The Government Sponsored Enterprises: Recovering From a Failed Experiment[1]

John M. Quigley
University of California
Berkeley

March 2009

Economists often neglect the importance of path dependency in the evolution of economic institutions. Many institutions *could* arise to perform economic functions in the economy, but we are prone to assume that our specific institutions *have* emerged from the crucible of competition among alternate forms of organization and service delivery. Sometimes this is not the case at all.

The form and structure of the key institutions in the US secondary mortgage market – Fannie Mae and Freddie Mac – are conspicuous examples of this path dependency. The structure and importance of the Government Sponsored Enterprises did not arise from a grand design to introduce a public-private hybrid into housing finance, but rather from the application of public accounting rules in the 1960s and the exigencies of the savings and loan crisis of the 1980s. There is little reason to presume that the evolution of these enterprises represented the best method of providing services in the secondary mortgage market. With the events of the last year and a half, it is time to question whether the form of the organization is a particularly good method of providing services in the secondary market.

[1] This draft paper is based on joint work with Dwight Jaffee. Please do not cite without permission.

The Federal National Mortgage Association (FNMA, aka Fannie Mae) was established in 1938 to help stabilize the market for newly authorized Federal Housing Administration (FHA) mortgage loans of twenty-five years' duration. This government agency operated at a small scale, purchasing FHA mortgages and later (after 1948) Veterans' Administration mortgages, and exchanging seasoned mortgages from its portfolio for unseasoned mortgages at par. (The latter activity was an unambiguous subsidy to mortgage originators.) The agency helped make a national market in federally underwritten loans, and, on balance it added mortgage assets to its portfolio over time. (See Aaron, 1972, and Haar, 1960.)

Changes to public accounting procedures were adopted by the federal government in 1968. Under the new regime, any net additions to the Association's portfolio would be considered necessarily as federal government expenditures. (See Quigley, 2006, for a discussion.) To avoid apparent increases in federal expenditures, the functions of the FNMA were divided. Any subsidized portfolio activities were transferred to the Government National Mortgage Association (aka Ginnie Mae), instituted contemporaneously, and the bulk of the secondary market operations were spun off to a corporation owned by private shareholders.

Two years later, the Federal Home Loan Mortgage Corporation (FHLMC, aka Freddie Mac) was established as a private corporation to buy mortgages originated by thrift institutions. Purchases of mortgages made by this private corporation were not classified as federal expenditures even though all the stock in the firm was owned by the Federal Home Loan Banks. The stock has been publicly traded since 1989, and a majority of its directors have been private citizens.

The explicit federal subsidy to these privately owned entities is spelled out in their charters, which also specify public representation on their boards and public purposes for their activities. The explicit subsidies include exemption from state and local taxation and from Securities and Exchange Commission registration requirements. The GSEs were given the right to use the Federal Reserve as their fiscal agent, as well as several other special privileges. (See Frame and White, 2005, and Jaffee and Quigley, 2007, for details.)

But these valuable, albeit limited, aspects of public subsidy are small compared to the implicit subsidy conferred by a federal charter. From the very beginning, capital markets reacted as if the federal government were the guarantor of the obligations of the GSEs. (Although this was never made explicit, and was disavowed in the prospectuses issued by Fannie and Freddie, the existence of a guarantee was widely perceived. Ultimately, of course, this perception proved to be accurate.)

As a result of the implicit guarantee, the GSEs could issue debt at lower cost than similarly situated private firms operating without a federal charter. Analogously, these firms could hold less capital as backing for securities and other instruments guaranteed by the corporation.

These two subsidies, implicit in the federal charters, became enormously important as the market for mortgage-backed securities (MBS) evolved from a small activity confined to federally-insured Ginnie Mae mortgages to a massive industry based upon privately-issued uninsured mortgages.

The growth of the GSEs facilitated a completely decentralized process, with a variety of firms specializing in different aspects of the secondary market. Thrifts and

mortgage banks could originate mortgages, or independent mortgage brokers could originate mortgages on behalf of banks. After origination, these firms could sell the mortgages to Fannie Mae and Freddie Mac and sell the servicing rights to other specialized firms. Fannie and Freddie may hold the mortgages as investments or they may create MBS which are sold to individual investors, institutions, pension funds or banks.

Two distinct lines of business are undertaken by the GSEs. Both benefit directly from the subsidy provided by the implicit federal guarantee of creditworthiness. In the first line of business – the issuance of MBS – the GSEs buy mortgages from originators and issue mortgage-backed securities which the agencies themselves guarantee against default risk. Often, mortgage originators repurchase securities formed from the same mortgage pools they sell to Freddie Mac and Fannie Mae. (In this way, the banks and thrifts benefit from the elimination of credit risk to themselves and also from the lower capital requirements imposed on guaranteed MBS, rather than on an equivalent balance of whole mortgages.)

Specifically, the GSEs sell off a "package:" the cash flows from an underlying mortgage pool guaranteed against default, minus an annual fee charged on unpaid balances. Fannie Mae and Freddie Mac can sell this package at a lower price than other private firms because their guarantee is implicitly backed up by the full faith and credit of the federal government.

In the second line of business, the GSEs issue debt and use the proceeds to invest, mostly in mortgages or in MBS. The implicit guarantee enables the firms to pay lower

rates on the debt they issue, increasing the profitability of their investment in a portfolio of mortgages.

In principle, the subsidy provided by the implicit guarantee can be calculated. Freddie Mac and Fannie Mae issue debt in the same market in which other participants in the banking and finance industry participate. The yield difference ("spread") between the debt of the GSEs and that of other firms can be used to estimate the funding advantage in any year arising from the yield difference. Of course, it is not quite straightforward to apply this principle and to produce credible estimates. The relevant benchmark estimate (i.e., the appropriate sector and bond rating) is not without controversy, and a comparison with broad aggregate indices combines bonds containing a variety of embedded options. A detailed review of these estimates is provided in Quigley (2006). Credible estimates are in the range of the (41-basis-point) spread assumed by the Congressional Budget Office (CBO, 2001) in estimating the annual federal subsidy to the GSEs. This is similar to the (40-basis-point) estimate spread used by Passmore, (2005) in a similar exercise.

Estimates of this funding advantage have been used to calculate the net present value of the implicit subsidy embedded in GSE debt issue in any year. The subsidy estimates are large, about $5.5 billion per year for Fannie Mae's newly issued debt during 1998, 1999, and 2000 and about $4.3 billion a year for Freddie Mac's newly issued debt during 1998, 1999, and 2000. The aggregate annual subsidy, including tax and regulation subsidies, was estimated to be $10.6 billion in 2000 for Fannie Mae and Freddie Mac (CBO, 2001). For 2003, the subsidy to Freddie Mac and Fannie Mae arising from their federal charters was estimated to be $19.6 billion (CBO, 2004).

In return for these large subsidies, the two firms provide several specific benefits to consumers. Importantly, mortgage interest rates can be lower than they otherwise would be. But, of course, in the first instance, the subsidy is provided to private profit-making firms with fiduciary duties to their shareholders. It is thus not obvious that all, or even most, of this public subsidy is passed through to homeowners. As documented by Hermalin and Jaffee (1996), the secondary market for mortgage securities (at least for those securities composed of loans conforming to the rules under which Fannie and Freddie operate) is hardly a textbook model of competition. The two GSEs are large, there are high barriers to entry, and the MBS product is more-or-less homogeneous. Moreover, mortgage originators have an inherent first-mover advantage in deciding which newly issued mortgages to sell to Fannie and Freddie. This may force the GSEs to pay a premium for the mortgages they purchase. These factors, imperfect competition and adverse selection, may mean that much of the subsidy accrues to the shareholders of the GSEs or to the owners of other financial institutions and not to homeowners.

In principle, the effects of the GSEs upon mortgage rates can be calculated by computing and adjusting the spread between the interest rates on mortgages that conform to the loan limits and underwriting guidelines of the GSEs and the rates on other mortgages. As in the analysis of funding advantages, it is not quite straightforward to apply this principle and to produce credible estimates. Research on this issue is summarized in Quigley (2006).

From this, it appears that the GSEs funding advantage is about 30-40 basis points, and the effect of this is to reduce mortgage rates by 16-25 basis points. Stated another way, a bit more than half of the subsidy rate to the GSEs is transmitted to homeowners in

the form of reduced mortgage interest rates. Presumably, the remainder is transmitted to the shareholders of the enterprises or to the owners of other financial institutions.

In 1992, the Federal Housing Enterprises Financial Safety and Soundness Act provided incentives for the GSEs to increase their services to lower-income households and neighborhoods. The legislation empowered HUD to set goals for "affordable housing," and HUD established three benchmark goals, which were ultimately finalized in December 1995.

There is only minimal evidence on the effectiveness of this mandated GSE activity on mortgage credit or housing outcomes. Recent research by Bostic and Gabriel (2005) analyzed census tract averages of GSE purchase activity and housing outcomes for census tracts with median incomes at the boundaries of those specified in the GSE housing goals and those specified in the 1977 Community Reinvestment Act. An intensive analysis of California census tracts found a positive association between GSE activity and housing market conditions, homeownership rates and vacancies, but the association is generally not statistically meaningful. The authors conclude that "this research suggest[s] limited direct effects of GSE loan purchase activity on local housing markets."

As noted above, in return for providing these benefits to American homeowners, the GSEs enjoyed the benefits of an extremely valuable implicit guarantee. This has made their two lines of business more profitable, and it has encouraged the firms to take on more risk than a similarly situated private entity.

The management of their retained mortgage portfolios has been facilitated by corporate debt, "agency bonds," issued at rates which reflected the investor expectations

of an implicit government guarantee (and which currently reflect an explicit government guarantee). The portfolio investments by Fannie Mae and Freddie Mac have been highly leveraged. The legislated capital requirement of 2.5 percent implies a leverage ratio of up to forty-to-one. The portfolio investments in mortgages and MBS are long-term, and the debt issued to fund the investments has been of much shorter duration. Finally, the quality of the specific investments declined as prime mortgages were replaced by Alt-A paper (supposedly prime mortgages, but without adequate documentation).

This line of business exploded during the run-up in housing prices during the past decade, and it is estimated that the federal subsidy for the debt issued to expand the retained portfolios of Fannie Mae and Freddie Mac tripled between 1995 and 2003. (Jaffee and Quigley, 2007, Table 6) By the summer of 2008, it was estimated that the two firms held about $1.5 trillion in mortgages and MBS in their portfolios.

The second line of business is the production of MBS from whole mortgages. The GSEs purchase mortgages from institutions and securitize them, producing "Agency MBS." Fannie Mae and Freddie Mac guarantee the payment of principal and interest on these securities, thereby earning guarantee fees. This business also expanded substantially during the housing boom beginning in the late 1990s. It is estimated that the federal subsidy for the Agency guarantee roughly tripled between 1995 and 2003. By the summer of 2008, about $3.5 trillion was outstanding in GSE securitized mortgage pools. Jaffee (2008) reports that the GSEs placed a relatively small amount of non-prime mortgages in these agency MBS compared to their retained mortgage portfolios: "A likely explanation is that the GSEs can profit from the much higher coupon rates offered on subprime mortgages only if they are the actual investor as in the retained portfolios."

It should be noted that homeowners in general may profit from the liquidity provided by the availability of mortgage-backed securities, but they certainly do not profit from the retained portfolios of the GSEs. It has been argued that the mortgages and MBS would be retained "somewhere" if not in the portfolios of these agencies. (See Roll, 2003.) but it should be clear that smaller portfolios held by many institutions would have lower aggregate risk (Quigley and Jaffee, 2006). Moreover, it had been demonstrated more than five years before the imposition of conservatorship on Fannie and Freddie that the interest rate risk embedded in their retained portfolios was only imperfectly hedged against market conditions. (See Jaffee, 2003.)

The way forward involves two reforms to the GSEs, one for each of their lines of business.

The retained mortgage portfolio business of the agencies should be spun off to the shareholders – who would receive the mortgage assets, liabilities, and net worth of the portfolios as well as any proprietary information on the operation of these portfolios. The retained portfolio portion of the business could themselves follow the successful privatization of the other GSE – Sallie Mae – which prospered on its ability to originate student loans after privatization. (See Quigley, 2006, and Lea, 2005.)

The fee-based business derived from the issuance of mortgage-backed securities should follow the successful models of FHA and Ginnie Mae, offering government-insured mortgages to middle-income households and securitizing those mortgages through a government agency or a franchise from a government agency. As originally envisioned and as subsequently operated for a generation, the FHA catered to middle- as well as lower middle-income households. At the time of its establishment in 1934, the

loan limit amount was restricted to $16,000, but at the time the median house price was $5,304. As late as 1977, almost eighty percent of newly constructed single-family houses were eligible for FHA finance (see Quigley, 2006, for a discussion.)

The FHA model involved an actuarially sound mutual insurance feature (originally a fixed percentage payment, ultimately a risk-based fee varying by loan-to-value ratio) which has remained solvent for seventy years. Subsides from general taxpayers to the FHA have been modest. See Jaffee and Quigley, 2007, for detailed estimates. Since 1968, FHA mortgages have been pooled and securitized by the Government National Mortgage Association, a public agency within the Department of Housing and Urban Development. The efficiency of the mortgage-backed security operation is remarkable. The business involves no retained portfolios, little risk and a small staff.

Given recent changes in the fast-moving environment of mortgage finance, the distinction between a mortgage guarantee offered by an agency under a federal conservatorship and one offered by the federal government itself may be moot.

The principal reason for hesitation in suggesting implementing through a government agency is the substantially reduced competitive position of the FHA in comparison to private uninsured mortgage originations during the early part of this decade. Between 2001 and 2005 the market share of government-insured mortgage originations declined from 18 to 7 percent among whites, 42 to 9 percent among Hispanics, and 38 to 5 percent among blacks.

Jaffee and Quigley (2007) analyzed the reasons behind the collapse of the FHA, identifying four specific factors leading to the decline – subprime lending, predatory

lending, competition with the GSEs, and the alleged failure of the FHA to innovate. The analysis clearly indicates that the expansion of subprime lending was key to the decline of the FHA's competitive position. Beyond subprime (and sometimes predatory) lending, the expansion of the GSE mortgage portfolios "down market" had a measurable impact on the traditional domain of the government-insured programs. An and Bostic (2006), for example, presented convincing evidence that the GSEs were increasingly targeting borrowers who would otherwise represent the higher-quality segment of FHA borrowers. Using HMDA data, they established that, as the GSE share of originations in an underserved neighborhood expands, the FHA share declines. Their theoretical model also predicts that in response to GSE competition the FHA would raise its underwriting standards, in order to control what is now a lower-quality loan pool, on average.

If most of the decline of FHA can be attributable to competition from subprime lenders, sometimes spurred by the GSEs, the current prognosis must be for the restoration of the FHA market share of originations. In 2007, the volume of subprime mortgage originations dropped by almost three quarters, and the share of originations fell by two thirds.

Beyond these market forces, legislation adopted by Congress with wide popular support will greatly limit the scope for subprime lending in the future and hence the extent of erosion of the FHA's market share. Under the truth-in-lending provisions of the HERA act passed last July 31, the institution of low-documentation or no-documentation loans (commonly called NINA, "no income, no assets," or "liar's loans") will be illegal, as will the imposition of prepayment penalties during the first four years of the life of a

mortgage. Beyond these, the Act specified escrow requirements and rules covering appraisals.

Importantly, beginning on October 1, 2009 lenders will be held for the first time to suitability standards in much the same way that stock-brokers are required to consider the suitability of clients for the stocks he sells. In fact, the suitability standard appears to be somewhat higher for mortgages, since the broker must consider the ability of the borrower to repay the mortgage under the highest scheduled payments.

These reforms suggest that the erosion of the market share of FHA originations will be arrested by the decline in the subprime market. Indeed, the most recent data published by the FHA (February 9, 2009) confirms that the FHA share of mortgage originations tripled from 4.1 percent in 2007 to 12.6 percent in 2008. The annualized market share for the last quarter of 2008 was 18.6 percent.

Despite this, the additional responsibilities associated with the securitization of mortgages up to the current conforming limit will require substantial investment in the FHA or in some newly franchised entity. For example, it is widely reported that the FHA's credit scoring model is "outdated" (See GAO, 2006a) and that modernization would have "substantial program and budget implications." (See GAO, 2007a, b.) Chief among the objects for modernization are "information technology and human capital."

To be sure, the FHA requires Congressional approval before it can carry out these and related innovations. Mobilizing Congress to act is, at the least, a time-consuming friction, one that surely inhibits the innovative process. (See Weicher, 2006).

These factors indicate that the best organizational structure might be a government-owned corporation with more flexibility in operations than a public agency

such as the current Federal Housing Administration. But this crisis may be exactly the moment when Congress can be moved to invest in the stability of the secondary mortgage market – by extending the principles of proved government programs to the larger housing market.

References

Aaron, Henry (1972). *Shelter and Subsidies: Who Benefits from Federal Housing Policies*, Washington, DC: Brookings Institution.

Bostic, Raphael W. and Stuart A. Gabriel (2005). "Do the GSEs Matter to Low-Income Housing Markets?" unpublished paper, February.

Congressional Budget Office (2001). *Federal Subsidies and the Housing GSEs*, Washington, DC: US Government Printing Office.

Congressional Budget Office (2004). *Updated Estimates of the Subsidies to the Housing GSEs*, Washington, DC: US Government Printing Office.

Frame, W. Scoot and Lawrence J. White (2005). "Fussing and Fuming Over Fannie and Freddie: How Much Smoke, How Much Fire?" *Journal of Economic Perspectives*, 19(2): 159-184.

Haar, Charles, M. (1960). *Federal Credit and Private Housing*. New York, NY: McGraw-Hill.

Hermalin, Benjamin and Dwight Jaffee (1996). "The Privatization of Fannie Mae and Freddie Mac: Implications for Mortgage Industry Structure," in *Studies on Privatizing Fannie Mae and Freddie Mac*. Washington, DC: HUD. 225-302.

Jaffee, Dwight (2005). "The Interest Rate Risk of Fannie Mae and Freddie Mac," *Journal of Financial Services Research*, 24(1): 5-29.

Jaffee, Dwight and John M. Quigley (2007). "Housing Policy, Subprime Mortgage Policy and the Federal Housing Administration," paper presented at the NBER Conference on Measuring and Managing Financial Risk, Evanston, IL.

Jaffee, Dwight and John M. Quigley (2007). "Housing Subsidies and Homeowners: What Role for Government-Sponsored Enterprises?" *Brookings Papers on Urban Affairs*, 6(1): 103-150.

Jaffee, Dwight and John M. Quigley (2008). "Mortgage Guarantee Programs and the Subprime Crisis," *California Management Review*, 15(1): 117-143.

Lea, Michael J. (2005). "Privatizing a Government Sponsored Enterprise: Lessons from the Sallie Mae Experience," unpublished manuscript.

Passmore, Wayne (2005). "The GSE Implicit Subsidy and the Value of Government Ambiguity," *Real Estate Economics*, 33(3): 465-486.

Passmore, Wayne, Shane M. Sherlund, and Gillian Burgess (2005). "The Effect of Housing Government-Sponsored Enterprises on Mortgage Rates," *Real Estate Economics*, 33(3): 427-463.

Quigley, John M. (2006). "Federal Credit and Insurance Programs: Housing," *Federal Reserve Bank of St. Louis Review*, 88(4): 281-310.

Weicher, John (2006). "Commentary," *Federal Reserve Bank of St. Louis Review*, 88(4): 311-321.