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‘No Credible Purpose’:

The Case for Limiting the Investment Portfolios of Fannie Mae and Freddie Mac

- Massive accounting and internal control problems at both the Federal National Mortgage Association (Fannie Mae) and the Federal Home Loan Mortgage Corporation (Freddie Mac) have made reform of these government-sponsored enterprises (GSEs) a top priority for lawmakers.
- The normal market responses to such operational breakdowns (credit rating downgrades, increased borrowing costs, or an inability to attract capital) have been absent because market participants believe that Fannie and Freddie’s obligations are implicitly guaranteed by the Treasury (i.e. taxpayers). As a result, Fannie Mae and Freddie Mac continue to borrow at interest rates **lower** than those paid by private, AAA-rated companies despite the fact that neither GSEs is currently able to disclose audited financial statements.
- Although mortgages are very low credit-risk assets, the issuance of $1.7 trillion in debt to finance a portfolio of *nothing but* mortgage-related assets presents tremendous risks because Fannie and Freddie could suffer huge losses when interest rates increase **or** decrease. Higher mortgage rates reduce the market value of the GSEs’ mortgage portfolio, while lower rates cause borrowers to refinance, or buy new homes, which reduces Fannie and Freddie’s asset base and income. Under the current arrangement, these risks are implicitly borne by taxpayers.
- Nonpartisan analysts, regulators, and independent investigators who testified before the Senate Banking Committee in April argued that by limiting the size of Fannie Mae and Freddie Mac’s investment portfolios, Congress could all but eliminate the risk of a taxpayer bailout, while ensuring that Fannie and Freddie focus their activities on their chartered mission.
- Portfolio limits would do nothing to compromise Fannie and Freddie’s ability to purchase mortgages, or provide liquidity to the secondary mortgage market. By packaging similar loans together for sale to investors as bond-like instruments called mortgage-backed securities (MBS), Fannie and Freddie are able to purchase new mortgages without issuing more debt. For example, in 1992, Freddie Mac purchased nearly $200 billion in mortgages, but reduced its total outstanding debt by $600 million that same year.
- Recent Federal Reserve research found that in the seven years the GSEs’ portfolios grew most rapidly, mortgage rates relative to Treasuries *increased* by 1.32 percentage points; by contrast, in 2004, when the GSEs’ portfolios grew by only 1 percent because of enhanced regulatory scrutiny, mortgage rates relative to Treasuries *declined* by 0.12 percentage points.

Introduction

Over the past two years, Congress has learned of massive accounting and internal control failures at both the Federal National Mortgage Association (Fannie Mae) and the Federal Home Loan Mortgage Corporation (Freddie Mac).[1] Such operational breakdowns would be unsettling enough if these were purely private businesses, but they are not. Fannie Mae and Freddie Mac are federally chartered "instrumentalities,"[2] endowed with privileges that have allowed them to dominate the U.S. secondary market for residential mortgages.[3] Fannie and Freddie's misconduct warrants Congressional scrutiny both because of their charters and because financial market participants believe that the U.S. Treasury would come to their aid if either of these government-sponsored enterprises (GSEs) were to encounter difficulties meeting their obligations (due to, say, internal control problems or imprudent risk management).

In the event the Treasury, i.e. taxpayers, were to assist the GSEs in a crisis, the amount of resources involved could be enormous. At the end of 2003, Fannie and Freddie's combined debt outstanding stood at $1.7 *trillion*; their combined mortgage portfolios were valued at more than $1.5 *trillion*; and the notational value of their combined derivatives portfolio was over $1.8 *trillion*.[4] Simply put, Fannie and Freddie issue more debt than the United Kingdom and France together,[5] have more combined assets than the largest bank in the United States,[6] and in combination buy more than one out of every two single-family mortgages originated in this country.[7]

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[1] For full background on all of the misdeeds by Fannie Mae and Freddie Mac see: Office of Federal Housing Enterprise Oversight (OFHEO), Notice of Charges, Notice 2003-1, December 2003, and OFHEO, "Special Investigation of Fannie Mae," September 2004.

[2] Unlike other U.S. corporations, Fannie Mae and Freddie Mac were specifically created by acts of Congress to fulfill specific, public policy goals. Their charter acts can be accessed at http://www.ofheo.gov/Media/Archive/docs/reports/fnma.pdf (Fannie Mae) and http://www.ofheo.gov/Media/Archive/docs/reports/freddie.pdf (Freddie Mac).

[3] The "secondary mortgage market" refers to the buying and selling of mortgage loans between investors after these loans have been extended by a bank or thrift. Fannie Mae and Freddie Mac are eligible to purchase mortgages below an annually-adjusted, "conforming" limit, which is $359,650 for 2005. They purchase an estimated 78 percent of such loans, and an estimated 45 percent of all U.S. mortgages. Dwight Jaffee, "On Limiting the Retained Mortgage Portfolios of Fannie Mae and Freddie Mac," Haas School of Business, paper presented at the American Enterprise Institute, April 26, 2005.

[4] OFHEO, "Mortgage Markets and the Enterprises in 2003," October 2004. Available at: http://www.ofheo.gov/media/pdf/MME2003.pdf. Since these derivatives are mostly used to hedge the interest rate risk affecting the value of an underlying asset, or future cash flows expected from the spread between assets and liabilities, total notational value does not represent the value at risk. For example, even though the total notational value of derivative positions held by U.S. commercial banks equaled $53.2 trillion at the end of 2002, the current mark-to-market exposure, as well as potential future exposure, of those banks was only $570 billion, or a little over 1 percent of total notational value. Office of the Comptroller of the Currency, "OCC Reports Derivatives Volume Grows $3.1 Trillion," *Release*, December 13, 2002.

[5] United Kingdom Treasury, *Debt and Reserves Management Report 2004-05*. Banque de France, "Total Domestic Debt," March 2005. Using official exchange rates of the close of the 3rd quarter of 2003 (9/30/2003), France and the United Kingdom had a combined outstanding debt of $1.702 trillion at the end of 2003, while Fannie and Freddie had a combined outstanding debt of $1.706 trillion at the end of 2003.

[6] At the end of 2004, Citigroup held $1.4 trillion in assets. Yahoo Finance, NYSE:C, balance sheet.

[7] OFHEO, "Mortgage Markets and the Enterprises in 2003."

Fannie and Freddie were chartered to purchase mortgages from banks and thrifts to allow these originators to extend more credit to borrowers, and to promote liquidity (a term referring to the degree to which assets, including mortgages, can be converted into cash and freely traded among investors without losing value) in the mortgage markets. Since Fannie and Freddie play such an integral role in the mortgage markets, the dilemma that confronts Congress is how best to minimize taxpayers' exposure to Fannie and Freddie's operations without compromising the liquidity of the secondary mortgage market or the availability of affordable housing in America.

Fortunately, expert testimony delivered before the Senate Banking Committee during the month of April points to such a solution: by limiting the size of Fannie Mae and Freddie Mac's investment portfolios, Congress could all but eliminate the risk of a taxpayer bailout, while ensuring that Fannie and Freddie focus their activities on their chartered mission.

Background on Recent Developments at the GSEs

In December of 2003, Fannie and Freddie's regulator, the Office of Federal Housing Enterprise Oversight (OFHEO), ordered Freddie Mac to pay a fine of $125 million for "a pattern of inappropriate conduct and improper management of earnings" and "a disdain for appropriate disclosure standards" that led Freddie Mac to operate in a manner that was "unsafe and unsound."[8] OFHEO found that Freddie Mac's management misapplied accounting standards to present to markets a false portrayal of the company's financial performance by "smoothing" earnings between 2000 and 2003.[9] Although Freddie Mac ousted its top three executives for malfeasance, the GSE's books were in such disrepair that it has yet to file an annual financial disclosure form with the Securities and Exchange Commission (SEC).

When news of the Freddie Mac scandal surfaced in the summer of 2003, Fannie Mae's CEO, Franklin D. Raines, immediately tried to quell rumors that his GSE had similar operational breakdowns. In response to a reporter's question as to whether Fannie had done anything to circumvent accounting rules, Raines replied, "The answer to that is clearly no. We have not. If we had, I would have violated the law in certifying our financial results."[10]

Yet, just over a year later, OFHEO completed an investigation that concluded that Fannie Mae had manipulated earnings in a manner that was "pervasive and reinforced by management."[11] As OFHEO Director Armando Falcon explained, "It's not a matter where they made a good-faith effort to try to comply with the rules. They did not comply with rules that they clearly understood."[12] Worse, OFHEO alleged (and the SEC confirmed) that Fannie had *overstated* its earnings by $11.98 billion between 2001 and 2004,[13] resulting in OFHEO classifying Fannie Mae as "significantly undercapitalized."[14] As was the case with Freddie Mac,

[8] Office of Federal Housing Enterprise Oversight (OFHEO), Notice of Charges, Notice 2003-1, December 2003.
[9] OFHEO, Notice 2003-1.
[10] Kathleen Day, "Probe Examining Fannie's Promises," *The Washington Post*, September 23, 2004.
[11] OFHEO, "Special Examination of Fannie Mae," September 17, 2004.
[12] "SEC Tells Fannie Mae To Restate Earnings," *The Washington Post*, December 16, 2004.
[13] Jonathan Weil and James R. Hagerty, "Fannie Faces Billions in New Losses," *The Wall Street Journal*, March 3, 2005.
[14] OFHEO, "OFHEO Classifies Fannie Mae as Significantly Undercapitalized for Third-quarter 2004," December 21, 2004.

these material accounting violations forced Fannie Mae to oust its top two executives in December of 2004.[15]

The Crux of the Problem: The Implicit Guarantee

If purely private businesses had engaged in such practices, investors would be expected to respond in a swift and assured fashion, requiring the businesses to compensate them for increased risk by paying more to borrow in the future.[16] Likewise, credit rating agencies typically issue downgrades when companies restate their past earnings downward, or when company disclosures increase its operations risk profile – as was certainly the case with Fannie and Freddie. As a recent example, the insurer American International Group (AIG) saw its borrowing costs increase and its AAA credit rating downgraded to AA+ when the company disclosed that its net worth was overstated by $1.7 billion.[17] Its credit ratings were *further* downgraded to AA when AIG's auditor, PricewaterhouseCoopers, recommended that it restate its net worth downwards by another $1 billion a month later.[18]

By contrast, Fannie Mae and Freddie Mac have retained their AAA credit ratings,[19] and continue to borrow at interest rates lower than those paid by private, AAA-rated companies[20] – in spite of the disclosures of internal control breakdowns, and the fact that both GSEs have ceased disclosing audited financial information. Meanwhile, the amount these GSEs continue to borrow in order to meet maturing obligations, acquire new mortgages, and maintain operations is not small: their "net debt increases [by] about almost $30 billion a month," according to Federal Reserve Chairman Alan Greenspan.[21]

Why would investors agree to buy so much of Fannie and Freddie's debt at such low interest rates given the operational breakdown revealed over the past two years? The reason is that the advantages conferred on Fannie Mae and Freddie Mac by their federal charters have given market participants every reason to believe that the federal government will not allow the GSEs to fail, even though the GSEs' prospectuses are required to state explicitly that they are not backed by the full-faith-and-credit of the federal government.[22]

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[15] Bethany McLean, "The Fall of Fannie Mae," *Fortune*, January 2005.
[16] The yield on a bond is made up of two components: the yield on a default-free issue of similar maturity (usually a U.S. Treasury note or bond; and a premium above the default-free yield to compensate investors for the credit risk associated with the bond). Frank Fabozzi, *Fixed Income Analysis*, p. 45, 2000.
[17] "AIG Shares Hit as Probe Widens," *Financial Times*, April 2, 2005.
[18] "PwC to Give Adverse Opinion on AIG," *Financial Times*, May 3, 2005.
[19] Moody's Rating Agency did recently downgrade Fannie's Bank Financial Strength Rating, but this simply means is that the government subsidy Fannie receives on each dollar of new debt has increased in direct proportion to the deterioration in its financial health. Moody's Investor Service, Bank Financial Strength Rating, Notice of Bank Financial Strength Rating Downgrade.
[20] In May, AAA spreads over Treasuries were 100 basis points, but only 40 basis points for Fannie and Freddie. "Fannie Mae Prices New Issue 10-Year Benchmark Notes," March 29, 2005. Available at: http://www.fanniemae.com/newsreleases/2005/3488.jhtml?p=Media&s=News+Releases
[21] Chairman Alan Greenspan, testimony before the Senate Banking Committee, April 6, 2005.
[22] This disclosure is required by the "Federal Housing Enterprises Financial Safety and Soundness Act of 1992," which was passed as Title XIII of the "Housing and Community Development Act of 1992" (P.L. 102-550) at the end of the 102nd Congress.

Yet, despite this denial of responsibility, current federal law defines "government security" to include the debt of Fannie Mae and Freddie Mac, and allows mutual funds that label themselves as "Government" or "U.S. Treasury" bond funds to invest in the debt of Fannie Mae and Freddie Mac.[23] In the words of OHFEO Director Armando Falcon, investors view Fannie Mae and Freddie Mac's debt "as the equivalent of Treasuries, but one that pays a higher rate of interest."[24]

This market perception of an "implicit guarantee" on Fannie and Freddie's obligations is the crux of the problem facing Congress. When the top management of purely private businesses compromise the integrity of operations, the employees, shareholders, and creditors are harmed in a number of obvious ways. Meanwhile, the taxpayer and the U.S. financial system usually emerge unscathed from such episodes.[25] The significance of the implicit guarantee is that it essentially turns the normal market response on its head: that is, negligence on the part of the GSEs' management could result in a massive taxpayer bailout – while relieving GSE stakeholders from the normal consequences of improvident action.[26]

Thus, the status quo presents a classic case of moral hazard, whereby the GSEs and their creditors engage in riskier behavior than would otherwise be the case because the presumption of a federal rescue insulates them from the downside risks of their activities. On one side of the equation are Fannie and Freddie's shareholders, who stand to benefit if the risks undertaken by their management increases earnings. On the other side are taxpayers, who may be left to pick up the tab if an adverse market movement caused huge losses.

Given the political sensitivity of affordable housing, and the housing market's contribution to overall economic activity,[27] Congress must act with care: it must craft a strategy to reduce the taxpayer risks associated with Fannie and Freddie's activities without compromising the access of borrowers to affordable mortgage credit.

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[23] Fannie and Freddie's direct obligations are typically referred to as "Federal Agency debt" but the definition of "government security" in Section 2(a)(16) of the Investment Company Act of 1940 includes the securities issued by Freddie Mac, Fannie Mae, and the Federal Home Loan Banks and, thus, the use of "federal" or "government" in a fund's name would not be misleading for purposes of Section 35(d) of the 1940 Act if the fund invests, under normal circumstances, at least 80 percent of the value of its assets in investments suggested by the fund's name and otherwise complies with Rule 35d-1 under the 1940 Act. SEC, "Letter to Investment Company Institute," October 17, 2003.

[24] OFHEO Director Armando Falcon, testimony before the Senate Banking Committee, April 21, 2005.

[25] Many have attributed the stock market's sluggishness in 2002 to the string of accounting scandals, revelations of executive malfeasance, and corporate failures that dominated news headlines in 2001 and 2002. Congress acted to enhance corporate disclosure requirements, improve internal controls, and increase corporate accountability through passage of the Sarbanes-Oxley Act of 2002 (P.L. 107-204).

[26] As will be explained later in the paper, GSEs' creditors are protected in the event of failure because their bond holders cannot be forced to accept less than 100 cents on the dollar for their obligations. But their stockholders are also protected from catastrophic loss because the non-linearity of their returns versus the market demonstrates that both stocks have an embedded put option. It is referred to it as a "barrier put" because it protects investors against catastrophic losses. See: Frank A. Schmidt, "Conjectural Guarantees Loom Large: Evidence from the Stock Returns of Fannie Mae and Freddie Mac," Working Paper 2003-31A, Federal Reserve Bank of St. Louis, October 2003.

[27] OFHEO, "Mortgage Markets and the Enterprises in 2003," October 2004. Available at: http://www.ofheo.gov/media/pdf/MME2003.pdf.

Banking Committee Hearings Point to a Solution

During the month of April, the Senate Banking Committee held a series of hearings to assess the mix of policies best suited for accomplishing this goal. In the opinion of every financial regulator, nonpartisan analyst, and independent investigator who appeared before the Committee, Congress should act to create a new, more powerful regulator with the freedom to set appropriate minimum and risk-based capital standards, the ability to unwind or liquidate the GSEs in the event of insolvency, and the power to limit the size of the GSEs' portfolios.

The witnesses agreed that the threat that the GSEs present to the soundness of the U.S. financial system is a relatively new one. When Fannie and Freddie's combined debt was less than $200 billion and their combined portfolio amounted to 5 percent of U.S. mortgages, as was the case in 1990,[28] they did not represent such a threat. But, in subsequent years, the GSEs' mortgage portfolios and debt outstanding has skyrocketed,[29] and that trend has reached the point where a problem at either Fannie or Freddie would lead to problems for the U.S. financial system as a whole.

New capital standards would help to reduce this risk if the new regulator has the freedom to set them to appropriately reflect the risk of the GSEs' operations. OFHEO's current authority in this regard leaves the market "some distance from the point where regulatory capital requirements appropriately reflect [the GSEs'] risk."[30] Fannie and Freddie are currently required to hold only about one-third as much capital as large, well-diversified financial institutions.[31]

Similarly, the ability of the new regulator to resolve a GSE that becomes critically undercapitalized would be an essential improvement over current law. As it now stands, if Fannie and Freddie are designated as "critically undercapitalized," OFHEO may appoint a conservator to assume control of the Enterprise.[32] However, that conservator would not have the power to require a GSE's creditors to accept less than 100 percent of the face value of the GSE obligation they hold, or to swap debt for equity. Thus, if a GSE were insolvent (its assets were worth less than its liabilities), a conservator could not resolve the insolvency and the U.S. government would be required to keep Fannie and Freddie in business.[33]

If the new regulator had the power to resolve an insolvent GSE, many analysts argue, investors would discipline Fannie and Freddie's activities because they would then be exposed to the risk of capital losses if the GSE failed.[34] By making market participants aware of the

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[28] Jaffee.
[29] Fannie Mae and Freddie Mac's combined debt and portfolio assets increased *by over 1,000 percent* between 1990 and 2003. See: OFHEO, "2004 Report to Congress of the Office of Federal Housing Enterprise Oversight," June 15, 2003.
[30] Timothy F. Geithner, the president of the Federal Reserve Bank of New York, Bond Market Association Annual Meeting, April 20, 2005.
[31] OMB, Budget of the United States, Fiscal Year 2005.
[32] *Code of Federal Regulations*, Title 12, §1777.28.
[33] Richard S. Carnell, testimony before the Subcommittee on Capital Markets, Insurance, and Government Sponsored Enterprises, Committee on Financial Services, U.S. House of Representatives, July 11, 2001.
[34] A receiver can protect a failed bank's uninsured depositors and non-deposit creditors only if doing so is the "least costly" to the deposit insurance fund of all possible methods for meeting the FDIC's obligation to insured depositors. 12 U.S.C. § 1823(c)(4). The rule has a narrow systemic-risk exception, which has never been used.

potential for losses, receivership could help to instill some of the market discipline on GSE risk-taking that is so badly lacking under the current arrangement.

However, granting a new regulator the power to set appropriate capital standards, and resolve a critically undercapitalized GSE through a defined receivership mechanism – without the power to regulate the size and purpose of the GSEs' portfolios – would be insufficient. Failing to grant the regulator such power, Chairman Greenspan argued, would merely "strengthen the market's view of GSEs as extensions of government and their debt as government debt" and "allow the GSEs to play an even larger unconstrained and potentially destabilizing role in financial markets."[35] To prevent this outcome, Greenspan urged Congress to require the GSEs' portfolios be limited to about $100 billion to $200 billion.

The other witnesses agreed with this assessment. Treasury Secretary John Snow advised Members that the "heart of the systemic risk issue [is] an ability to borrow at rates that are close to Treasury paper that then creates incentives to hold portfolios that are very large and unrelated to the specific mission of making the secondary market."[36] Congressional Budget Office Director Douglas Holtz-Eakin agreed, stating, "These large portfolios generate a systemic risk to financial markets," while "this same portfolio exposes the taxpayer to continued risk."[37] Both the Comptroller General of the United States, Robert Walker, and OFHEO Director Armando Falcon advised the Committee that the regulator's ability to set portfolio limits was critical to reform.[38]

The Reason the GSEs' Portfolio Present Such Risk

To understand the risks the GSEs pose, one has to first appreciate the distinction between their two lines of businesses. When Fannie and Freddie buy mortgages from originators, they either hold those mortgages on their respective balance sheets or, as is far more likely, package similar loans together for sale to investors as bond-like instruments called mortgage-backed securities (MBS).[39] The GSEs' implicit government backing allows them to guarantee the timely payment of principal and interest on the MBS they issue in exchange for a fee, usually 0.2 percent of the total value of the pool of mortgages.[40] This allows all of the GSEs' MBS to carry a AAA credit rating, something not attainable in the private sector without often costly credit enhancements.[41]

[35] Greenspan.
[36] Treasury Secretary John W. Snow, testimony before the Senate Banking Committee, April 7, 2005.
[37] Douglas Holtz-Eakin, testimony before the Senate Banking Committee, April 21, 2005.
[38] Robert Walker and Armando Falcon, testimony before the Senate Banking Committee, April 21, 2005.
[39] Mortgage-backed securities are bond-like instruments typically sold in $1,000 intervals that represent a pro rata monthly payment stream of principal and interest payments guaranteed by Fannie Mae or Freddie Mac. MBS usually consist of a pool of mortgages of similar interest rates, types (fixed or adjustable rate), and maturities (30, 20, or 15 years), so investors can treat the MBS as a single mortgage. The minimum value for most pools is $1 million. See: *Effects of Repealing Fannie Mae's and Freddie Mac's SEC Exemptions*, Congressional Budget Office, May 2003.
[40] OFHEO, Report to Congress.
[41] Wayne Passmore, Roger Sparks, and Jamie Ingpen, "GSEs, Mortgage Rates, and the Long-Run Effects of Mortgage Securitization," Federal Reserve Board of Governors, December 2001.

The sale of guaranteed MBS to investors provides Fannie and Freddie with funds to purchase new mortgages, obviating the need in most circumstances to issue additional debt. For example, in 1992, Freddie Mac purchased nearly $200 billion in mortgages, but reduced its total outstanding debt by $600 million that same year.[42] However, when Fannie and Freddie elect to hold mortgages in their portfolio, or repurchase the MBS they have guaranteed, as increasingly has been the case over the past 15 years, they must issue more debt to finance the purchase. Holding mortgages or MBS in portfolio allow the GSEs to profit from the spread between the return on the mortgages the GSEs' purchase and the interest rate they must pay to borrow. In 2002, this spread averaged 1.14 percent for Fannie Mae,[43] which, when applied to hundred of billions of dollars of mortgage principal, can result in substantial profits.

Although mortgages and MBS are very low credit-risk assets,[44] the issuance of debt to finance a large portfolio of *nothing but* mortgage-related assets presents tremendous risks. Since mortgages represent future cash flows (monthly payments from the borrower set at the time of closing), their market value is interest-rate sensitive: as interest rates increase, the market value of mortgages and MBS declines. This means that an increase in interest rates causes the market value of Fannie and Freddie's portfolios to decline.

However, since Fannie and Freddie have accumulated a large portfolio of long-term, fixed-rate mortgages that are fully pre-payable – loans that allow the borrower to prepay the full principal amount at any time free of penalty – Fannie and Freddie are *also* at risk when interest rates decline (prepayment risk). When borrowers choose to refinance their homes at lower rates, or prepay their mortgages to purchase new homes, Fannie and Freddie's assets pay off faster than their liabilities, leaving them with less income to repay the debt they issued to purchase these assets. This results in a maturity mismatch that reduces their asset base and the yield on new mortgages available for purchase.

The table below, constructed by University of California-Berkeley Professor Dwight Jaffee, provides an example of the losses Fannie and Freddie's portfolios could suffer from a 2-percentage point movement in interest rates *in either direction.* As the table illustrates, a 2-percentage-point increase in interest rates will reduce the value of a portfolio of 6-percent, 30-year mortgages by 18.2 percent; at the same time, the prepayments caused by a 2-percentage point decrease in interest rates will lead to a 25.6-percent increase in the market value of the liabilities the GSE is now stranded with.

Both Fannie Mae and Freddie Mac protect themselves from these potential loses through the use of callable debt and interest-rate derivatives.[45] Derivatives allow Fannie and Freddie to

[42] OFHEO, Report to Congress.
[43] Fannie Mae Information Statement, available at:
http://www.fanniemae.com/markets/debt/pdf/infostmtsuppfeb2003.pdf;jsessionid=DSTI1ICTEFJFBJ2FQSISFGQ.
[44] OFHEO estimates that only 0.08 percent capital is necessary to insure against unexpected losses on prime-rate mortgages, versus the 0.2 percent the GSEs charge to guarantee against loss. Anthony Pennington-Cross, "Subprime & Prime Mortgages: Loss Distributions," OFHEO Working Paper 03-01, 2003.
[45] Jaffee. Fannie and Freddie use interest rate swaps to try to duration match their portfolios and reduce the risk that rising interest rates pose to the value of their portfolio, and use option-based derivatives and callable debt to try to hedge prepayment risk.

transfer, or hedge, the risk of adverse interest-rate movements to counterparties, usually brokerage firms and major commercial banks.

Table 1: Losses that May Result for a	
30-Year, 6% Fixed-Rate, Prepayable Mortgage	
Initial mortgage rate = 6.0%.	
Mortgage Value	100.0
Funding Value	100.0
Case 1: Market rates rise by 2 percentage points (mortgage rate = 8%); Firm is short-funded.	
Mortgage Value	81.8
Funding Value	100.0
Net value change	-18.2%
Case 2: Market rates fall by 2 percentage points (mortgage rate = 4%); Firm duration-matched, but mortgage prepays.	
Mortgage Value	100.0
Funding Value	125.6
Net value change	-25.6%

Although these derivatives transactions reduce enterprise-specific risks, the hedging strategies undertaken by Fannie and Freddie leave both taxpayers and the financial system vulnerable. First, Fannie and Freddie manage mostly short-term, foreseeable risks and leave themselves exposed to longer-term, unanticipated interest-rate movements.[46] Secondly, as Chairman Greenspan has observed, because of the implicit guarantee, Fannie and Freddie's counterparties "apply less vigorously some of the risk controls that they apply to manage their [other] derivatives exposures."[47] Thirdly, because of the size of the GSEs' portfolios and the decline in the number of major derivatives dealers, Fannie and Freddie's interest-rate risk has been transferred to a small number of counterparties. According to OFHEO, five counterparties account for 60 percent of Fannie Mae's total outstanding derivatives, while just ten counterparties account for 87 percent. Freddie Mac has a similar degree of concentration among the same counterparties, with the top five accounting for 59 percent, and the top ten for 89 percent, of the notational value of its outstanding derivatives.[48]

For these three reasons, Fannie and Freddie's interest-rate hedging is unlikely to reduce the risk to taxpayers or the financial system, and may even increase this risk. Because Fannie and Freddie do not engage in much long-term hedging, they must continually readjust their short-term positions as interest rates change. The small number of derivatives counterparties recognize this and attempt to profit from it by selling protection from further rate movements at a

[46] Jaffee.
[47] Chairman Alan Greenspan, "Finance: United States and Global," Institute of International Finance, April 22, 2002. "When a derivatives counterparty of Fannie Mae or Freddie Mac has a positive gross credit exposure to the Enterprise – that is, when the Enterprise's exposure is negative – the Enterprise does not post collateral to cover that exposure, regardless of its size." This practice is not common and a direct consequence of the implicit guarantee. See: OFHEO, "Systemic Risk: Fannie Mae, Freddie Mac, and the Role of OFHEO," February 2003.
[48] OFHEO, "Systemic Risk: Fannie Mae, Freddie Mac, and the Role of OFHEO."

higher cost, or by buying Treasury securities or other instruments they expect that the GSEs will use to rebalance their positions.[49]

The risk in this situation is twofold: the GSEs could suffer big losses from sudden, unanticipated interest-rate movements; as well, their derivatives counterparties could misprice the risks of insuring Fannie and Freddie against interest-rate movements and suffer huge losses themselves.[50] According to OFHEO, because of the "concentration of total derivatives activity," a situation could arise where "problems at the counterparties alone may be enough to result in a financial crisis transmuting into a systemic event."[51] The inability of counterparties to finance additional interest-rate-risk transfers at a time of unexpectedly large interest-rate movements could precipitate a financial crisis or taxpayer bailout.

Portfolio Limits Would Not Reduce Mortgage Market Liquidity

Based on the Senate Banking Committee's hearings, there seems to be a consensus among expert market observers that the GSEs' increasingly massive portfolios present unacceptable risks to the taxpayers and to the financial system as a whole. Yet, some believe that capping the GSEs' portfolios to eliminate this risk would unduly restrict mortgage market liquidity. Less liquidity in the mortgage markets could, at the margin, contribute to higher mortgage rates.

This was precisely the argument presented by Fannie Mae and Freddie Mac's new management during their April testimony before the Senate Banking Committee. The new CEOs argued that their large portfolios add "liquidity, stability and affordability" to the mortgage markets.[52] According to their logic, the GSEs' create demand for mortgage-related assets where it would otherwise not exist, and this newly created demand pushes up the price of these assets, which lowers mortgage rates.

Since, as explained above, there is no need for the GSEs to issue debt to extend additional mortgage credit when they securitize and sell their mortgages, the GSEs' contention that their purchases of MBS contributes "new" liquidity to the market ignores the fact that, for each dollar invested in MBS for their portfolios, Fannie and Freddie must first borrow a dollar in the capital markets. In this way, their purchase of MBS is essentially a wash, as funds devoted to Fannie and Freddie's debt would otherwise flow to MBS.

Borrowers Benefit From GSE Securitization, Not GSE Portfolio

In fact, most studies have found that it is Fannie Mae and Freddie Mac's *securitization* activity, not their portfolio purchases, that creates demand for MBS that would otherwise not exist. George Washington University Professor Richard K. Green made this point in his testimony before the Senate Banking Committee. Without the guarantee provided by Fannie and Freddie's GSE status, private-sector MBS issuers are unable to receive a AAA rating on all of their securities, and so they must issue B-rated, or subordinated, classes of securities that are

[49] OFHEO, "Systemic Risk: Fannie Mae, Freddie Mac, and the Role of OFHEO."
[50] John Dizard, "Risk Posed by GSEs is Being Obscured," *Financial Times*, March 7, 2005
[51] OFHEO, "Systemic Risk: Fannie Mae, Freddie Mac, and the Role of OFHEO."
[52] Freddie Mac CEO Richard F. Syron, testimony before Senate Banking Committee, April 20, 2005.

riskier and less valued by investors. Green calculates that without the GSE guarantees, investors would have to "be willing to absorb four times the amount of subordinated securities that they now do in order to keep the supply of mortgage credit constant."[53] This means that without GSE guarantees, the supply of mortgage credit would diminish somewhat unless investors were willing to accept far more credit and prepayment risk.

But Fannie and Freddie argue that the AAA-rating on their MBS made possible by their GSE status is not as important to the mortgage markets as their portfolio purchases of these securities. As former Fannie Mae CEO Franklin Raines reasoned in his 2004 testimony before the Committee:

> People who invest in our debt have chosen that they don't want to invest in mortgage-backed securities. So, we actually attract more investors into mortgages than would otherwise be there. So, it's pretty clear from our research that the portfolio has a bigger impact on reducing interest rates than our securitization program.[54]

In his testimony, Chairman Greenspan took exception to the claim that holders of Fannie's debt "don't want" to invest in MBS, explaining that "holding mortgages, which has been one of our premier AAA types of assets, especially when it's securitized, is a very profitable investment for anybody. And there is no evidence of which I am aware which suggests that there would be a deficiency of holdings of mortgages."[55]

Since both Fannie and Freddie's debt and MBS are of the same AAA-credit quality, the only possible explanation for why investors would be deterred from purchasing MBS is because they would prefer not to accept the prepayment risk such bonds entail. But since investors are compensated for prepayment risk through higher yields, and are able to hedge this risk in the roughly the same manner as do Fannie and Freddie, the universe of potential buyers of Fannie's debt who would be unwilling to hold their MBS is likely to be very small, if it exists at all.[56]

Other experts concurred on this point. In the judgment of David Walker, "the [GSEs'] portfolios themselves are not central to a liquid housing market."[57] And, as CBO Director Holtz-Eakin explained, "The benefits associated with this rapid portfolio accumulation appear to be limited. The most modern research suggests that the GSE business of securitization and guarantees affects [mortgage rates] but not the accumulation of the portfolio."[58]

Even more assuring to those concerned about the effects of portfolio limits on mortgage market liquidity was the testimony of Ronald Rosenfeld, the former President of Ginnie Mae, the wholly government-owned housing GSE.[59] Rosenfeld told the Committee that he saw no reason why Fannie and Freddie need to hold large mortgage portfolios:

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[53] Richard K. Green, testimony before Senate Banking Committee, February 10, 2005.
[54] Franklin D. Raines, testimony before Senate Banking Committee, February 26, 2004.
[55] Greenspan, April 6, 2005.
[56] Greenspan, April 6.
[57] David Walker, testimony before Senate Banking Committee, April 20, 2005.
[58] Douglas Holtz-Eakin.
[59] Ginnie Mae is a government-sponsored enterprise chartered to promote a secondary market for mortgages insured by the Federal Housing Administration (FHA), or guaranteed by the Department of Veterans Affairs (VA). Other

> Ginnie Mae, historically, has never had any mortgage portfolio and has functioned very well…Ginnie Mae perform[s] very well in the secondary mortgage market. They securitize, there's a very good degree of liquidity, and, quite frankly, in three and a half years I've heard very...infrequent requests for us to have a mortgage portfolio. We didn't have one and, as far as I'm concerned, we didn't need one.[60]

These assertions are borne out by recent Federal Reserve empirical research, which has found no link between Fannie and Freddie's portfolio growth and lower mortgage rates.[61] In fact, the evidence is just the opposite: in the seven years the GSEs' portfolios grew most rapidly, mortgage rates relative to Treasuries *increased* by 1.32 percentage points;[62] in 2004, when the GSEs' portfolios grew by only 1 percent because of enhanced regulatory scrutiny, mortgage rates relative to Treasuries *declined* by 0.12 percentage points.[63] Yet, even as the size of their portfolios remained roughly constant, the GSEs purchased more than $1 trillion of mortgages in 2004, confirming that sufficient demand exists to increase the amount of mortgages the GSEs securitize and sell.[64]

GSE Portfolios Do Not Provide Additional Liquidity in Times of Financial Distress

Fannie and Freddie's executives contend that even if MBS demand was robust in 2004, this is a poor frame of reference because their portfolios add liquidity to the market during times of distress, as was the case during the 1998 Asian financial crisis and Russian debt default, and immediately after the September 11th terrorist attacks. However, since the GSEs' MBS are AAA-credit instruments, this argument is predicated on the notion that other market participants would be unwilling to take advantage of the buying opportunity presented by a widening of spreads. This seems far-fetched as private institutions would have precisely the same profit motive as have Fannie and Freddie. Indeed, as Chairman Greenspan observed, "It is certainly the case that both banks and Fannie and Freddie did buy mortgages," in 1998, "and the reason they did is that the spreads opened up and it was profitable for them to do so…I'm sure that [Fannie and Freddie] were in the market, so was everybody else.[65]

As for the claim of Fannie Mae's CEO that because of his GSE's portfolio "the market continued to work" following the September 11th terrorist attacks, Fannie's own data show that it reduced its portfolio purchases as a ratio of total business volume to near a 12-month low in

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guarantors or issuers of loans eligible as collateral for Ginnie Mae MBS include the Department of Agriculture's Rural Housing Service (RHS) and the Department of Housing and Urban Development's Office of Public and Indian Housing (PIH).

60 Ronald Rosenfeld, testimony before the Senate Banking Committee, April 20, 2005.

61 Andreas Lehnert, Wayne Passmore, and Shane Sherlund, "GSEs, Mortgage Rates, and Secondary Market Activities," Board of Governors of the Federal Reserve, Finance and Economic Discussion Series 2005-7, January 2005.

62 Greenspan. Spreads averaged 148 basis points in 1997 and 280 basis points in 2003.

63 FEDERAL RESERVE STATISTICAL RELEASE H15, Selected Interest Rates, 2004.

64 Fannie Mae, Monthly Summary, available at: http://www.fanniemae.com/ir/pdf/monthly/2005/033105.pdf. Freddie Mac, Monthly Volume Summary, available at: http://www.freddiemac.com/investors/volsum/pdf/0305mvs.pdf.

65 Greenspan, April 6, 2005.

September 2001, despite strong overall volume prompted by falling interest rates.[66] It appears that it was other investors, attracted to Fannie's MBS, that provided the bulk of the funding for mortgages that month, not Fannie's portfolio investments.

The Real Reason for the Portfolios: Government Subsidized Profits

Ironically, the most compelling testimony in favor of limiting the portfolios of Fannie Mae and Freddie Mac was given by Freddie Mac's CEO, but it occurred in 1989, just after Freddie became a publicly-listed corporation. In testimony before the House Ways and Means Committee, Freddie's then-CEO, Leland Brendsel, explained that Freddie Mac avoided the interest rate risks of mortgage portfolios "by financing about 95 percent of all the mortgages we purchase with mortgage-backed securities," with the other 5 percent "representing new [mortgages] awaiting securitization."[67]

This MBS-based financing strategy, Brendsel explained, enabled the "typical homeowner a better chance to compete for funds in the capital markets, funds held by banks, by life insurance companies, by pension funds, and also by foreign investors." It also "insulated" Freddie "from the squeeze on earnings experienced by most depositor institutions when interest rates rise" and allowed Freddie to continue to supply mortgage credit to borrowers even after adverse interest-rate movements.[68] This was certainly true in 1981, when Freddie was barely affected by the dramatic rise in interest rates that left Fannie Mae insolvent on a mark-to-market basis. Were it not for Fannie Mae's special relationship with the federal government – between 1978 and 1985, the federal government provided Fannie with implied annual credit support estimated to range between $600 million and $11 billion – the firm likely would have failed that year or the next.[69]

Freddie's business strategy changed dramatically since that time because Freddie's ownership was transferred from affiliated financial institutions, and a small number of other parties, to the owners of its voting common stock like any other publicly-listed corporation.[70] With a public stock listing, Freddie's executives began to make investment decisions designed to increase shareholder earnings instead of solely fulfilling public responsibilities. Instead of working hard "to narrow the gap between the time that mortgages are purchased to the time securities are sold – from a month, to a week, to a day, and nowadays, within hours," as was the case in 1989, Freddie Mac has been working hard to keep as many of the mortgages it purchases on its balance sheet as long as possible. Between 1989 and 2004, Freddie Mac's retained portfolio grew by over 2,400 percent![71]

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[66] Fannie Mae, Monthly Summary, available at: http://www.fanniemae.com/global/pdf/ir/financial/monthly/120101.pdf.
[67] Leland Brendsel, testimony before House Ways and Means Committee, September 28, 1989.
[68] Brendsel.
[69] Edward J. Kane and Chester Foster, "Valuing Conjectural Government Guarantees of FNMA Liabilities." *Conference on Bank Structure and Competition*, Federal Reserve Bank of Chicago, 1986.
[70] On January 3, 1989, Freddie Mac stock was converted into a class of stock that could be owned and traded by all investors. (Prior to that date, ownership of the stock was limited by its terms to financial institutions and a small number of other parties.) On August 9, 1989, Congress amended Freddie Mac's charter to convert this class of stock into Voting Common Stock, granting its holders the right to elect 13 directors of the Company.
[71] OFHEO Report to Congress. Freddie Mac, "Monthly Volume Summary."

The reason Freddie Mac has decided to follow Fannie Mae in rapidly expanding its portfolio is easy to understand. In 2003, Fannie Mae and Freddie Mac's combined income from the sale of MBS was about $4 billion, but the income the two GSEs' earned from net interest on their portfolio was nearly six times greater, at about $23 billion.[72] As Chairman Greenspan has observed, "The Federal Reserve Board has been unable to find any credible purpose for the huge balance sheets built by Fannie and Freddie other than the creation of profit through the exploitation of the market-granted subsidy."[73]

According to CBO, in 2003 the shareholders of Fannie Mae and Freddie Mac received a combined subsidy from the federal government of $12.1 billion.[74] This represented a 116-percent increase over the $5.6 billion in subsidies the GSEs' shareholders received in 2000. *Fannie Mae and Freddie Mac were able to dramatically increase the federal subsidies their shareholders received without Congressional authorization simply by increasing the amount of implicitly guaranteed debt they issued to acquire more and more mortgage-related assets.* By capping the portfolios, Congress would be limiting the ability of the GSEs to exploit their taxpayer subsidy to profit on the spread between their debt and mortgage yields.

However, it is important to recognize that even if Congress were to eliminate this source of subsidies, the GSEs would remain very profitable entities. For example, the return on equity (ROE) of the GSEs' securitization business has averaged 19 percent in recent years,[75] compared to an average ROE of about 14 percent for major financial firms.[76] Moreover, it is likely that Fannie and Freddie could push their average returns on securitization to even higher levels by expanding the lines of specialized mortgage-collateralized securities they underwrite to better match guaranteed cash flows to investors' preferences.[77]

'Keep the Best, Sell the Rest'

Fannie Mae also attempted to use its portfolio to achieve greater profitability by allowing its MBS traders to reclassify newly acquired mortgage-backed securities at the end of the month in which they were purchased, in direct violation of accounting standards. According to

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[72] Jaffee. OFHEO, "Mortgage Markets and the Enterprises in 2003," October 2004. Available at: http://www.ofheo.gov/media/pdf/MME2003.pdf.

[73] Remarks by Chairman Alan Greenspan, To the Conference on Housing, Mortgage Finance, and the Macroeconomy, Federal Reserve Bank of Atlanta, May 19, 2005.

[74] CBO, "Updated Estimates of the Subsidies to the Housing GSEs," April 8, 2004. These estimates are based on the assumption that 2003's growth in the GSEs' outstanding debt and mortgage-backed securities is sustained; that is, 2003's new security issues will be reissued when they mature. Given that the GSEs have continued to roll over maturing obligations through 2004, this is the only estimate with any practical application.

[75] Dwight Jaffee, "The Interest Rate Risk of Fannie Mae and Freddie Mac," Journal of Financial Services Research, 2003. ROE is a common measure of profitability for banks and other institutions. It is simply net income divided by the book value of shareholders equity.

[76] Douglas Holtz-Eakin, Testimony before the Senate Banking Committee, October 23, 2003.

[77] In addition to simple pass-through MBS, Fannie and Freddie issue collateralized mortgage obligations, or REMICs. These more complex securities create separate pools of pass-through rates for different classes of bondholders with varying maturities. The repayments from the pool of pass-through securities are used to retire the bonds in the order specified by the bonds prospectus. By slicing cash flows in this way, Fannie and Freddie could increase the number of investors drawn to mortgage assets and potentially earn a higher return on each dollar of mortgage business.

OFHEO, this official policy was referred to internally as “keep the best, sell the rest.”[78] By exploiting proprietary information to retain the highest quality loans for its own portfolio, Fannie Mae was able to increase its own earnings while dumping lower-quality collateral on the rest of the market.

This policy is troubling for two reasons. First, it harmed MBS investors who received lower quality collateral (and poorer returns) than they would have had Fannie not cherry-picked. This means that at the same time Fannie’s executives were arguing that its portfolio is necessary to promote mortgage market liquidity because demand for their MBS is insufficient, they took steps to reduce demand for MBS by hording the highest quality mortgages for Fannie’s own portfolio.

Secondly, this revelation should be troubling to lawmakers because Fannie Mae previously informed a 2003 Federal Task Force comprised of investigators from the SEC, OFHEO, and Treasury that it had internal “firewalls” to “prevent the trading desks from receiving information that is available only to Fannie Mae and Freddie Mac as a result of their purchases of underlying mortgage loans or in their capacities as guarantors.” The Task Force ultimately believed Fannie’s fraudulent claims, and exonerated the GSE from charges of cherry-picking, concluding “no evidence was brought forward of any impropriety in creating their portfolio mix.”[79]

Conclusion

Massive accounting and internal control failures at both Fannie Mae and Freddie Mac have reminded Congress of the risk that the GSEs’ activities pose to taxpayers and to the financial system as a whole. According to expert testimony delivered before the Senate Banking Committee, Congress could minimize taxpayers’ exposure to Fannie and Freddie’s operations without compromising the liquidity of the secondary mortgage market by limiting the size of Fannie Mae and Freddie Mac’s investment portfolios to a level consistent with prompt securitization. No reform package would be complete – or worthy of passage – without such a limit.

[78] Armando Falcon, testimony before the House Committee on Financial Services, April 6, 2005.
[79] OFHEO, SEC, and Department of Treasury, “A Staff Report of the Task Force on Mortgage-Backed Securities Disclosure,” January 2003.