

The Future Role of Fannie Mae and Freddie Mac in the U.S. Mortgage Market

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Abstract

This paper considers three sets of possible solutions for the future role of Fannie Mae and Freddie Mac within the U.S. mortgage markets: reestablishment as government sponsored enterprises (GSEs), transfer of key activities to the government, and privatization. The two firms have now operated as GSEs for decades without significantly mitigating any market failures, while their risk-taking ultimately led to a government bailout and conservatorship. I conclude that a GSE format, combining a public mission with private incentives to take risks, is basically untenable. My proposal, therefore, is a combination of a government agency and privatization. The government agency would, at least temporarily, take over the core GSE activity of securitizing prime, conforming, mortgages. The privatization would transfer any remaining net assets and any intellectual property to the firms' shareholders, with the firms then being reorganized as private sector entities with no further links to the U.S. government. The ultimate goal is for the private markets to take over all mortgage securitization.

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1. Introduction

For almost 40 years, Fannie Mae and Freddie Mac, the two mortgage-based government sponsored enterprises (GSEs), have represented an important and successful element of direct U.S. government policies in support of the country's mortgage market.¹ At their peak in 2003, before subprime mortgages rapidly expanded, the two GSEs owned or had guaranteed mortgages and mortgage-backed securities (MBS) representing almost 50% of the country's single-family home mortgages; see Table 1. By 2008, however, the U.S. mortgage and housing markets had crashed, and the two GSEs had landed in a government conservatorship.

Although the financial fallout for the GSEs has been devastating, their importance to the U.S. mortgage market has actually expanded: during the first three quarters of 2009, the two GSEs purchased or securitized more than 75 percent of all single family mortgages originated during this period; see Table 1. This expanded role reflects (i) the currently limited private mortgage market activity and (ii) the intense use of the GSEs as a government policy instrument to revive the mortgage market. In the foreseeable future, however, the current crisis should end and attention will then focus on the appropriate long-term, future, role of the GSEs.

¹ The Federal National Mortgage Association (now generally called Fannie Mae) was formed as a government agency in 1938. It took on its present form as a government sponsored enterprise in 1968. The Federal Home Loan Mortgage Corporation (now generally called Freddie Mac) was created in 1970. The Federal Home Loan Banks are also government sponsored enterprises, but in this paper GSEs refers only to Fannie Mae and Freddie Mac. The Federal Housing Administration (created in 1934) and the Government National Mortgage Association (GNMA, created in 1968) have been two other core elements in direct U.S. policies to support the mortgage market. There are also a variety of indirect policies, the most quantitatively important of which is the federal income tax deductibility of household mortgage interest payments. See Jaffee and Quigley (2007) for a survey of the full range of government programs in support of the U.S. housing and mortgage markets.

Table 1: GSE Activity and The U.S. Home Mortgage Market, Mortgages Outstanding and Originated, \$ Billions			
	Freddie Mac	Fannie Mae	Total GSEs
<u>Mortgage Portfolios</u> (as of 9/30/2009)			
Net MBS Outstanding	\$1,459	\$2,297	\$3,756
Retained Mortgage Portfolio	784	793	1,577
Total GSE Mortgage Portfolio ^a	2,243	3,090	5,333
U.S Home Mortgages Total Outstanding			10,851
GSE Share of U.S. Home Mortgages Outstanding ^a			46.2%
<u>Mortgage Originations</u> (Year through 9/30/2009)			
GSE Home Mortgage New Business	\$411,213	\$649,856	\$1,061,069
U.S. Home Mortgages Total Originations			1,405,000
GSE Share of U.S. Home Mortgage Originations			75.5%
<p>^a The total GSE mortgage portfolio is defined by each GSE to be the sum of its on-balance-sheet retained mortgage portfolio and its net outstanding mortgage-back-securities. The combined mortgage portfolios include approximately \$315 billion of multifamily mortgages. This amount has been subtracted from the total portfolio in calculating the GSE share of total U.S. home mortgages.</p> <p>Sources: Freddie Mac and Fannie Mae monthly activity reports, Federal Reserve Flow of Funds, Inside Mortgage Finance.</p>			

The goal of this paper is to evaluate alternative proposals for the future role of Fannie Mae and Freddie Mac. Given the major position of the GSEs within the U.S. mortgage market, their future role must be evaluated in tandem with alternative future formats for the U.S. mortgage market as a whole. The analysis is carried out in three stages. In Section (2), I review the role of the GSEs under the current government conservatorship. This is an essential starting point: financial market policy in the U.S. is always path-dependent, so the starting point will be one factor determining the final policy choice. In Section (3), I adopt a mechanism design approach, first identifying any existing market failures within the private mortgage markets, then developing the proper role for the GSEs as the government instrument to mitigate any identified failure(s). In Section (4), I apply the benchmarks developed in Sections (2) and (3) to evaluate proposals for the proper future role for the GSEs. Section (5) provides a summary and conclusions.

It is useful at the outset to provide a brief summary of the paper's main conclusions. The primary driver of my conclusions is the premise that a government sponsored enterprise—meaning a firm that combines a public mission with private incentives to take risks and maximize profits—is basically untenable within the U.S. mortgage market. One immediate implication is that all public-mission based GSE mortgage market activities must be carried out directly within a government agency. Fortunately, an appropriate agency, Housing and Urban Development (HUD) already exists, and its Federal Housing Administration (FHA) and Government National Mortgage Association (GNMA) programs provide useful guidelines for implementation. A second implication is that any other GSE activities may be privatized and returned to the shareholders, as long as the surviving entity has no possible future links to the U.S. government and thereby creates no possible future liabilities for U.S. taxpayers.

2. The GSEs under Government Conservatorship

Although the announcement in September 2008 that Fannie Mae and Freddie Mac had been placed under a government conservatorship may have been a surprise, subsequent financial developments for the two firms suggest that such an action was inevitable. Table 2 shows that due to accumulating losses, Freddie Mac reached a negative net worth by the end of 2008 Q3, and to date it has required capital draws of \$50.7 billion from the U.S. Treasury in order to maintain a positive net worth position. Similarly, Fannie Mae has required Treasury capital draws of almost \$60 billion to maintain a positive net worth position. Thus, to date, the Treasury has provided direct capital infusions of over \$110 billion to the two GSEs in order to keep their net worth positions from becoming negative. In addition, the Federal Housing Finance Agency (FHFA), the federal regulator of the two GSEs, has suspended the capital requirements that are normally imposed on the firms. These requirements would have required the two GSEs to post an additional total capital of at least \$56 billion as of 2009 Q3.²

Quarter	Freddie Mac			Fannie Mae		
	GAAP Net Worth	Capital Draw	Cumulative Draws	GAAP Net Worth	Capital Draw	Cumulative Draws
2008 Q3	-\$13.7	\$13.8	\$13.8	\$9.4	\$0	\$0
2008 Q4	-\$30.6	\$30.8	\$44.6	-\$15.2	\$15.2	\$15.2
2009 Q1	-\$6.0	\$6.1	\$50.7	-\$18.9	\$19.0	\$34.2
2009 Q2	\$8.2	0	\$50.7	-\$10.7	\$10.7	\$44.9
2009 Q3	\$10.4	0	\$50.7	\$-15.0	\$15.0	\$59.9

^a For further details on the Treasury program, see:
http://www.treas.gov/press/releases/reports/pspa_factsheet_090708%20hp1128.pdf

Source: Federal Housing Finance Agency at:
<http://fhfa.gov/webfiles/2037/TSYFED12102009.pdf>

² This is computed as 2.5% of the on-balance-sheet assets for each firm and as 0.45% of the net outstanding mortgage backed securities for each firm. These ratios are the “minimum” requirements for the two GSEs. In addition, the firms are normally subject to a stress test that could create a still higher capital requirement.

Table 3: Treasury and Federal Reserve GSE Purchase Programs			
As of December 10, 2009, \$ Billions			
	Freddie Mac	Fannie Mae	Total GSE
Treasury GSE MBS Purchases	\$104	\$107	\$211
Federal Reserve GSE MBS Purchases	\$355	\$619	\$974
Federal Reserve GSE Debt Purchases	\$ 60	\$ 63	\$123
Total GSE Obligation Purchases	\$519	\$789	\$1,308
Source: Federal Housing Finance Agency, "Treasury and Federal Reserve Purchase Programs, as of December 10, 2009", available at: http://www.fhfa.gov/webfiles/2037/TSYFED12092009.pdf			

The GSEs have furthermore benefited from large purchases of their MBS and debt by the Treasury and the Federal Reserve; see Table 3. As of December 10, 2009, these purchases totaled an astounding \$1.3 trillion. These purchases benefit the GSEs by creating an active demand for their securities. New purchases under the Treasury program will cease at year-end 2009, although existing positions can be held indefinitely. New purchases under the Federal Reserve program are similarly planned to cease during the first half of 2010.

From the first announcements of the GSE conservatorship and the Treasury and Federal Reserve purchase programs, the question was raised whether these actions were tantamount to a U.S. Treasury guarantee on all GSE MBS and debt. Prior to that, capital market investors could only rely on an "implicit" Treasury guarantee of GSE obligations. But in December 2008, Treasury Secretary Henry Paulson (2008) stated, "...we have essentially guaranteed Fannie Mae and Freddie Mac securities..." and a month later, Paulson (2009) stated, "We have devised the Preferred Stock Purchase Agreement to effectively guarantee the GSEs' obligations...". The words "essentially guaranteed" and "effectively guarantee" fall short of a complete "full faith" guarantee, but they are much stronger than the earlier, and unconfirmed, implicit guarantee.

It is also important to understand how the GSEs are faring as the result of actions taken during their conservatorship. The quantitative financial evidence to date appears largely positive. One key measure is the balance-sheet interest rate spread, the average return on the retained mortgage portfolio minus the average cost of the agency debt that funds the portfolio. This spread has increased, which is to say improved, from 2008 Q3 to 2009 Q3 for both firms: the spread increased from 1.84% to 2.01% for Freddie Mac and from 1.10% to 1.76% for Fannie Mae. This improvement is largely due to a reduction in the cost of GSE debt as the result of the Treasury and Federal Reserve support programs. The GSEs have also been able to lengthen the average maturity of their debt, a decidedly good idea. A second key measure is the size of the total mortgage portfolios. The values for both GSEs at 9/30/2009, shown in Table 1, indicate modest, but positive, increases from the corresponding values at 9/30/2008 just after the beginning of the conservatorship. Both firms, of course, have reported large operating losses during the last year, but these are almost entirely the result of defaults and mark to market losses on already existing mortgages and MBS positions.

The news is more varied concerning two new requirements the government has imposed on the GSEs as a result of the housing and mortgage crisis and their new conservatorship status. Both requirements result from the Making Home Affordable (MHA) program announced February 2, 2009. The first component, the Home Affordable Refinance Program (HARP), requires the GSEs to refinance all mortgages in their total mortgage portfolio as long as the mortgage borrower meets 2 key conditions:

- The borrower has not been more than 30 days delinquent during the last 12 months;
- The unpaid loan balance does not exceed 125% of the current property value.

The goal is to lower the payments to be made by borrowers who otherwise would not have qualified for refinancing. The hope is that with lower payments, these borrowers will be less likely to default. Since the GSEs already face the entire default risk on these mortgages, they will benefit from any reduction in the default rates. On the other hand, the investors who owned the higher yielding mortgages prior to the refinancing will suffer an income loss as they reinvest the prepayment proceeds in lower yielding securities.

The MHA program also created the Home Affordable Modification Program (HAMP) that requires the participation of all servicers on GSE mortgages. The program costs are all imposed on the GSEs. These costs include all the modification benefits provided the borrowers, the incentive payments made to the servicers, and the significant internal resources of administering the program. In its 2009 Q3 10Q report, Fannie Mae is quite explicit in its view of the costs: "...the Making Home Affordable Program will likely have a material adverse effect on our business, results of operations and financial conditions, including our net worth." Freddie Mac in its own 2009 Q3 10Q is more politic: "At present, it is difficult for us to predict the full impact of the MFA program on us". Both firms do recognize that they may ultimately benefit if the savings in the form of reduced foreclosure losses exceed the program costs. However, the computation of any positive benefit for the GSEs must take into account that some of these mortgages would have "cured" without costly modifications, while some, possibly many, of the modified loans will still default and then impose even higher costs on the GSEs; see Adelino, Gerardi, and Willen (2009).

The government has also refined the rules on two further sets of GSE programs. The first concerns GSE support of multifamily mortgages. Over time, the GSEs have both purchased and securitized multifamily mortgages, and this support has been considered critical by community

entities and state housing finance agencies. Over the last year, the government has required the GSEs to continue these activities, although there has been no public sign of any serious financial costs for the GSEs. The second area concerns affordable housing goals, which set minimum ratios for GSE funding of mortgages to lower income borrowers as a percentage of all GSE mortgage purchases each year. HUD recently lowered the annual GSE requirements, perhaps with the intent to avoid any serious financial costs for the GSEs.

In summary, there are both benefits and costs for the GSEs as they operate under their government conservatorship. The main benefit, of course, is the Treasury's capital investments without which both firms would already be bankrupt. Furthermore, the Housing Refinance Program may well have a positive impact on the GSEs. But other programs, such as the Home Modification Program, may well create significant net costs for the GSEs.

This is the starting point that policymakers face as they turn to the longer-term issue of the proper future role for the GSEs in the U.S. mortgage market.

3. Mortgage Market Failures

In this section, I evaluate possible mortgage market failures and the role of the GSEs in resolving them. The recent subprime mortgage crisis severely stressed the U.S. mortgage market, so it is a first place to look for market failures.

3.A. Market Failures as Revealed by the Subprime Mortgage Crisis

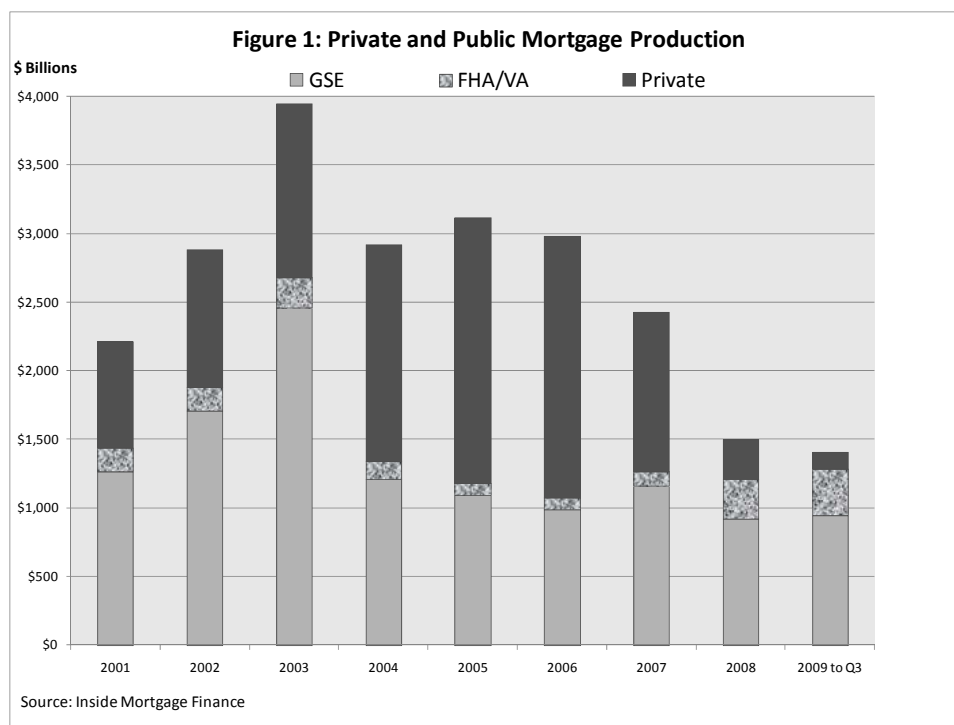
The subprime mortgage crisis has, in fact, revealed at least three potential issues:

- 1) Predatory lending, reflecting insufficient consumer protection.
- 2) Moral hazard in mortgage securitization, allowing highly risky loans to be originated.
- 3) A collapse of private mortgage market lending in the face of escalating default rates.

I discuss these in turn.

Predatory Lending. There is no doubt that inappropriate subprime mortgages were originated, and that borrowers would have rejected some of these loans had they understood the onerous terms. This represents a market failure in the sense that significant foreclosure costs would have been avoided had the borrowers received adequate disclosure. This also points to a rather direct remedy, namely to improve lending disclosures. In fact, the Federal Reserve has already acted, using its powers under the Truth in Lending Act (TILA) and the Home Ownership and Equity Protection Act (HOEPA) to strengthen, very effectively, the applicable truth in lending regulations; see Federal Reserve (2008) and Braunstein (2009). Further regulatory responses are also expected from HUD as part of its authority under the Real Estate Settlement and Procedures Act (RESPA), while the Obama administration recently introduced legislation to create a new Consumer Protection Agency. It is thus fair to conclude that the market failure of predatory lending has been resolved without any direct role for the GSEs.

Moral Hazard in Mortgage Securitization. It has been argued that poor quality mortgages were made in anticipation of their sale under the cover of securitization to unsuspecting investors. There is expanding evidence, however, that little, if any, quality differences exist between the subprime mortgages held in lender portfolios and the subprime loans that were securitized; see Adelino, Gerardi, and Willen (2009), Bubb and Kaufman (2009), and Krainer and Laderman (2009). Furthermore, it is hard to identify any unsuspecting investors, since most subprime MBS were purchased by very sophisticated investors, often the very same banks and GSEs that were securitizing the loans. The conclusion is that the losses on subprime mortgages primarily derived from bad investment decisions, not a market failure of securitization. And even if regulatory adjustments are forced on the securitization process, the GSEs would appear to be more part of the problem (as securitizer and investor) than part of the solution.



The Collapse of Private Mortgage Markets. Figure 1 shows the dramatic extent to which private mortgage production—meaning loans that were neither government insured nor purchased/securitized by the GSEs—collapsed starting in 2007. During the 2006 peak, private mortgage production total \$1.9 trillion billion or 64% of the total production, while during the first 9 months of 2009 private production was only \$120 billion or 8% of the total. In contrast, the GSEs and FHA/VA expanded their production, reaching 92% of the total production in the first 9 months of 2009. In evaluating the role played by the GSE and FHA/VA programs in mitigating the mortgage market collapse during this period, it is important to recognize that they both possessed government backing: the FHA and VA are directly government programs and the GSE programs were “effectively” government guaranteed in the words of Treasury Secretary Paulson cited earlier. The implication is that the GSEs have been able to mitigate the collapse of the private mortgage markets only because their own collapse resulted in the effective government guarantee of their activities under the conservatorship; also see GAO (2009).

3.B. Mortgage Market Failures as Revealed by the GSE Mission

The forgoing discussion found no fundamental role for the GSEs as a remedy for the mortgage market failures that became evident as a result of the subprime mortgage crisis. The GSEs, of course, were created with a particular mission, and it is important to evaluate whether, in responding to this mission, the GSEs have provided important solutions to existing mortgage market failures. The government charters of the two GSEs explicitly define their mission to:

- “promote access to mortgage credit throughout the Nation...”
- “provide stability in the secondary market for residential mortgages”
- “provide ongoing assistance to the secondary market for residential mortgages....by increasing the liquidity of mortgages and improving the distribution of investment capital”
- “(include) activities relating to mortgages on housing for low- and moderate-income families...(and) central cities, rural areas, and underserved areas...”

To judge the success of the GSEs in carrying out this mission, it is useful to start with a brief review of the history of U.S. mortgage securitization. It begins after World War II, as a widening gap developed between household demand for mortgage credit and the supply of mortgage loans from local banks and thrift institutions. This gap became most apparent during the 1960s, as local banks and thrifts faced recurring rounds of disintermediation, causing them to curtail, even stop, their mortgage lending, thus creating severe displacements in the U.S. housing and mortgage markets. As a result, GNMA was created in 1968 as a government program (within HUD) to provide the local banks and thrifts with a mechanism to sell their mortgage portfolios to capital market investors; the outcome was the creation of the GNMA MBS. The GNMA MBS was an immediate success because capital market investors faced no possible credit risk, since the underlying mortgages were entirely FHA and VA government insured loans. In contrast,

lenders holding conventional mortgages—loans without a government guarantee—still had no effective mechanism for selling these loans to capital market investors.

This led the GSEs, during the 1970s, to create their own MBS based on eligible conventional mortgages; eligibility was limited to “conforming” mortgages that satisfied certain size and credit-risk limits. In structure, the GSE MBS duplicated the already existing GNMA MBS passthrough instrument. The new benefit was that the GSEs promised to shield the capital market investors from the potential credit risk of the underlying conventional mortgages by guaranteeing to make full cash payments for any delinquent or defaulting mortgages. Capital market investors interpreted this GSE guarantee to be almost on par with the “full faith and credit” guarantee on GNMA MBS, based on the presumption of a U.S. Treasury “implicit” guarantee. Absent a Treasury guarantee, however, the GSEs provided no new benefit or innovation.

The next stage in MBS market development was the creation of “private label” MBS during the 1980s. This innovation successfully securitized non-conforming, conventional, mortgages by creating “structured” MBS instruments. The key factor was that the junior tranches, with the first-loss positions, were sold to knowledgeable and risk tolerant investors, while the senior tranches were protected from credit risk under all but the most extreme default scenarios. Just as the GSEs first mimicked GNMA in issuing single-class (passthrough) MBS, the GSEs later mimicked the private securitizers by issuing multi-class (REMIC/CMO) MBS.

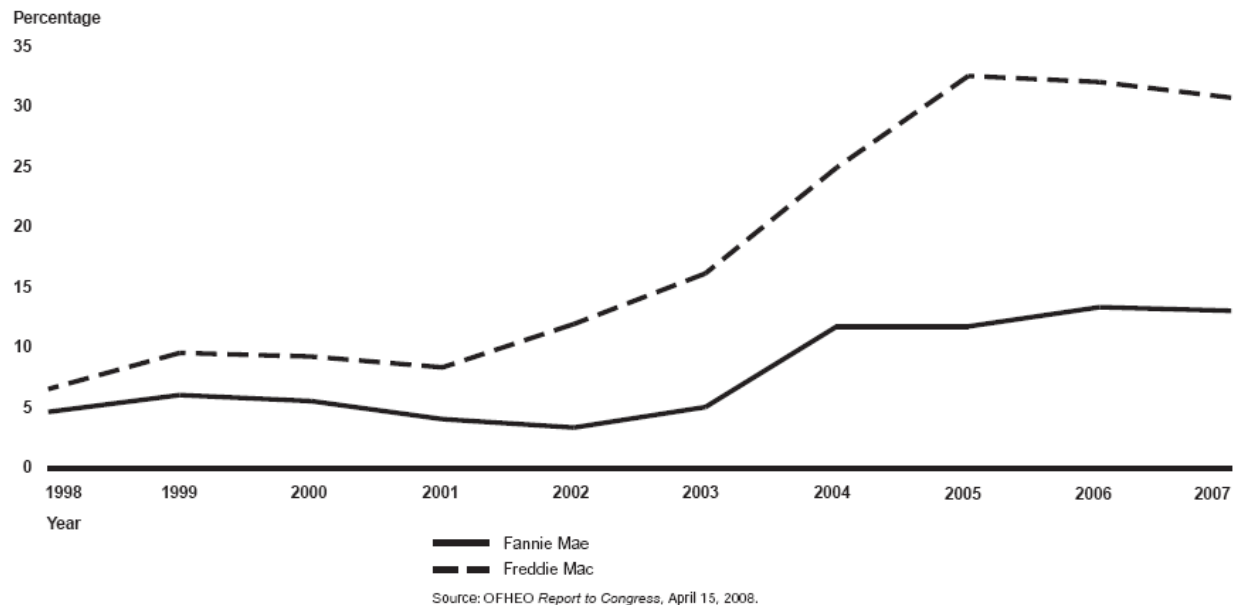
The final stage in the MBS market development occurred about 2000, as the principles of multi-class structured securitization were extended to subprime mortgages. Ultimately, the GSEs also participated in this market, but only as major investors in the subprime MBS.

Many commentators judge the GSEs to have been successful in fulfilling their mission regarding national access to mortgage credit and stability in the secondary mortgage market; see, for example, GAO (2009). While I agree with this evaluation in terms of the development of the MBS market for conforming mortgages, three key caveats are in order:

- 1) Credit for the innovation of single-class MBS belongs to the government itself with the creation of the GNMA MBS, and credit for the innovation of multi-class MBS belongs to the private sector with the development of structured MBS. The GSEs have always been followers, not innovators, in the MBS market.
- 2) The success of the GSEs in establishing the market for their MBS has completely depended on the perception, later the reality, that capital investors would face no credit risk as a result of a U.S. Treasury backstop. Absent this government guarantee, GSE MBS are identical to private-label MBS, and the GSE securities offer no new contribution.
- 3) The GSEs also claim credit for using their on-balance-sheet mortgage portfolios to stabilize U.S. mortgage markets by buying and selling mortgages through this portfolio. As pointed out in GAO (2009), there is little evidence that the retained portfolios have provided any such benefits. As a case in point, the GSEs used these portfolios to purchase subprime mortgage MBS, thus reinforcing the housing bubble and ultimately creating the market collapse, just the opposite of a stabilizing influence. The dramatic increase in GSE holdings of private-sector issued MBS between 2001 and 2006 is shown in Figure 2.

The conclusion seems clear: absent a government guarantee, there is no evidence of any substantive or innovative contribution of the GSEs to promoting the U.S. mortgage market or providing stability in the secondary mortgage market; see also Bernanke (2008).

Figure 2: Private-Label MBS Held as Percentage of the GSE Retained Mortgage Portfolios



As noted above, the GSE mission also requires their support of the mortgage market for low- and moderate-income families, including central cities, rural areas, and underserved areas. Since 1992, this mission has been enforced through quantitative requirements set in HUD's Affordable Housing Goals. The GSEs have generally, although not always, satisfied the letter of their goals by purchasing a sufficient percentage of qualified mortgages. However, other major government housing and mortgage programs also target the same families and areas, including HUD's direct subsidy programs, FHA mortgage programs, and the Community Reinvestment Act (CRA). As a result, the GSE activities may be duplicative, and therefore unproductive. Indeed, studies evaluating the true effect of these GSE missions commonly conclude that the main effect of the GSE activities is to crowd out the other HUD, FHA, and CRA programs, with no net benefit for the families and areas; see for example Ambrose and Thibodeau (2004), An and Bostic (2006), and Bostic and Gabriel (2006).

In concluding this section, note should be made of one GSE activity, while not directly related to the GSE mission, could be considered a possible mortgage market contribution. This concerns the software that both have firms created to evaluate mortgage credit risk, and that they also sell for use by third parties; these packages are called Loan Prospector by Freddie Mac and Desktop Originator and Underwriter by Fannie Mae. The packages do not appear, however, to represent contributions by the GSEs to solve an existing market failure for two reasons:

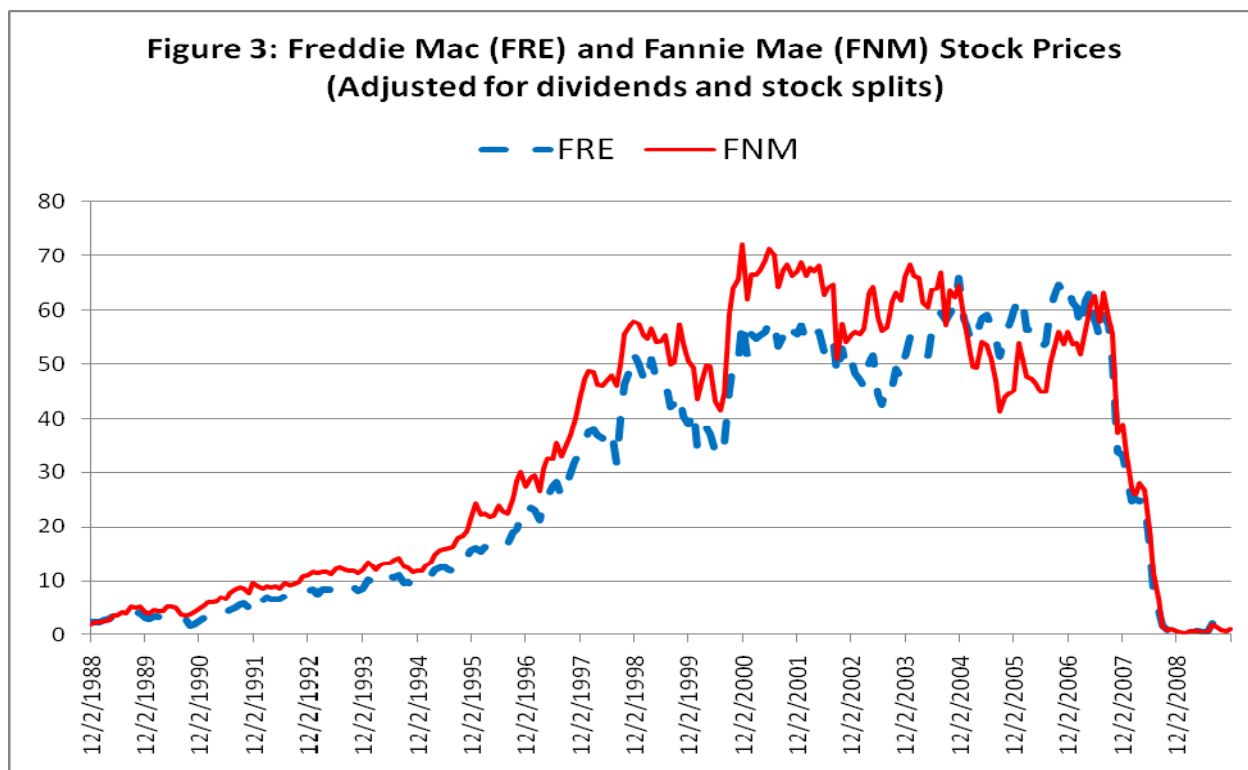
- 1) The software packages were created long after other mortgage evaluation tools. Most importantly, the FICO score was developed much earlier by the Fair Issac company precisely as a predictor of mortgage default. Indeed, the FICO score remains a major input into the GSE software packages. Furthermore, loan evaluation software has been created independently and successfully for other loan markets, including commercial mortgages.
- 2) The Freddie Mac and Fannie Mae software programs were developed based on the vast databases the firms acquired as a result of their GSE status. Absent their GSE status, their software would have no obvious advantage compared to similar offerings from private mortgage market providers. Indeed, the GSE charters preclude mortgage origination activity, and their loan origination software could be considered to be in violation of their charters.

3.C. The GSE Failure as Private Entities with Public Missions

The two preceding sections have made the case that (i) the GSEs provided no fundamental benefits to avoid or mitigate the subprime mortgage crisis, (ii) the GSEs have been followers, not the innovators, in all important mortgage market improvements of the last 50 years, and (iii) any benefits provided by the GSEs have been based entirely on the government's implicit, now effective, guarantee of their obligations. The final straw, of course, is that the GSEs are now essentially bankrupt, forcing taxpayers to spend hundreds of billions, if not trillions, of dollars to

bail them out. In this section, I make the case that these dire outcomes were predictable and inevitable based on a fundamental design error in the GSE concept.

The creation of Fannie Mae as a government sponsored enterprise in 1968 occurred only as the result of an accounting change by President Johnson to reduce the reported federal government deficit, and no fundamental change in Fannie Mae's role or operational status was expected. However, the "private" side of the GSE private-public hybrid steadily expanded and became fully dominant once GSE shares began trading on the New York Stock Exchange (NYSE). The result was a pair of unique firms, operating to maximize the value of their stock and management bonuses on one hand, and with a public mission on the other hand. From the management and shareholder perspective, this formula worked incredibly well until about 2004, but it became an unmitigated disaster thereafter.



As shown in Figure 3, the stock price (corrected for stock splits and dividends) for each firm was just over \$2.00 per share in December 1988, the date at which the shares of both firms first traded on the NYSE. In December 2004, the approximate peak in their stock prices, the stock price of each firm was approximately \$65 per share. Over the 25 year period ending in December 2004, shareholders thus earned an average annual total return of 15.0%. However, by December 1, 2009, the Freddie Mac share price was \$1.32 and the Fannie Mae share price was \$1.09. Thus the total return, including stock splits and dividends, would have been negative for an investor purchasing the shares in December 1988 and holding them through December 2009. Furthermore, at the December 2004 peak, the combined market share value of the two firms was just below \$100 billion, whereas by December 2009 it was approximately \$2 billion. Thus the long-term results have been just as dire for GSE investors as they have been for U.S. taxpayers.

These negative results arise from a critical flaw in the GSE structure. As publically listed firms, their goal, understandably, has been to maximize their share value. This was reinforced by Board approved management bonus plans. The GSE charters, however, only allow the firms to purchase and securitize mortgages, and the size of the U.S. mortgage is limited. Thus continuing growth could come from only one source: expanded risk-taking. For the GSEs, normal market discipline was absent: shareholders directly benefited from the earnings growth, and bondholders felt fully protected against possible financial distress by the implicit guarantee. And given the strong public relations prowess of the GSEs, and the resulting Congressional support, their under-staffed federal regulator was in no position to stop the apparent bandwagon of success.³

³ An interesting example of Congressional support of the GSEs occurred in 2003 when both GSEs were found guilty of significant accounting irregularities. Their problem was that a 2001 GAAP accounting change was going to create the appearance of greatly expanded earnings volatility. The firms decided to cook the books rather than to disclose these facts. The regulator at the time, the Office of Federal Housing Enterprise Oversight (OFHEO), actively pursued the firms, but was lambasted by key Senators and Representatives for doing so.

The GSE carried out their risk-taking activities through three primary mechanisms:

- 1) Expand the size of the retained mortgage portfolios. The firms earned sizeable spreads, as much as 2 percentage points on every investment dollar; thus the larger the portfolio, the greater the profits. The GSEs further expanded their spreads by using predominantly short-term debt to fund their long-term mortgage portfolios. Of course, this meant the GSEs had to rollover immense amounts of debt annually, and so were always at risk to a liquidity crisis; see Jaffee (2003).
- 2) Expand the amount of interest rate risk. The financial markets provide a premium to investors willing to take on interest rate risk. The GSEs actively pursued these profits by imperfectly hedging their interest rate risk; again see Jaffee (2003).
- 3) Expand the amount of credit risk. Although the GSE charters require the firms to obtain credit enhancements when purchasing higher-risk mortgages, the firms found they could meet the letter of the law, but still expand profits, by purchasing higher-rated subprime mortgage securitization tranches. This activity greatly accelerated starting in 2004; see Figure 2 above.

With this risk-taking strategy, it was only a matter of time before an adverse event would create extreme financial distress for the GSEs. As it happened, the subprime mortgage crisis was the event. The GSEs' large subprime mortgage losses in turn resulted in a liquidity crisis as investors became unwilling to rollover the maturing GSE debt. The only cure was the Treasury bailout and conservatorship of September 2008.

4. The Future Role of the GSEs

Recent discussions of the future role of the GSEs, see Bernanke (2008) and GAO (2009), distinguish three classes of solutions, and I follow their convenient format. Fannie Mae and Freddie Mac may be reestablished as:

- 1) Government sponsored enterprises, continuing the current private-public hybrid;
- 2) Government corporations or agencies;
- 3) Privatized entities with no continuing government link.

These solutions are not mutually exclusive since one part of the existing GSEs could be reestablished in one format, while another part of the GSEs could be reestablished in another format. I discuss the three classes of solutions in turn.

4.A. Reconstituted Government Sponsored Enterprises

In view of their immense losses, bailouts, and conservator status, even the most devout supporters of the two firms recognize that the reestablishment of Fannie Mae and Freddie Mac as GSEs would have to come with new restrictions. These restrictions could impose higher capital requirements, set salary and performance bonus limits, and institute strong risk-taking constraints. Proposed structural plans include splitting the two firms into many smaller GSEs, recreating the firms as industry cooperatives (similar to the existing Federal Home Loan Bank structure), or treating the two firms as regulated public utilities; see GAO (2009).

Any plan to reestablish the two firms as GSEs would require the government to provide explicit guarantees on all their new obligations. Otherwise, it would appear impossible, certainly in the foreseeable future, that private market investors would purchase securities from a so-called GSE, but one in which the government disavowed any guarantee. It would also appear inevitable that each firm would be required to pay appropriate fees to compensate taxpayers for the risks

they would be guaranteeing. Finally, an explicit guarantee with compensatory fees is certainly more sensible than an implicit guarantee that is likely to become explicit at some future later date; see (Glaeser and Jaffee (2006)).

The flaw—and I believe the fatal flaw—with any and all plans to reconstitute the firms as GSEs is that they leave unresolved the inherent incompatibility of a private firm with a public mission. We have learned from first-hand experience that the incentives of a GSE with a government guarantee, implicit or explicit, is to expand its size and risk-taking as much as possible, and that these incentives ultimately dominate any public mission. I believe that the reestablishment of new GSEs will inevitably end with a new government bailout.

For further insight into the fundamental problem, consider the following superficially appealing proposal. Suppose that the two firms are reestablished as GSEs but under a regulatory regime of virtually complete safety, in the hope of achieving private efficiency and a public mission at little taxpayer risk. For example, each new GSE could be prohibited from all but a very small on-balance sheet retained portfolio and it could be allowed to offer MBS guarantees only on prime, conforming, mortgages. While this outcome might be superficially appealing, it will fail on two counts:

- 1) Since the firm is effectively risk-free, bondholders and shareholders will only earn the risk-free interest rate (after netting the firm's operating costs) as their return. It is then unclear how the new GSEs could attract employees and capital or carry out innovations.⁴
- 2) As a result of (1), it would only be a matter of time before the new GSEs would cut a deal to expand their public mission in exchange for a relaxation of the zero risk regime.

And the result would be a replay of our recent history.

⁴ One proposal refers to this as the “public utility” option, but true public utilities bear real economic risks and accordingly their bondholders and shareholders earn returns above the risk-free rate.

4.B Government Agency or Corporation

The second class of solutions would bring certain key mortgage functions of the GSEs directly into a federal government agency. This is not as extreme as it might sound. For one thing, Fannie Mae spent its first 34 years in this status, and it was modified to be a government-sponsored enterprise only to improve the cosmetic appearance of the federal budget. Since the government has already spent \$100 billion to bail out the GSEs, and has invested more than a trillion dollars in asset purchases as well, this has turned out to be a very expensive facelift. Furthermore, the government's track record over many decades in running the FHA and GNMA programs for insuring and securitizing mortgages is really very impressive.⁵

The core issue is how to define the "key mortgage functions", previously carried out by the GSEs, that would now become government activities. In principle, of course, there may be no such functions. Indeed, the discussion in Section (3) did not identify any fundamental mortgage market failures for which the GSEs have been an effective remedy. From this point of view, we would just move on to the final possibility of complete privatization for the GSEs.

However, I noted at the beginning that financial policy making is inevitably path-dependent, and our starting point is a failed mortgage market with extremely limited private sector activity; recall Figure 1 above. As a result, I do believe that a government agency or corporation could play a constructive role, at least as part of a transition toward a more, or even completely, privatized U.S. mortgage market.

My proposal, therefore, is for the government to create a mortgage insurance plan for the prime conforming loan borrowers who are the intended beneficiaries of GSE activities. Whereas

⁵ Jaffee and Quigley (2009) provide an extensive discussion of how the FHA and GNMA programs have succeeded over many years. The FHA program is currently facing historically high default rates, but it remains the case that the FHA foreclosure rate is only slightly above the prime conventional foreclosure rate, and thereby is far below the subprime mortgage foreclosure rate.

the loans of these borrowers are currently guaranteed and securitized by the GSEs, under this proposal the loans would be insured and guaranteed within a government agency patterned after the existing FHA and GNMA programs. Given that the government is already guaranteeing all GSE obligations, there would be no increase in taxpayer risk. Indeed, in parallel with the existing FHA program, borrowers would pay an actuarially based insurance fee that must cover the expected losses; otherwise the agency would require an explicit Congressional appropriation to provide a subsidy. Furthermore, the new program would have a prime conforming loan clientele, so the risk and required insurance premiums would be lower than the FHA program, approaching the same 0.20 percent (20 basis points) annually that the GSEs have historically charged for their guarantees. This assumes the program would require the same 20 percent down payment loans that have been the core of the GSEs' conforming loans. Given the government guarantee, pools of these mortgages would be immediately eligible for GNMA securitization.

Private-sector mortgage originators and mortgage investors would welcome the new government program for the same reason they systematically endorse the FHA and GNMA programs. Furthermore, private-sector firms would continue to originate and private-sector investors would continue to hold these mortgages, so private-sector activity would be enhanced, not crowded out, by the new program. In brief, the new government program for prime conforming loans would simply and efficiently replace the existing GSE programs, while avoiding the systemic risks that will unavoidably arise with any recreation of the GSEs.

Private sector mortgage originations, of course, would continue to serve those borrowers who could not meet the conditions of the new government program. These would include mortgage borrowers who required low downpayment loans, or larger initial loan sizes, or who for any other reason fail to meet the high standards of the government program.

There is, however, a serious concern that a new government program would expand to dominate the market, ultimately crowding out private sector activity that would have occurred if the government program did not exist. Crowding out, of course, is not currently a significant concern, because so little private activity is occurring. Furthermore, the new government program would show by example that prime conforming mortgages could, once again, be successfully insured and securitized, just as the FHA program did when it was first created in 1934. Indeed the greatest early benefit of the FHA program was that its very success was a key catalyst for the expansion of private lending.

Nevertheless, crowding out of private market activity by a government program is always a proper long-term concern. To rule out crowding out, a sunset provision is essential. The sunset provision should include a final date for the program, although experience with such a provision as part of the government's Terrorist Risk Insurance Act is that Congress can always act to extend the program; see Jaffee and Russell (2009). Therefore, I propose, in addition, a functional mechanism to ensure that the program's mortgage lending will be systemically and continuously transferred from the government to the private market. My proposed mechanism is for the government to add, in a steady fashion year by year, a surcharge to the insurance premium it charges for its program. At some point, the government premium will become high enough that the private market will be able to undercut the government program, and new activity will be carried out directly by the private market.

Covered Bonds.

There has also been mention, see Bernanke (2008), that the current GSE funding of prime, conforming, mortgages could be replaced with covered bonds, a mechanism now used in some European countries. In the European context, covered bonds refer to special debt issued by banks

and secured by a portfolio of high quality mortgages. In the U.S. context, the debt the GSEs currently use to fund their retained mortgage portfolios are essentially covered bonds. The key issue for covered bonds is the extent of the government's responsibility if losses on the underlying mortgages threaten to create bond defaults. As we have seen, the U.S. Treasury had to provide an effective guarantee on all GSE covered bonds in order to avoid a bond default.

A covered bond proposal would encourage U.S. banks to expand their own retained mortgage portfolios and to use these assets to secure covered bonds. However, in the current mortgage crisis, we have seen that the Treasury has had to bailout the banks holding large mortgage portfolios just as it did the GSEs.⁶ In other words, covered bonds require bailouts whenever the underlying mortgages suffer major losses, independent of whether it is banks or GSEs that are issuing the bonds. For this reason, I consider covered bonds an unattractive solution.⁷

Low-Income and Multifamily Housing Incentives

The last issue of concern is how to replace the support to lower-income borrowers and multifamily housing that has been part of the GSE mission. These mission goals, mandated by Congress, arose under the mistaken premise that aid to lower-income families and multifamily housing from the GSEs was basically available at no cost — it certainly was perceived to be easier to “tax” the GSEs than to obtain Congressional appropriations to increase the budget of the government's Housing and Urban Development (HUD) agency. As the bailout costs have

⁶ As a case in point, Washington Mutual (WaMu), a large thrift institution, issued an innovative covered bond as a means to expand the capital market funding of its mortgage portfolio. Alas, the FDIC had to subsidize the thrift's takeover by J.P. Morgan, in part to avoid a default on WaMu's covered bond obligations.

⁷ This does raise the question why European countries rely on covered bonds. I believe there are two reasons. First, many of these countries allow bank lenders recourse to all of a borrower's assets in the case of a mortgage default. This dramatically reduces both the default rates and the expected losses when there is default. Second, many of these same countries have not developed an effective securitization channel, so covered bonds are the only means available to connect capital market investors with mortgage lending.

demonstrated, however, such GSEs' support was actually far from free. Furthermore, as indicated above, most academic studies of the Affordable Housing Goals have indicated that very modest benefits actually arose from these requirements. Therefore, Congress should now recognize that specific appropriations to HUD represent a much more effective means to help low-income and multifamily housing.

4.C Privatization

The last set of possible solutions for Fannie Mae and Freddie Mac, upon their release from conservatorship, is to return to their shareholders whatever remains of their financial net worth and intellectual capital, and then reestablish the firms as private sector entities. It is essential that both the firms and the federal government explicitly disavow any continuing status for the two firms as government sponsored enterprises. Otherwise, if they maintain a government link, explicit or implicit, this has to be considered a reconstituted GSE, and for the reasons given above, a future bailout would be highly likely. Furthermore, there is a prototype for successfully privatizing a GSE: in 1997, Sallie Mae, a GSE specializing in securitizing student loans, successfully gave up its GSE status and became a private sector firm with no continuing links to the federal government; see Lea (2006).

In the following I take up a number of specific questions that arise in defining and implementing the privatization option:

What is to be Privatized. An immediate question is what part of the GSEs' current operations would be privatized and returned to their shareholders. My proposal is to privatize all GSE activities except for those functions that are to be operated as government programs as discussed in Section 4.B just above. In that discussion, I proposed that the core GSE mortgage securitization operations be transferred to the government, most likely to be placed inside HUD

and coordinated with the FHA and GNMA programs. This leaves two basic operating activities as candidates for privatization: the retained mortgage portfolios and the mortgage underwriting software.⁸ As newly privatized entities, the firms would choose precisely how to format and operate their retained mortgage portfolios. One possibility is to structure the new firm as a hedge fund; another possibility would be to adopt a mutual fund or mortgage REIT structure. The decision would be made, presumably, on the basis of operating efficiency and tax minimization. The new private firms would also have unfettered opportunities to expand any existing lines or to enter into new business lines. An obvious example would be for the new firms to enter directly into mortgage originations, an activity that would take advantage of their mortgage underwriting capabilities, and that is prohibited under their current GSE charters. They could also continue to securitize mortgages as they do currently, but with the critical change that they could only offer private-label MBS, with no government guarantees implicit or explicit.

The Price for Past Losses. The value returned to the firms' shareholders will depend, of course, on their financial situation at the time they are released from the conservatorships. In their current situation, it would appear all available net assets would be applied to repay the Treasury's senior preferred shares, and no value would remain for the common shareholders. It is possible, however, that as the mortgage market recovers, the GSEs could regain value as well. In this case, the Treasury and taxpayers would be repaid in full, and the firms' shareholders would salvage at least some value.

⁸ The GSEs do carry out a number of other activities that, while small relative to the current GSE size, could be important individually. For example, the GSEs have provided consulting services to countries around the world. Under my proposal, this and similar activities would remain as part of the newly privatized entity.

A Timetable for Privatization. The primary issue of timing concerns the transfer of the current GSE securitization operations to the government. Once that is accomplished, the privatization could occur very rapidly. Special transition rules could be adopted to handle the transfer or liquidation of the retained mortgage portfolios. Since the Treasury is already effectively guaranteeing the debt that funds these portfolios, a simple mechanism would be to transfer the debt and an equivalent market value of assets directly to the government. Over time, cash inflows from mortgage payments and repayments would balance the cash outflows necessary to pay the debt interest and principal. While the mortgages have potentially very long maturities, the effective maturity, taking into account home sales and prepayments, is well less than 10 years. Furthermore, the government would always have the option to sell the mortgage portfolio to private investors and use the proceeds to defease the remaining debt.

5. Summary and Conclusions

I have considered three sets of possible solutions for the future role of Fannie Mae and Freddie Mac: reestablishment as GSEs, transfer of key activities to the government, and privatization. I have argued that the reestablishment as GSEs provides few if any benefits, while it creates significant risks of a future bailout. My proposal, therefore, is a combination of a government agency and privatization. The government agency would take over the core GSE activity of securitizing prime, conforming, mortgages. The privatization would transfer any remaining net assets and any intellectual property to the firms' shareholders, with the firms then being reorganized as private sector entities with no further links to the U.S. government. The ultimate goal is for the private markets to take over all mortgage securitization.

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