Clarewood University

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Mortgage Finance Reform and Likely Stakeholder Impact

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Introduction

The mortgage finance industry consists of numerous stakeholders that all view the overall industry with different lenses. Firstly, homeowners want to obtain a mortgage to own a home, generating wealth over time through their real estate asset. Mortgage lenders want to finance mortgages for homeowners to earn interest on their available capital. Secondary market government sponsored enterprises (GSEs) Fannie Mae and Freddie Mac take mortgages and package them in mortgage-backed securities (MBS) to sell to investors. Commercial banks securitize mortgages outside the GSEs price and risk tolerances. Lastly, government officials regulate the industry to ensure that the system remains stable to create a healthy economy. In order for the industry to function properly, each different stakeholder plays a different role and needs to make smart decisions within their individual scope.

In the 2008 financial crisis, risky decisions by many stakeholders in the mortgage finance industry caused a dramatic collapse in confidence in the market. The limits of the system quickly became apparent as banks lost billions of dollars in investments, many mortgage lenders went bankrupt, and homeowners left mortgages they could no longer afford. The meltdown that followed caused the U.S. government to pass numerous new laws and regulations. After the GSEs were put into conservatorship under the Federal Housing and Finance Administration (FHFA), most of the industry voiced concerns that the mortgage finance industry needed to be reformed to reduce the risk present to taxpayers from explicit government backing of the GSEs and to push more risk to the private industry while maintaining market effectiveness and ensuring opportunities for new homeowners. The mortgage finance industry's complicated structure makes creating an effective reform plan difficult, but momentum for reform has built to a point where the mortgage industry is attempting to anticipate the changes amid the numerous voices for change.

1. Problem Statement

There are numerous plans and perspectives on the proper way to handle mortgage finance reform. With so many different plans with different perspectives on how to reform the industry, the future regulatory structure of the mortgage finance industry remains uncertain. Uncertainty about the future of the mortgage finance industry may cause mortgage industry stakeholders to make poor quality strategic decisions. If likely outcomes from mortgage finance reform can be determined, and the likely outcomes can be linked to impact to different types of stakeholders, mortgage industry stakeholders can make better decisions about their future market strategy resulting in a more stable mortgage finance market.

2. Objectives

The mortgage finance industry is interconnected through many stakeholders. During the financial crisis, mortgage industry stakeholders failed to recognize and acknowledge other stakeholders' roles and adjust their decisions to prevent the system from collapsing. This project will analyze various key plans for mortgage finance reform to determine likely outcomes from a potential future mortgage finance reform plan. Three plans from key stakeholders stand out as influential among plans for mortgage finance reform.

First, the FHFA strategic plan for 2018-2022 represents a model where other factors for reform stall. Barring a major government action, the FHFA has the ability to determine the course of the GSEs as long as they are under conservatorship. Unless they are pressed by the executive branch of the U.S. government to act differently, their plans represent a minor degree of reform that will continue to morph the GSEs and transform the industry. Their "steady-state" model likely provides the most reliable baseline of how stakeholders should prepare for the future with reform.

Second, the Corker-Warner Housing Finance Reform and Taxpayer Protection Act of 2014 represents the perspective of U.S. government elected officials. Their interests are different from the perspective brought by the FHFA, since they are accountable to the citizens they have been elected to represent. Although this plan is older than the other plans on this list, the plan was the work of a bipartisan committee, so it still gives an insight into the goals that elected officials have for GSE reform without a bias towards a specific political party. If another financial crisis were to occur and U.S. citizens' desire to put pressure on their elected officials to pass mortgage finance reform, analysis of this plan would give insights into the rough outline of what that reform would look like.

Finally, to represent the views of an influential third party, analysis will be performed on the 2017 Mortgage Bankers Association (MBA) plan for GSE reform. Because the MBA is a combination of a diverse array of stakeholders in the mortgage industry, their plan has weight if during reform attention is paid to the interests of the private industry. If the FHFA is under pressure to improve the circumstances of the GSEs or elected representatives are urged to act in a crisis, they may rely on insights from respected private-industry representing organizations to determine a reasonable course of action.

Once these three plans have been compared to various objectives, likely outcomes will be determined for a potential future mortgage finance reform plan. These likely outcomes will then be compared to different industry stakeholder positions. First, mortgage lenders are important in their critical role of originating mortgages. Second, homeowners will be impacted by mortgage finance reform and the structure of the industry in the safety of the industry and the ability to obtain a mortgage. Third, commercial banks will have a larger role to play in a future privatized market, and investors that want to invest in safe mortgage-backed security (MBS) investments in the future will also need to pay attention to the changes to determine their investment strategies. Because all of these stakeholders are potentially impacted, their concerns will be compared with the likely outcomes of reform.

3. Review of Key Mortgage Finance Industry Historical Events

Since the financial crisis, many changes occurred that altered the landscape of the mortgage finance industry. Decisions and changes have tended towards trying to make the industry more efficient and reducing the overall risk of the mortgage finance system. In order to understand potential outcomes of mortgage finance reform, past decisions need to be factored into analysis of proposed plans because of changes that make potential outcomes easier.

Congress's initial response to the crisis in the the Housing and Economic Recovery Act (HERA) that became law on July 30, 2008 ("Housing and Economic Recovery Act of 2008", 2008) set up a baseline to address the subprime mortgage crisis. An initial regulatory structure to focus on the issues within the industry would prepare the government to take further actions to mitigate the crisis. This act focused on minor reforms to the GSEs and programs designed to help stall the mortgage default rate and prevent foreclosures. Unfortunately, the plan did not provide enough ability to support the industry as it fell further into the crisis.

Shortly after the HERA bill, on September 6, 2008, the U.S. Treasury put the GSEs into conservatorship of the FHFA. The GSEs had previously operated under regulation of the U.S. government, but the conservatorship ensured that the GSEs would provide necessary liquidity throughout the crisis for lenders to continue financing mortgages for homeowners. The GSEs' position in the market meant that mortgage lenders could continue financing mortgages so long as the GSEs bought the mortgages to securitize. Once the GSEs were in conservatorship, the FHFA was able to advise their operations to ensure they remained solvent until a final solution for mortgage finance reform was created through congress ("FHFA as Conservator of Fannie Mae and Freddie Mac").

Although the HERA bill took some action to attempt to alleviate the crisis, the markets continued to tumble as banks began to fail. To prevent the market from further damage, congress used the Troubled Assets Relief Program (TARP), a provision of the Emergency Economic Stabilization Act. The act authorized up to $700 billion in emergency financing to failing financial institutions to stabilize the financial system. As a part of this act, the GSEs received financing to enable them to continue their operations. The FHFA combined the financing with operational oversight through the conservatorship to ensure that the GSEs would be able to operate effectively using those funds ("Emergency Economic Stabilization", 2008).

On July 21, 2010, congress passed the Dodd-Frank Wall Street Reform and Consumer Protection Act into law to improve the structure of the finance industry. This act created limitations on the TARP act and restrictions on banks to ensure banks did not have a blank check during the recovery effort. In addition, the act defined a “Qualified Mortgage”, which provided clear guidance on which mortgages would be considered low risk to guarantee by the GSEs.The law also established the Consumer Financial Protection Bureau (CFPB) to ensure that fair practices in mortgage lending would continue for the health of the overall industry ("Dodd-Frank Wall Street Reform and Consumer Protection Act", 2010).

While congress used regulation to attempt to stabilize the mortgage finance industry, the FHFA began developing its own plans for improving the mortgage industry. On February 21, 2012, the FHFA released their first strategic plan for their conservatorship of the GSEs. This plan included descriptions of a future securitization platform which would become the Common Securitization Platform the GSEs would jointly develop. The plan placed FHFA in the position of building a strong foundation on which congress could then construct a more long-term solution when a true mortgage finance reform bill would be passed ("FHFA Sends Congress Strategic Plan for Fannie Mae and Freddie Mac Conservatorships", 2012).

By August 2012, the GSEs returned to profitability without a true mortgage finance reform solution in place. The GSEs’ continued growth meant winding them down would become more difficult for the U.S. government in the future. Therefore, the U.S. Treasury changed the preferred share agreement under conservatorship from simply obtaining a dividend to a net profit sweep of all future GSE profits. Any extra profit the GSEs generated would be returned to the Treasury until congress passed a true mortgage reform plan ("Treasury Department Announces Further Steps to Expedite Wind Down of Fannie Mae and Freddie Mac", 2012).

As the financial crisis started to fade into the background, Senators Corker and Warner introduced the Housing Finance Reform and Taxpayer Protection Act on June 25, 2013. This bill included provisions for winding down the GSEs and creating a regulatory structure where the private industry took the majority of the risk in the secondary mortgage market. This bill was revised and reintroduced on September 18, 2014, but did not receive enough support to become law. Because this bill was the last law closest to providing comprehensive mortgage finance reform, it provides a good analysis for a potential future mortgage finance reform bill ("Housing Finance Reform and Taxpayer Protection Act of 2014", 2014).

By the end of 2014, the U.S. Treasury had largely divested its investments in the mortgage finance industry as a result of the TARP act. The industry recovered from the worst of the crisis, but the FHFA still advised the GSEs under conservatorship (Tracy, Steinberg, & Demos, 2014). Momentum from the Housing Finance bill dissipated and the private industry returned to business as usual.

By the summer of 2017, $270.9 billion had been returned to the U.S. Treasury through the net worth sweep. However, there was still no intention to bring the companies out of conservatorship. The goal of winding down the GSEs and enabling the private industry to pick up secondary market activities drifted further away. Until congress passed a true reform plan, the GSEs would continue to receive government backing. (Morgenson, 2017).

On December 21, 2017, the FHFA decided that the GSEs would be allowed to hold a $3 billion capital buffer. The capital buffer would enable the companies to avoid draws from the U.S. Treasury in the case of losses. By 2018, the companies were on a schedule to have no capital buffer, because the intention was to wind down the companies by that time (Schroeder, 2017).

With all of these changes in the environment of the GSEs, many actions had been taken that meant the types of reform objectives that were introduced in early plans may have been adapted. With these changes, some actions that had a high likelihood of being implemented with earlier reform efforts may no longer have the same level of consensus. The landscape and wants and needs of mortgage stakeholders may have changed. With this change in landscape, it is meaningful to look back at plans that have been proposed with a new perspective and determine how much they apply to the current secondary mortgage market.

4. Mortgage Finance Reform Plan Outcomes and Methodologies Analysis

4.1 Analysis Breakdown

Three categories cover the types of objectives that the three different plans use to describe their intended reforms. First, reform plans must ensure that the mortgage finance market retains market effectiveness in bringing liquidity from investors to homeowners. The final structure must allow to efficient capital flow through the market. Second, the market after reform should reduce risk for the overall industry. Not only should the level of government involvement wind down to bring more risk to the private industry, but the overall system should be more sturdy in the face of future financial crises. Finally, the industry after reform should still achieve affordable housing goals that encourage homeownership in the U.S, such as ensuring affordability for low-income and first-time home buyers. In the following sections, each plan will be broken down along key outcomes for specific categories to product a qualitative analysis of the outcomes, as presented in the table in Appendix B.

4.2 Mortgage Market Effectiveness

In order for the entire mortgage finance system to work, all of the different entities involved need to have a regulatory structure that encourages the flow of capital. The different types of financial instruments need to be clearly understood by all parties in order for the market to operate effectively. The different aspects of mortgage market effectiveness ensure the right entities have the right information they need to perform transactions that provide a financial benefit as a result. The plans address many different ways to ensure the mortgage finance markets operate effectively, and categories will be described that reflect important focus areas of reform.

4.2.1 Market Liquidity Paths

Market liquidity enables capital to flow from investors with capital to individuals acquiring a home through a mortgage. The U.S. government chartered the GSEs to create a layer of liquidity between individual mortgages and capital investors. During the financial crisis, while many private industry mortgage-backed security originators dropped out of the security origination business, the GSEs stayed afloat through the intervention of the Treasury and maintained liquidity for home buyers and banks. Because liquidity provides benefits to all stakeholders involved in the mortgage industry, each plan focuses on ensuring mortgage finance market liquidity as a primary goal through different means.

FHFA’s plan specifies market liquidity objectives through its second strategic goal, “Ensure Liquidity, Stability, and Access in Housing Finance.” Because the FHFA oversees both the GSEs and FHLBanks, their plan encompasses both of those entities collaborating to enable capital to flow to the mortgage industry and across mortgage industry players. For the FHLBanks, they intend to continue to ensure that those banks will fulfill their mission ("FHFA

Strategic Plan: Fiscal Years 2018-2022", 2017, p. 7). The FHLbanks provide short-term advances to banks that want to finance mortgages, allowing members to obtain financing for mortgages that the GSEs eventually purchase ("Funding and Liquidity for members"). The FHFA will be monitoring the GSEs to ensure that they “take actions to improve liquidity in the single-family mortgage market.” The FHFA’s central authority enables them to regulate the key players and guide them in a general direction, but also means that they are not able to drive creativity within the industry in these specific areas. If the FHLBanks and GSEs do not live up entirely to their mission, there is no second option other than imposing penalties on the entities and changing their leadership. Without external pressures and competition, the FHFA plan’s approach would over the long run change very little about the entities’ relationships with the primary market.

The 2014 Housing Finance bill plans to remove the GSEs and replace them with an entity called the Federal Mortgage Insurance Corporation (FMIC) and private industry guarantors and aggregators. The FMIC would support a secondary mortgage market (S. 1217, 2014, s. 203) and would approve guarantors to proving backing to MBS. The FMIC would also provide insurance on those entities in the case of a collapse where they were not able to finance their debts. This approach requires private industry to want to become involved in the secondary market. Unless the regulatory conditions are low enough and the potential profits for the company are high enough, there is no incentive for these entities to provide liquidity in the market beyond acting in their own profitable interest.

The MBA plan proposes that instead of having only the current two GSE guarantors, there should be a system where multiple entrants could enter the market. The FHFA will provide regulations for the overall market, and determine whether to charter new applicants to increase competition in the market. Unlike the Corker-Warner plan, this plan would not involve dismantling the current GSEs before setting up the new system (Mortgage Bankers Association, 2017, 9). Liquidity would be provided by the chartered guarantors through their interactions with the primary market.

The three different plans do not intend to dramatically change the way that liquidity is created through the secondary mortgage market. The FHFA plan does not involve any major changes to the current secondary mortgage market finance operating model. The MBA plan slightly develops from the FHFA model, but simply introduces more competitors. The Housing Finance bill creates a slightly different regulatory structure, but the basic pathway of liquidity from MBS to homeowners remains the same. There are no major differences between the three plans in their desire and methods of creating liquidity in the mortgage market. All of them involve keeping guarantors financing primary market mortgages and packaging those mortgages into securities to sell to investors. The only differences between the plans is which entities get to perform those activities. The Corker-Warner plan intends to dismantle the system and start new, the MBA plan intends to expand the system to more entrants, and the FHFA plan intends to continue monitoring the success of the current system.

4.2.2 Segregation of Duties

For the mortgage industry, aggregation of mortgages and providing a guarantee of MBS are distinct activities. Currently, both activities can be performed by the GSEs, although private industry companies are more likely to engage in aggregation than guarantee of mortgages. Mortgage aggregation comprises buying mortgages from lenders and packaging them into securities, while the guarantee of mortgages occurs over the course of the MBS as payments are made to investors. Because the GSEs had spent so much time building their customer base with both sides, it was difficult for businesses to become established as competitors to their activities. The FHFA plan does not address this issue, as the FHFA plan’s considers that the

GSEs will continue to be the major players in the market. However, the other two plans have different ways of handling the difference between aggregators and guarantors.

In the MBA plan, the primary market would consist of lenders, servicers, and aggregators. These businesses would have explicit terms to bring mortgages to the secondary market comprised of guarantors (Mortgage Bankers Association, 2017, p. 10). This is a part of the plan's "Bright Line" control to separate the primary and the secondary market. With the level playing offered to all participants in the primary market, the secondary market would be able to effectively compete for business without interfering with primary market operations. (Mortgage Bankers Association, 2017, p. 11). In addition, the regulator for the guarantors would not apply to the primary market.

In the Housing Finance bill, the FMIC regulates both aggregators and guarantors. A guarantor will have the same solvency requirements as guarantors, and will undergo many of the same other regulator requirements (S. 1217, 2014, s. 311). The FMIC will also provide standards for servicers to follow to participate in the market (S. 1217, 2014, s. 314).

Each of these different proposals addresses changes in the level of effort the regulators should provide within the industry. All of them agree the regulator should have some impact, and that there should be a degree of segregation between the different roles of financial institutions in the housing finance market. However, the specific lines of separation change for the different plans.

4.2.3 Common Securitization Platform

The FHFA instructed the GSEs to create the Common Securitization Platform (CSP) in 2012 as an initiative to create a platform for single-family mortgages. By creating a single platform to create single-family MBS, the FHFA believed that it could better prepare the housing finance industry for a future with a more competitive market than just the GSEs. All three plans recognize the pivotal role the CSP will perform, but they slightly differ in how exactly it will be utilized by aggregators and guarantors.

The FHFA plan covers the CSP as part of its goal to manage the GSEs' conservatorships. The FHFA's plan instructs the GSEs on what to build and how to manage the risk with the project. The final goal of the project would be to enable a Uniform Mortgage-Backed Security which would improve market liquidity ("FHFA Strategic Plan: Fiscal Years 2018-2022", 2017, p. 13). This project will mean that the two different GSEs Fannie Mae and Freddie Mac will start to become more similar in the way that they securitize mortgages. If the GSEs are more similar, they will be easier for the FHFA to regulate in addition to providing better market liquidity of MBS across the GSEs. Finally, the platform makes transitioning to a more competitive guarantor environment through a true reform plan easier in the future.

The MBA plan transitions the CSP from a joint venture of the GSEs to a government corporation overseen by the FHFA (Mortgage Bankers Association, 2017, 9). This would put the CSP in a monopoly position within the secondary market, as all guarantors would be required to operate through securities issued by the CSP. Because the CSP would be overseen by the FHFA (Mortgage Bankers Association, 2017, 14), it would exist to serve the secondary market and ensure liquidity, rather than operate for private investors like the guarantors.

The Housing Finance bill does not explicitly discuss the already-present CSP, but it does include information on a “Securitization Platform” that will be used by all parts of the market for securitization. Rather than explicitly stating a way the platform will be managed, the bill allows for the FMIC to determine the best operating structure for the utility, either as a non-profit or for-profit cooperative. Unlike the MBA proposal, it would not be an instrument of the government (S. 1217, 2014, s. 321). This platform would still be initially set up by the FMIC in terms of fee structures and standards, after which it would exist for its members, which would be approved by the platform directors (S. 1217, 2014, s. 323).

Out of all the objectives to address market effectiveness, the CSP has the most clear place in the future of all the potential plans for mortgage finance reform. Because the operations of the secondary market are complex, the only way for the industry to proceed and potentially develop a competitive system would be to reduce the fixed cost for new entrants to the market. Even if the structure of the industry does not change, the CSP will still be a fixture in the market.

4.2.4 Operational Transition Plan

The end state of each of these plans may at times feel very similar, but their transition plans provide unique pathways to reach those goals. Because of the nature of the end goal, the plans operate under different timelines and with different gates to the successful end goal. All of these plans do not want to avoid disruption to the mortgage finance industry as it exists today, because that would negatively impact the ability of capital to flow to newly originated mortgages.

The FHFA plan monitors and adapts to the gradually changing market and does not include specific timelines or gates for success. Instead, the strategic plan for 2018-2022 will be monitored through meetings, reports, and performance reviews ("FHFA Strategic Plan: Fiscal Years 2018-2022", 2017, p. 19). The FHFA will get more involved with the GSEs if they see that the statutory mission of the GSEs is not being met, but otherwise will leave them to implement the stated goals of the FHFA in the way the GSEs find most appropriate.

The MBA plan involves a detailed 3-step process to hand guarantors over to the private industry investors. After initial legislation has been passed, a period of preparation will occur with activities such as establishing the regulatory framework and bringing in additional guarantors beyond the GSEs. Once preparation is complete, the implementation will involve the transition of GSE assets to newly chartered guarantors through one of two different transitional models. Lastly, divestiture by the federal government will leave the ownership of the guarantors in the hands of private investors. The regulator will continue to regulate the guarantors as utilities (Mortgage Bankers Association, 2017, 27).

The Housing Finance bill involves the transition of both the GSEs and the FHFA to the FMIC. The FHFA will transition all of its functions over to the FMIC (S. 1217, 2014, s. 406), and a separate committee will be formed to facilitate the transition (S. 1217, 2014, s. 404). The transition plan must be finished within 12 months of the bill being passed (S. 1217, 2014, s. 602). Once the board of directors of the FMIC has a majority vote on the ability of the FMIC to facilitate the new market, the wind-down of the GSEs begins. There will be a period of management due to outstanding guaranteed mortgages in the GSEs (S. 1217, 2014, s. 605). Although the bill specifies the timeline and structure for transition, it also leaves many unknowns to be determined once the bill has already been passed.

The different transition plans and levels of detail leave uncertainty in terms of the transition to the target-state model. The lack of detail in terms of the transition plans for the FHFA and the Housing Finance bill indicates the difficulty in predicting which transition actions will negatively impact the overall industry.

4.3 Risk Reduction

For the previous category, the GSEs have already been chartered to serve a role to fulfill those objectives. However, as a result of the crisis, the government placed more focus on how to structure the industry in ways that reduced the systemic risk associated with the GSEs. Reducing risk posed by the GSEs would impact market effectiveness, so the plans addressed how to restructure the market to satisfy risk objectives while maintaining market effectiveness. Risk reduction within the plans generally means transitioning the risk for the secondary mortgage market away from an explicit government guarantee towards more private industry involvement.

4.3.1 Pushing Credit Risk to Private Industry

The GSE's mission to securitize as many mortgages as they could to create liquidity in the mortgage market resulted in the accumulation of large quantities of credit risk. All three plans address credit risk by encouraging transitioning credit risk to the private industry.

Because the FHFA regulates the GSEs, their plan involves using the GSEs to expand on currently developed credit-risk transfer programs. In these programs, private investors take on credit risk associated with single-family mortgage losses ("FHFA Strategic Plan: Fiscal Years 2018-2022", 2017, p. 12). It can be expected that these programs will continue to be expanded through the support of the FHFA until it is no longer profitable for the GSEs to transfer credit risk. As long as the mortgage industry is performing well, private credit risk transfers will continue to expand. In particular, the FHFA expects the GSEs to expand credit risk transfers to multifamily mortgages ("FHFA Strategic Plan: Fiscal Years 2018-2022", 2017, p. 14). Because the FHFA's plans are limited to using the GSEs' current structures, the rate of adoption can only be as fast as the GSEs determine they are able to remain profitable. Without any competitors, the GSEs may choose to slow down their rate of credit risk transfers if other aspects of their business provides a better return on investments.

Although the MBA plan allows for more than two guarantors beyond the original GSEs, it uses the same principles from the FHFA to transfer credit risk to the private industry. Guarantors may be required to engage in risk-sharing operations, as specified by their regulator. The level of risk-sharing required may increase or decrease depending on market conditions (Mortgage Bankers Association, 2017, p. 10). The multiple guarantor model means that not only does credit-risk transfer reduce the risk to a specific entity, but it reduces risk due to the lack of likelihood of multiple guarantors failing at once. The challenge to this model is with more guarantors, the specified regulator will have more entities it will need to regulate. This could cause standards for determining true credit risk to slip, as each different guarantor may have a different situation the the regulator would need to address.

In the Housing Finance Reform bill, the Federal Mortgage Insurance Company (FMIC) determines credit-risk transfer levels for guarantors. The bill provides more stringent requirements than the other two plans. In particular, the bill requires at least 10% of single-family MBS as issued to be covered by a first-loss private market position (S. 1217, 2014, s. 302). However, during a crisis situation, it also allows, similar to the MBA plan, the ability to temporarily authorize bypassing the credit-risk standards (S. 1217, 2014, s. 305). In this way, the FMIC acts much like the regulator in the MBA plan, across all the regulated guarantors.

All three plans encourage credit-risk sharing, and while there are slight differences in the implementations of the plans, all of them involve the crucial influence of a central regulator. Because the MBA plan and the Housing Finance bill both involve more than two guarantors, they could prove to be more complex to enforce than the FHFA's current strategy. Under all three models, mortgage lenders should expect stability in the guarantors that buy their mortgage. Commercial banks that intend to enter the market through new guarantors will need to pay attention to credit-risk transfer rules and ensure capitalized entities follow regulated standards, which could reduce the willingness to enter the market. Investors in mortgage finance will have access to a broader array of products, and can choose to invest in either credit-risk transfers or MBS as a means of investing in mortgage finance.

4.3.2 Government Ownership of Guarantors

The current conservatorship model with the FHFA and the GSEs has been effective for conserving the assets held by the GSEs and prevent continued draws from the U.S. Treasury. However, a healthy long-term objective involves moving guarantee activities to the private industry.

The FHFA currently oversees the GSEs as their conservator and regulator. There are no plans to change the current structure within their plan ("FHFA Strategic Plan: Fiscal Years 2018-2022", 2017, p. 3). Instead of transferring the GSEs themselves to the private industry, the FHFA will use the current credit-risk transfer strategy to mitigate risk.

The MBA plan pursues a more complex strategy to ultimately transition guarantors from government ownership to the private industry. When a guarantor is initially chartered, it will initially still be owned by the government. (Mortgage Bankers Association, 2017, p. 27). After a period to transition and the chartered guarantors have been shown to be sufficiently stable, government ownership will be replaced with private capital (Mortgage Bankers Association, 2017, p. 33). Because the guarantors will operate as regulated utilities, the regulator will still have a role to play in the target state, but an additional layer will be added to the system before a downturn of the market will impact taxpayers.

The Housing Finance bill creates the FMIC to provide insurance for mortgage-backed securities, but leaves mortgage guarantors and aggregators to the private industry. The entities are approved by the FMIC, but not owned by the government (S. 1217, 2014, s. 312). Because the entities are not owned by the government, the initial level of risk would be taken by the private owners of the entities. The housing finance bill method would be faster to implement than the MBA plan, because it would not require the lengthy transition period from the government-owned entity to the privately-owned entity. Once an entity satisfied the requirements and received approval from FMIC, they could enter the secondary market. In addition, if an individual guarantor was to go bankrupt, the FMIC is prohibited from intervening, (S. 1217, 2014, s. 305), providing a further separation from the regulatory entity and the private market.

With the three different plans, any change in the system is likely to lead, eventually, to a system that will have guarantors owned by the private industry. So long as mortgage finance reform were to occur and the GSEs were to not remain under FHFA conservatorship, privately-owned guarantors are an obvious solution to provide a barrier between guarantor losses and taxpayer financing. These changes would enable commercial banks to much more easily enter the secondary market. In addition, investors and mortgage lenders would deal with many more entities offering a broader range of competition within the industry.

4.3.3 Explicit/Implicit Government Guarantee

The implicit guarantee provided by the U.S. government to the GSEs enabled them to provide lower rates on mortgages. However, this led to an industry where it was difficult to understand the risks associated with the market. Because there was an implied government guarantee to provide backing to the GSEs if they ever lost liquidity due to market downturns, other private-label guarantors could not compete with the GSEs on price. Once the implied guarantee turned into an explicit guarantee as a result of the financial crisis, this became a point of contention that is handled differently with the three plans.

In the FHFA strategic plan, an explicit government guarantee is provided as part of the FHFA's HERA conservatorship authority, where it may take action as may be "necessary to put the regulated entity in a sound and solvent condition” ("FHFA Strategic Plan: Fiscal Years 2018-2022", 2017, p. 3). Although the FHFA does intend to ensure that the GSEs remain profitable, their primary concern is to ensure that the mortgage industry remains stable. The FHFA’s regulatory objectives reinforce their desire not to require additional loans to the GSEs on behalf of taxpayers’ dollars. However, they have the authority to take action on their explicit guarantee to preserve the assets of the GSEs.

In the MBA plan, an explicit guarantee is used with a combination of providing additional layers of capital between the losses and the explicit guarantee. The government would provide full backing to MBS issued by the guarantors approved by the regular (Mortgage Bankers Association, 2017, p. iv). Because the end state of the plan is to have privately-owned guarantors, investors of those guarantors would take the first loss position, followed by a mortgage insurance fund, and only after those two were depleted would the government step in to bail out the industry. In addition, those guarantors would have regulations that would guide them towards reducing risk.

For the Housing Finance bill, the FMIC provides the explicit guarantee. The FMIC provides insurance for all covered securities (S. 1217, 2014, s. 303). The specific circumstances and regulatory conditions for providing insurance limit the explicit guarantee, but it does still exist. Much like the MBA plan, the Housing Finance bill uses a variety of intermediary measures to prevent losses from reaching back to the explicit guarantee.

The GSEs relied on an implicit guarantee for decades, but there is common consensus that the implicit guarantee is no longer being sustainable in the current state of the mortgage finance industry. The FHFA plan already has a provision for explaining the explicit guarantee, but the other plans add layers of complexity on top of the explicit guarantee to reduce risk in a crisis situation.

4.3.4 Capital Requirements for Guarantors

One way of reducing risk for guarantors is to require guarantors to hold capital before guaranteeing securities. Prior to the crisis, the GSEs held capital, but that capital was not sufficient to prevent losses that would not cause them to take a loan from the government and be placed under conservatorship. Requiring more capital to be held as a prerequisite for operating within the secondary market is a simple way to ensure that there will be minimal explicit help coming from the federal government.

The FHFA plan indicates the timeline for capital requirements, but this was overwritten by events discussed in the background section. In 2013, both GSEs were provided with a capital buffer of $3 billion that was reduced by $600 million every year ("FHFA Strategic Plan: Fiscal Years 2018-2022", 2017, p. 18). The buffer was scheduled to reduce to $0 by January 1, 2018, but in a decision made in late 2017, both GSEs were permitted to store capital reserves of up to $3 billion. There is no explicit mandate to use the entirety of the capital reserves, but storing cash in capital reserves reduces the chance the GSEs will need to make treasury draws in downturn periods.

The MBA plan specifies capital requirements for guarantors that will be chartered by the regulator under the end-state system. The regular will hold chartered guarantors accountable for meeting explicit capital requirements (Mortgage Bankers Association, 2017, p. 15). The MBA plan follows guidance laid down by the Dodd-Frank in attempts to measure risk. For guarantors that hold more than $50 billion in assets, they will be treated as systemically important financial institutions with oversight by the Federal Reserve (Mortgage Bankers Association, 2017, p. 18). Capital limits will be set by the regulator pending the development of a stress loss capital standard modeled after the 2008 financial crisis (Mortgage Bankers Association, 2017, p. 16). Ultimately, capital requirements would be higher than their previous levels of the Federal Housing Enterprises Financial Safety and Soundness Act of 1992 (Mortgage Bankers

Association, 2017, p. 22). The MBA plan leaves the details of specific capital requirements largely up to the regulator's perception of the current economic climate, as well as lessons learned from the 2008 financial crisis.

The Housing Finance bill designates the role of establishing and regulates capital requirements to the FMIC. Approved guarantors must hold 10% capital under the regulation of the FMIC (S. 1217, 2014, s. 311). Undercapitalized entities may not make capital distributions or increase their assets unless there are specific circumstances, and those entities must submit a capital restoration plan (S. 1217, 2014, s. 316). The FMIC will create a basic capital standard, and expand upon it for large guarantors (S. 1217, 2014, s. 309). Risk-sharing mechanisms may count towards capital requirements, and the FMIC will conduct stress tests on guarantors with more than $10 billion in assets (S. 1217, 2014, s. 310).

The MBA plan and Housing Finance bill are similar in their methods of using the primary regulator to set the capital standards for guarantors to follow. Their method replicates the current actions taken by the FHFA to prescribe capital standards.

4.3.5 Mortgage Insurance Fund

One way of dealing with system failure issues is to set up pooled insurance for the entire market from fees imposed on all participants. If there are losses that would require the primary regulator to step in to prevent failure, money would be drawn from the insurance fund to prevent a financial crisis. This method would prevent money from being drawn from the government if issues occur in the market. The FHFA strategic plan does not account for a mortgage insurance fund because of the draw structure from the U.S. Treasury. However, the other plans use a mortgage insurance fund as a line of defense before drawing from taxpayer funds to support the industry in a crisis situation.

In the MBA plan, because the guarantors receive an explicit guarantee on securitized mortgages, they pay an insurance premium for each MBS securitized. These fees would be put in the mortgage insurance fund (MIF) that would be used to pay principal and interest to MBS investors if a guarantor were to fail. The way the fund would be managed would follow the Federal Deposit Insurance Corporation's (FDIC) management model for their Deposit Insurance Fund (Mortgage Bankers Association, 2017, p. 23).

The Housing Finance bill also establishes a MIF. Their mortgage fund provides a buffer for potential financial crises, and the FMIC must make decisions in the best interest of ensuring that the MIF remains solvent (S. 1217, 2014, s. 303). Reviews of guarantors will include evaluating guarantors to minimize risk to the MIF (S. 1217, 2014, s. 310). The mortgage insurance fund will also develop along with the transition cycle, with the FMIC attaining a reserve of 0.75% of the sum of covered securities over the course of transition from the current-state to target-state model (S. 1217, 2014, s. 608).

The mortgage insurance fund provides a viable buffer solution to prevent the collapse of the housing finance system, while also preventing draws from taxpayer funds. Although this is not a solution that the FHFA has currently adopted, this method could be in the future if the other plans strongly hold to this idea.

4.4 Affordable Housing

The mortgage finance industry's core customer is the homeowner looking to purchase a home. While market effectiveness drives down the cost of financing a mortgage, consumers also need to have a level of confidence in their ability to pay back the mortgage and keep their home. The system that will be created needs to "provide homeownership opportunities to creditworthy borrowers" ("FHFA Strategic Plan: Fiscal Years 2018-2022", 2017, p. 8). Affordable housing goals are focused more directly on the homeowner level and the benefits provided specifically to homeowners from the mortgage finance system. While improving mortgage market effectiveness intends to create efficiency at the broader secondary-market mortgage level, achieving affordable housing goals involves ensuring that end-consumer homeowners also receive the support they need to achieve their homeownership goals.

4.4.1 Fixed-Rate Mortgages

As part of the original mission of creating the GSEs, the government identified that there was a need to create a mortgage product that would have predictable payments ending in the opportunity for home ownership. The 30-year fixed-rate mortgage has since become a staple of the mortgage finance industry, and remains popular among individuals looking to buy a home. During the financial crisis, alternative mortgage products with adjustable rates become popular among low-income buyers for subprime mortgages. When homeowners were unable to handle the floating rate of the mortgage including price spikes, many mortgages went into default. Therefore, as part of retaining stability, it would make sense for each plan to have a goal of supporting the continued use of fixed-rate mortgage products.

In the FHFA plan, there are no listed goals that specifically call out long-term fixed-rate mortgage financing. However, the FHFA does have a strategic goal to monitor access to mortgage credit to inform policy initiatives ("FHFA Strategic Plan: Fiscal Years 2018-2022", 2017, p. 9). This could mean that although long-term fixed-rate mortgage financing is currently a staple of the industry, their plan remains open to changes in the market for different types of financing. If the market shifts and the fixed-rate mortgage no longer enables the GSEs to remain profitable, they will likely encourage GSEs to change their product mix, within defined risk parameters.

The MBA plan specifically calls out preserving long-term financing as its initial key principle (Mortgage Bankers Association, 2017, p. 3). In addition, in terms of the MBA plan's stance on affordable housing, "The single-family Guarantors should serve a market segment similar to that of the GSEs today," (Mortgage Bankers Association, 2017, p. 39). While there is the opportunity for adding additional guarantors, the fundamental structure of the providing long term fixed-rate mortgages will not change. Preserving what works will make the market be successful. However, the MBA plan also recognizes that the ability to provide this mortgage product has dependencies on the explicit guarantee provided by the U.S. government in relation to the GSEs. Developing the same level of confidence in the mortgage product without the explicit government guarantee may leave it noncompetitive with other mortgage products.

In the Housing finance bill the FMIC will "ensure continued, widespread availability of an affordable, long-term fixed rate, prepayable mortgage, such as a 30-year fixed rate mortgage" (S. 1217, 2014, s. 201), among other priorities. However, there is no additional evidence of specific changes that will enforce this as a priority. There are other provisions and solutions for affordable housing, but the only reason the fixed-rate mortgage remains so prominent is the product's current desirability among homeowners.

While long term fixed rate mortgage financing may be a fairly universally recognized standard of the housing finance industry, all three plans do not choose to spend a large amount of time expanding on the topic. While this goal was a staple of the past goals of the GSEs, very few supporting arguments are made for keeping a focus on this reliable type of mortgage financing. Instead, it may be that these plans will adapt to market conditions when determining which types of mortgage finance are most effective for the industry and its customers.

4.4.2 Minimizing Number of Foreclosures

In addition to the financial risk indicators, there is pressure for any reforms of the housing finance industry to ultimately be beneficial for individuals trying to keep their home during a crisis. When individuals hit circumstances that prevent them from repaying their mortgage, they may need assistance to be able to hold onto their home. In addition, if the mortgage is delinquent, then there are additional costs associated with servicing the mortgage, as well as the hits to the guarantors of MBS backed by the mortgage. Therefore, minimizing foreclosures is beneficial to all parties involved in the financial system, and the different plans propose different options for addressing this issue.

The FHFA plan expects the continued support of in-place home retention and loss mitigation programs. Because the GSEs already support these programs, very little needs to be changed in order to effectively prevent mortgage losses. There may be updates to the standards of the programs in the future, but because there is already a strong foundation, they do not need to make any major changes ("FHFA Strategic Plan: Fiscal Years 2018-2022", 2017, p. 10).

The MBA plan and the Housing Finance bill do not cover foreclosures. They have other sections covering affordable housing, but nothing explicitly covering foreclosures. This is surprising because of the impact of foreclosures as an outcome of the 2008 financial crisis. The future of the current programs that work to minimize foreclosures is very much in question due to the lack of information on the outcomes of those programs as a result of housing finance reform.

5. Stakeholder Impacts

The likelihood of changes occurring in the various categories will have different impacts on mortgage industry stakeholders. For these stakeholders, changes to the mortgage finance industry could have a positive, negative, or neutral impact on their business. Mortgage lenders are involved in providing financing for mortgage origination activities for homeowners, and selling those mortgage to entities that securitize the mortgages, which are currently the GSEs. A homeowner is any individual that would want to take out a mortgage to finance paying for a house they would live in. Commercial banks currently operate as securitizers and guarantors for non-GSE mortgages, such as jumbo mortgages. Lastly, MBS investors who want to purchase the securities produced by the GSEs will be impacted by the change in the products available as a result of reform. All of these stakeholders will be impacted by the outcome of mortgage finance reform, as shown in the table in Appendix C.

5.1 Mortgage Lenders

The initial GSE system was designed so that mortgage lenders would have the ability to add to their liquidity by selling mortgages. In order for the system to work effectively, mortgage lenders will need to have a structure that enables them to easily sell their mortgages when necessary to maintain their liquidity. The mortgage lenders would prioritize market effectiveness first, as market effectiveness enables the lenders to perform their business by allowing them to acquire working capital from originated mortgages. Secondly, affordable housing strengthens their primary business, as more individuals desiring mortgages mean more business for the lender. Risk reduction is important for the banks to stay in business, but the overall stability of the system is not part of their core business.

The overall goals for market effectiveness will have a positive impact on mortgage lenders. Although not all the goals are highly likely to be achieved, all of them either improve the ability of mortgage lenders to operate in the secondary market or provide clarity in terms of the secondary market's operation. The different guarantor regulation models are all slightly different, but achieve the same goal. The different ways that guarantors and aggregators might be segregated would have an impact on current aggregators, but not on mortgage lenders specifically. The development of the Common Securitization Platform will be a very important part of all the plans. If the major changes occur without a standardized way for lenders to interact with the secondary market, then they will need to prepare for a much broader range of outcomes. The level of unpredictability with the transition plan will mean that it is difficult to predict what the secondary market will look like at any period.

The risk reduction goals have a negative impact on mortgage lenders in terms of short term competitiveness. Because guarantors will have goals to push credit risk to private industry, this will mean that they can devote fewer resources to services directed towards lenders and guarantors must dedicate more resources towards improving their credit-risk transfer operations. The explicit government guarantee is good for lenders, because they are guaranteed a system that will last as long as they need to increase liquidity through selling mortgages. With additional capital requirements for entities in the secondary market, lenders may see less favorable rates on mortgages that are securitized, and the mortgage insurance fund will also see those entities offering less favorable rates to lenders.

Affordable housing changes may negatively impact mortgage lenders. Firstly, the lack of direct support for fixed-rate long-term mortgages means that lenders cannot overly rely on financing only one type of mortgage and will need to diversify. When the markets change to adapt to different mortgage types, lenders need to stay prepared for those changes. In addition, without support for minimizing foreclosures, homeowners may feel less inclined to take out mortgages, and there is less security against mortgages going into default.

5.2 Homeowners

Homeowners' primary concern is the ability to obtain a mortgage when they want to purchase a home. However, they also have an interest in seeing their tax dollars used well. During the financial crisis, there was backlash among taxpayers about the banks and GSEs receiving bailout money from the U.S. government. For their priorities, the first priority is affordable housing, since they want to ensure they are able to get a mortgage. Secondly, risk reduction goals mean that there is less likelihood that the government will need to get involved in the system in the wake of another crisis. Lastly, although market effectiveness drives many of the activities that enable them to have affordable rates, there is less direct impact on homeowners than the other two categories.

The overall structure that the market takes to create efficiency is not of primary concern to homeowners. As long as mortgage lenders are able to operate effectively within the market and continue to finance mortgages, market effectiveness will have a minimal impact on homeowners. The different types of operational transition plans have the most potential to create disruptions in the industry, but the impact largely depends on the type of transition planned.

Risk reduction will have an impact on homeowners as taxpayers. All of the initiatives that make the overall industry more steady and less susceptible to future crashes. Because the secondary market entities have credit risk transfer requirements, capital requirements, and the mortgage insurance fund, there is a much greater chance the government involvement in the industry will not be needed in the case of a financial crash. Because there is still government involvement through explicit guarantees after the initial loss position is taken by the private market, there is still a small risk that taxpayers could see another bailout in another extreme financial crisis scenario.

Homeowners care the most about ensuring that they have access to affordable mortgages. The lack of consistent coverage for affordable housing plans means that homeowners may be negatively impacted by the end result of reform. Because there is no consistent plan for ensuring the continued availability of fixed-rate mortgage products within the plans, the ability to obtain mortgages with traditionally consumer-favorable terms may diminish in the future. The FHFA under the current regulations intends to continue to support programs that minimize foreclosures, but these programs may disappear once a final reform plan has been reached.

5.3 Commercial Banks

Commercial banks have an interest in reform because of the ability to establish entities within the secondary market. At the present time, commercial banks securitize jumbo mortgages, which have mortgage values that are too high for the GSEs to guarantee as per their charters. A primary concern of reform plans is how to create a competitive secondary market with more entities besides the GSEs. In order to attract commercial banks to be involved in the line of business of the secondary mortgage market, the plans and changes would need to create a space for these entities to create profit. For commercial banks, market effectiveness is the first concern, because the way reform would structure the market has the biggest impact on their willingness to enter into the secondary market as a competitor. Risk reduction is the second-most important, because risk reduction goals create a level playing field for all competitors, but also reduce opportunities for the banks to take risks earning more profit within the system. Lastly, affordable housing goals do not have a large impact on commercial banks' willingness to enter the market, unless they are a burden to the entity's business activities.

All of the ability to create a competitive market including commercial banks relies on a plan that moves away from the FHFA model. Because of the different models to create market liquidity provided by the other two plans, there is only a medium likelihood a meaningful reform outcome will be decided upon. The type of structure for aggregators and guarantors determines the ability of new competitors to become involved within the industry. The common securitization platform has a large positive impact on commercial banks, because it creates a recognized structure to interact with the industry, so that entities do not have to spend time setting up their own custom securitization system. The impact of the different operational transition plans is minimal, as all of them provide adequate time to figure out how to best adapt to the new system and prepare their business plans for entry.

Risk reduction goals enable commercial banks to have a level playing field when entering the market. Because guaranteeing mortgages is an inherently risky activity, there is the possibility of a few entities taking on more risk than is stable for the system and pressing their competitors out of the market. All of the different requirements raise the barrier to entry for entities looking to enter the market, and may reduce the number of competitors willing to enter the market. However, once a particular identity has established itself, there is less risk that competitors will be able to push them out of the market simply by taking on more risk.

Affordable housing initiatives do not have a great impact on the willingness of commercial banks to enter the market. Once the system has been set up and appropriate risk levels are applied, there is no reason that commercial banks would not be willing to enter the market because of lack of support for affordable housing. There may be some downstream impact on the willingness of individuals to buy homes, which would drive down the overall number of products on the market with the ability to be securitized and traded, but those impacts would be minimal compared to impacts for the other two goal areas.

5.4 MBS Investors

MBS Investors operate in the secondary market by investing in MBS as long-term low-risk investments to balance out their portfolios. As an outcome of reform, investors would be looking to ensure that they can still purchase investments for their portfolios and that those investments are still low-risk. Their first priority is to ensure that the market operates effectively, because that will determine the amount and rate they can purchase investments from the industry. Secondly, risk reduction will ensure that the investments provide the level of stability required from this particular investment segment. Lastly, affordable housing objectives do not directly impact investors.

The structure of market effectiveness is important for investors to receive a reliable stream of investments for their risk needs. Currently, investors have a limited choice in securities because of the GSEs. Changes to liquidity structures that would allow more entities to enter the market would increase the complexity of the market and allow for more variety in terms of the investments offered. In addition, structures that separate guarantors from aggregators would mean that investors would be dealing with more specialized entities when purchasing MBS. The common securitization platform would lead to a standardized way of creating MBS, which would be advantageous because investors would be able to determine through a standardized way the underlying health of the MBS they are purchasing. However, the potential for disruption during the transition may mean that there would be pockets of time where it would be more difficult to obtain MBS.

Risk reduction activities both enable investors to invest in other parts of the secondary mortgage market and have confidence in the quality of their MBS investments. With the reform plans' goals to push more credit risk to the private market through credit-risk transfers, investors have the opportunity to invest in the secondary market in ways that they previously were not able to. The explicit government guarantee prevents uncertainty in the markets, and the capital requirements and mortgage insurance fund mean that there are multiple layers of risk reduction before there is a danger that the government would choose not to back MBS that were not able to deliver.

Affordable housing is not a goal specifically desired by investors. There are impacts to the overall health of the industry that will occur as a result of government programs being created or removed, but there will be no direct impact on the MBS investments from these programs. Investors will look at affordable housing to gauge the overall impact on the market, but not for determining their specific MBS investments.

Conclusion

Intense debates about housing policy and multiple competing visions of the housing finance market would seem to imply a great deal of disagreement on goals for the secondary market and ways to manage the secondary market entities. However, upon review of the major plans proposed, there are far more similarities than there are differences. Overall, they see the same future end state for the market, a system regulated by the central government but able to compete to improve market efficiency. Unfortunately, the size and scope of efforts to transform the current market into the target state has inevitably led to disagreements about the best method of performing that transformation.

In addition to the difficulty of the scope of issues, efforts by the FHFA to spur changes in the operating models of the GSEs have proven more effective than predictions indicated. The GSEs have developed new methods of managing credit-risk transfers, moving risk over to the private industry. With this critical point of reform already implemented, reform plans cannot rely on lack of private industry involvement in credit risk as a reason for reform. In addition, the GSEs have supported the development of the Common Securitization Platform, creating a far healthier environment where the introduction of new entities would be more effective. Lastly, the GSEs are no longer unprofitable, but instead due to profit sweeps are generating money for the U.S. Treasury. All of these changes make reform a harder sell for those that view a shake up of the secondary mortgage market as a step in the right direction.

Not only have regulations changed, but new laws introduced by congress also alter the mortgage finance industry's economic environment. In particular, a new tax law has reduced the amount of mortgage interest payments that are tax-deductible (H.R. 1, 2017, sec. 11043). These changes make the situation more complicated because the deduction limitation could lead to potential homeowners not buying a home, placing strain on the mortgage industry. Alternatively, it could also just mean that fewer jumbo mortgages will be financed, and the GSEs will play an even more critical role in the mortgage market. Every time the laws change, organizations with plans may find that changes will place their plans further out of date with the current state of the market, and their goals may get ignored in favor of plans with more up-to-date market information and evidence to support their desired outcomes.

New efforts at creating effective discussion have tried a new approach to reduce the wide-scope of mortgage finance reform- down to the bare minimum of talking points, to attempt to arrive at consensus across the largest number of stakeholders. On February 14, 2018, an open letter was written to congress with the intent to spur action on mortgage finance reform. Rather than trying to rehash a 60-page plan, the simple two-page letter outlines the primary goals that are important to key mortgage industry stakeholders. These goals include creating a simple, competitive system that ensures separation between the primary and secondary market with access to small lenders all through a stable transition plan. In addition, the letter is signed by more than 130 mortgage bankers ("An Open Letter to Congress on GSE Reform", 2018), showing broad support for its simple reform outcomes. This model of selling mortgage finance reform to the government may prove more effective for a congress that is strapped for time on pursuing other high-priority congressional initiatives. The future of mortgage finance reform will require stakeholders to cross lines and align on key objectives to embrace the broader picture of mortgage finance reform, and not to overwhelm the discussion with minute details that can rapidly shut down productive discussion. It remains to be seen whether the current administration will be able to focus on this problem now, or time may pass such that the next time the debate emerges, a new landscape may emerge for the secondary mortgage market, along with new challenges.

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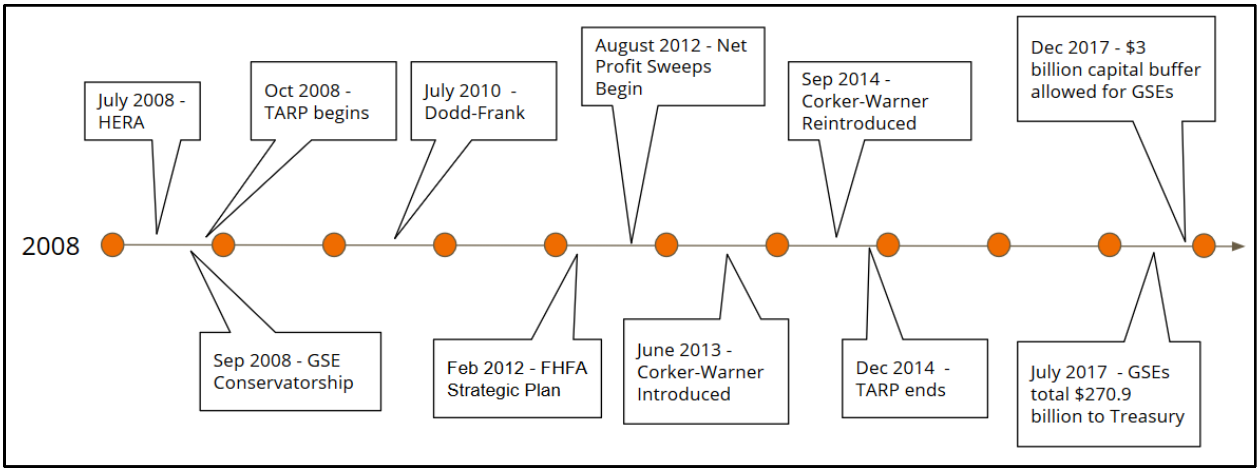
Appendix A

Figure 1. Timeline of Mortgage Finance Industry Key Historical Events since 2008.



Note. Timeline based on information from "Housing and Economic Recovery Act of 2008" (2008), "FHFA as Conservator of Fannie Mae and Freddie Mac", "Emergency Economic Stabilization" (2008), "Dodd-Frank Wall Street Reform and Consumer Protection Act" (2010), "FHFA Sends Congress Strategic Plan for Fannie Mae and Freddie Mac Conservatorships" (2012), "Treasury Department Announces Further Steps to Expedite Wind Down of Fannie Mae and Freddie Mac" (2012), "Housing Finance Reform and Taxpayer Protection Act of 2014" (2014), Tracy, Steinberg, & Demos (2014), Morgenson (2017), and Schroeder (2017).

Appendix B

Table 1. Qualitative Analysis of Mortgage Finance Industry Reform Outcome Likelihood

Category	Reform Objective	FHFA Strategic Plan	MBA GSE Reform Plan	Corker-Warner Housing Finance Bill	Reform Outcome Likelihood
Market Effectiveness	**Create Market Liquidity Path**	Continue GSE operation	Regulator charters new guarantors that transition to private industry ownership	Federal Mortgage Insurance Corporation (FMIC) approves private industry aggregators and guarantors	Medium
	Create Segregation of Duties	GSEs as both aggregators and guarantors	Aggregators in private industry, guarantors chartered by government	Aggregators and guarantors separated, approved by FMIC	Medium
	Create Common Securitization Platform (CSP)	Encourage GSE development of CSP	CSP as government corporation	FMIC to determine CSP as non-profit or for-profit cooperative	High
	Enable Stable Operational Transition Plan	Gradual regulation changes	3-step process to transition to private industry	FMIC to determine transition plan in 12 months, including GSE wind-down	Medium
Risk Reduction	**Push Credit Risk to Private Industry**	GSEs develop credit-risk transfer programs	Guarantors adjust credit-risk sharing based on market conditions	10% of losses covered by first-loss private market position	High
	Government Ownership of Guarantors	FHFA oversees GSEs	Chartered by government, transitioned to private industry	Owned by private industry	Medium
	Provide Explicit Government Guarantee	FHFA maintains ability to make GSEs solvent	Full government backing to MBS issued, after first-loss position	FMIC backing to MBS issued, after first-loss position	Medium
	Enforce Guarantor Capital Requirements	No requirements - $3 billion reserve	Capital requirements set through models on 2008 crisis	Meet capital requirements set by FMIC	High
	Create Mortgage Insurance Fund	None	Funded through guarantee fees	Funded through guarantee fees	Medium
Affordable Housing	**Fixed-Rate Mortgage Availability**	None	Depends on market confidence	Depends on desirability	Low
	Minimizing Foreclosures	Support current home retention progress	None	None	Low

Note. Data for reform objective intentions from "FHFA Strategic Plan: Fiscal Years 2018-2022" (2017), Mortgage Bankers Association (2017), and S. 1217 (2014).

Appendix C

Table 2. Stakeholder Impact from Mortgage Finance Reform Outcome Likelihood.

Stakeholder	Priorities	Impact	Reason
Mortgage Lenders	1. Market Effectiveness	Positive	Easier secondary market interaction
	2. Affordable Housing	Negative	Uncertain future of programs
	3. Risk Reduction	Positive	Stable secondary market
Homeowners	1. Affordable Housing	Negative	Uncertain future of programs
	2. Risk Reduction	Positive	Less taxpayer funding
	3. Market Effectiveness	Neutral	Little direct impact
Commercial Banks	1. Market Effectiveness	Positive	Pathway to enter secondary market
	2. Risk Reduction	Neutral	Protections and costs
	3. Affordable Housing	Neutral	Little direct impact
MBS Investors	1. Market Effectiveness	Neutral	Little direct impact to MBS model
	2. Risk Reduction	Positive	Stable market for investment
	3. Affordable Housing	Neutral	Little direct impact

Note. Qualitative analysis derived from "FHFA Strategic Plan: Fiscal Years 2018-2022" (2017), Mortgage Bankers Association (2017), and S. 1217 (2014).