Comments by Edward Golding at the Wharton School, University of Pennsylvania Conference on "Fixing the Housing Finance System," April 27, 2005.

Freddie Mac's and Fannie Mae's Contribution to the Economy

What is the low-cost efficient way of providing housing finance? In introductory economics we learn that competitive firms with no government subsidies will through competition reach the low-cost efficient outcome. But those theorems rarely hold for financial intermediaries. We have learned that banks are "special" and that federal deposit insurance and a central bank are acceptable government interventions. But would I argue that they are not the only acceptable form of government intervention. Both theory and empirical evidence suggest that government sponsored enterprises ("GSEs") are an important supplement to the banking system. The mortgage finance system is too important to be left to one set of institutions.[1]

I provide rough estimates that Freddie Mac and Fannie Mae lower the cost of housing finance each year by approximately $10 billion and provide another $5 billion indirect benefit in the positive externality provided by promoting homeownership. I do not quantify the additional benefits of improved economic stability and lower origination costs. All these are net benefits to the economy that would be lost if the GSEs charters were repealed and they became part of larger bank holding companies.

The GSEs have two lines of business, a securitization business and a debt-funded retained portfolio business. Both provide financial intermediation services by exchanging one asset for another in the market.

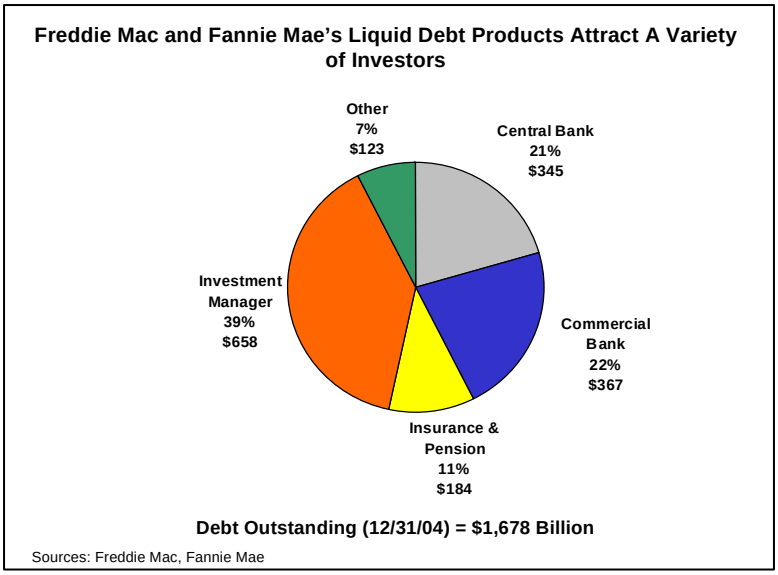
In the securitization business, the GSEs buy mortgages and issue mortgage backed securities. In doing so they assume credit risk, in that if the homeowner defaults on the mortgage, the mortgage backed security holder still gets paid. Freddie Mac and Fannie Mae have currently issued over $3 trillion in mortgage backed securities ("MBS"). These MBS are more valuable to investors (trade at a higher price and lower yield) than triple-A rated mortgage backed securities issued by banks and other conduits. The differential varies, but historically is approximately 20 basis points ("bps") in yield. The triple-A mortgage backed securities are typically structured securities with subordinate tranches that absorb the credit losses. The residual risk for the triple-A securities is very low. Thus, the vast majority of the yield differential between GSE MBS and triple-A MBS can be attributed to difference in liquidity. This added liquidity benefits the economy. Transaction and monitoring costs are lower with GSE MBS. Investors know the attributes of a 6 percent 30-year fixed-rate Freddie Mac Gold PC (the name for its MBS). They know that if they need to sell there will be other investors in to buy the security. While triple-A MBS are high quality securities, they still are by comparison to some extent story bonds that must be marketed one at a time. So if the GSE charters were to disappear, the liquidity would likely be lost. The value of that liquidity is approximately the 20 bps yield differential times the $3 trillion in GSE MBS or $6 billion per year.

[1] The economics of the depository and government-sponsored enterprise structures are presented in Robert Van Order, "The U.S. Mortgage Market: A Model of Dueling Charters," Journal of Housing Research, Volume 11 (Issue 2), pp. 233-55 (2000).

Is this a reasonable estimate and might some of the liquidity be recreated? Perhaps, but liquidity is a delicate matter. On-the-run Treasuries trade better than older Treasuries. GNMA I securities (the larger program in GNMA) often trade better than GNMA II securities with the same government guarantee. So even with full-faith and credit guarantees, liquidity is important. Similarly, Freddie Mac and Fannie Mae have largely identical charters, yet Fannie Mae MBS often trade with better liquidity of several basis points. In all likelihood the 20 bps of liquidity advantage between GSE MBS and triple-A MBS would be lost to the economy if the GSEs lost their federal charter. The result would be higher costs to the economy of approximately $6 billion per year.

While the value of liquidity shows up in the lower yields on GSE MBS, these assets still must find ultimate investors. Here again, the GSEs provide intermediation services by redistributing the cash-flows on the MBS. Not all participants in the capital markets want to invest directly in 30-year fixed-rate prepayable mortgages even if the credit risk has been largely removed. Some investors want more certain cash flows and the GSEs provide these services through their debt-funded portfolio. See Figure 1 for a distribution of debt investors.

Figure 1

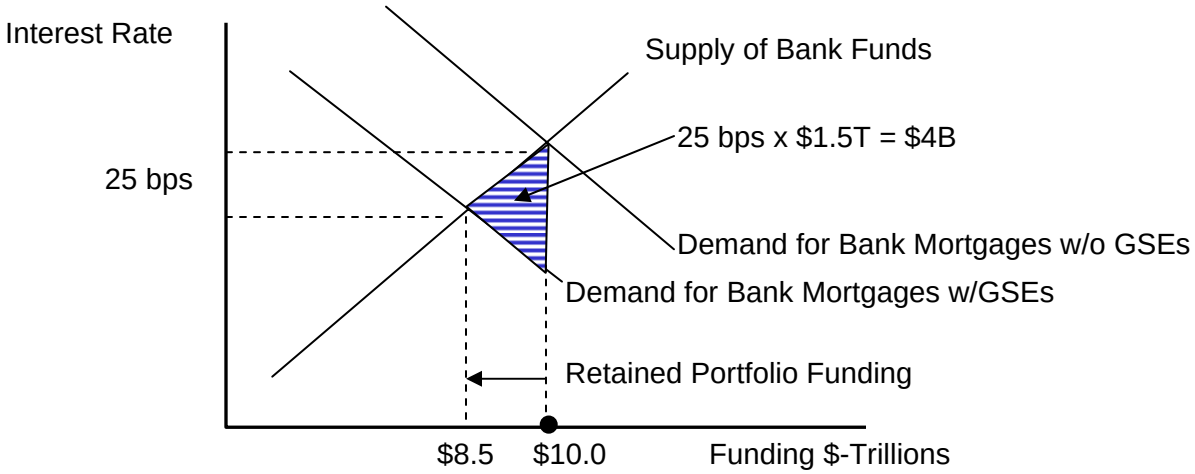


The debt-funded portfolios of Freddie Mac and Fannie Mae are approximately $1.5 trillion. (See Richard Roll[2] for a discussion of how the retained portfolios of the GSEs provide intermediation services.) Many foreign and domestic investors in GSE debt would not substitute into MBS if GSE debt were not available. That all financial assets are not perfect substitutes for all investors is a well known result. Measuring the magnitude of the value added by restructuring cash flows is more difficult. On the margin for the last dollar, the GSE MBS and GSE debt are substitutes at market prices. But try to find $1.5 trillion of additional funding for mortgages, and prices would change. To estimate the welfare loss of eliminating the $1.5 trillion in GSE retained portfolios requires measuring elasticities of supply of funds in a variety of markets. I am not

[2] Richard Roll, "Benefits to Homeowners from Mortgage Portfolios Retained by Fannie Mae and Freddie Mac," *Journal of Financial Services Research*, 23:1, 29-42, 2003..

aware of reliable measures. But one could imagine that if the banking industry had to fund these mortgages, the banking industry would have to increase by about 20 percent (from approximately $8.5 trillion to $10 trillion). It is reasonable to assume that deposit and other funding costs might increase by 25 bps. The deadweight loss (see Figure 2) in such a case would be approximately $4 billion per year. The loss would show up in the economy as extra costs of raising deposits, perhaps through more branches, advertising etc., and loss in consumer surplus due to lower mortgage rates and more mortgage choices. These are real costs that are avoided by funding mortgages with the GSE retained portfolios.

Figure 2



This reasoning, of course, assumes that the GSE retained portfolio does not come at the expense of high potential taxpayer liability (compared to funding the mortgages through federally insured deposits). Here strong regulation, including stress tests for interest rate risk, and frequent public disclosures of the effect of sudden changes in interest rates on the fair market value of the capital supporting the portfolios are necessary. One cannot assess the risk through simple ratios of capital to assets. I believe that the evidence suggests that the GSEs have been more effective at managing interest rate risk than most. But this is a discussion for another day.

Freddie Mac and Fannie Mae provide numerous other benefits to the economy beyond the direct effects of the MBS program and their retained portfolios. Through standardization of the mortgage process, first through uniform mortgage documents and now through automated underwriting, they have significantly reduced origination costs. For example, combining Internet-based automated underwriting systems such as Freddie Mac's Loan Prospector® with other online efficiencies not only reduces borrowers' costs of origination by $800 to $2,100,[3] it

[3] Estimates of borrower savings from Internet-based technology of between $800 and $1,800 are given in "E-Banking," by Brian Nottage, *Regional Financial Review*, December 1999, pages 11-16. Similar estimates of borrower savings of about $2,100 are presented in "Online Mortgage Business Puts Consumers in Driver's Seat", by David P. Danford, *Secondary Mortgage Markets*, April 1999, pages 2-8. Of the total savings from Internet-related technology, Freddie Mac estimates that approximately $300 to $650 are directly due to the use of automated underwriting systems such as Loan Prospector® (see *Automated Underwriting: Making Mortgage Lending Simpler and Fairer for America's Families*, Freddie Mac, September 1996, page 8).

also speeds up loan closings and allows loan approval for borrowers with less than traditional credit profiles and limited savings. With $2 trillion in originations annually a 1 percent cost reduction amounts to $20 billion in consumer savings. Some of those savings would persist even if Freddie Mac and Fannie Mae's charters were eliminated but some would surely disappear as the mortgage market became more fragmented.

Two additional benefits also accrue from Freddie Mac and Fannie Mae's GSE status, increased homeownership and improved economic stability.

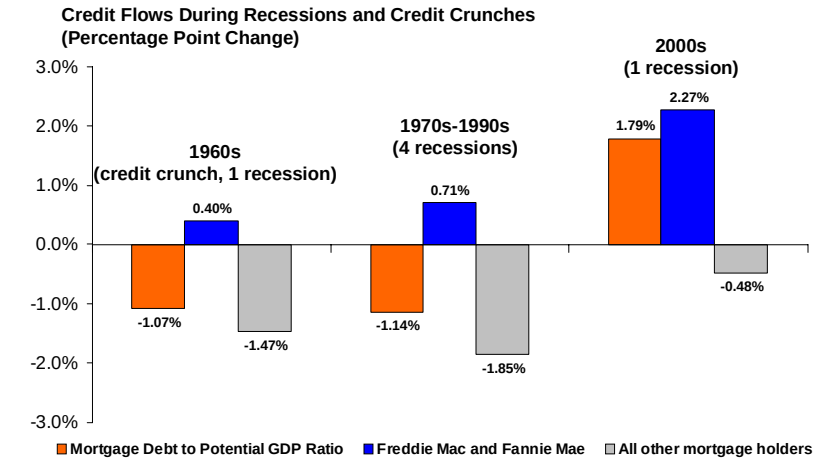
It is difficult to point to a precise estimate of how much the GSEs have increased homeownership through their activities. The best available estimate is from Quercia, McCarthy, Wachter,[4] who estimate that the GSEs increase homeownership by 1 to 2 million families. This paper points to the lower mortgage rates and wider availability of lower down payment mortgages that are attributable to the GSEs. The "positive externality" of homeownership has been estimated at $5,000 annually by Coulson, Hwang, Imai.[5] The literature cites better social outcomes for children raised in owner-occupied housing and better neighborhood amenities.[6] Thus a reasonable estimate of the GSE benefit would be $5 billion annually (1 million more homeowners * $5,000 per homeowner).

I will not even attempt to put a dollar value on the improved macroeconomic stability provided by the GSEs. This is an area that deserves more research. Several papers have begun to shed some light on this question. An IMF study[7] and a study by Miles[8] point to reduced GDP and house price volatilities from the presence of long-term fixed rate mortgages. Peek and Wilcox[9] show that compared to other investors in mortgages the GSEs are countercyclical in their purchases and tend to invest more during periods of stress in the economy. As simple illustration of that point is shown in Figure 3 below.

[4] Quercia, Roberto G., George W. McCarthy, and Susan M. Wachter. "The Impacts of Affordable Lending Efforts on Homeownership Rates," Journal of Housing Economics, Volume 12, pp. 29-59, 2003.
[5] Coulson, N. Edward, Seok-Joon Hwang, and Susumu Imai, "The Benefits of Owner-Occupation in Neighborhoods," Journal of Housing Research, Volume 14 (Issue 1), pp. 21-48, 2003.
[6] Improved child outcomes have been shown by Richard K. Green and Michelle J. White, "Measuring the Benefits of Homeowning: Effects on Children," Journal of Urban Economics, Volume 41, pp. 441-61 (1997), and by Donald R. Haurin, Toby L. Parcel, and R. Jean Haurin, "Does Homeownership Affect Child Outcomes?" Real Estate Economics, Volume 30 (Issue 4), pp. 635-66 (2002). Homeowners also spend more on maintenance, as found by George C. Galster, "Empirical Evidence on Cross-Tenure Differences in House Maintenance and Conditions," Land Economics, Volume 59 (February), pp. 107-13 (1983).
[7] International Monetary Fund, *World Economic Outlook: The Global Demographic Transition*, Chapter II, "Three Current Policy Issues," September 2004
[8] Miles, David. "The UK Mortgage Market: Taking a Longer Term View (Part II)," Report for H.M. Treasury, January 2004
[9] Peek, Joe and James A. Wilcox. "Secondary Mortgage Markets, GSEs, and the Changing Cyclicality of Mortgage Flows," ed. Andrew H. Chen, *Research in Finance* Volume 20, pp. 61-80, 2003.

Figure 3

Freddie Mac and Fannie Mae Mitigate Recessions by Providing Counter-cyclic Credit



Note: Comparison periods were from Peek and Wilcox (2003), except for 2000s, which is 2000:Q3-2001:Q3. GSE data for 1960s only includes Fannie Mae. The orange bar represents the sum of the blue and gray bars.

Source: CBO, Federal Reserve, Freddie Mac

So in conclusion, there are multiple benefits from the GSE model. Greater liquidity in the MBS market with a value of $6 billion annually, more investors in the mortgage market with a value of $4 billion annually, higher homeownership with a value of $5 billion annually, reduced transaction costs in the mortgage origination process with benefits likely of equal magnitude to the above benefits, and greater economic stability. Are there possible added costs from the GSE model? Of course, but they are likely to be small and easily remedied. The safety and soundness issues can be addressed through strengthened regulation as the information to regulate the GSEs is available. Whether we have too much housing and not enough human capital and physical plants is debatable, given that housing is the predominant savings vehicle for the middle class. But again, there are plenty of direct tools through fiscal and tax policy to encourage more aggregate savings. This issue is largely secondary in the GSE debate. The benefits of the GSE model are real and distinct. Don't bet purely on a banking model for housing finance. Keep the GSE charters.

May 31, 2005