

Forging a Path out of Conservatorship for Fannie Mae and Freddie Mac

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Executive Summary

The mechanism that granted extraordinary powers to the US Department of Treasury and to the Federal Housing Finance Agency (FHFA), the regulator of Fannie and Freddie; namely the Housing and Economic Recovery Act of 2008 (HERA) has now 6 years after both GSEs entered conservatorship effectively left the housing market in a form of financial limbo. To a large degree, Congressional inaction over this period has effectively forestalled any serious plan for bringing one or both agencies out of conservatorship. The sheer complexity of GSE reform coupled with a nearly unprecedented schism between political parties explains why comprehensive GSE reform is for the time being elusive at best.

Meanwhile, the US housing finance system languishes in a form of suspended animation that poses considerable uncertainty to private investors and potential homebuyers alike. The right outcome for GSE reform, namely comprehensive legislation addressing Fannie Mae and Freddie Mac is unlikely to occur, however, a solution that would bring private capital back to housing markets, significantly limit but not eliminate taxpayer contingent liability, and address the issues that precipitated the demise of the GSEs is feasible. This solution is already possible within the HERA legislation by granting the FHFA authority to bring the housing GSEs out of conservatorship. This paper presents a roadmap for this solution to GSE reform by outlining the statutory language affording FHFA the powers to unwind the conservatorships, the rationale for such a move, an examination of the causes for GSE conservatorship that have or can be addressed independent from Congressional action and a review of the steps needed to bring the agencies out of conservatorship. The paper provides support not only for why recapitalizing the GSEs makes sense from a public policy perspective, but how it could be done as well as the prerequisites for such action.

The principal factors directly attributable to the GSEs entering conservatorship; i.e., weak regulatory oversight, low capital requirements, unchecked retained portfolio growth, and poor underwriting standards have effectively been addressed other than establishing a set of stringent capital requirements on the GSEs. And with stronger regulatory oversight in place, such capital requirements would also be possible and a prerequisite to any post-conservatorship environment for the GSEs.

Designing an exit from conservatorship for the GSEs would need to be carefully crafted in order to not disrupt the mortgage market. But as mentioned in the previous section, such an outcome would be less likely to disrupt markets than receivership for one or both entities. The keys to ending conservatorship lie in meeting the following requirements:

- Development of a recapitalization plan that complies with FHFA's capital buffers for the agencies
- Development of a set of stringent risk-based capital requirements that would be phased-in over a specified period of time
- Termination of the sweep of profits from the GSEs to Treasury
- Strict executive compensation requirements imposed by FHFA
- Accelerated wind down of both GSEs's retained portfolios

Forging a Path out of Conservatorship for Fannie Mae and Freddie Mac

Dr. Clifford V. Rossi¹

Introduction

For three quarters of a century, the United States housing market thrived under a unique mortgage financing structure centered on the two government-sponsored enterprises (GSEs) Fannie Mae and Freddie Mac. It is ironic that out of the ashes of the Great Depression Fannie Mae was created and during the financial crisis of 2008-2009, both GSEs were placed into conservatorship ostensibly as an emergency measure to staunch continued losses occurring at these agencies and importantly to stabilize the housing market and general economy that was teetering on the brink of collapse.

The mechanism that granted extraordinary powers to the US Department of Treasury and to the Federal Housing Finance Agency (FHFA), the regulator of Fannie and Freddie; namely the Housing and Economic Recovery Act of 2008 (HERA) has now 6 years after both GSEs entered conservatorship effectively left the housing market in a form of financial limbo. To a large degree, Congressional inaction over this period has effectively forestalled any serious plan for bringing one or both agencies out of conservatorship. The last significant legislative action on GSE reform was the Johnson-Crapo Senate proposal that could not muster sufficient votes to reach the floor of the Senate. The sheer complexity of GSE reform coupled with a nearly

¹ Principal, Chesapeake Risk Advisors. The author would like to take the opportunity to thank the organization Investors Unite for supporting the research of this study.

² FHFA, OIG, The Housing Government-Sponsored Enterprises' Challenges in Managing Interest Rate Risks, White Paper WPR-2013-1, March 11, 2013.

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Meanwhile, the US housing finance system languishes in a form of suspended animation that poses considerable uncertainty to private investors and potential homebuyers alike. The right outcome for GSE reform as explained above is unlikely to occur, however, a solution that would bring private capital back to housing markets, significantly limit but not eliminate taxpayer contingent liability, and address the issues that precipitated the demise of the GSEs is feasible. This solution is already possible within the HERA legislation by granting the FHFA authority to bring the housing GSEs out of conservatorship. This paper presents a roadmap for this solution to GSE reform by outlining the statutory language affording FHFA the powers to unwind the conservatorships, the rationale for such a move, an examination of the causes for GSE conservatorship that have or can be addressed independent from Congressional action and a review of the steps needed to bring the agencies out of conservatorship. The paper provides support not only for why recapitalizing the GSEs makes sense from a public policy perspective, but how it could be done as well as the prerequisites for such action.

A Case for Dissolving the GSE Conservatorships

A comprehensive solution to GSE reform would be the preferred outcome to achieve long lasting stability for the housing finance system. The antecedents for the eventual housing crisis were sown in the years since Fannie Mae was chartered in 1938. Housing finance in the US leading up to the crisis was a patchwork of quasi-government, federal and private participants and credit guarantors. Although Freddie Mac came along relatively late on the scene in

1972, after the thrift crisis it effectively competed for mortgages from the same lenders as Fannie Mae. The advent of private label securities just outside the reach of the GSEs' underwriting guidelines or loan limits as well as a general commoditization of conventional conforming loans helped fuel competition between Fannie and Freddie, particularly from the early 2000's to 2008. Pricing pressures on the main business of both entities; their single-family guarantee business arising from these market conditions helped fuel expansion of both agencies' retained portfolios. The FHFA's Office of Inspector General noted that the size of the retained portfolios for both agencies grew from \$481B in 1997 to \$1.6 trillion by 2008.² The retained portfolios could invest in a wide array of securities and other investments consistent with their internal investment policies. By 2012, the two GSEs held \$91.4B in Alt A and subprime mortgage securities in their portfolios.³

An added catalyst to the direction both agencies would take with regard to risk-taking and the retained portfolio was the regulatory predecessor to the FHFA, the Office of Federal Housing Enterprise Oversight (OFHEO). It has long been contended that the federal oversight of the GSEs during the years leading up to the crisis was severely deficient. The agency lacked manpower and political support to keep the agencies activities well within prudent boundaries.⁴

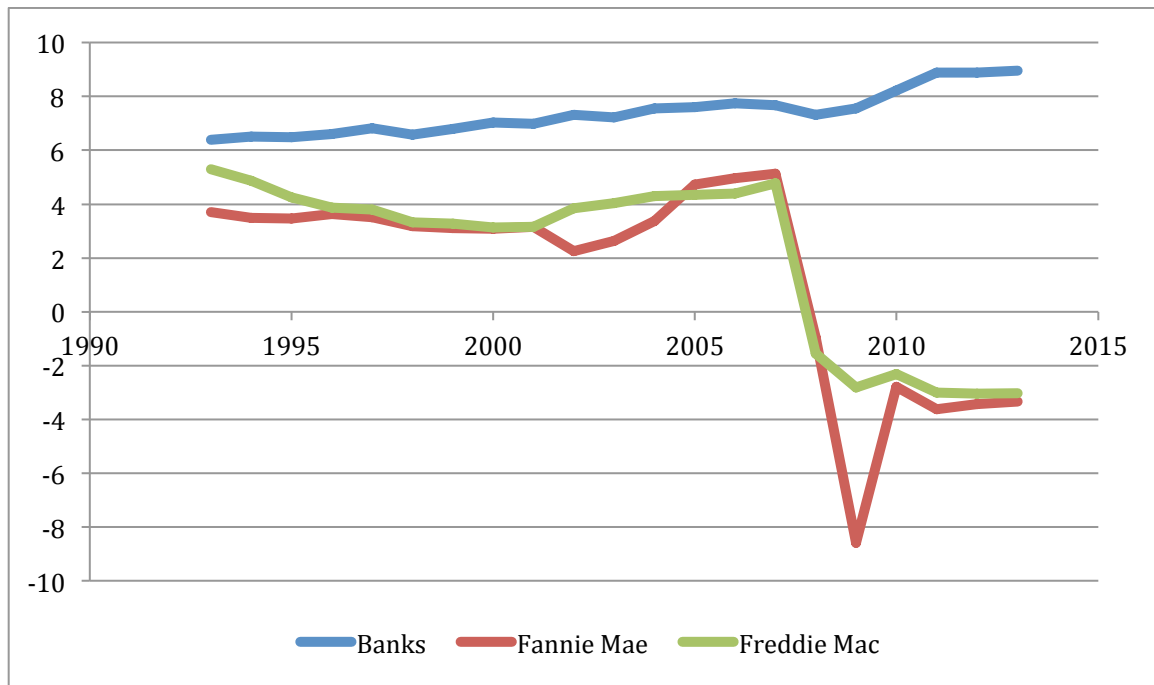
² FHFA, OIG, The Housing Government-Sponsored Enterprises' Challenges in Managing Interest Rate Risks, White Paper WPR-2013-1, March 11, 2013.

³ Congressional Research Service, N. Eric Weiss, Fannie Mae's and Freddie Mac's Financial Status: Frequently Asked Questions, August 13, 2013

⁴ The Financial Crisis Inquiry Report: Final Report of the National Commission, on the Causes of the Financial and Economic Crisis in the United States, 2011.

One manifestation of the limited regulatory controls over the GSEs before their conservatorship was the weak capital standards imposed on both companies. OFHEO imposed a set of statutory capital standards on both agencies defined as the greater of minimum capital standards or risk-based capital. The minimum capital standard was 2.5% of GSE assets plus .45% of outstanding MBS. Figure 1 shows the trend in core capital as a percent of assets for each GSE against commercial bank core capital ratios over the same period.⁵

Figure 1
Comparison of GSE to Large Commercial Bank Core Capital to Asset Ratios



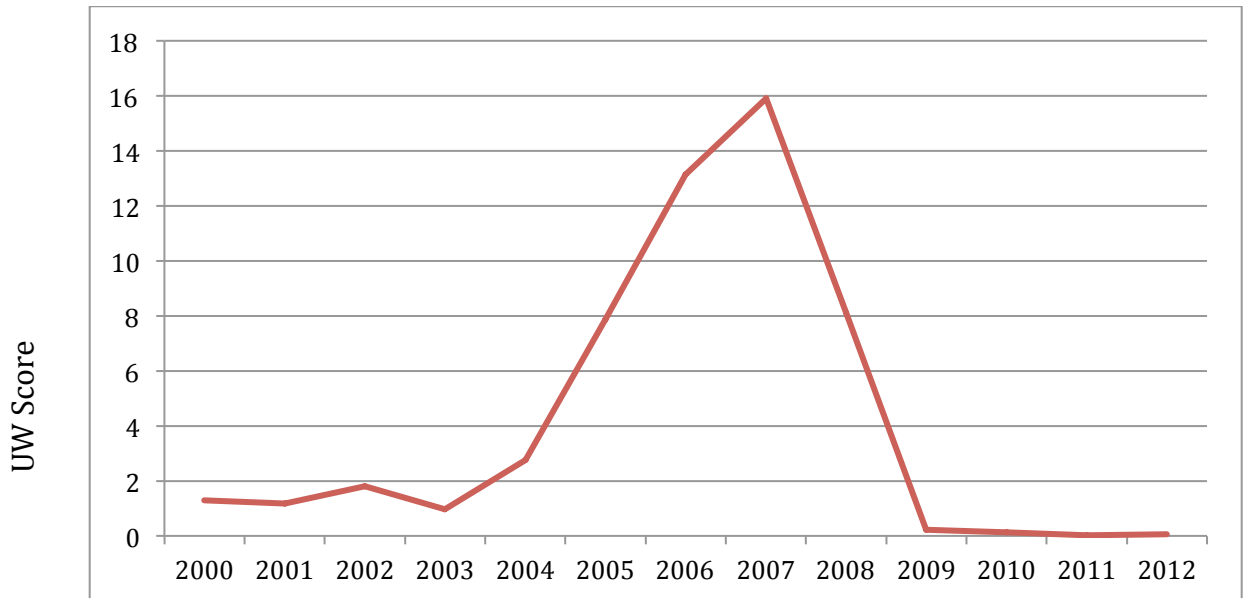
⁵ Only commercial banks with assets greater than \$10 billion are shown in Figure 1.

Effectively, this set the capital standards of the GSEs below those of commercial banks and thrifts and clearly was insufficient to cover losses that struck both companies during the crisis. It was this deficient level of capital and the potential for massive losses at the time that ultimately contributed both agencies' having to enter conservatorship.

In the years preceding the crisis, it has been well-established that mortgage underwriting standards loosened significantly with the advent of various nontraditional mortgage products such as option ARMs, low- and no-documentation, piggyback second lien mortgages and subprime 2/28 and 3/27 ARM products to name a few of the more riskier types. In addition to the development of these products, loans across the board were experiencing greater risk layering than in previous years. Risk layering refers to a combination of risk attributes in a single loan that elevate the credit risk of the loan beyond some threshold. Where under normal underwriting conditions a 95% LTV loan would require the borrower to fully document their income and have a FICO score of at least 700, increasingly, lenders began relaxing on one or more of these and other risk attributes. This phenomenon can be seen in Figure 2, which documents the relaxation of underwriting by a constructed variable referred to as the Underwriting Score Index. It is computed based on historical GSE loan level data and simply adds up the number of high-risk attributes (e.g., <660 FICO, investor property, debt-to-income >50%, etc.) reflected in each loan and averaged over all loans in an individual origination year. The trend clearly in the years leading up to the crisis shows a pronounced relaxation on underwriting standards, which eventually compounded credit losses, once the crisis began.

Figure 2

Underwriting Trends on GSE Loans Over Time



Since the enactment of HERA a number of critical actions have been taken to address fundamental flaws in the GSE structure leading up to conservatorship. First was the replacement of OFHEO with the FHFA. Without question, the agency is much stronger and staffed more appropriately than before. Certainly the GSE conservatorship has helped greatly to expand the agency's regulation and control of Fannie and Freddie, however, the powers granted to the agency provide it with ample statutory authority to wield substantial oversight over the actions of the two agencies even if both were not in a conservatorship status.

Evidence of this control is in the wind down mandated by the FHFA of the GSEs' retained portfolios. By 2018, FHFA expects each agency to have a retained portfolio no greater than \$250B. Paring back the GSEs' retained

portfolio to a de minimus level needed to hold assets unable to be easily securitized is an essential ingredient to a post-conservatorship GSE structure.

With a strong regulator in place, development of a set of strict capital requirements on the agencies once recapitalized would be possible. We see evidence of this type of undertaking today by the FHFA with the promulgation of their Private Mortgage Insurance Eligibility Requirements (PMIERS) for private mortgage insurance companies, which draw upon aspects of the Federal Reserve's Comprehensive Capital and Analysis Review (CCAR) process for bank holding companies. HERA grants FHFA the authority to set capital requirements for the GSEs.⁶ Imposing strong capital requirements on the GSEs reduces the likelihood of future taxpayer bailouts. Looking back on the mortgage losses experienced in the financial crisis, Zandi and deRitas' and Goodman and Zhu's analyses found that capital levels of 5% would have amply covered GSE losses, which as a percent of their debt were 3.7%.⁷

One of the major sticking points in the Congressional debate over GSE reform has been the magnitude of any federal guarantee on agency mortgage-backed securities. While some factions contend that there should be no such guarantee going forward, there has been greater consensus that some level is necessary to attract private capital to the market. Both the Corker-Warner and its successor bill, Johnson-Crapo required a 10% first loss taken by private investors with a federal guarantee kicking in only after that first loss

⁶ HERA, sec. 1110, 12 U.S.C.A. § 4611 (2009); HERA, sec. 1111, 12 U.S.C.A. § 4612 (2009)

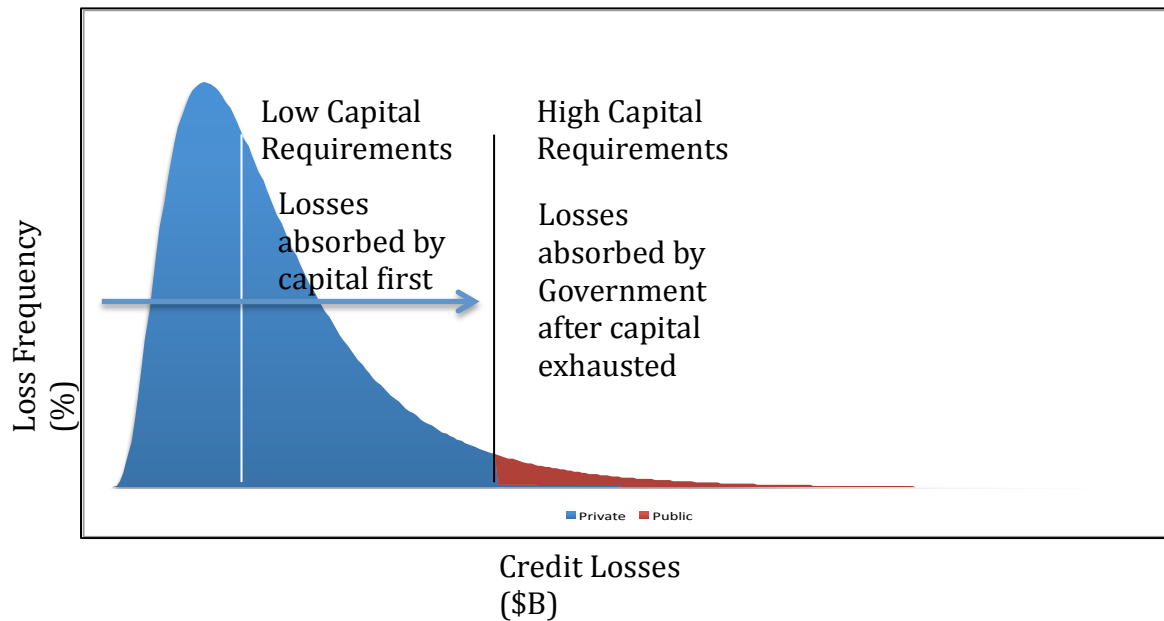
⁷ Mark Zandi and Cristian deRitas, "Evaluating Corker-Warner", Moody's Analytics, July 2013, and Laurie S. Goodman and Jun Zhu, "The GSE Reform Debate: How Much Capital is Enough?" The Urban Institute, October 24, 2013.

protection had been exhausted. Whether 10% or 5% is the right number is not a point of discussion in this paper. However, a sufficiently high set of capital requirements on the GSEs would provide an ample level of first loss protection before any federal support would be required. It is assumed that if the GSEs were to emerge from conservatorship, the implicit guarantee would remain intact but that investors, based on the events from the crisis, would view that as an explicit guarantee. In part the expectation would be that the systemic importance of both agencies would require government support in the event of another major crisis affecting one or both companies. While that scenario is anathema to those that see the GSE model as broken, it ignores the essential feature that high capital levels imposed on the GSEs would greatly mitigate episodic loss events and set high enough would have obviated the need for any government intervention at all. To see how strong capital requirements provide a loss-sharing outcome comparable to that in various Congressional proposals, consider Figure 3.

The diagram depicts two different scenarios; a low and high capital requirements scenario. The mortgage credit loss distribution for the GSEs is illustrated by a highly skewed right-hand tail, meaning that there is a relatively high frequency of low losses (i.e., on average we expect losses to be low) and a low frequency of observing very high loss levels such as during the financial crisis. If we assume that capital requirements are set at very low levels as illustrated by the leftmost vertical line, and losses are any level to the right of that threshold, the first loss protection afforded by capital is very thin, leaving taxpayers responsible for bearing significant losses. If instead those capital levels were set at the rightmost vertical line, then private investors would bear the vast majority of loss while limiting taxpayers to all but the rarest loss events. If hypothetically capital requirements were

established at the 10% level, according to both the Zandi and deRitas and Goodman and Zhu analyses, it would have more than covered losses from the crisis. Again, where these levels are set is not the point of discussion for this paper, but rather that robust capital standards could achieve the same result as a legislatively mandated private first loss layer.

Figure 3
Illustration of How Strong Capital Requirements Can Provide Ample Protection to Taxpayers



Congress, when it enacted the Dodd-Frank Act following the financial crisis, mandated a set of Qualified Mortgage rules be established. The intent of QM was to put in place explicit underwriting criteria that would mitigate the kind of practices that were in place during the housing boom which promoted origination of mortgage products that would eventually be difficult for borrowers to afford over time. The Consumer Financial Protection Bureau in 2013 finalized a set of QM rules which significantly limited the types of loans that would qualified under its rule for a safe harbor from potential future

liability due to underwriting deficiencies discovered upon a borrower's default and brought to court. The rules focus on a borrower's ability-to-repay (ATR) the obligation. As a result, one of the key features of the QM rules is a provision that debt-to-income ratios cannot exceed 43%. During the mortgage boom, underwriting standards, including those of the GSEs allowed DTIs well above those levels with compensating factors. The effect of QM is to impose on the mortgage market a standard of prudential lending practices that greatly limits the ability for the GSEs to enter into riskier products going forward.

The implication of the above discussion is that the principal factors directly attributable to the GSEs entering conservatorship; i.e., weak regulatory oversight, low capital requirements, unchecked retained portfolio growth, and poor underwriting standards have effectively been addressed other than establishing a set of stringent capital requirements on the GSEs. And with stronger regulatory oversight in place, such requirements would also be possible and a prerequisite to any post-conservatorship environment for the GSEs.

This set of facts establishes a case then for the viability of the GSEs to emerge from conservatorship assuming they could be fully recapitalized to target risk-based capital levels comparable to capital levels imposed on commercial banks for residential mortgages. The debate over the form and substance of any mortgage guarantor has become so politicized that it has forestalled any legislative reform to date and for the foreseeable future. This paper does not intend to wade into that debate over the merits of private capital and federal guarantees for mortgages, but rather outlines a pragmatic approach to return private capital back to the GSEs in a manner that is sustainable going forward

and that avoids the kind of crisis that occurred. Moreover, the debate over whether the agencies present a Too-Big-To-Fail systemic risk exposure is also set aside in this paper not to dismiss a critically important aspect of the current GSE model, but to move the dialogue forward on GSE reform in a manner that is both effective and implementable within a relatively short window of time.

In order to benchmark the feasibility of such a proposal, a set of criteria are required against which to measure the effectiveness of such a plan. The first criterion is the feasibility of unwinding the conservatorship without Congressional intervention. Essentially this requires an examination of the FHFA's powers to take one or both agencies out of conservatorship. Second, would such a plan leave taxpayers in a position to take on large contingent liabilities in the future? Third, would the plan lead to further stabilization of the housing market? Related to the third criterion is whether the plan would preserve seminal and desirable features of the mortgage market such as the fixed-rate 30-year amortizing mortgage and substantial liquidity to maintain the lowest possible mortgage rates.

Lastly, the question that naturally arises is why advocate conservatorship over receivership and liquidation? As will be seen in the next section, HERA grants the FHFA the authority to take the agencies out of conservatorship or place them into receivership. Receivership would ultimately result in the end of the GSEs and without any clear replacement to them would destabilize mortgage markets. Conservatorship while in this proposed plan would leave the GSE charters for both agencies intact accomplishes two goals; it eliminates the need for Congressional intervention and provides stability to the market by virtue of maintaining the structure of the agencies as they were

prior to conservatorship. To be clear, with their charters intact, the agencies would come under strict regulatory oversight and would be subject to tighter capital requirements and would be unable to maintain retained portfolios of significant size. Some might argue that reconstituting the GSE charters sets the stage in future years for relaxation of capital, oversight and portfolio requirements given the power that the agencies once wielded. That certainly may be true, however, other large systemically important institutions today face similar outcomes and none of those banking or insurance structures have been modified in such a fashion as to satisfactorily address the TBTF issue.

HERA, Conservatorship and the Role of FHFA

In response to a remarkably quick financial descent at both agencies, Congress passed HERA providing almost unprecedented and broad-sweeping powers to the Treasury Department and FHFA, which the Act also created. Included in the authority granted to Treasury were provisions for funding the agencies by purchasing obligations and securities as needed to ensure the functioning of the secondary mortgage market. It was after review of the financial situation of the agencies that FHFA made the determination to place both agencies into conservatorship on September 7, 2008. It is important to keep in mind that conservatorship was not meant to be a long-term solution for the GSEs. In fact, Treasury Secretary Paulson at the time declared that they had “sought a temporary solution that would achieve three goals: (1) stabilize markets; (2) promote mortgage availability; and (3) protect the taxpayer.”⁸

⁸ Henry M. Paulson, Jr., US Secretary of the Treasury, “The Role of the GSEs in Supporting the Housing Recovery”, Remarks before the Economic Club of Washington, January 7, 2009.

Upon entering conservatorship, the Treasury Department outlined its plans for providing funding to the agencies. This included the first of its Senior Preferred Stock Purchase Agreements (SPSPAs) that enabled the government to buy \$1 billion in stock initially in each company and subsequently increased those purchases over time as shown in Figure 4. Further, by the end of 2015 it is estimated that Treasury will have purchased between \$191-\$209 billion in preferred stock of the agencies.⁹ These SPSPAs were designed to provide a mechanism for the federal government to meet any deficit should either of the agencies become insolvent by exchanging capital infusions for the preferred stock.

These arrangements have come with specific strings attached in the form of dividend payments made by each GSE to Treasury. Initially quarterly dividends were set at 10% on these investments. However, in 2012, this was modified to include all profits from the GSEs that would be sent to Treasury. By 2014, both GSEs had paid a total of approximately \$185 billion in dividends, an amount nearly equal to the support provided to both agencies. Given this amount already paid back, and with the value of the government's preferred stock and warrants estimated by some at around an additional \$200 billion, even taking in to account a risk premium that should be included as compensation for taxpayers bearing the risk of the GSEs' losses, it would appear as though the US taxpayer would wind up in a dramatically net positive position on supporting the GSEs.¹⁰ This has

⁹ Congressional Budget Office, *The Budget and Economic Outlook: Fiscal Years 2013 to 2023*.

¹⁰ Vicki Needham, *The Hill*, "Fannie, Freddie near payback of \$188B owed to taxpayers," November 7, 2013 and Richard X. Bove, *Rafferty Capital Markets*, "A Letter to the President," June 5, 2014.

significant implications for setting up a compelling argument to deflect political criticism that unwinding the conservatorship is an unwise course of action. Under the current provisions of the SPSPAs, the US Treasury stands ready to backstop losses associated with outstanding MBS guaranteed by the agencies, which total \$6.5 trillion.¹¹ The agreements have been modified several times since the conservatorship to ensure the government would cover credit losses sustained. Ending conservatorship would terminate this contingent liability while according to many calculations fully compensate taxpayers for supporting the agencies under conservatorship. It does not satisfactorily address issues relating to shareholder responsibility over risk-taking at the GSEs. Specifically, a principal-agent problem between shareholders in the GSEs and taxpayers exists and persists after unwinding the conservatorship. This is a particularly troublesome aspect of the GSE dual private-public structure, however, imposition of strong capital requirements would at least protect taxpayers in the future against such outcomes. This action would also be consistent with other government support programs put in place during the crisis. For example, Millstein reports that the US taxpayer realized a gain of \$23 billion on the support provided to the insurance giant AIG during the crisis.¹² The next section examines how a similar process could be applied to unwinding Fannie and Freddie.

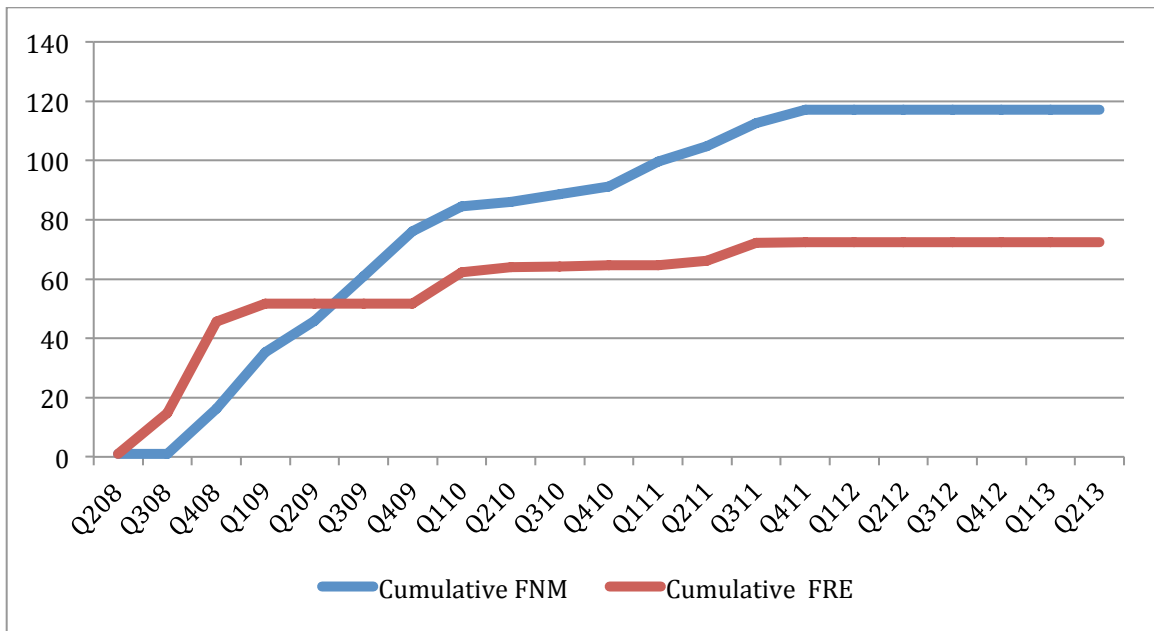
Before reviewing the process for unwinding the GSEs it is essential to gain an understanding of the authority vested in FHFA to end the conservatorship as well as what financial hurdles the GSEs would have to overcome in order to escape conservatorship. HERA grants explicit powers to the FHFA Director to establish a conservatorship as well as to take actions necessary to

¹¹ Statement by James E Millstein before the Committee on Financial Services, US House of Representatives, April 24, 2013.

¹² Millstein, April 24, 2013.

Figure 4

Treasury GSE Preferred Stock Purchases: 2008-2013



Note: Adapted from Weiss, CRS, August 2013.

“reorganizing, rehabilitating, or winding up the affairs of a regulated entity.”¹³ The specific language relating to rehabilitation thus suggests that the FHFA has authority to end conservatorship. This is further supported by the FHFA’s own interpretation of its authorities under HERA; “Upon the Director’s determination that the Conservator’s plan to restore the Company to a safe and solvent condition has been completed successfully, the Director will issue an order terminating the conservatorship. At present, there is no exact time frame that can be given as to when this conservatorship may end.”¹⁴

¹³ PL 110-289, Housing and Economic Recovery Act of 2008, Section 1367 (a) (2).

¹⁴ FHFA, Questions and Answers on Conservatorship, September 7, 2008.

Having established the FHFA as having the authority to end conservatorship without Congressional intervention, the next question is whether the SPSPAs contain any language that would hinder such an action taken by FHFA. One argument has been advanced that the stock agreements prevent any changes that would harm the rights of MBS investors.¹⁵ The specific language referenced in Section 6.3 of the SPSPA is as follows:

This Agreement may be waived or amended solely by a writing executed by both of the parties hereto, and, with respect to amendments to or waivers of the provisions of Sections 5.3, 6.2 and 6.11, the Conservator; provided, however, that no such waiver or amendment shall decrease the aggregate Commitment or add conditions to funding the amounts required to be funded by Purchaser under the Commitment if such waiver or amendment would, in the reasonable opinion of Seller, adversely affect in any material respect the holders of debt securities of Seller and/or the beneficiaries of Mortgage Guarantee Obligations, in each case in their capacities as such, after taking into account any alternative arrangements that may be implemented concurrently with such waiver or amendment. In no event shall any rights granted hereunder prevent the parties hereto from waiving or amending in any manner whatsoever the covenants of Seller hereunder.¹⁶

This section clearly permits changes of the agreement, conditioned that they do not negatively impact the holders of GSE securities. Since the FHFA and Treasury were parties in the creation of this document, they would be able to make changes necessary to permit an end of the conservatorship. Further any plan put in place to end conservatorship would necessarily have to ensure that MBS security prices maintain stability throughout the process. Otherwise conservatorship would be a moot point. But as will be discussed in the next section certain steps can be taken to address this issue. Another argument cited that in effect precludes an exit from conservatorship by the GSEs is that Section 3.2 of the SPSPAs require Fannie and Freddie to pay

¹⁵ Jim Parrott, The Urban Institute, "Why Long-term GSE Reform Requires Congress," May 22, 2014.

¹⁶ Fannie Mae Senior Preferred Stock Purchase Agreement, September 26, 2008.

Treasury a fee upon exit for the amount of the federal guarantee associated with the Treasury line of credit worth \$265 billion.¹⁷ Again, as with Section 6.3, it assumes that parties involved may not amend the agreements. Should conservatorship be deemed by FHFA and Treasury to be in the best interest of the taxpayer, financial markets and homebuyers, then it could reasonably be expected that the government would take all necessary steps to ensure that the GSEs would be financially viable upon exit. HERA grants FHFA the authority to end conservatorship and the SPSPAs created by it and Treasury do not impede steps toward ending the conservatorship. Having established that an administrative rather than legislative solution to GSE reform is viable, the next question becomes, what steps would FHFA need to follow to execute such a plan?

A Blueprint for Ending GSE Conservatorship

Designing an exit from conservatorship for the GSEs would need to be carefully crafted in order to not disrupt the mortgage market. But as mentioned in the previous section, such an outcome would be less likely to disrupt markets than receivership for one or both entities. The keys to ending conservatorship lie in meeting the following requirements:

- Development of a recapitalization plan that complies with FHFA's capital buffers for the agencies
- Development of a set of stringent risk-based capital requirements that would be phased-in over a specified period of time
- Termination of the sweep of profits from the GSEs to Treasury
- Strict executive compensation requirements imposed by FHFA
- Accelerated wind down of both GSEs's retained portfolios

¹⁷ Parrott, May 22, 2014.

A realistic timeframe for ending conservatorship would be 3-5 years, but establishing a clear roadmap for that change would provide markets, investors, regulators and other participants ample time to get prepared for the change. First, to gain a better perspective of where the two agencies stand today, consider Table 1.

Table 1
Decomposition of GSE Capital

Item	Fannie	Freddie
Senior Preferred Stock	117.15	72.30
Preferred Stock	19.13	14.10
Common Stock	-126.74	-73.50
Equity	9.54	12.90
Assets	3,270	1,966
Minimum Regulatory Capital	28.50	21.40
Core Capital	-108.81	-59.50
Capital Deficit	-137.30	-80.90

All figures in \$B

Source: Fannie Mae and Freddie Mac 2013 10-K filings

Before each GSE could exit conservatorship it would need to demonstrate that it can meet minimum regulatory capital requirements. Under current provisions, that would mean \$28.5B and \$21.4B, for Fannie and Freddie, respectively. It should be noted that the minimum capital requirements in place at the time of conservatorship are viewed by many experts as far too low when compared to commercial bank capital requirements, for example on comparable assets. Beginning in the third quarter of 2008, FHFA increased that requirement to 130% of regulatory minimum levels, although once in conservatorship it lowered that to 115%. The numbers in Table 1 do not reflect this additional amount over minimum standards.

Core capital for both agencies at present is at a significant deficit; -\$108.8 B and - \$59.5B, for Fannie and Freddie, respectively. This reflects the impact of the Treasury investment in both companies, which as part of any recapitalization plan would need to be addressed. As a starting point for simply assessing the gap needed by each company to re-emerge from conservatorship, the amount of core capital required would be -\$137.3B and -\$80.9B for Fannie and Freddie, respectively.

From a capital perspective, FHFA would need to assure markets that the agencies would have sufficient capital to weather a significant market shock. Analyses as discussed earlier suggest that capital levels of about 5% would have been sufficient to cover the agencies loss experience during the financial crisis. The minimum capital requirements in Table 1 if imposed on the agencies would leave them with a combined capital ratio of about 1% of total assets, hardly a level of capital that would be reasonable to the government given the experience of the last 6 years. Consequently, FHFA would need to phase-in a set of capital requirements (after development) that in time would allow the agencies to achieve an overall level of at least 5% before exiting conservatorship. To put this in perspective, applying a capital requirements standard of 5% to current assets, the agencies would need core capital levels of approximately \$163.4B and \$98.3B, for Fannie and Freddie, respectively. This seemingly daunting amount of capital when put into context of their existing capital deficits would require a major capital infusion for both companies that would take several years to accomplish.

In terms of developing a set of risk-based capital requirements for the companies, there are a number of issues that should be taken into consideration, including consistency with other regulatory capital regimes for

commercial banks such as the Basel capital standards, as well as the potential to align incentives for the agencies to transfer credit risk among other counterparties. The various risk-sharing structures such as STACRs for Freddie Mac and the C-deals for Fannie Mae provide good examples of the kind of risk-sharing that should be encouraged going forward and this can be accomplished by differential capital requirements.

At the heart of a successful plan for ending the GSE conservatorship would be developing a gameplan for recapitalizing the two companies consistent with the capital requirements established by FHFA. The first step in this process must be to amend the SPSPAs put in place between the government and the GSEs. Specifically, it must terminate the distribution of profits made by Fannie and Freddie as one component of their recapitalization. Estimates range from \$30-\$60B in profits that the agencies could use toward recapitalization over the next 3-5 years.¹⁸ While these figures are not insignificant, additional steps toward recapitalization would be warranted.

Another option would be to raise guarantee fees and/or delivery fees on a temporary basis. This of course introduces a number of questions regarding impacts on the housing market depending on the magnitude of the price increase. For instance, if a 1% delivery fee were allowed to be charged on annual guarantor business, over several years it could add about \$50B more toward recapitalization. Beyond the market impacts of such an action are a number of political and equity considerations. For example, it could be perceived that borrowers would be in part “taxed” to support GSE shareholders. The feasibility of such an option for recapitalization is outside the scope of this paper, but it does provide another source of capital to the

¹⁸ Weiss, 2013 and Millstein, 2013.

GSEs. However, there is a precedent the other direction that applies in this case. In 2011, a levy of 10bps on top of existing gfees was imposed as part of the Congressional compromise on the Payroll Tax cut. In this case mortgage borrowers are subsidizing the payroll tax cut which amounts to a redistribution between them and those subject to the payroll tax.

Any significant plan to recapitalize the GSEs must address the senior preferred stock and warrants of the Treasury. While the situation of Fannie and Freddie appears quite unique on the surface, the extraordinary measures the federal government took for several auto (GM and Chrysler) , insurance (AIG) and banking companies (TARP program for banks) during the crisis provide some successful models for how an orderly exit from conservatorship could be accomplished while also benefitting the US taxpayer.

A closer look at AIG provides some direction on the mechanics behind unwinding the Treasury's stock investment and its impact on recapitalizing the company. During the height of the financial crisis, in late 2008, Treasury stepped in to provide AIG with a lifeline in the form of an investment of \$20 billion in preferred stock of the company. Over time AIG worked its way through the collateralized debt obligations (CDOs) and credit default swap (CDS) losses suffered as a result of largely its Financial Products division, for instance in 2010 it was able to sell off some of its assets and raise \$36 billion. In 2011, Treasury began to sell off its stake in AIG in 6 public offerings. In the end, the US taxpayer was fully repaid for its initial investment plus an additional \$23 billion from the stock sale proceeds, interest and dividends received.

A similar plan could be employed for Fannie and Freddie but would require an amendment to the SPSPAs by Treasury and FHFA to do so. A simple way to think about the impact to the US taxpayer from a sale applying conservative assumptions is by looking at the potential earnings of both firms and applying a valuation multiple to Treasury's approximately 80% stake of the companies. A valuation multiple (price earnings ratios) to apply based on multiples for comparable companies engaged in banking, financial services and related activities is 10 for this exercise and is consistent with Millstein's analysis.

The critical assumption is on GSE earnings. Net income for 2013 for both companies benefited from large 1-time federal tax benefits, leading to reported net incomes of nearly \$84 billion for Fannie and \$49 billion for Freddie. In 2012, the first year of profitability for each GSE since entering conservatorship, the net income for Fannie was \$17.2 billion and for Freddie \$10.9 billion. Millstein's estimates of net income for Fannie of \$15 billion and for Freddie of \$9 billion thus are slightly more conservative than the 2012 net income which did not reflect the effect of 1-time adjustments. Applying these figures, a summary of the net proceeds to the US taxpayer from investing in the GSEs becomes clearer in Table 2.

Table 2
Net Treasury Proceeds from GSE Investments

Item	Fannie	Freddie
Treasury Preferred Stock Investment	-\$117.2	-\$73.0
Dividends and Profits Paid	\$121.1	\$88.2
Preferred Share Value	\$120.0	\$90.0
Net	\$124.0	\$105.2

All figures in \$B

Based on this analysis, taking into account dividends and profits already paid

by the GSEs to Treasury along with a conversion of the Treasury senior preferred shares to common stock, the US taxpayer would recoup \$419.3 billion on their \$190.2 billion investment for a return of just over 120%. This also does not take account the value of the stock warrants granted to Treasury on the GSEs. Now if instead the Treasury's estimates of the fair value of the preferred shares were used, the government would still recoup \$341.7 billion on their investment.¹⁹ And one estimate of the current value of Treasury's warrants is approximately \$34 billion. The fair value estimate reported of these warrants for both enterprises was set at nearly \$8 billion. The point clearly from these estimates is that even applying a conservative value to the preferred shares and warrants, with payments already exceeding the investment made by Treasury, there is a substantial redistribution of profits from GSE shareholders to the US government that occurred.

As an additional measure toward recapitalizing the GSEs, a certain amount of the excess distributions over the Treasury investment plus a rate of return for taking the risk could be used as a special capital account toward meeting the GSE capital requirements. This would reduce the strain on the companies to build capital quickly while assuring markets that sufficient capital exists. An alternative approach to accelerating a recapitalization would be to cancel the Treasury's senior preferred stock, by declaring it "paid back" through re-characterizing past payments of the profit sweep less the 10% dividend sweep as a pay down of principal that would retire the Treasury stock. The value from that cancellation would flow up through to the remaining common stock, benefitting the Treasury as owner of 80% of the

¹⁹ In the US Treasury, Bureau of Fiscal Services 2013 Financial Report of the United States Government Note 9, Investments in and Liabilities to Government-Sponsored Enterprises, the fair value estimate of Treasury preferred shares for Fannie Mae and Freddie Mac in 2013 are \$76.6 and \$55.8 billion, respectively.

common stock through the warrants that they still would hold.

A final requirement on the GSEs must be to wind down their retained portfolios and be precluded from such activities in the future. Establishing a de minimus portfolio for hard to securitize products may be acceptable but the GSEs must not be allowed to engage in trading activities for the purposes of generating revenue. Consequently, the portfolios would need to be wound down on an accelerated schedule than currently exists. This has some challenges in terms of ensuring that the agencies do not take substantial haircuts to portfolio sales.

Summary Observations

The demise of Fannie and Freddie in 2008 by entering conservatorship represented one of the darkest days in the history of the US housing finance system. These companies had for decades leading up to the crisis performed relatively well along most benchmarks. They enjoyed lengthy periods of profitability, helped create deep liquid markets for mortgages and thus reduced borrowing costs as well as helped meet the needs for mortgage credit of low and moderate-income borrowers.

At the same time, the GSEs enjoyed a special status that afforded them a funding advantage due to the perceived implicit guarantee from their federal charters. Weak regulatory oversight, low capital standards, a poor underwriting environment and large retained portfolios ultimately brought these companies to their knees financially. In the wake of this crisis it virtually wiped out private capital investment in the mortgage secondary market. Today US taxpayers remain liable for losses generated by Fannie and

Freddie and each year that goes by is another year of contingent liability for the government.

Congress has tried on numerous occasions since the GSEs entered conservatorship to come up with a long-term solution to GSE reform and ideally such a path is the right course to follow in a perfect world. However, a legislative solution is virtually impossible given previous attempts at coming up with a balanced proposal as well as the sheer complexity of redesigning a new secondary market. The diffusion of interests is so broad and the implications from any reform so little understood that the really only pragmatic solution that remains is to devise an exit plan from conservatorship for the GSEs.

Conservatorship to some may be equated to capitulation; that the GSEs won. Actually, it represents a reasonable path forward to greatly reducing the federal government's footprint in mortgage capital markets. In addition, it minimizes market reaction to GSE changes since it is a structure well-understood by market participants. For those concerned that rejuvenating the GSEs just puts taxpayers back on the hook for losses sometime in the future it ignores a number of critical changes that would severely limit that from occurring. First, federally mandated rules on underwriting quality mean that the quality of loans insured by the GSEs will be far better than before the crisis. In addition, a strong regulator of the GSEs will go a long way to ensuring the agencies do not assume excessive levels of risk. And with that oversight a number of changes including strict capital requirements, executive compensation reform and a ban on investment portfolios will further reduce the GSEs' ability to take on outsized risks. For six years, the GSEs have remained in limbo as have markets, investors and borrowers. A

viable path to end conservatorship exists and would bring an end to uncertainty that has been holding the housing market back.