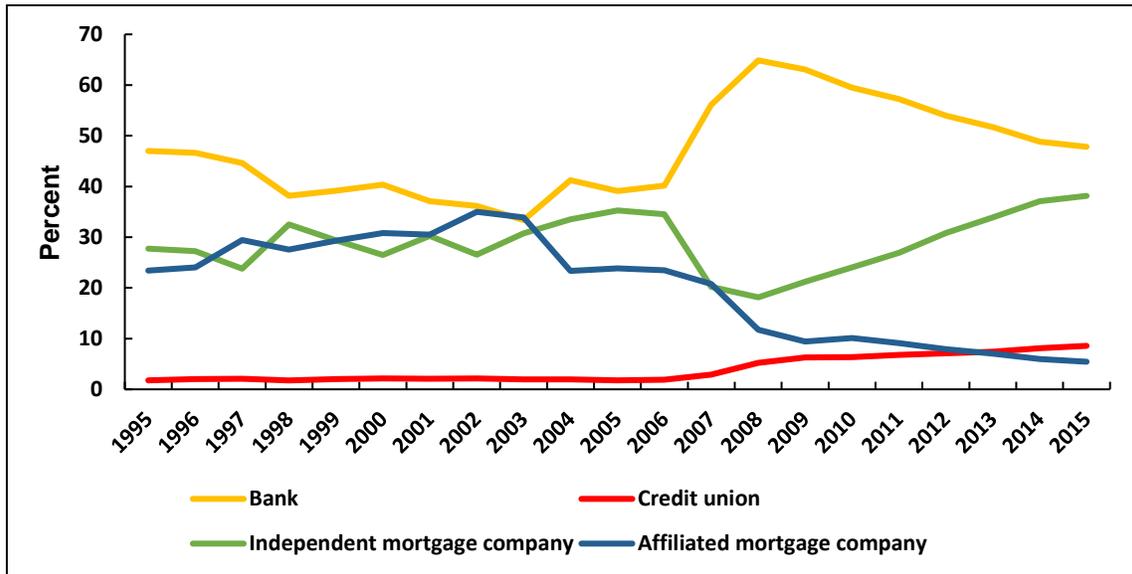
Figure 9: Ginnie Mae Securitization Share



Source: eMBS

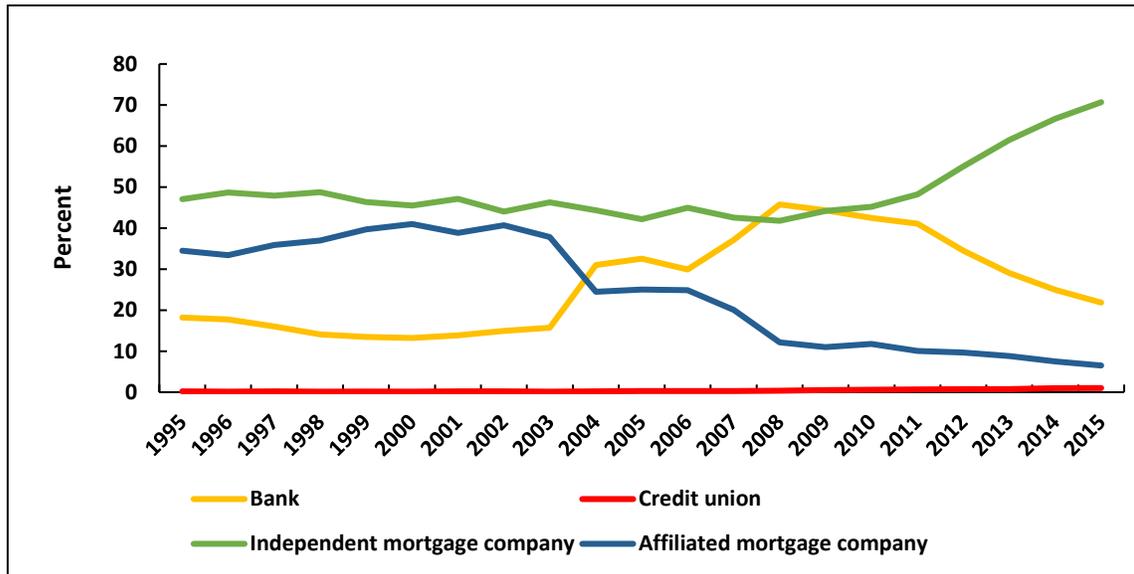
The other main development is the remarkable rise of the mortgage banks (See Figures 10 and 11).²³ These developments are not independent, and understanding the mechanisms behind these trends is crucial in formulating policies to strengthen the mortgage finance system.

Figure 10: Share of Conventional Mortgage Production by Institution Type



Source: HMDA

²³ Mortgage banks are monoline institutions that do not take deposits and are funded through wholesale markets or other sources of private capital. They are state-licensed and also subject to the qualified mortgage (QM) and consumer protection regulations issued by the CFPB.

Figure 11: Share of FHA Mortgage Production by Institution Type

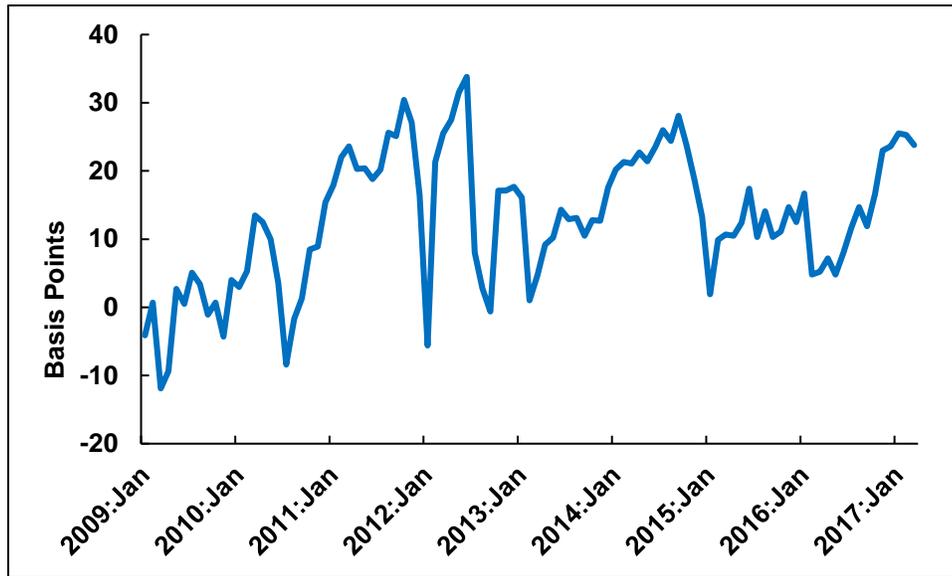
Source: HMDA

Note that the share of non-bank lending for FHA in 2015 was **over 70%**.

A. The Government Guarantee and Treatment on Bank Balance Sheets

The full faith and credit guarantee of Ginnie Mae securities serves to lower their cost of capital relative to the GSEs and private issuers, both directly through lowering their credit risk, and indirectly by making them acceptable for investment on the part of pools of capital whose guidelines restrict their activities to sovereign securities. A further key support for Ginnie Mae securities vs Agency MBS is that Ginnie Mae's receive a zero-risk weighting on bank balance sheets while agencies have a weight of 20%.²⁴ In addition, Basle 3 introduced the concept of a Liquidity Coverage Ratio (LCR) in 2015, requiring banks to hold on hand cash or liquid assets amounting to cover 30 days of modeled net outflows. For purposes of this calculation, Ginnie securities count as Level-1 liquid assets in accordance with Treasuries, while Agency MBS are Level-2A securities, which means that their value is discounted by 15% and can together with other Level-2 securities (such as investment grade corporate debt) comprise no more than 40% of total holdings allowed in the calculation. Consequently, there is a persistent funding advantage enjoyed by Ginnie Mae relative to the GSEs (See Figure 12).

²⁴ See <http://www.gao.gov/assets/690/681647.pdf>

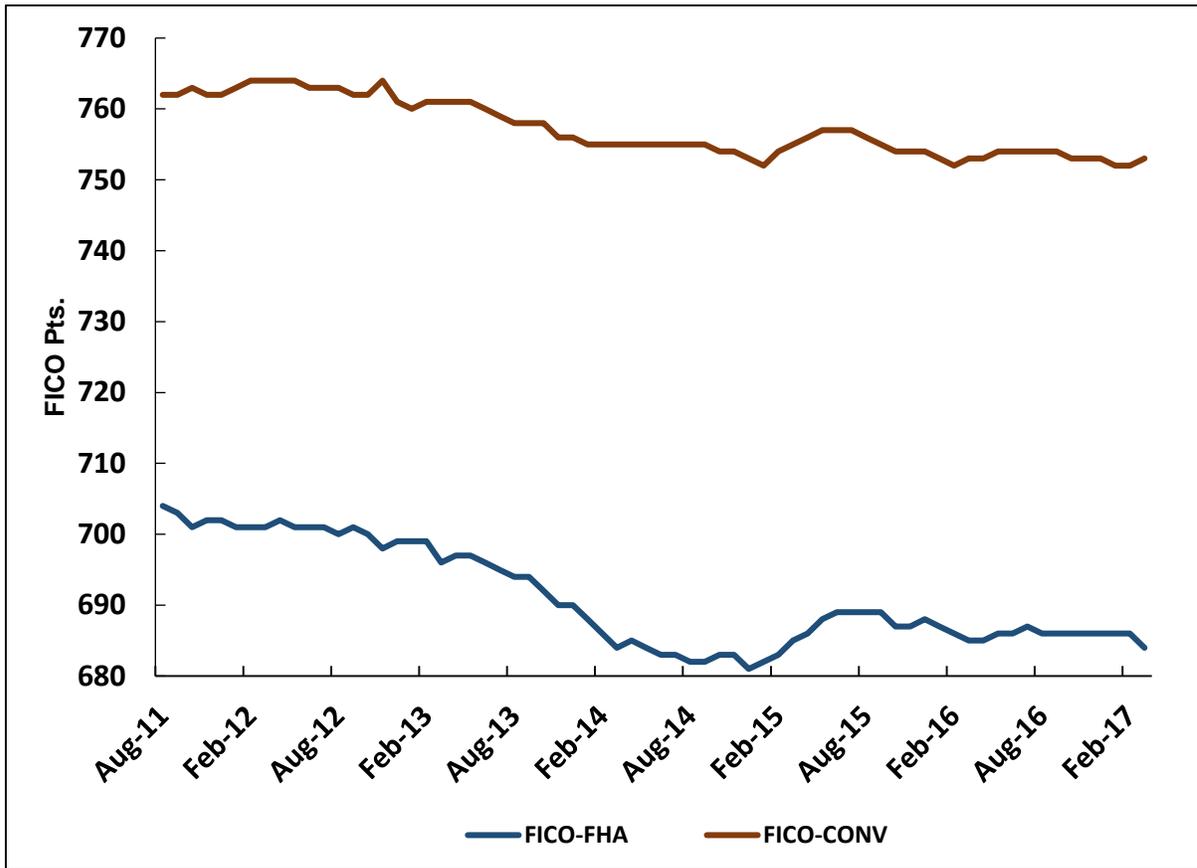
Figure 12: Fannie Mae -Ginnie Mae Yield Gap

Source: Bloomberg

B. Reps and Warrants

So far, global financial institutions have paid nearly \$50 billion in penalties related to representation and warranty suits brought in the wake of the sub-prime crisis. Remarkably, a decade after these loans were originated, this issue remains in the financial headlines. Deutsche Bank settled its case with the Justice Department only in January while the Barclays case remains unresolved. It is little wonder that banks are backing off providing credit to the market; this is true not just because of the hefty payouts, but also to the great drain on management time and resources devoted to this issue. The GSEs have implemented reforms in their processes designed to ease lender concern about reps and warrants, but these remain largely untested and banks continue to devote their attention primarily to very high-quality borrowers. At the same time, there has been considerable easing of standards in FHA lending (See Figure 13). The tilting of the market towards FHA therefore implies an overall relaxation of lending standards in the mortgage market.

Figure 13: Evolution of Loan Characteristics



Source: Ellie Mae

To understand the rise of the mortgage banks, it is important to understand the difference in the rep and warrant frameworks of the GSEs and FHA. FHA loans are subject to the provisions of the False Claims Act (FCA) that allows for triple damages for rep and warrant violations.²⁵ In 2014 JP Morgan CEO Jamie Dimon famously asked if his company “should be in the FHA business at all?”²⁶ A strong sense that the Justice Department utilizes the FCA as a revenue raising device is often cited as a reason why the non-bank share goes up. The act is generally used against banks as few non-banks have sufficient capital for the government to be interested in going after.²⁷

²⁵ See <https://www.justice.gov/opa/pr/justice-department-recovers-over-47-billion-false-claims-act-cases-fiscal-year-2016>

²⁶ See <http://www.cnbc.com/2014/07/16/mortgage-volume-tanks-jamie-dimon-bashes-the-fha.html>

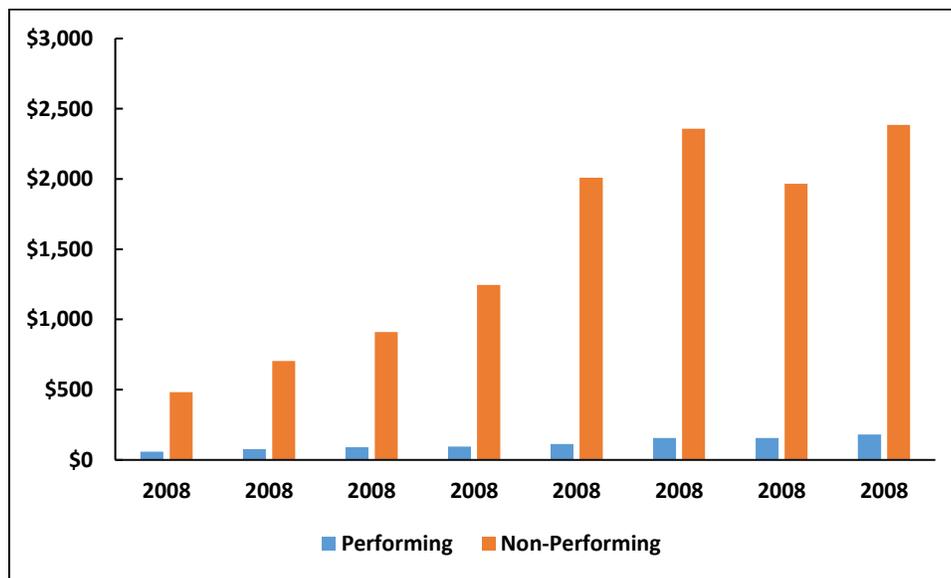
²⁷ See <https://www.housingwire.com/blogs/1-rewired/post/40701-the-false-claims-act-has-no-place-in-housing>

C. The CFPB, Servicing Costs and Federal Reserve Stress Tests

One of the perceived problems that occurred in the wake of the financial crisis was the sense that consumers were poorly served by mortgage servicers who were overwhelmed by the deluge of nonperforming loans. In response to this problem, in 2016 the Consumer Financial Protection Bureau (CFPB) implemented the Mortgage Servicing Rule, which mandates early intervention for delinquent borrowers.²⁸

This intervention is labor-intensive and expensive, and according to the Mortgage Bankers Association, between 2008 and 2015 the cost of servicing a performing loan tripled while the cost of servicing a nonperforming loan quintupled (See Figure 14).

Figure 14: Fully Loaded Service Operating Costs (\$ per Loan) of Performing and Non-Performing Loans



Source: MBA

The servicing fee is fixed at 25 basis points for Fannie Mae and Freddie Mac, and 44 bps for FHA mortgages, so while underwriting loans that perform is a profitable business, should the borrower become delinquent the financial calculation becomes quite different.

Incentives to take risk and move down the credit curve are considerably blunted by this rule, although the intention is well-meaning. The important point, however, is the wedge that develops in the incentives to do business between banks and non-banks as a result of the combination of this rule and the imposition of Federal Reserve stress tests. The results of the

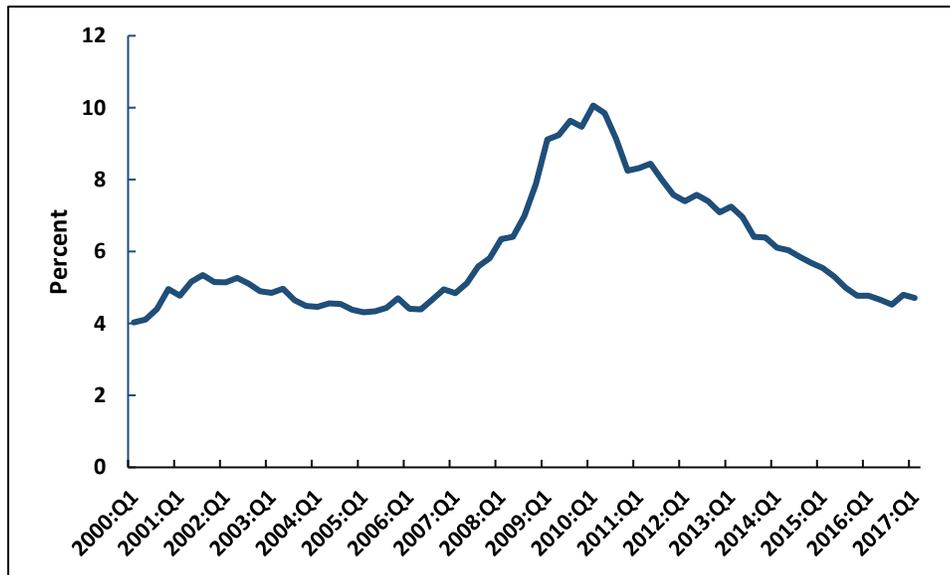
²⁸https://s3.amazonaws.com/files.consumerfinance.gov/f/documents/08042016_cfpb_Mortgage_Servicing_Executive_Summary.pdf Note the rule was proposed in 2012 and lenders immediately began work to implement it.

stress tests are utilized by the Fed to review their regulated banks capital plans. A bank needs to be well-capitalized under a stress scenario to have its plans to pay dividends and buy back shares approved. This adds a powerful incentive to avoid risk on the part of banks that mortgage banks do not have to face.

D. Leveling the Playing Field

There is an active debate underway at the moment concerning whether mortgage credit conditions in the US are too tight or too loose.²⁹ Rising house prices and steady employment gains have brought delinquency rates down to near decade lows, although the downward trend may now be stabilizing. (See Figure 15). The delinquency rate of FHA loans in the first quarter stood at over 8%, a 20-year low but nearly twice the industry average. At the same time, the pristine performance in the conventional conforming space indicates that there is room for lenders to utilize more of the available “credit box” for conventional, conforming loans.

Figure 15: Total Mortgage Delinquencies



Source: MBA, Bloomberg

²⁹ See papers provided at <http://www.aei.org/events/fifth-annual-aei-and-crn-conference-on-housing-risk-sponsored-by-fico/>

There are six steps that can be taken to level the playing field.

1. Capital Standards and MSR's

FHFA and Ginnie Mae have the authority to set capital standards for non-bank mortgage sellers and servicers.³⁰ In general, mortgage banks hold substantially less capital than do the more-regulated banks, leading to concern that in a downturn the US taxpayers will be liable for losses associated with loans that might have underwriting defects. As noted above, reps and warrants have little meaning if the originator has little capital to pursue.

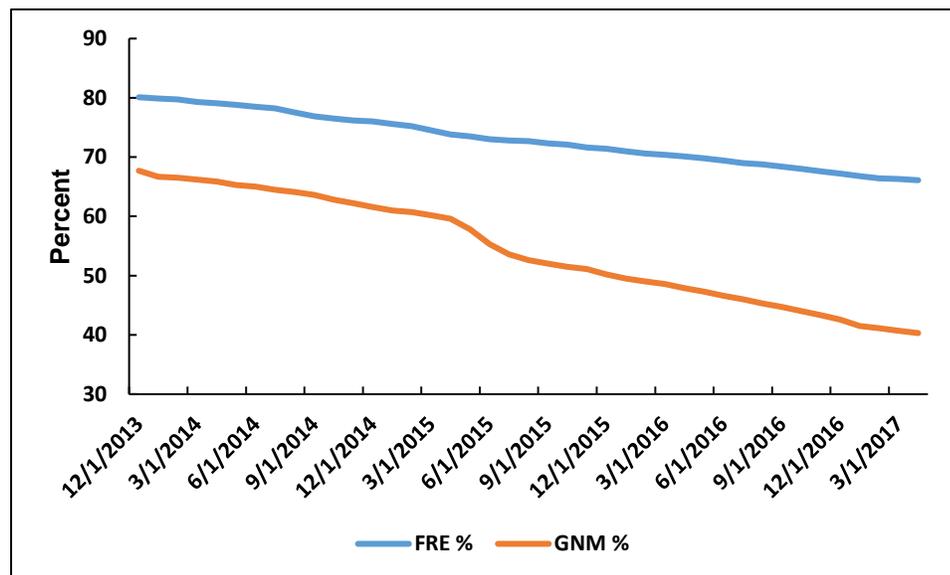
A complicating factor here is mortgage servicing rights (MSR's),³¹ which can be split off from the original mortgage and sold or transferred to another entity which bears the cost of serving in return for the servicing fee. These MSR's are very exposed to interest rate and credit risk, and extremely difficult to value. Consequently, the Basel III framework raised the capital requirements for MSR's to a *minimum* 250% risk weight for capital purposes. Consequently, there has been a flood of this business leaving commercial banks for nonbanks (See Figure 16). Earlier this year Citi announced it was exiting this business entirely.³² A recent study by the Urban Institute showed that MSR's constitute a much higher share of balance sheets for nonbanks relative to banks, and make a very convincing argument that the current capital regime for nonbanks inadequately protects against risks.³³ Besides the direct impact, there is the potential for spillover effects from widespread distress in the nonbank sector on the general financial system. Normally, if a servicer runs into financial trouble then its assets are transferred to a viable servicer, but in a situation of widespread distress the risk arises that there is insufficient capacity in this area for the housing finance system to function normally. This has come to be referred to as "servicing seizure risk". In addition, the exposure of the regulated sector and investors (MSR's are being securitized) to the nonbanks could be significant. Enhanced capital standards for nonbanks are clearly called for.

³⁰ See <https://www.fhfa.gov/PolicyProgramsResearch/Policy/Pages/Requirements-for-Enterprise-Seller-Servicers.aspx>

³¹ A mortgage servicing right is a contractual obligation to service a mortgage in exchange for a fee. MSR's face both prepayment risk and credit risk as the cost of servicing mortgages rises sharply if the borrower becomes delinquent

³² <http://www.housingwire.com/articles/39064-citimortgage-exits-mortgage-servicing-business>

³³ <http://www.urban.org/research/publication/nonbank-servicer-regulation-new-capital-and-liquidity-requirements-dont-offer-enough-loss-protection>

Figure 16: Share of Balances Serviced by Banks

Source: Recursion Co.

2. Let's *not* recapitalize the GSEs

The argument for additional capital to shore up the system of housing finance holds for originators, but it is a different situation for the Enterprises. This is sometimes referred to as “recap and release”. It’s a bad idea. What is capital? It is wealth available to an organization for a particular purpose. According to the Treasury Senior Preferred Stock Purchase Agreements, the balance sheet capital of the GSEs is set to shrink to zero by 2018. Does this mean the entities are bankrupt again if they lose money? No. There remains a \$159 billion line of credit between the GSEs and the US Treasury, a bit below the \$187 billion that was drawn during the financial crisis. This is capital. Given the much-improved underwriting standards backing their books of business now compared to a decade ago, it would take a genuine catastrophe for this magnitude of a draw to recur. In a recent speech, FHFA Director Watt stated “The most serious risk and the one that has the most potential for escalating in the future is the Enterprises’ lack of capital.”³⁴

This argument is specious. The only risk to losses in this situation is headline risk, not economic risk. Recap and release sets the stage for the return of the regime of “private gain and public risk” that was the source of trouble in the first place. Note that should a significant corporate tax cut be implemented, the GSEs will certainly be subject to material draws from Treasury as their “Deferred Tax Assets” from prior losses are marked down and passed through their income statements. Again, this is accounting

³⁴ <https://www.fhfa.gov/Media/PublicAffairs/Pages/Prepared-Remarks-Melvin-Watt-at-BPC.aspx>

noise, not decay in their economic performance. Occasional draws serve a useful reminder that more work remains to be done.

3. Fees

The US Administration recently cancelled a scheduled Mortgage Insurance Premium (MIP) drop of 25 basis points that HUD announced early this year.³⁵ Research by the Federal Reserve showed that the 2015 MIP cut resulted directly in a jump in the market share of FHA relative to the GSEs, indirectly supporting the trend towards nonbank mortgage underwriting and associated weakening in credit standards.³⁶ This consideration belies the suggestion that the GSEs should raise their G-fees for safety and soundness reasons on the part of the Congressional Budget Office.³⁷ This would merely serve to push lending towards FHA, supporting the non-banks and add to the riskiness of the overall system.

From a risk perspective, half of the 50 bp 2015 MIP cut by FHA could be reversed and the current level of the G-fee be maintained.

4. FHA transparency

The system of FHA reporting is wholly inadequate. They annually release a financial report of the Mutual Mortgage Insurance (MMI) Fund. The headline figure is the capital ratio, which in 2016 exceeded the target level of 2% for the second consecutive year.³⁸ It is not, however, enough to know that in good times, things are good. What we need to know is what happens in a downturn. HUD should mandate that FHA should conduct annual stress tests along the lines of the Dodd Frank exercise performed annually by Fannie Mae and Freddie Mac. Detailed reports of findings should be an integral part of the annual report.³⁹

5. Using the entire credit box

The proposals in this section would work to shift risk away from non-banks and FHA to banks and the GSEs. But on net they would represent a modest tightening in overall

³⁵ See <http://www.housingwire.com/articles/39003-hud-suspends-fha-mortgage-insurance-premium-cut>

³⁶ See <https://www.federalreserve.gov/econresdata/notes/feds-notes/2016/changing-fha-mortgage-insurance-premiums-and-the-effects-on-lending-20160929.html>

³⁷ <https://www.cbo.gov/budget-options/2016/52173>

³⁸ See <https://portal.hud.gov/hudportal/documents/huddoc?id=2016fhaannualreport1.pdf>

³⁹ See <https://www.fhfa.gov/SupervisionRegulation/DoddFrankActStressTests>

credit conditions. In the end, banks are multi-line enterprises which can devote their capital across various business lines. Consideration should be given to providing incentives to banks to utilize the entire credit box to the greatest degree possible without generating undue risk to taxpayers.

6. Support for affordable rental housing

The plan to raise FHA fees and relax regulations on mortgage production on the part of commercial banks is aimed at keeping the average level of credit standards approximately the same as those in place at present. But no doubt borrowers at the lower end of the income spectrum would find it more difficult to obtain a mortgage. The solution here is not to reach down the credit quality spectrum to generate loans that do not have a high chance of success, but to implement policies that allow households to build savings so as to become homeowners in a sustainable fashion down the road. A key component of such a strategy depends on stepping up policies designed to expand the availability of new affordable supply, as well as an expansion of programs to provide vouchers to low income households to use in paying their rent.⁴⁰

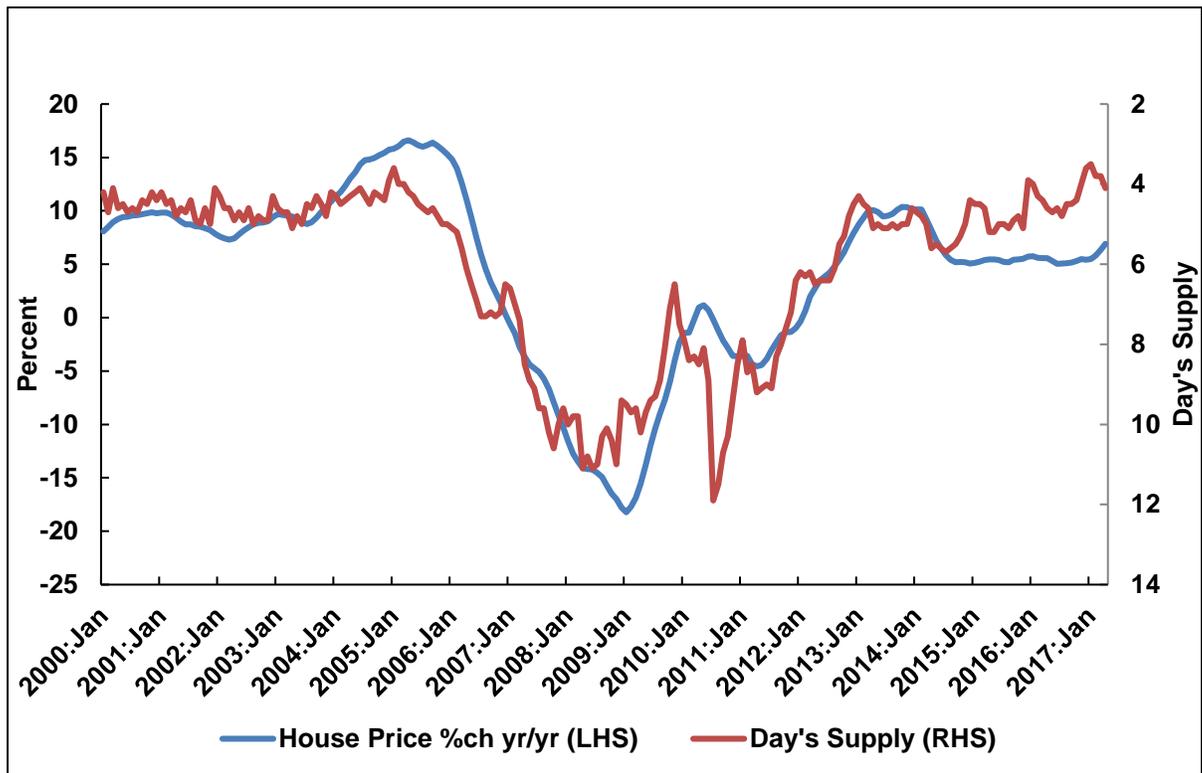
The implementation of these proposals would likely result in overall risk reduction to the system as the bank share of mortgage underwriting rises, or as the mortgage banks become less risky. The cost of this risk reduction comes in the form of a modest tightening of credit conditions that would likely have an impact on lower-income households. Besides the equity impact (which would be addressed in part through actions taken to enhance rental affordability), there is also the question of the overall economic impact of such a policy change. Reduced credit availability, all else being equal could result in downward pressure on house prices and raise concerns about collateral values. As noted earlier, however, house prices in the U.S. have risen quite notably over the past six years, supported by quite tight inventories (see Figure 17). Popular urban centers are particularly plagued by acute shortages.⁴¹ The Fannie Mae National Housing Survey showed that the share of households in May who believe it's a good time to sell a house came in at 32%, while those who believe it's a good time to buy was 27%. This was only the second time in the history of the survey, which was launched in 2011, that the share who said it was a good time to sell exceeded the proportion saying it's a good time to buy.⁴²

⁴⁰ See https://portal.hud.gov/hudportal/HUD?src=/program_offices/housing/mfh/rfp/s8bkinfo

⁴¹ See <https://www.housingwire.com/articles/39853-redfin-us-home-prices-sales-show-strong-gains-as-housing-shortage-continues>

⁴² See <http://www.fanniemae.com/portal/media/corporate-news/2017/may-home-purchase-sentiment-index-6566.html>

Figure 17: Percentage (%) Ch Core Logic HPI & Days Supply



Source: Core Logic, National Association of Realtors

Over the next decade, demand for housing will be supported by an expected rise in the number of households in the age 25-44 demographic. According to the Harvard Joint Center for Housing Studies, this cohort is expected to add over 3.5 million new households in the decade beginning in 2015 compared to a decline of over one million during the prior ten-year period.⁴³ A modest tightening of credit standards should serve to limit upward price pressure resulting from this trend and not pose a substantial new economic risk.

⁴³ See http://www.jchs.harvard.edu/sites/jchs.harvard.edu/files/household_growth_projections2016_jchs.pdf

V. Revamping Risk Transfer

The first Credit Risk Transfer (CRT) was the issuance by Freddie Mac of Structured Agency Credit Risk (STACR) in 2013, followed shortly thereafter by Fannie Mae with its Connecticut Avenue Securities (CAS) program.⁴⁴ This product does not consist of securities but rather structured notes that share a portion of credit risk held by the Enterprises with investors in exchange for a higher coupon than can be expected for a traditional MBS. Tranching allows for a variety of structures with different credit ratings (or no rating at all) to satisfy investors with different return and risk profiles.

This program has issued CRT securities that cover a notional reference pool unpaid balance (UPB) of over \$500 billion to date. However, there are some caveats. First, the duration of these notes is shorter than the underlying mortgages, implying that less risk is shared than appears to be the case.⁴⁵

Another concern is that the nature of the notes is such that there are many classes of investors who are precluded from participating in the program. In general, they are not REIT-eligible. The capital treatment under Basle 3 is very punitive, making them inappropriate for bank balance sheets. Similarly, the National Association of Insurance Commissioners (NAIC) provide these notes with a poor rating, limiting their attractiveness to insurance portfolios. Finally, the fact that these notes are not securities prevents them from being included in benchmarks, limiting their appeal to entities such as pension funds that measure their performance in this manner. These limitations imply that the GSEs are paying a high price for shedding limited risk.

The program was set up the way it is in part because of concerns about impacting the liquidity of the To-Be-Announced (TBA) market.⁴⁶ The notes pay a yield based on the performance of pools of mortgages securitized via traditional MBS. In the end, it appears that there are limits to the degree to which the inevitable trade-off between liquidity and risk sharing can be avoided.

However, the moment is right for this to be reexamined. As part of the Federal Reserve's Quantitative Ease monetary policy, the central bank has amassed \$1.75 trillion of agency MBS, or about 1/3 of the total stock outstanding (See Figure 18). After three rate hikes in the past 18 month, the Fed is reportedly considering reducing its holdings as part of its program

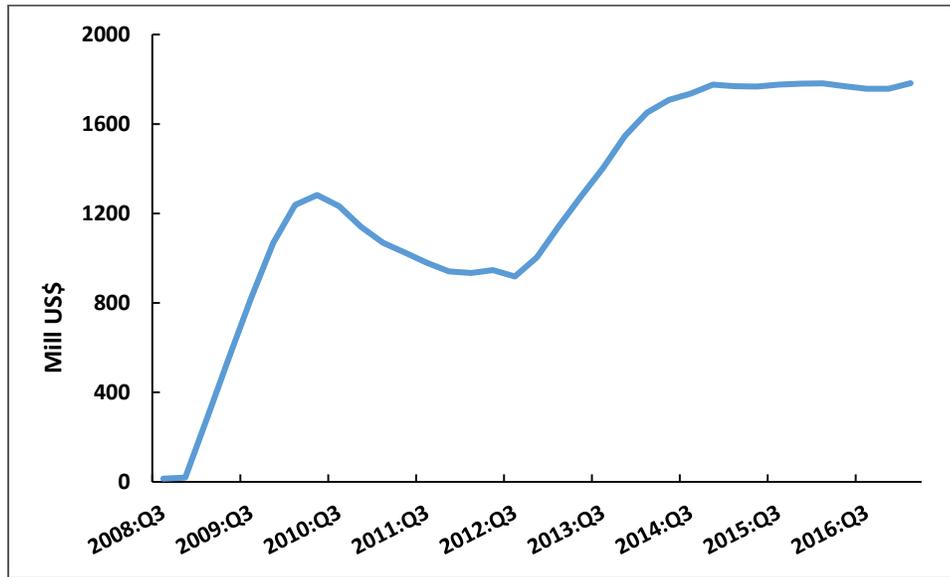
⁴⁴ See <https://www.fhfa.gov/ABOUTUS/REPORTS/REPORTDOCUMENTS/CRT-OVERVIEW-8-21-2015.PDF>

⁴⁵ See <https://howardonmortgagefinance.com/2017/03/20/risk-transfers-in-the-real-world/>

⁴⁶ For basic background on mortgage securitization see: https://www.fhfa.gov/SupervisionRegulation/Documents/Securitizations_Module_Final_Version_1.0_508.pdf

of reducing the degree of monetary accommodation it is providing.⁴⁷ In other words, MBS rolling off the Fed's balance sheet will be adding to new supply available in the open market. This would be an opportune time for the GSEs to issue actual risk-sharing securities instead of structured bonds. These would be true risk-sharing securities, registered with the SEC, and be attractive to a much broader base of investors than the CRT program. Given the massive scale of the Fed's holdings such issuance could go on for an extended period without disrupting the functioning of the MBS market.

Figure 18: Federal Reserve Holdings of MBS



Source: Federal Reserve

VI. Conclusions: Looking Ahead

Following decades of stability, the system of mortgage finance in the United States collapsed following a bursting housing bubble fueled by an unprecedented relaxation of underwriting standards associated with a flood of unregulated private capital entering the market. To look ahead, it's important to understand the appropriate lessons to take away from this experience. These are primarily that complexity and lack of transparency creates an environment for opportunistic behavior on the part of private agents that can have significant negative spillover effects on a macro scale. It's also important to understand what the lessons are **not**: namely that policy measures designed to help lower income households to build wealth through homeownership had unintended consequences, or that monetary policy was too accommodative during the period.

⁴⁷ See https://www.washingtonpost.com/news/wonk/wp/2017/04/05/federal-reserve-likely-to-begin-reducing-4-5-trillion-balance-sheet-this-year/?utm_term=.386a965428c6

The proposals listed here are designed to shore up the system based on these lessons but are not designed to be a comprehensive long-term solution to the nation's daunting housing challenges. There is a voluminous literature describing the many proposals for what is referred to as "GSE reform".⁴⁸ They address the question largely through the lens of defining the appropriate balance between private and public capital backing the GSE's in support of their dual missions of liquidity provision and support for homeownership in as safe and sound a manner as possible.

It is not clear that any of the systematic proposals offer an appropriate path forward. Many of them are based on the idea of multiple entities for which the government would provide catastrophic insurance for securities, but not the debt of the entities themselves. The fatal flaw of these proposals is that there are increasing returns to scale in underwriting and securitization, so it is quite likely that the result would be rapid consolidation, not unlike what occurred with the breakup of AT&T in the 1980's. Such a result would undermine the notion that the new entities would not be deemed too big to fail, and moral hazard would persist.

Other proposals consider a co-op model, but this idea has not met with broad support due to concerns that the system would be dominated by the large commercial banks at the expense of community banks, and would be slow to innovate.⁴⁹ Even a single entity runs the risk that it is of sufficient scale that it comes to dominate its regulators, although this risk is reduced in a government corporation or utility model.

Risk-sharing has broadened the potential for private capital to return to backstop the mortgage market. Properly structured, this innovation offers a layer of protection to taxpayers beyond the capital model of the GSE's.

Many such proposals have been floated for years, and no progress at all has been made as the legislative process has become bogged down in ideological debate. Everyone wants broad access to credit and taxpayer protection, but the system balks when asked to acknowledge the trade-off and pick a point on the curve to settle on. Even the addition of the CRT securities has, somewhat surprisingly, not improved the tone of the debate.

⁴⁸ A summary of various legislative proposals can be found here:

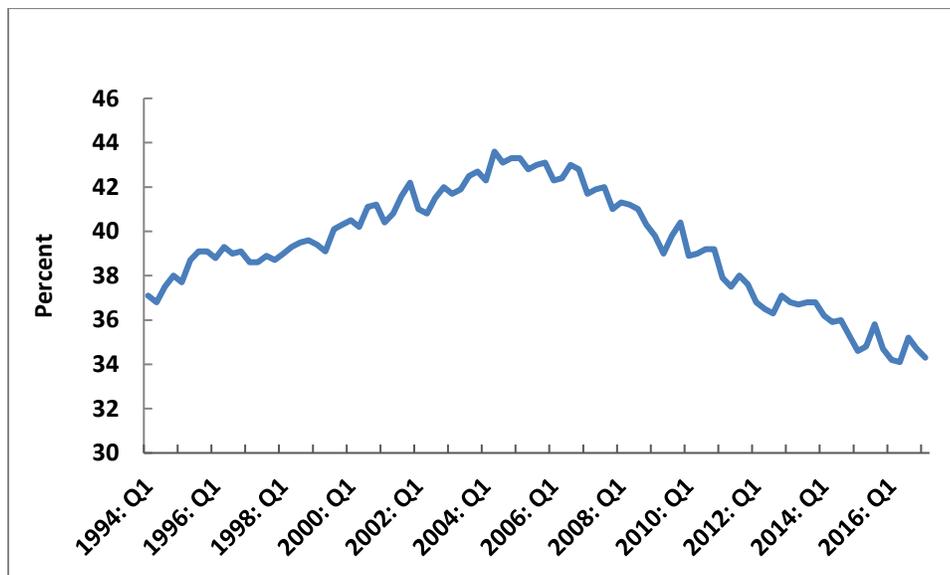
<http://www.housingwire.com/ext/resources/files/Editorial/GSELegislativeProposalsComparison.pdf> A recent proposal released by the Mortgage Bankers Association also calls on the formation of new entities to insure and issue MBS: <https://www.mba.org/2017-press-releases/april/mba-offers-detailed-gse-reform-proposal> See also <https://www.imf.org/external/pubs/cat/longres.aspx?sk=43057.0> and <https://www.imf.org/external/pubs/ft/scr/2015/cr15169.pdf> for the IMF's suggestions regarding the role of mortgage finance in the area of systemic risk oversight

⁴⁹ See https://www.newyorkfed.org/medialibrary/media/research/staff_reports/sr466.pdf

Consequently, it is not clear that any sweeping proposal for change has much chance of enactment in the short-to-medium term, underscoring the need to promptly implement the proposals described in this paper.

In the end, it may be that “GSE reform” is so buried in ancient culture wars that a new approach is needed altogether. The current system of housing finance arose out of the experience of the Great Depression. The long tradition of the US to encourage generational wealth building through government-backed provision of 30-year fixed rate mortgages has played a significant role in developing the reputation of the country as a “melting pot and helped generations of immigrants integrate into American society.⁵⁰ The important question now is, can this structure continue to serve this role in a world marked by urbanization, a lack of opportunity for the majority of young Americans without a college degree, significant debt burdens for those with advanced degrees, and a more unequal distribution of incomes? The homeownership rate in households under age 35 is at a half-century low (See Figure 19).

Figure 19: Homeownership Rate Under 35 Years Old



Source: Census Bureau

The last crisis was marked by an unsustainable surge in homeownership that created a financial collapse. The challenge now is not just about preventing this from happening again, but about figuring out ways to draw upon the vast innovative and entrepreneurial resources

⁵⁰ Not every segment of society has been successful in attaining homeownership. According to the HMDA data, the share of home purchase mortgages for Non-Hispanic Whites rose from 57.1% in 2004 to 68.1% in 2015, while that for Hispanics edged up from 7.6% to 8.3%. Over the same period, the share going to African American households **declined** from 7.1% to 5.5%.

available in the US to design policies and economic organizations aimed at allowing all segments of society to be able to benefit from growth. This is a vast undertaking, but allocating these resources to issues related to housing is a necessary early step in the long process ahead of repair in the frayed American social fabric.

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