

A
CBO
STUDY

**ASSESSING THE PUBLIC COSTS AND BENEFITS
OF FANNIE MAE AND FREDDIE MAC**

MAY 1996

The Congress of the United States
Congressional Budget Office

NOTES

All years referred to in this report are calendar years, unless otherwise specified.

Numbers in the tables may not add to totals because of rounding.

Preface

This report on the desirability and feasibility of privatizing the two largest government-sponsored enterprises (GSEs)—the Federal National Mortgage Association (Fannie Mae) and the Federal Home Loan Mortgage Corporation (Freddie Mac)—satisfies part of section 1355 of the Federal Housing Enterprise Safety and Soundness Act of 1992. That statute directed the Secretary of the Treasury, the Secretary of Housing and Urban Development (HUD), the Comptroller General, and the Director of the Congressional Budget Office (CBO) to study the desirability and feasibility of repealing the charters of the GSEs, eliminating federal sponsorship of the enterprises, and permitting them to operate as fully private entities. The legislation directed the studies to address the effects of privatization on costs to the enterprises, cost of capital, home ownership, secondary market competition, capital requirements for GSEs, secondary market liquidity, and other factors deemed appropriate.

In addition, the House Banking Committee's Subcommittee on Capital Markets, Securities, and Government-Sponsored Enterprises has requested that the studies provide:

- o An analytic framework;
- o Policy options for improving the balance of public benefits and costs; and
- o A comparison of the benefits and costs of three alternatives: maintain the status quo, adjust the activities or responsibilities of the GSEs, or privatize them.

Marvin Phaup of CBO's Special Studies Division prepared this study with the assistance of Marlies Dunson and Matt Eyles, under the supervision of Robert W. Hartman. The author is greatly indebted to CBO staff for support, insight, and assistance, especially Douglas Hamilton, James Blum, Gail Del Balzo, Robert Dennis, Stanley L. Greigg, Ellen Hays, Kim Kowalewski, Dan Kowalski, Mary Maginniss, Angelo Mascaro, Neal Masia, Jay Noell, David Torregrosa, Rae Roy, Nathan Stacy, David Gaffney, Lenny Skutnik, and David Rafferty.

CBO also acknowledges the contribution of Franklin D. Raines, Vice Chairman of Fannie Mae, and Robert B. Zoellick, Executive Vice President, General Counsel, and Secretary of Fannie Mae, who briefed CBO staff while this report was being prepared. In addition, Leland C. Brendsel, Chairman of Freddie Mac, commented extensively on the study. Fannie Mae and Freddie Mac staff also produced helpful reviews of a draft of this study under a severe time constraint.

The staff of the Office of Federal Housing Enterprise Oversight--especially Patrick Lawler, Christopher Lewis, David Pearl, and Robin Seiler--offered a number of helpful comments and suggestions. Susan E. Woodward contributed a useful critique. Edward J. Kane, Ben E. Laden, and John C. Weicher served as external reviewers of the CBO study.

Five contract studies were prepared in support of this and the other agencies' reports and are cited frequently in this report. They are:

- o Brent Ambrose and Arthur Warga, *Implications of Privatization: The Costs to FNMA and FHLMC*.
- o Robert Cotterman and James Pearce, *The Effects of FNMA and FHLMC on Conventional Fixed-Rate Mortgage Yields*.
- o Benjamin Hermalin and Dwight Jaffee, *The Privatization of Fannie Mae and Freddie Mac: Implications for Mortgage Industry Structure*.
- o Susan Wachter, James Follain, Peter Linneman, Roberto Quercia, and George McCarthy, *Implications of Privatization: The Attainment of Social Goals*.
- o Thomas H. Stanton, *Restructuring Fannie Mae and Freddie Mac: Framework and Policy Options*.

The Department of Housing and Urban Development is publishing those supporting papers as *Studies on Privatizing Fannie Mae and Freddie Mac* (May 1996). In this report, that volume is referred to as *HUD Studies*. CBO acknowledges the contributions of the interagency working group that planned and coordinated the preparation of those studies, including William Kruvant, William Shear, Mitchell Rachlis, Fred Evans, and Paul Thompson from the General Accounting Office; Harold Bunce, John Gardner, and Stephanie Smith from HUD; and Joan Affleck-Smith, Edward DeMarco, and Mario Ugoletti from the Treasury Department.

Paul L. Houts edited this report. Christian Spoor provided editorial and production assistance. Kathryn Quattrone prepared the report for final publication.

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Director

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Summary

For nearly three decades, the federal government has relied on government-sponsored enterprises (GSEs) to improve access to mortgage credit for home buyers. The housing GSEs obtain funds from the bond markets and acquire mortgages from local lenders. By providing an inter-market conduit for funds, they ensure that home buyers can tap into the nation's savings pool for mortgage financing. The Federal National Mortgage Association (FNMA or Fannie Mae) and the Federal Home Loan Mortgage Corporation (FHLMC or Freddie Mac) are generally regarded as having achieved that objective. The oversight responsibilities of the Congress, however, require periodic evaluations of all existing policies.

In the case of GSEs, frequent reassessment is especially warranted because their costs to the government are less obvious--though no less real--than the costs of alternative policies for achieving the same objectives. In addition, rapid technical advance in financial institutions and markets can quickly make policies obsolete. Finally, the sheer size of the housing GSEs--together they have a market value in excess of Citicorp and Wells Fargo combined--and their dominance of the secondary market for conforming mortgages require that the Congress examine the enterprises frequently.

GSEs are an unusual amalgam of two familiar institutions: federal agency and private corporation. As with other federal agencies--Fannie Mae was a part of the federal government for 30 years--federal rather than state law establishes the enterprises. In addition, they are afforded operating benefits not

available to other for-profit enterprises, including exemptions from state and local income taxes and from the registration requirements of the Securities and Exchange Commission (SEC). However, like private corporations, they are owned by shareholders who are entitled to the after-tax earnings and increases in value of the firm. The executive officers are bound to manage the assets of the enterprise in trust for the benefit of owners, while meeting the responsibilities of the company to the government under its federal charter. The major defining characteristic of a GSE, however, is that the federal government is perceived to back the obligations of the sponsored enterprise with an implicit guarantee. That federal presence provides substantial benefits to Fannie Mae and Freddie Mac.

Establishing a Framework for Evaluation

Comparing costs and benefits is essential in evaluating the effectiveness of GSEs as an instrument of policy. A primary consideration, therefore, is to measure the costs of GSEs to society against the gains to intended beneficiaries. If the costs exceed the gains, then current policy is failing the public and alternative policies should be considered. Those alternatives include terminating or modifying the current relationship between the sponsored enterprises and the government. One form of termination is to privatize--or withdraw all benefits now afforded exclusively to those government-sponsored but pri-

vately owned companies. Short of terminating the current relationship, other modifications include a wide range of adjustments that have the potential to reduce costs or increase benefits.

In assessing costs and benefits, the government should use the perspective of intended beneficiaries and taxpayers, not that of shareholders and management. GSE status conveys a substantial value to the companies and their owners. In 1995, about 40 percent of the earnings of Fannie Mae and Freddie Mac could be traced to the benefits of sponsored status. An assessment by the GSEs themselves that they are highly cost-effective is not sufficient for the federal government, which must attend to broader interests in setting policy.

Government Costs

The GSEs claim that the cost of using sponsored enterprise status to improve access to mortgage finance is zero. By this Fannie Mae and Freddie Mac mean that, as of yet, there have been no federal appropriations for cash payments or guarantee subsidies. But in the place of federal funds the government provides considerable unpriced benefits to the enterprises. The subsidy to the GSEs is the free use of the government's power to raise money.

With the federal government's ability to tax and create money, its standing in the money and capital markets is paramount. The federal government can transfer its credit standing to others by explicitly guaranteeing their ability to pay. In return for contractual guarantees, the federal government usually collects fees.

In the case of the GSEs, no explicit guarantee is provided. In fact, the government requires the GSEs to disclose to potential investors that their securities are *not* backed by the full faith and credit of the U.S. government. But what the government appears to withhold with one requirement, it provides with a host of other legal provisions. For example, one such provision stipulates that GSE obligations are satisfactory collateral for ensuring the safety of the federal government's own funds when those are deposited in

private institutions. The combined effect of those special provisions is to persuade the financial markets that GSE securities have "agency status" and are nearly as safe as if a federal government agency had issued them. On the strength of that implied guarantee, investors continued to lend money to Fannie Mae and Freddie Mac at relatively low interest rates even during the early 1980s, when Fannie Mae was economically insolvent.

Using GSE status to enhance the credit quality of the enterprises provides Fannie Mae and Freddie Mac with savings in funding costs worth billions of dollars each year. The benefit has "no cost" to the government or taxpayers only in the same restricted sense that the government would incur no out-of-pocket cash cost in providing free hydropower to an aluminum producer or giving federal lands to a developer, even though the recipients and their competitors would be willing to pay for those "gifts." In giving away the federal government's credit standing, which many private firms would pay to acquire, economic benefits are being transferred that are equivalent to those provided by writing Treasury checks.

Measuring the Cost of GSE Status

The challenge to a government that would make informed, disciplined use of sponsored enterprises is to measure the cost of what is given and compare it with value received. Several approaches to measuring that cost are possible. One is to price out the various ways that the government's relationship with the GSEs can lead to budgetary outlays. Those ways include the cash flows expected from a GSE insolvency, higher interest costs for the Treasury from the huge volume of agency securities, and losses from the GSEs' exemptions from SEC registration fees and state and local taxes. None of those individual items are easy to estimate, and more important, their sum may be less than the value the federal government confers by granting GSE status.

A second approach to measuring the value of GSE status is to calculate the difference between the market value of a GSE and its accounting value.

That approach also gets at the price that other firms would pay to be GSEs. One difficulty with that method, however, is that factors other than GSE status affect the difference.

A third approach is to restrict the benefits of enterprise status to a reduced cost of funding and determine the amount of money the federal government would have to give to the GSEs today to provide sufficient credit enhancement (that is, the equivalent of a stronger balance sheet) to justify the low borrowing rates they command. A complicating factor is that GSE status is not a simple one-time credit upgrade. Instead, a GSE has the government's implicit support whatever its intrinsic financial condition. Thus, a GSE has a permanent "option" to call on the govern-

ment to enhance its credit further as its size and financial condition change. That option has considerable value to the enterprises, but assigning it a specific value is difficult.

Finally, one can estimate the annual cost to the government as the amount that the GSEs save in funding costs as a result of federal credit enhancement. The rationale behind that measure is that those savings represent the minimum value of GSE status to the enterprises, which they--and others--would willingly pay each year for this benefit.

Recent estimates of the funding benefit of GSE status to Fannie Mae and Freddie Mac indicate that the average savings are 0.25 percentage points to 2 or

Summary Table 1.
Estimated Gross and Retained Funding Subsidies for the Housing GSEs, 1995 (In billions of dollars)

| | Fannie Mae | Freddie Mac | Total |
|--|------------|-------------|---------|
| Gross Subsidy | | | |
| Average debt outstanding | 278.3 | 105.7 | 384.0 |
| Subsidy (70 or 68 basis points) ^a | 1.9 | 0.7 | 2.6 |
| Average MBSs outstanding | 494.7 | 450.5 | 945.2 |
| Subsidy (40 basis points) | 2.0 | 1.8 | 3.8 |
| Total funding subsidy | 3.9 | 2.6 | 6.5 |
| Subsidy Pass-Through | | | |
| Mortgages financed | 719.1 | 529.9 | 1,249.0 |
| Pass-through (35 basis points) | 2.5 | 1.9 | 4.4 |
| Funding Subsidy Retained (Total subsidy minus pass-through) | 1.4 | 0.7 | 2.1 |
| Net Income Before Taxes and Gifts | 3.4 | 1.6 | 4.9 |
| Retained Subsidy (Percentage of net income before taxes and gift) | 41.1 | 44.9 | 42.3 |

SOURCE: Congressional Budget Office.

NOTE: A basis point is one-hundredth of a percentage point. MBSs = mortgage-backed securities.

a. The savings for 1995 were 70 basis points for Fannie Mae and 68 basis points for Freddie Mac.

more percentage points a year for each dollar of funds acquired. The exact savings depend on the funding instrument (mortgage-backed securities, fixed-term debt, callable debt), the financial condition of the GSEs, and the state of the securities markets. Based on assumptions that seem reasonable for the past few years, the funding cost subsidy provided to the GSEs by the federal government appears to average about one-half of a percentage point for each dollar raised by the housing GSEs. As shown in Summary Table 1 on page xi, that subsidy was worth about \$6.5 billion to Fannie Mae and Freddie Mac in 1995.

Based on estimates that the GSEs pass through to home buyers an average of a little over one-third of a percentage point in lower interest rates, Fannie Mae and Freddie Mac are not fully passing on the subsidy in lower mortgage rates. Rather, they are retaining about \$2.1 billion while passing through \$4.4 billion (see Summary Table 1). Both before and after federal income taxes, the retained federal subsidy accounts for more than 40 percent of the earnings of the housing GSEs.

Examining the Social Benefits of the Housing GSEs

The popular perception of Fannie Mae and Freddie Mac as benefactors of home buyers for whom they reduce interest rates and increase home ownership deserves examination. In fact, the housing GSEs are principally a vehicle for delivering a federal subsidy rather than the source of that subsidy. Moreover, the estimates presented suggest that they are not an efficient delivery vehicle because they retain nearly \$1 for every \$2 they pass through. Of course, the housing GSEs also may provide benefits other than passing through a subsidy. Those benefits include integrating mortgage and capital markets to assure home buyers access to funding, stabilizing mortgage markets, investing in technology to improve mortgage lending, and increasing home ownership by low-income households. However, given the availability of similar services from fully private, unsubsidized firms, and the credit risk for low-income families that

federal agencies bear, it is difficult to assign a value to having the GSEs provide such benefits.

When the government initially turned to GSEs as a means for improving housing finance (Fannie Mae was converted to private ownership in 1968 and Freddie Mac was established in 1970), no fully private firms could create profitable, high-volume links between the bond and mortgage markets. Today, numerous private groups can perform that service.

Fully private firms routinely purchase mortgages and create mortgage-backed securities (MBSs)--claims to the cash from a pool of mortgages--that they can easily sell in financial markets. Driven by the search for profitable intermediation, those private firms concentrate their purchases in markets where funds are in shortest supply and create securities designed to minimize the cost of mortgage finance.

Such unsubsidized firms cannot compete directly with Fannie Mae and Freddie Mac because the federally enhanced low borrowing costs are available only to the GSEs. Accordingly, the private firms currently fund mortgages that FNMA or FHLMC are not eligible to purchase. If the government eliminated the subsidy to Fannie Mae and Freddie Mac, the mortgage markets would not regress to a pre-GSE condition. Rather, fully private intermediaries, probably including Fannie Mae and Freddie Mac, would provide the funding links between markets. Improving access to mortgage finance may have been a social benefit worth paying for in the past. It is now available without subsidy from fully private firms.

Private firms are also able to provide services to stabilize the mortgage market. That is, they are always willing to buy mortgages at prices that are consistent with their objective of building value for shareholders. To ask GSEs to do more is to expose them to the possibility that they might violate their fiduciary responsibilities to shareholders. Also, like the GSEs, fully private intermediaries have a financial interest in developing improved technology, especially for reducing costs and identifying good credit risks that traditional credit-screening methods would overlook. Unlike the GSEs, however, the private intermediaries do not benefit from a subsidized cost of funding. As fully private firms, they are sub-

ject to the discipline of paying the market cost of capital. Consequently, fully private firms are less likely than GSEs to undertake an investment whose expected rate of return is lower than the rate on other investments in the economy from which capital resources are diverted.

Providing access to mortgage finance for low-income families ultimately depends on a willingness to bear the credit risks of such borrowers. Based on the current distribution of credit risk, the depository institutions and federal guarantee agencies such as the Federal Housing Administration appear more willing to bear mortgage credit risk than the GSEs. Fannie Mae and Freddie Mac are specialists in mortgage funding. Although that expertise gives them an advantage over depositories in raising large sums of money, it does not give them an edge in identifying good credit risks among borrowers traditionally regarded as poor credit risks. Thus, the housing GSEs may not be especially well suited to the task of increasing home ownership for low-income families.

Concern about the apparent imbalance between the costs and benefits of the housing GSEs extends beyond the \$2 billion a year that they retain. One further concern is that Fannie Mae and Freddie Mac rather than public officials substantially control the amount of the subsidy provided to the GSEs. Although the Office of Federal Housing Enterprise Oversight constrains the housing GSEs, Fannie Mae and Freddie Mac can increase the size of their benefit and the cost to the government. They can do so by increasing the volume of securities issued and by adjusting the composition of their business toward riskier, more heavily subsidized activities such as debt-financed portfolio lending rather than MBSs. Even if the increased subsidies from taxpayers were passed through entirely to home buyers, an on-call subsidy drawn at the direction of the recipient would be inconsistent with fiscal control. Moreover, additional government subsidies may not be passed through to home buyers owing to the market power of the housing GSEs, the close affinity of shareholder and management interests, and the inherent difficulties of monitoring the enterprises.

Options for Addressing the Balance of Costs and Benefits

Abrupt repeal of the GSEs' charters would probably create a counterproductive shock to the financial markets that could be avoided by a more gradual approach. A variety of options would stop well short of immediate privatization but could shift the balance of costs and benefits more favorably toward government. Those options include policy changes that would reduce public costs, redirect the benefit from the shareholders of Fannie Mae and Freddie Mac to intended beneficiaries, or increase competition.

The net effect of those and other policy changes on government costs and public benefits would depend on the responses of the housing GSEs, which are difficult to predict. For example, any policy that reduced the federal subsidy would lower the market value of the GSEs and might cause them to increase the risks they assume. Other possible responses include reducing the rate of the subsidy pass-through to home buyers, limiting public outreach efforts by the GSEs, or providing lower returns to shareholders. One of the disadvantages of using GSEs as an instrument of public policy is that extricating the federal government from its commitment to provide subsidies is a complex and uncertain undertaking.

Specific policies to reduce the public subsidy to Fannie Mae and Freddie Mac include imposing a cost-of-capital equalization fee on the debt--not the MBSs--of the housing GSEs and lowering the maximum-size mortgage that the enterprises are permitted to purchase. The first of those measures would recover some of the benefit that the government now provides to the GSEs, especially on the most heavily subsidized activities. The fee would also discourage portfolio lending, which is riskier than securitization and therefore more costly to the public.

The public subsidy could also be reduced by lowering the maximum-size mortgage that the housing

GSEs are permitted to purchase from the current level of \$207,000. Such a reduction would limit the ability of management to expand the subsidy and would concentrate the pass-through of the subsidy on home buyers with smaller mortgages, who tend to have lower incomes. Over time, such an action would cut the size of the subsidy and of the GSEs. Reducing the size of the GSEs would address concerns that Fannie Mae and Freddie Mac are now so large that the government is incapable of withdrawing its implicit guarantee.

A more complex option would both redirect the current subsidy and increase competition in the secondary market. That policy would replace the implicit guarantee conferred exclusively on the enterprises with an explicit guarantee of all MBSs issued by qualifying non-GSEs as well as GSEs. The result would raise the number of issuers of MBSs guaranteed by taxpayers and would increase the need for federal authorities to administer safety and soundness regulations. One approach would be to permit a fully private entity to qualify for the federal guarantee of its MBSs if it agreed to comply with the regulations to which Fannie Mae and Freddie Mac are subject. To ensure fair and equitable competition between the existing GSEs and private firms, however, the explicit guarantee would replace all current GSE privileges in law, which would be repealed. The government would also specifically disavow guarantees of any debt securities issued by Fannie Mae and Freddie Mac in the future.

In essence, that option represents a form of privatization because the special sponsored relationship between the federal government and the housing enterprises would no longer exist. Because of increased competition, mortgage interest rates could fall by the amount of the currently retained subsidy on GSE-issued MBSs, or about 5 basis points (0.05 percentage points). Extending a federal guarantee to all issuers of MBSs, however, would continue to federalize that market.

If current estimates of the balance of costs and benefits for the government from the housing GSEs are considered too uncertain to support substantive policy changes, the government could take steps to reduce that uncertainty by requiring increased disclosures--subject to independent verification--from

Fannie Mae and Freddie Mac of estimates of the value received and given because of GSE status. The government could also undertake competitive sales of its credit-enhancement services to obtain more objective and reliable estimates of value.

Conclusion

The federal government provides credit-enhancement subsidies to Fannie Mae and Freddie Mac now worth \$6.5 billion a year. Those sponsored enterprises pass through about \$4.4 billion of that benefit to home buyers. As a means of funneling federal subsidies to home buyers, therefore, the GSEs are a spongy conduit--soaking up nearly \$1 for every \$2 delivered.

When the housing GSEs were established, they were more than a vehicle to deliver subsidies. By integrating local mortgage markets with national capital markets, they improved the flow of funds to regions where money for home buyers was most scarce. In so doing, Fannie Mae and Freddie Mac added value.

The nation's financial structure now, though, is almost unrecognizable from the vantage point of the late 1960s. Changes in technology and regulation have enabled a significant number of fully private firms to provide those valuable market links on a profitable basis. The financial capabilities envisioned by those legislators who drafted the Fannie Mae and Freddie Mac charters are now in place and operational.

Since the housing GSEs have achieved their original objective, policymakers must weigh the desirability of continuing to provide the current subsidy against alternative policies. On the one side is the uncontrolled subsidy that goes annually to management and shareholders, not to mention the risk that the GSEs could increase their exercise of market power to push up mortgage rates. On the other side is the off-budget contribution of the housing GSEs to the nation's affordable housing goals, and in that respect the issue is cost-effectiveness. Is the retained subsidy worth the gain that Fannie Mae and Freddie Mac are adding to increased home ownership?

For a government-sponsored enterprise, privatization has a unique meaning. Because Fannie Mae and Freddie Mac are already shareholder-owned, the only transfer of equity that is required is to withdraw the taxpayers' contribution. To accomplish that withdrawal requires terminating the implicit guarantee of

Fannie Mae and Freddie Mac securities. If the Congress determines that privatization is desirable, then a variety of policies gradual and abrupt--and none without some difficulties--are available to terminate the government's special relationship with the housing GSEs.

Understanding the Housing GSEs: What, Why, How?

The Federal National Mortgage Association (FNMA, or Fannie Mae) and the Federal Home Loan Mortgage Corporation (FHLMC, or Freddie Mac) are government-sponsored enterprises (GSEs) specializing in housing finance and are often called the housing GSEs. As GSEs, they are a hybrid of public and private financial institutions. They are established under federal law and afforded privileges of substantial economic value, but they are privately owned so that all after-tax earnings and increases in the value of the enterprises accrue to their private owners. As GSEs, they are subject to restrictions on their lines of business and to safety and soundness regulations, the President of the United States appoints a minority of their directors, and they are charged with carrying out some activities at the behest of the federal government.¹

The core economic function that Fannie Mae and Freddie Mac perform is quite simple. Like thousands of fully private financial firms, they are intermediaries. They acquire funds in one group of markets and supply those funds to other markets. FNMA and FHLMC link the retail lenders who make loans to home buyers with the wholesale bond markets. The housing GSEs accomplish that connection by using their two major lines of business: converting individ-

ual mortgages into traded mortgage-backed securities (MBSs) and issuing debt to finance their own portfolios of mortgage and mortgage-backed assets. They are able to obtain funds at a lower cost than the return they expect to receive as suppliers. The gain they realize from a favorable difference allows them to cover their cost of operations and return a profit to their owners.

Reviewing the Purpose and Function of the Housing GSEs

Before the housing GSEs were established (Fannie Mae was a federal agency until 1968; Freddie Mac was chartered in 1970), getting a home mortgage was often a dicier process than it is today. A prospective home buyer with a steady income, good credit record, and down payment in hand might have been turned down for a loan simply because of a local shortage of funds for lending. Commercial banks, savings and loan associations, and mutual savings banks provided most mortgage finance with funds they had gathered by accepting local savings deposits. Many lenders faced limits on their authority to operate branches outside their home market area and were thus restricted in their ability to make loans and acquire deposits.

1. For a more complete discussion, see Congressional Budget Office, *Controlling the Risks of Government-Sponsored Enterprises* (April 1991).

Those geographical restrictions tended to isolate local markets for home mortgages from one another. Regions experiencing rapid economic and population growth in the 1960s and 1970s, such as Florida and California, suffered a chronic shortage of loanable funds, whereas other, slower-growing regions, including parts of the upper Midwest and East, often had an excess of funds available for lending. Consequently, interest rates were often higher in regions where funds were "tight" compared with others where markets were "easy." Advertisements aimed at attracting deposits from regions with low interest rates were commonplace in the national financial press. Yet those attempts to move deposits by mail were unable to overcome all regional imbalances.²

An additional factor periodically hampered lending--namely, the Federal Reserve's Regulation Q, which limited the interest rates that member banks were permitted to pay to attract deposits.³ When interest rates in the financial markets rose because of inflation or restrictive monetary policy, Regulation Q-type ceilings would prevent depository institutions from matching the rates of interest that savers could obtain on traded securities such as U.S. Treasury bills, notes, and bonds. Thus, not only were interregional flows limited, but mortgage markets periodically suffered outflows of funds to the capital markets as savers switched their money from financial intermediaries to direct investment in marketable securities. Through that process of "disintermediation," Regulation Q increased the severity of recessions in regional and national housing markets.

The government created Fannie Mae and Freddie Mac to integrate mortgage and national capital markets and to provide households with access to the same pool of funds that is available to corporate and government borrowers. To do so, the housing GSEs were permitted to acquire funds directly from the bond markets and to make those funds available to lenders, without geographic or interest rate limits. By selling to investors high-grade, marketable securi-

ties that were exempt from Regulation Q, Fannie Mae and Freddie Mac were able to get the money to purchase first-quality mortgages from primary lenders all over the country. Thus, by connecting lenders and market investors, the GSEs were able to overcome the isolation of regional mortgage markets.

In time, retail mortgage markets were integrated with one another and with the national capital markets.⁴ The housing GSEs contributed to that integration, as did advances in computer technology. Today, financing for home buyers is available--at the market price--in all regions of the country. Regional differences in mortgage interest rates tend to be small and transitory.

Despite its effect on the availability of mortgage money, market integration did not leave all households better off. Borrowers in regions with surplus funds, who formerly enjoyed low interest rates, no longer have that advantage. Moreover, depositors in markets that formerly suffered deficits of loan funds now have to be satisfied with a competitive market return. In fact, some estimates indicate that average mortgage interest rates, compared with open-market corporate rates, rose as the housing GSEs integrated local and national markets.⁵ Most of the increase in rates stemmed from the simultaneous loss of tax advantages then available to thrift institutions and the repeal of Regulation Q. But putting the household borrower on an even footing with corporate and government borrowers also meant that capital-market borrowers were given equal access to local funds for which they could compete with local borrowers.

From a perspective of financing mortgages, the good news is that access to mortgage funds has increased. Even during periods of high interest rates or exceptional demand for finance, funds can be obtained for home purchases provided the borrower is willing to pay the market rate for money. Conse-

2. Nor apparently were the imbalances leveled by the existence of a GSE lender for thrifts, the Federal Home Loan Banks. See Congressional Budget Office, *The Federal Home Loan Banks in the Housing Finance System* (July 1993).

3. Thrifts and nonmember banks were subject to related interest rate ceilings.

4. For a detailed account, see Robert Cotterman and James Pearce, "The Effects of FNMA and FHLMC on Conventional Fixed-Rate Mortgage Yields," *HUD Studies* (May 1996), pp. 97-116.

5. Patric H. Hendershott and Robert Van Order, "Integration of Mortgage and Capital Markets and the Accumulation of Residential Capital," *Regional Science and Urban Economics* (May 1989), pp. 188-210, and summarized in Robert Van Order, "Getting Closer: Have We Succeeded in Fully Integrating the Markets?" *Secondary Mortgage Markets* (Winter 1988-1989), pp. 21-23.

quently, regional and national fluctuations in housing construction, sales, and finance may have become more moderate.⁶

How the Housing GSEs Segment the Secondary Market

Even though the housing GSEs have played a major role in integrating markets, they have also been a factor in segmenting the secondary (or resale) market for mortgages. That market is now divided along the lines of mortgage size, credit quality, and the public/private status of the intermediaries. The major mortgage market sectors are the conventional conforming market, the conventional jumbo market, and the Federal Housing Administration/Department of Veterans Affairs (FHA/VA) market. The federally sponsored housing GSEs are the link to the capital markets for the "middle market" of conventional mortgages that conform to the prime quality and size specifications required for purchase by Fannie Mae and Freddie Mac. A federal agency does not guarantee those "middle market" mortgages, even though a private mortgage insurer may guarantee them.

Jumbo mortgages are those that exceed the maximum-size mortgage Fannie Mae and Freddie Mac can purchase. The dividing line between conforming and jumbo mortgages is adjusted annually based on changes in U.S. housing prices.⁷ For 1996, the con-

forming limit for single-family mortgages is \$207,000 (the original principal amount). As shown in the upper right of Figure 1, fully private intermediaries link the jumbo market to the capital markets. About 30 of those conduits now serve the jumbo-loan market.

The lower end of the market by size and credit risk is the province of the federal mortgage insurance programs of the FHA and VA. Securities backed by mortgages insured by the federal government are eligible to be guaranteed by the Government National Mortgage Association (GNMA, or Ginnie Mae), a federal agency. Like the housing GSEs, FHA/VA loans are subject to a restriction on size. In most regions of the country, the FHA cannot insure a loan for a single-family house in excess of \$78,660. In high-cost regions, the FHA can go up to \$155,250.⁸ Although Fannie Mae and Freddie Mac purchase FHA/VA-guaranteed mortgages, the fully federal agencies largely handle that end of the market. Thus, mortgage size divides the market at \$78,660 and \$207,000.⁹

The dollar volume of mortgages financed at the end of 1995 illustrates the relative sizes of those intermediary markets: Fannie Mae, \$770 billion; Freddie Mac, \$570 billion; Ginnie Mae, \$465 billion; and fully private conduits, \$200 billion. Whereas Fannie Mae and Freddie Mac have about 65 percent of the market for mortgage intermediary services, they have virtually 100 percent of the market for securitizing conventional mortgages up to \$207,000.¹⁰

6. Integrating the mortgage and bond markets can add to the volatility of housing markets by removing the local financing constraint from demand. For example, in the last several years, home prices in California have been declining. See Freddie Mac, *1995 Annual Report* (1996), p. 21. To some extent, that decline is a response to the run-up in prices that was fueled by the easy availability of mortgage finance.

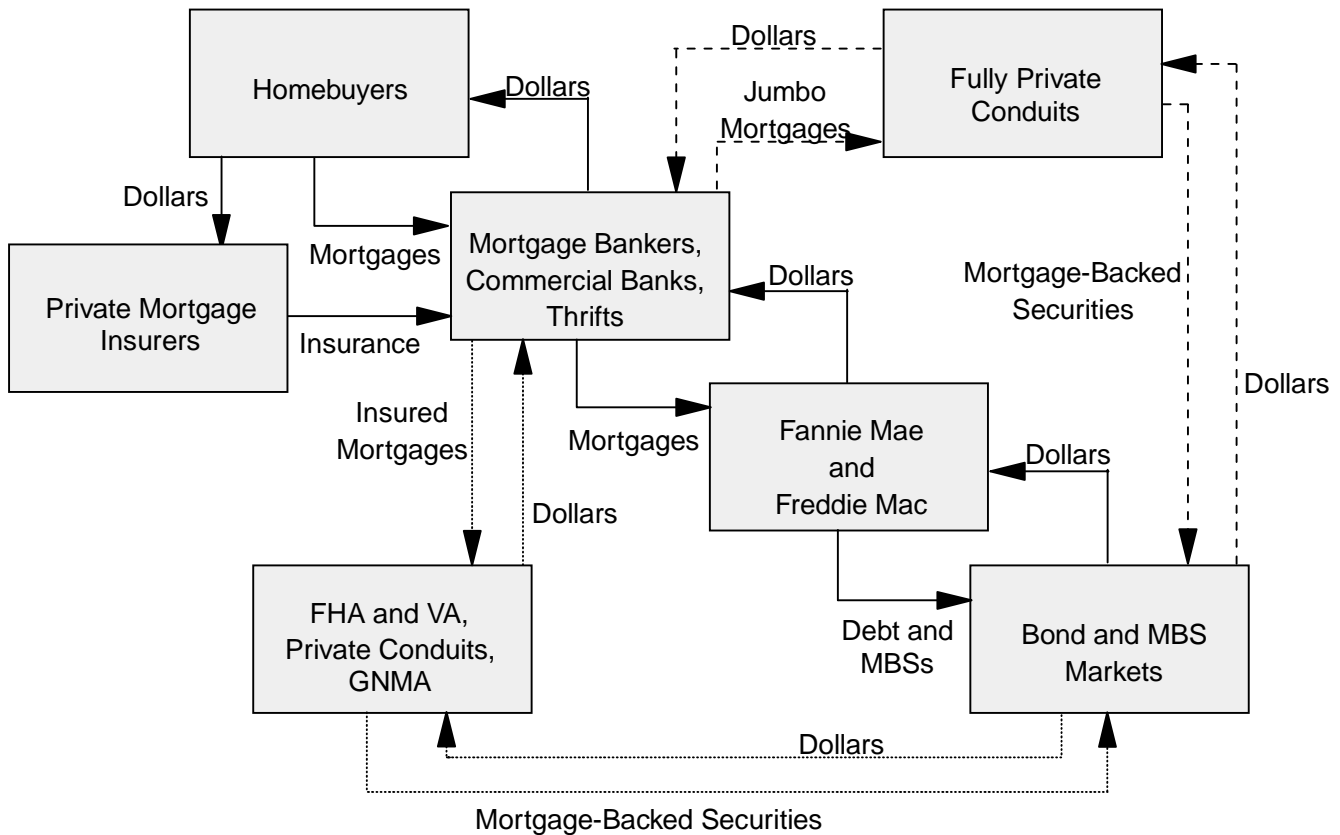
7. The conforming-loan ceiling has risen much faster than the price of a constant-quality new house. More than 90 percent of all single-family mortgages are now below the conforming-loan limit. For a discussion of the significance of the high ceiling, see Patric Hendershott and James Shilling, "Reforming Conforming Loan Limits: The Impact on Thrift Earnings and Taxpayer Outlays," *Journal of Financial Service Research*, vol. 3, no. 4 (December 1989), pp. 311-331.

8. For most regions, the FHA ceiling is 38 percent of the Freddie Mac ceiling, which is currently \$207,000. In high-cost regions, the FHA can insure mortgages that are 75 percent of the Freddie Mac ceiling. For Alaska, Hawaii, Guam, and the Virgin Islands, the FHA ceiling is 1.5 times its high-cost limit.

9. Segmentation of the actual market, however, is less clear cut than the dollar demarcations suggest. See John C. Weicher, "The New Structure of the Housing Finance System," *Review*, Federal Reserve Bank of St. Louis, vol. 76, no. 4 (July-August 1994), p. 51.

10. For a detailed treatment of the size and structure of mortgage markets, see Benjamin Hermalin and Dwight Jaffee, "The Privatization of Fannie Mae and Freddie Mac: Implications for Mortgage Industry Structure," *HUD Studies* (May 1996), pp. 225-302; and Cotterman and Pearce, "The Effects of FNMA and FHLMC on Conventional Fixed-Rate Mortgage Yields," pp. 97-168.

Figure 1.
Links and Flows of Financing in the Mortgage Market



SOURCE: Congressional Budget Office.

NOTE: FHA = Federal Housing Administration; VA = Department of Veterans Affairs; GNMA = Government National Mortgage Association (Ginnie Mae); MBS = mortgage-backed security.

Alternative Funding Strategies and Risk

The housing GSEs have several methods of tapping into the capital markets for funds. They can either sell their own debt securities or they can issue mortgage-backed securities. Although both types of securities meet the objective of providing reliable links between financial markets, portfolio holdings financed with debt involve more risk than MBSs.

Funding Mortgages with Debt Securities

An intermediary that issues debt to finance a portfolio of mortgages has an opportunity to earn income from two sources. The first arises because interest rates in wholesale capital markets tend to be lower than in the retail mortgage markets. With free entry into the market, that intermarket difference tends to be close to the cost the intermediary incurs in moving the money between markets, including absorbing losses from mortgage defaults. The second source

of income comes from the chance to bear interest rate risk. One way to take that risk is to use debt with short maturity to purchase and hold long-term, 30-year, fixed-rate mortgages. Because short-term interest rates are ordinarily lower than long-term rates, that mismatch of maturities between assets and liabilities can provide the intermediary with an advantageous interest rate spread. Yet that mismatch of maturities exposes a lender to danger from a rise in short-term rates that could wipe out the favorable spread between the cost of money and the return on the holdings of long-term mortgages. A mortgage lender that issues long-term bonds to finance long-term mortgages is also taking an interest rate risk: that rates will fall. If mortgage rates drop, borrowers will prepay their mortgages, leaving the lender with no investment opportunity that will generate sufficient income to pay the interest on long-term debt.

Early on, Fannie Mae elected the risky-debt strategy.¹¹ It used debt securities with short maturities to fund purchases of long-term mortgages. Portfolio lenders can and do use risk-reduction strategies to control interest rate risk, but those strategies are costly and reduce expected earnings.

Funding with Mortgage-Backed Securities

By contrast, Freddie Mac's early funding strategy focused on the more limited gains from acting as an intermediary between local mortgage markets and the capital markets and from assuming the default risk on mortgages. In the process, Freddie Mac largely avoided debt financing. Its operating strategy was to acquire mortgages, bundle them into "pools," and then resell guaranteed claims on the mortgage pools to investors in the form of MBSs, which Freddie Mac calls "participation certificates." Those MBSs convey to an investor an undivided interest in the pool of mortgages and entitle the investor to receive a share of the cash flow of principal and interest from the

mortgages. Freddie Mac guarantees payments to MBS holders against default.

In a further wrinkle, rather than obtaining mortgages by cash purchase, Freddie Mac would often simply "swap" MBSs to the mortgage lender for the underlying mortgages.¹² Freddie Mac was able to generate earnings from the difference between the rate paid by the mortgage borrower and the rate paid to the MBS holder. Once the mortgage pools are formed and the MBSs sold, that spread--which Freddie Mac records as guarantee and management fees--is locked in against most changes in interest rates, but not changes in mortgage default rates.

The Downside of Interest Rate Risk

The rapid and sustained rise in interest rates that occurred in the late 1970s and 1980s vividly demonstrates the destructive potential of interest rate risk on debt-financed mortgage portfolios. Interest rates on mortgages for new single-family homes not guaranteed by a federal agency rose from an average of 9 percent in 1977 to 14.7 percent in 1982. As rates rose, Fannie Mae, with its heavy reliance on short-term debt financing, had to roll over its maturing debt at interest rates that were higher than the rates being earned on the existing portfolio of old mortgages.

As an indication of the magnitude of the increase in rates, the yield on new three-month Treasury bills rose from 5.25 percent to 14 percent. Further, as interest rates rose, borrowers were less likely to prepay their mortgages. The losses from Fannie Mae's negative interest spread between its old portfolio and its funding costs were compounded, therefore, by a lengthening in the effective maturity of its mortgage

11. For an institutional history of Fannie Mae and Freddie Mac, see Susan E. Woodward, "Policy Issues in the Privatization of FNMA and FHLMC" (paper presented at the Federal Home Loan Bank of San Francisco's Conference on Expanded Competitive Markets and the Thrift Industry, San Francisco, December 10 and 11, 1987).

12. A bank or other mortgage holder that swaps whole mortgages for mortgage-backed securities gives up some gross yield but in exchange avoids the credit risk of loss. In addition, the seller has acquired an asset that can be readily sold for cash and with significantly lower risk-based capital requirements. For a more complete discussion of this market, see Congressional Budget Office, *Controlling the Risks of Government-Sponsored Enterprises*; and John L. Goodman Jr. and S. Wayne Passmore, *Market Power and the Pricing of Mortgage Securitization*, Finance and Economics Discussion Series No. 187 (Federal Reserve Board, March 1992).

holdings.¹³ By the early 1980s, the market value of Fannie Mae's mortgages was \$10 billion less than its outstanding debt.¹⁴ By that measure, Fannie Mae was insolvent. Eventually interest rates declined, and Fannie Mae recovered.

After the early 1980s, Fannie Mae increased its use of MBSs at the same time that it expanded its portfolio lending. Today, both Fannie Mae and Freddie Mac use debt and MBS funding. In fact, they sometimes describe their two principal lines of business as portfolio investment (debt-financed holdings of mortgages and mortgage-related securities) and credit guarantees (MBSs). Portfolio lending (the original Fannie Mae strategy) has a profit margin that is four to five times higher than the MBS funding approach.¹⁵ Sustained high earnings from portfolio lending with modest amounts of interest rate risk have also been observed on a smaller scale at another GSE, the Federal Home Loan Banks.¹⁶

The degree of interest rate risk that a GSE takes is a management decision. Interest rate risk is important to the enterprises because, by varying the level of risk exposure, GSE management exercises considerable control over expected earnings. A prime factor determining potential interest rate risk is the extent to which the GSE engages in debt-financed portfolio lending rather than MBS funding. Within their portfolios, the GSEs may reduce interest rate risk by using such hedges as issues of long-term callable debt. Those issues enable the GSEs to lock in the interest cost of funding for the life of the debt, but they also give the GSEs an option to prepay their debt if market interest rates fall.

13. For a parallel treatment of the consequences for savings and loans and the Federal Savings and Loan Insurance Corporation, see Edward J. Kane, *The S&L Mess: How Did It Happen?* (Washington, D.C.: Urban Institute Press, 1989).

14. Department of Housing and Urban Development, *1986 Report to Congress on the Federal National Mortgage Association* (September 1987), p. 100.

15. Fannie Mae, *Offering Circular, 6.41% Non-Cumulative Preferred Stock, Series A* (February 27, 1996), p. B-34; and Bernstein Research, *Rate Risk and Fannie Mae: Growth at a Discount* (New York: Bernstein Research, December 1993), p. 12.

16. Congressional Budget Office, *The Federal Home Loan Banks in the Housing Finance System*, p. 27. This earlier CBO study described the high earnings rate on portfolio lending as "risk-controlled arbitrage."

Table 1.
Mortgage Portfolios and Mortgage-Backed Securities Outstanding for Fannie Mae and Freddie Mac, End of Year, 1991-1995
(In billions of dollars)

| | 1991 | 1992 | 1993 | 1994 | 1995 |
|---|--------------|--------------|--------------|--------------|--------------|
| Mortgage Portfolio | | | | | |
| Fannie Mae | 126.5 | 156.0 | 189.9 | 220.5 | 252.6 |
| Freddie Mac | <u>27.1</u> | <u>33.9</u> | <u>55.7</u> | <u>72.8</u> | <u>107.4</u> |
| Total | 153.5 | 189.9 | 245.6 | 293.3 | 360.0 |
| MBSs Outstanding | | | | | |
| Fannie Mae | 355.3 | 424.4 | 471.3 | 486.3 | 513.2 |
| Freddie Mac | <u>359.2</u> | <u>407.5</u> | <u>439.0</u> | <u>460.7</u> | <u>459.0</u> |
| Total | 714.4 | 832.0 | 910.3 | 947.0 | 972.3 |
| Mortgage Portfolio as a Percentage of MBSs Outstanding | | | | | |
| Fannie Mae | 36 | 37 | 40 | 45 | 49 |
| Freddie Mac | 7 | 8 | 13 | 16 | 23 |
| Total | 21 | 23 | 27 | 31 | 37 |

SOURCE: Congressional Budget Office.

NOTE: MBSs = mortgage-backed securities.

Both Fannie Mae and Freddie Mac also make use of short sales of Treasury securities, currency and interest rate swaps, and derivatives such as "inverse floaters" to control interest rate risk.¹⁷ By using those mortgage and nonmortgage derivative securities, management gains the ability to increase or decrease its interest rate exposure, consistent with its objectives for earnings. Derivatives also make the assessment of total risk exposure more complex for both management and the government.

17. Inverse floaters are variable-rate securities on which the interest rate paid moves in the opposite direction of the rate on an underlying security. For example, the rate paid on the inverse floater might be 15 percent minus the current rate on a long-term Treasury bond.

Table 2.
Ratio of Net Income to Average Common Equity
at Fannie Mae and Freddie Mac, 1991-1995
(In percent)

| | 1991 | 1992 | 1993 | 1994 | 1995 |
|-------------|------|------|------|------|------|
| Fannie Mae | 28 | 27 | 25 | 24 | 21 |
| Freddie Mac | 24 | 20 | 20 | 21 | 20 |

SOURCE: Congressional Budget Office.

Recent Funding Strategies

As shown in Table 1, the GSEs have been increasing the proportion of their business made up of debt-financed portfolio investment for the past five years. In doing so, they have expanded their scope for adjusting the level of interest risk assumed. That step is especially true of Fannie Mae whose mortgage portfolio is now half the size of its outstanding MBSs. In fact, in its 1995 annual report, Fannie Mae described its "primary business activity" as "mortgage portfolio investment" and its "second business" as MBSs. Freddie Mac's portfolio, though increasing, is only about one-fourth the size of its outstanding MBS volume. In 1995, when single-family mortgage originations declined 15 percent, the GSEs were able to offset most of that threat to their earnings performance by accelerating the growth of their portfolios.¹⁸ Through such operating adjustments, the housing GSEs have been able to mute the tendency--usually observed in competitive markets using mature technologies--for rates of earnings to decline (see Tables 2 and 3).

The Necessity of Congressional Oversight

The government-sponsored enterprises create two oversight and control necessities for the Congress.

18. "Fannie Mae and Freddie Mac Rapidly Becoming Major Investment Force in Their Own Securities," *Inside Mortgage Securities* (March 1, 1996), p. 8.

The first is to avoid the financial failure of a GSE, and the second--consistent with the first--is to maximize public benefits from the GSEs at minimum public cost.

Avoiding Failure

The financial markets are persuaded that the government stands behind the obligations of Fannie Mae and Freddie Mac. The markets take as evidence the special privileges the government grants to the GSEs, as well as other actions that federal officials have taken during times of financial stress at the housing GSEs. GSE status therefore confers an "implied" federal guarantee, which if honored on the financial collapse of a GSE could be extremely costly but if dishonored under those circumstances could produce a secondary financial shock wave. Thus, at a minimum, the government needs to monitor the behavior of the GSEs to ensure that the financial risks they assume are limited. The purpose of establishing the Office of Federal Housing Enterprise Oversight in the Housing and Community Development Act of 1992 was to offer some comfort on that score by applying risk-based capital requirements to the govern-

Table 3.
Rates of Return on Equity for Freddie Mac,
Fannie Mae, and Alternative Investments,
1990-1995 (In percent)

| | Average Annual Rate of Return |
|------------------------------|-------------------------------|
| Freddie Mac | 40.3 |
| Fannie Mae | 31.6 |
| Dow Jones Banks | 30.0 |
| Standard & Poor's Financials | 24.0 |
| Dow Jones Savings & Loans | 18.6 |

SOURCE: Congressional Budget Office based on data from Fannie Mae and Freddie Mac.

NOTE: Rates are for equity invested between December 31, 1990, and December 31, 1995, assuming reinvestment of dividends.

ment-sponsored enterprises, as well as subjecting them to frequent examinations and--where necessary--corrective action.

Maximizing Benefits and Minimizing Costs

Although catastrophic events can cause dramatic and highly publicized losses, equally large losses can be incurred gradually and less obviously from policies that tolerate relatively small but annually recurring losses. The special privileges afforded to the GSEs under federal law convey substantial economic value to the enterprises. That transfer of economic resources is at the expense of taxpayers. For a policy to promote public welfare, its cost must be less than the resulting benefits. Changes in economic conditions and technology can affect both the costs and benefits of a policy. Policies that were once efficient do not always remain so. Periodically reviewing and evaluating policy toward the GSEs, therefore, is necessary to ensure that federal costs and federal benefits are more favorable under current policy than under alternative policies. Otherwise, the government's annual losses of value could climb to equal a large one-time loss.

Two Difficulties in Measuring GSE Costs and Benefits

The benchmark for a cost-benefit analysis of privatization is the cost-benefit ratio of current policy.

Two factors make calculating costs and benefits for current policy anything but easy.

The first factor is that, although GSEs receive subsidies from the federal government, those benefits are in unpriced services rather than cash payments. Instead of attempting to measure the cost to the government of all those privileges and exemptions directly, this report measures their principal cost by what the housing GSEs and others would be willing to pay for those benefits, the largest of which is the government's credit enhancement of the GSEs.

A second factor that compounds the difficulty of measuring costs and benefits is that the housing GSEs, which are the source of most of the relevant information, are not disinterested parties. The GSEs as recipients of federal subsidies and as the bearers of fiduciary responsibility to shareholders prefer that reported measures of public subsidy costs be small and that public benefits be perceived as large. In fact, the housing GSEs regularly claim that they operate at "no cost" to the government but provide billions of dollars of benefits to home buyers, community development organizations, and the public at large.

This report explores the relationship between the government and the GSEs in terms of principal and agent, an arrangement that has been the subject of extensive research. When applied to Fannie Mae and Freddie Mac, a principal/agent analysis reveals an inconsistency between the incentives facing the management of the housing GSEs and the interests of taxpayers.

The Federal Costs of Fannie Mae and Freddie Mac

The housing government-sponsored enterprises are able to claim that they impose no cost on taxpayers only because the subsidies they receive--so far, at least--are in noncash benefits rather than cash. Actual costs of the GSEs to the government, however, are no less real than if the Federal National Mortgage Association and the Federal Home Loan Mortgage Corporation were granted free use of federal buildings, land, and personnel. If sold competitively, the benefits the federal government provides to the housing GSEs would command billions of dollars. That forgone annual income is the cost of the housing GSEs to taxpayers and the government. When the housing GSEs do indeed acknowledge receiving benefits, they suggest that the services they provide to the government and to the public are of at least equal value.

What Does GSE Status Mean?

To refer to Fannie Mae and Freddie Mac as government sponsored gives only a hint of the extent of the relationship between government and these privately owned corporations. A more complete description lists all of the features of federal law and regulation that constitute GSE status. The list usually begins by noting that federal (rather than state) law charters the enterprises and it continues with a variety of other features (see Box 1).

The totality of the defining characteristics of GSE status, however, constitutes a benefit not expressed or referred to in any provision of law. That benefit consists of a strong implication from the federal government to investors that GSE obligations are safe from the risk of default. That assurance is conveyed by frequent parallel treatment of GSEs and federal entities in law and the contrasting treatment of GSEs with fully private entities. As shown in Box 1, numerous instances occur in which federal law treats the risk of GSE securities as no greater than that of risk-free U.S. Treasury securities. Issues of Fannie Mae and Freddie Mac share several characteristics of Treasury debt: they are approved by the Treasury, paid by and eligible for purchase by the Federal Reserve, equivalent to federal debt under the Securities Exchange Act of 1934, and suitable collateral for protecting the government's own money. Of equal importance, in common with Treasury securities, GSE securities are exempt from disclosures of risk required by the Securities and Exchange Commission (SEC) and from restrictions on holdings by entities whose liabilities the federal government explicitly guarantees. Those provisions endow GSE securities with the appearance of being significantly safer than the intrinsic credit quality of the GSE would ordinarily warrant.

Short of placing an explicit guarantee on the securities of the housing GSEs, the law could hardly be more clear: the government's financial interests in the safety of Fannie Mae and Freddie Mac ensure

Box 1.
Some Characteristics of Government-Sponsored Enterprises

The implicit federal guarantee of securities issued by government-sponsored enterprises (GSEs) is based on numerous explicit provisions of law that cause the financial markets to treat GSE debt and mortgage-backed securities as if they were issued by a federal agency.

For GSE securities (and U.S. Treasury securities but not issues of fully private entities):

- The Secretary of the Treasury approves issues.
- The Federal Reserve is the fiscal agent.
- They are eligible for Federal Reserve open-market purchases.
- They are government securities for purposes of the Securities Exchange Act of 1934.
- They serve as eligible collateral for Federal Reserve Bank discount loans.
- They are eligible to collateralize Treasury tax and loan accounts.
- They are exempt from registering under the Securities Act of 1933.
- They are eligible for unlimited investment by national banks and state bank members of the Federal Reserve.
- They are eligible for unlimited investment by federally insured thrifts.
- Bank risk-based capital requirements for agency securities are less than half the requirements for private mortgage-backed securities.

For GSEs (and federal agencies but not fully private entities):

- Earnings are exempt from state and local income tax.
- Funding from the U.S. Treasury is conditionally available (a \$2.5 billion line of credit for each housing GSE).

For GSEs (and fully private entities whose liabilities are insured by the federal government):

- A legislated regulator of capital adequacy exists to ensure safety and soundness.
- All gains accrue to shareholders.

that their obligations are safe from the risk of default. Although the federal guarantee is only implicit, the financial markets grant "agency status" to the securities issued by GSEs on the basis of those statutory provisions, as though the enterprises were part of the federal government.

That federal seal of approval is immensely valuable to the housing GSEs. It provides Fannie Mae and Freddie Mac with savings through a reduced cost of funding that is not available to any fully private firm. On debt issued by the two agencies to fund their portfolio holdings of mortgage and mortgage-backed assets, interest rates are lower than on obligations issued by fully private firms whose financial condition is stronger than that of the housing GSEs. On mortgage-backed securities issued by the GSEs, agency status permits Fannie Mae and Freddie Mac to sell securities regarded as being of the highest quality by simply declaring the securities "guaranteed," without incurring the expense of putting in

place the credit enhancements--such as subordinated securities, third-party insurance, or reserve guarantee funds--that are required of fully private intermediaries if their MBSs are to be rated Aaa or Aa.¹

The Credit Enhancement of Government-Sponsored Enterprises

The agency status of Fannie Mae's and Freddie Mac's obligations transforms the market's view of

1. Private credit-rating agencies evaluate the risk of default on debt and mortgage-backed securities and assign letter grades to each issue. The highest rating is Aaa, the next highest is Aa, and so on down to C. For a discussion of the rating process, see Congressional Budget Office, *Controlling the Risks of Government-Sponsored Enterprises* (April 1991), pp. 50-52.

the credit quality of the housing GSEs and vaults their securities from a rating of A or Aa based on their intrinsic financial condition to super Aaa because the risk of default is seen to be lower than on even the highest-rated fully private securities.² That transformation suggests that the financial equivalent of GSE status is the difference between the financial strength of an A- or Aa-rated firm and that of super Aaa.

The ability of a firm to meet its financial obligations is measured primarily by the excess of the value of its assets over its liabilities or by its equity position. That measure is a key one because it indicates the margin by which the resources the firm commands exceed those it owes. A firm with liabilities equal to 97 percent of its assets has only a 3 percent cushion of value to protect its creditors, whereas a firm with liabilities equal to 94 percent of assets offers an equity buffer that is twice as large. For fully private firms, a higher ratio of equity to liabilities means--all other factors being equal--a higher credit rating and a lower cost of borrowing. Equity, therefore, can mean the difference between a lower credit rating and a higher one.

Granting GSE status can be thought of as equivalent to giving an asset and an equal increase in the equity of the enterprise, which significantly enhances its credit quality. But such an infusion of assets and equity is remarkably different from what a fully private firm obtains from selling additional stock to the investing public.

It differs in a number of ways. First, the infusion is large. After the taxpayer equity is added, a GSE has more capital than any fully private firm would pay to acquire or find cost-effective. Second, the government's commitment as a provider of equity is potentially open ended. Assume that a GSE grows, takes on more risk, or reduces the amount of equity that private shareholders have invested (for example, by repurchasing its own stock). If so, the government is effectively committed to providing additional

amounts of capital to ensure that the enterprise retains its super Aaa rating. In that sense, taxpayers do not enjoy the "limited liability" granted to private investors. In financial terms, that open-ended commitment means that the government has given the GSE an option to sell additional amounts of stock to the government. The safety and soundness regulation of a GSE can be interpreted as an attempt to limit the government's transfer of equity to the enterprise. Third, the equity does not require the user to compensate the provider (in the case of GSEs, the provider is the government). Instead, all after-tax earnings and increases in the value of the enterprise, including those attributed to the government's equity, accrue to the private shareholders. And fourth, the value of the equity conveyed to the GSE does not appear in the accounts of the government or the enterprise.

Annual Costs of the GSEs

Each year taxpayers provide the GSEs with the benefits of enhanced credit standing. Even though taxpayers have not laid out any money for those benefits, enhancing the GSEs' credit standing is costly to taxpayers because--instead of providing it free--the government could sell the right to share its credit standing. With the receipts from such a sale, the government could increase spending for any public purpose or reduce taxes. The annual cost to taxpayers thus depends on how much the use of the government's credit standing is worth to the GSEs and their potential competitors. That value can be measured in several ways. One is to look at the change in the market value of a GSE caused by the transfer of government equity to (or withdrawal of it from) the GSE each year. Another is to measure the annual flow of returns that taxpayers could have received on their equity if placed with terms of comparable risk.

Measuring the equity provided by the government has the advantage that it recognizes the full cost when the capital is transferred. By contrast, the flow of forgone returns smooths the cost of the equity transfer over many years. In fact, as explained in Box 2, the amount and direction of the transfer of equity can vary sharply over time.

2. Super Aaa is not a grade assigned by the credit-rating agencies. It is used here to indicate that the market regards GSE securities as lower in risk than those issued by the highest-rated fully private firms. Aaa-rated issues have a small but positive expected default rate. See Congressional Budget Office, *Controlling the Risks of Government-Sponsored Enterprises*, p. 65.

Box 2.
**Variation in the Value
of Credit Enhancement**

Suppose you have a trusted friend who is a talented and accomplished player of games involving probability and chance. In fact, on average, her winnings exceed her losses. To enhance her ability to obtain credit while playing, you guarantee a casino that she will be able to pay off all her losing bets. At any time during play, the value of your credit enhancement and your exposure to loss increases as her wagers become larger and more risky and as the money (equity) she has on the table to absorb losses without invoking your guarantee declines. Similarly, the periodic change in the value of your guarantee will be determined by changes in her wagering strategy, which she adjusts in response to the overall outcome of previous plays. Hence, you provide a valuable benefit to your friend, and one that others would pay for, even if her losses do not require you to make a payment. That situation parallels the government's credit enhancement for Fannie Mae and Freddie Mac.

If the government was starting a new GSE today, the transfer of equity would probably be the preferred measure of annual cost because it recognizes the full cost of the capital when it is transferred to the GSE. But the government is not creating a new GSE. The sponsored enterprises have already received unrecognized infusions of taxpayer equity. For those past transfers, the current annual cost is the forgone taxpayer return. For new transfers of equity, the current annual cost is the full amount of the equity transferred in the current period. An earlier study of the annual cost of the housing GSEs, therefore, defined the government's cost as the sum of the annual change in the value of the government's equity plus the forgone return on equity provided in earlier periods.³ That study estimated that in 1979, for example, the government provided \$3.7 billion in equity to

3. Edward J. Kane and Chester Foster, "Valuing and Eliminating Subsidies Associated with Conjectural Government Guarantees of FNMA Liabilities" (research report prepared for the Department of Housing and Urban Development, August 30, 1985).

Fannie Mae and gave up \$300 million in earnings on pre-1979 equity, thus providing \$4 billion in value.

Estimated Federal Equity

Although the value of the government's equity position is not recognized on the books of either the government or the GSEs, shareholders in the financial markets recognize and value it. Hence, estimates of the value of credit enhancement to the shareholders can be obtained by calculating the difference between the market value and the balance-sheet value of the enterprises.

The accounting "fair value" of a firm is the market value of on-book assets minus the market value of on-book liabilities. That value is reported in the annual reports of the housing GSEs beginning in 1992. The contrasting market value of the firm is the number of common shares outstanding multiplied by the stock price on the day for which the accounting fair value is calculated (see Table 4 for both of those

Table 4.
Market and Balance-Sheet Values of Fannie Mae and Freddie Mac, End of Year, 1992-1995
(In billions of dollars)

| | 1992 | 1993 | 1994 | 1995 |
|-----------------------------------|------|------|------|------|
| Fannie Mae | | | | |
| Market Value | 20.9 | 21.4 | 19.9 | 33.8 |
| Balance-Sheet Value | 9.1 | 9.1 | 10.9 | 11.0 |
| Difference | 11.8 | 12.3 | 9.0 | 22.8 |
| Freddie Mac | | | | |
| Market Value | 8.7 | 9.0 | 9.1 | 14.9 |
| Balance-Sheet Value | 5.0 | 5.2 | 6.3 | 8.4 |
| Difference | 3.7 | 3.8 | 2.8 | 6.5 |
| Fannie Mae and Freddie Mac | | | | |
| Market Value | 29.6 | 30.4 | 29.0 | 48.7 |
| Balance-Sheet Value | 14.1 | 14.3 | 17.2 | 19.4 |
| Difference | 15.5 | 16.1 | 11.8 | 29.3 |

SOURCE: Congressional Budget Office.

values for Fannie Mae and Freddie Mac along with their difference). The market value of both Fannie Mae and Freddie Mac is a multiple of the value that would be expected from their on-book assets and liabilities alone. The difference is especially large for Fannie Mae, whose market value is more than three times the "fair market" accounting value. If all of the difference is the result of the unbooked value of federal credit enhancement, taxpayer equity in the two GSEs is now nearly \$30 billion, with over 75 percent of that going to Fannie Mae.

However, the precise extent to which federal credit enhancement contributes to the excess of market value over accounting value for Fannie Mae and Freddie Mac is not known. But it is known to have considerable value. For example, it permits the GSEs to borrow in the capital markets at lower interest rates than are available to commercial banks, even though the GSEs have less than half the capital required for banks.⁴ Nevertheless, other unbooked assets and liabilities affect the difference between market and accounting values.⁵ Most non-GSE firms have a market value that exceeds their "book value" (which does not adjust booked items for market value as the fair value measure does). Only a few fully private firms with high ratios of market to book value are comparable in size to the GSEs. For example, a search of a commercial database containing 1,613 financial services, real estate, and insurance firms found 298 firms with a market-value-to-book-value ratio of 2 to 1 or more on April 12, 1996. Most of those firms were small, however. Only 30 also had a market value of \$4 billion or more. Finally, only 12 of the 30--including Fannie Mae and Freddie Mac--had market-to-book-value ratios greater than 2 to 1 for the previous three years. For Fannie Mae and Freddie Mac, the market-to-book-value ratio now exceeds 3 to 1.

The change in the value of the credit enhancement determines the flow of taxpayer equity between the government and the GSE, and is one component of annual taxpayer cost. If the value of other unbooked assets and liabilities changes slowly, then most changes in the difference between market value and accounting value are likely to stem from changes in the market value of federal credit enhancement. The difference between market and balance-sheet value for both GSEs combined rose \$600 million from 1992 to 1993, then fell \$4.3 billion in the next year before surging \$17.5 billion in 1995. Even after adjusting for the robust increase in the value of the entire stock market in 1995, the market is indicating a sharp rise in the net value of unbooked items for Fannie Mae and Freddie Mac in the last year.

The value of a portfolio of all traded stocks increased about 35 percent in 1995. Previous studies have found that a 1 percent change in the overall market is accompanied by a 1.3 percent change in the same direction in Fannie Mae and Freddie Mac stock.⁶ Given that relationship, the housing GSEs would have been expected to go up about 45 percent in 1995. In fact, the value of Fannie Mae stock rose 70 percent and Freddie Mac stock 65 percent.

The difference between market and accounting value in 1995 is probably the largest ever for the housing enterprises. The highest estimated difference in value before that was \$11.3 billion for Fannie Mae, which occurred in 1981 when the market value of the GSE was \$500 million whereas its balance-sheet value was negative \$10.8 billion.⁷ That market value indicates that although Fannie Mae was insolvent on the basis of the fair market value of booked assets and liabilities, the value of an unrecognized asset--the federal government's credit enhancement is an obvious candidate--made the firm solvent. Over the 1978-1985 period, the value of the credit enhancement averaged 9 percent of the face value of Fannie Mae's mortgage portfolio. If that value is extrapolated to 1995, the value of the government's equity position would be about \$32 billion, or \$3 billion

4. Panos Kostas, "Government-Sponsored Enterprises: Their Role as Conduits of Credit and as Competitors of Banking Institutions," *Banking Review*, Federal Deposit Insurance Corporation, vol. 8, no. 2 (Spring 1995), pp. 13-24.

5. An example of an unbooked asset is the relationships the housing GSEs have established with lenders in the primary mortgage market. An example of an unbooked liability is the difference between the accounting provision for credit losses and the actual expected credit losses.

6. Vassillis Lekkas and Robert Van Order, "Taking Stock: Applying Financial Theory to Freddie Mac and Fannie Mae Stock," *Secondary Mortgage Markets* (Fall 1991), pp. 24-27.

7. Kane and Foster, "Valuing and Eliminating Subsidies."

more than the difference between the market and accounting value of \$29.3 billion.

Forgone Return on Equity

The second component of the annual cost to the taxpayers is the return that they would have received from other firms for the use of equity capital. (This component applies only to the taxpayers' equity balance at the beginning of the period for which cost is being calculated--that is, on December 31, 1992.) That return is approximated for firms whose risk is comparable to that of Fannie Mae and Freddie Mac by the average annual rate of return earned by GSE shareholders from dividends and stock appreciation over the period from year-end 1992 to year-end 1995. Taxpayer equity at the end of 1992--measured as the difference between market value and fair market value--was \$15.5 billion. The weighted average return to shareholders of the housing GSEs was 20.6 percent for the 1993-1995 period. Thus, taxpayers would have received an average of more than \$3 billion annually in returns on their pre-1993 equity over the three years.

The total annual cost to taxpayers--the sum of the change in government equity (measured by changes in the difference between market and accounting value) and the forgone return--has ranged from negative \$1.1 billion in 1994 to \$20.7 billion in 1995 (see Table 5). The three-year average annual cost is \$7.8 billion by that measure.

That measure is not biased upward by the assumption that the entire difference between market and accounting value results from the government's credit enhancement. Although other unbooked assets push market value above accounting value, unbooked liabilities have the opposite effect. In fact, without the infusion of federal equity, the housing GSEs could have a market value that is less than accounting value by an excess of unbooked liabilities over unbooked assets. Note also that the cost measure attributes all of the 1994 decline in the net value of unbooked items to a fall in government equity even though changes in the value of other unbooked items could have caused the decline.

Table 5.
Estimated Annual Cost to the Federal Government of Fannie Mae and Freddie Mac, 1993-1995 (In billions of dollars)

| | 1993 | 1994 | 1995 |
|-----------------------------------|------------|------------|------------|
| Fannie Mae | | | |
| Change in Federal Equity | 0.5 | -3.3 | 13.8 |
| Forgone Return | <u>2.4</u> | <u>2.4</u> | <u>2.4</u> |
| Total | 2.9 | -0.9 | 16.2 |
| Freddie Mac | | | |
| Change in Federal Equity | 0.1 | -1.0 | 3.7 |
| Forgone Return | <u>0.8</u> | <u>0.8</u> | <u>0.8</u> |
| Total | 0.9 | -0.2 | 4.5 |
| Fannie Mae and Freddie Mac | | | |
| Change in Federal Equity | 0.6 | -4.3 | 17.5 |
| Forgone Return | <u>3.2</u> | <u>3.2</u> | <u>3.2</u> |
| Total | 3.8 | -1.1 | 20.7 |

SOURCE: Congressional Budget Office.

Thus, the amount of the federal credit enhancement might be larger than the difference between market and book value. Indeed, an extrapolation from an earlier estimate suggests that the federal equity position is \$3 billion more than the difference. If so, \$7.8 billion is an underestimate of the average annual cost to the government. Nor is there much consolation in finding that a handful of large, fully private financial firms have a ratio of market to book value in excess of 3 to 1. GSE status is so integral to the financial performance of Fannie Mae and Freddie Mac that no one could assert with any confidence that those enterprises would be among the elite of financial firms if they were fully private.

Estimating the Annual Funding Savings to the GSEs

Measuring the cost of GSEs to the government is a difficult task in part because the government gives

the GSEs nonpriced benefits rather than cash payments. It is useful, therefore, to develop estimates from more than one perspective if possible. Recent estimates of the reduced funding cost that sponsored status confers on the GSEs provide an independent measure of the government's cost. The logical link between the funding cost savings to the GSEs and the cost to the government is that those savings are what the GSEs and their potential competitors would pay for those benefits in a competitive sale.

To measure the estimated cost savings realized by Fannie Mae and Freddie Mac as a result of their GSE status requires using as a benchmark the costs they would face as fully private entities. Creating such a benchmark requires making a number of assumptions:

- o That without GSE status, securities issued by the two enterprises would have identical credit ratings of Aa (one or both might be rated A, unless management was willing to take steps to shore up the credit quality of the enterprises);
- o That the mix of callable and noncallable debt and MBSs issued by Fannie Mae and Freddie Mac is unaffected by GSE status; and
- o That the per-dollar funding subsidy for callable and noncallable debt is constant over the 1991-1995 period (that assumption is likely to be violated because the subsidy on debt varies with the riskiness of the enterprise, shareholder capital, and market conditions).

Those assumptions permit the funding subsidy on debt issues to be developed from the estimates for the 1991-1994 period, in which savings were 105 basis points on callable debt and 46 basis points on noncallable debt.⁸ For all debt funding, the weighted-average savings were about 70 basis points (see Table 6 for the calculated subsidy values for debt securities for both Fannie Mae and Freddie Mac).⁹ Dur-

8. A basis point is one-hundredth of a percentage point.

9. These calculations use the same funding savings rate for all debt regardless of maturity because comparable estimates are not available for maturities of one year or less. If the savings on debt of less than a year was only one-half (or one-fourth) of the savings rate on longer-term debt, the estimated cost savings on debt in 1995 for

Table 6.
Fannie Mae's and Freddie Mac's Cost Savings in Raising Funds, 1991-1995 (In billions of dollars)

| | 1991 | 1992 | 1993 | 1994 | 1995 |
|-----------------------------------|------------|------------|------------|------------|------------|
| Fannie Mae | | | | | |
| Debt Mortgage-Backed Securities | 0.8 | 1.0 | 1.3 | 1.6 | 1.9 |
| | <u>1.3</u> | <u>1.6</u> | <u>1.8</u> | <u>1.9</u> | <u>2.0</u> |
| Total | 2.1 | 2.6 | 3.1 | 3.5 | 3.9 |
| Freddie Mac | | | | | |
| Debt Mortgage-Backed Securities | 0.1 | 0.2 | 0.3 | 0.5 | 0.7 |
| | <u>1.4</u> | <u>1.5</u> | <u>1.7</u> | <u>1.8</u> | <u>1.8</u> |
| Total | 1.5 | 1.7 | 2.0 | 2.3 | 2.6 |
| Fannie Mae and Freddie Mac | | | | | |
| Debt Mortgage-Backed Securities | 0.9 | 1.2 | 1.6 | 2.1 | 2.6 |
| | <u>2.6</u> | <u>3.1</u> | <u>3.5</u> | <u>3.7</u> | <u>3.8</u> |
| Total | 3.6 | 4.3 | 5.1 | 5.8 | 6.5 |

SOURCE: Congressional Budget Office.

ing the 1991-1995 period, that component of the taxpayer subsidy to the housing GSEs rose from \$0.9 billion to \$2.6 billion per year.

For mortgage-backed securities, the cost savings from GSE status is 40 basis points based on a variety of estimates that place the yield on MBSs issued by GSEs at 25 to 60 basis points lower than the yield on the highest-rated fully private issues.¹⁰ That estimate

both GSEs would be about \$600 million (or \$920 million) lower than shown in Table 6. See footnote 17 on page 19, however.

10. Eric I. Hemel, "GSEs and Mortgage Finance," *U.S. Investment Research* (New York: Morgan Stanley, November 23, 1994), p. 3; John Goodman and Wayne Passmore, *Market Power and the Pricing of Mortgage Securitization*, Finance and Economics Discussion Series No. 187 (Federal Reserve Board, March 1992); Brent Ambrose and Arthur Warga, "Implications of Privatization: The Costs to FNMA and FHLMC," *HUD Studies* (May 1996), p. 194. See also Salomon Brothers, "The Mortgage Securities Market--First Quarter 1991 Review and Current Outlook," (April 15, 1991); and Michael Lea, *Housing and the Capital Markets*, Working Paper No. 8 (Cambridge, Mass.: MIT Housing Policy Project, 1988).

is approximate because of differences in structure between private MBSs and those issued by GSEs. For example, the two types of securities differ in the method of allocating credit risk between issuer and investor. In addition, as is also true for the debt subsidy rate, those spreads change with market conditions and--more recently--with the growing acceptance of private MBSs.¹¹

The estimated value of GSE status for cost savings on mortgage-backed securities is \$3.8 billion in 1995, a \$1.2 billion increase from 1991. Total cost savings on debt and MBSs combined from the GSE status now totals \$6.5 billion per year.

Benefits, Subsidies, and Value Added to the GSEs

GSE status clearly confers substantial funding benefits on Fannie Mae and Freddie Mac. Some observers have claimed, however, that not all of those benefits result from federal risk-bearing. Some of the benefits could stem from other features of government-sponsored status (for alternative ways of splitting up those federal benefits, see Box 3).

The housing enterprises have argued, however, that a portion of the benefit is the result of the superior liquidity that agency status gives to securities issued by the enterprises. In the view of the housing GSEs, the liquidity premium from GSE status is an added value in excess of the direct cost to taxpayers.¹² Accordingly, Fannie Mae and Freddie Mac believe that the cost of GSEs to the government should only include the expected outlays associated with the insolvency of the enterprise, which they believe is less than the cost savings in raising funds.

11. James Rothberg, Frank Nothaft, and Stuart Gabriel, "On the Determinant of Yield Spreads Between Mortgage Pass-Throughs and Treasury Securities," *Journal of Real Estate Finance and Economics*, vol. 2 (1989), pp. 301-315.

12. Benjamin Hermalin and Dwight Jaffee dismiss the claim that investor liquidity preference is a significant cause of lower interest rates on GSE securities. See Hermalin and Jaffee, "The Privatization of Fannie Mae and Freddie Mac: Implications for Mortgage Industry Structure," *HUD Studies* (May 1996), pp. 263, 273.

Box 3. Alternative Descriptions of the Benefits of GSE Status

The government's free grant of credit enhancement is one way of thinking about the meaning and value of the status of government-sponsored enterprise (GSE) to Fannie Mae and Freddie Mac. Under that approach, the implicit federal guarantee is treated as an asset that is not recognized on the books of the housing GSEs. The gift of that asset to the enterprises raises the total stock of their assets and increases their equity--or the difference between the value of their assets and liabilities. However, free credit enhancement and an equal addition to equity is only one of several ways of specifying the relationship between the government and the GSEs.

A more traditional characterization would be that GSE status conveys to the housing GSEs three separate assets: a contingent put option, a franchise to issue large amounts of near-Treasury debt, and a protected market (duopoly) for securitizing conventional conforming mortgages. The contingent put option, or conjectural guarantee as it is also called, is the right--subject to agreement by the Congress at the time of GSE insolvency--to convey the assets and liabilities of the enterprise to the federal government. The ability to issue debt that is a close substitute for Treasury securities is the right to issue "agency" debt. Moreover, potential competitors are excluded from the securitization market by the exclusive nature of the relationship that the GSEs have with the federal government. Following the traditional approach, each of those assets could be evaluated separately rather than as a single credit enhancement.

The choice among those alternative characterizations is a matter of analytic clarity and usefulness. For some purposes, the more traditional approach would be preferred. By its use of the concept of credit enhancement, the Congressional Budget Office does not suggest that those alternative characterizations are wrong or that they misstate the relationship between the government and the GSEs. Rather, the use of credit enhancement seems a simple way to convey the essence of that relationship.

If the benefits provided to the housing enterprises had no alternative uses, that narrow definition of cost would be sensible. But in fact potential competitors of the GSEs--not to mention Fannie Mae and Freddie Mac themselves--would willingly pay for the right to issue huge volumes of highly liquid, near-Treasury-quality securities. Awarding that right exclusively to the enterprises without charge has a cost. The cost is not having the financial resources that firms would pay to the government for that right. Under Fannie Mae and Freddie Mac's definition of costs, any value that the government might create through its guarantees has no cost to the government because that added value belongs to the housing GSEs.

The financial activities of Fannie Mae and Freddie Mac may also add value to the cost of inputs, but that value must be carefully delineated by source: government and the housing enterprises. The government's contribution of added value belongs to the government and society at large. When that value is transferred to the GSEs, it is a subsidy to the recipient and a cost to the government. By contrast, value added by the government-sponsored enterprises through their own efforts is not a subsidy and would still accrue to the firms if they were fully private. It is the government's contributed value that Fannie Mae and Freddie Mac are battling for in the privatization debate.

Consider a parallel case: the government's cost of giving away a \$1 bill. The direct cost to the government of the paper and ink required to produce a bill is less than 5 cents. But the recipient is willing to provide the government with goods and services worth a full dollar in exchange for the bill. In the terms used by Fannie Mae and Freddie Mac, the government has "created value" of more than 95 cents. The housing GSEs would then claim that the government's cost of giving away a \$1 bill is less than 5 cents because the rest is value added by the government's action. That restricted measure of cost understates the value that would be sacrificed by giving away dollar bills and hides a transfer of public resources to private entities. The free grant of GSE status to Fannie Mae and Freddie Mac has precisely the same effects.

Assessing the Estimates

In light of the number and variety of assumptions required to estimate the subsidies to the housing GSEs, estimates need to be corroborated whenever possible. Thus, the funding benefit to the GSEs, though smaller by about \$2 billion per year on average over the 1993-1995 period, is roughly consistent with the estimated cost of government equity. As stated above, the per-dollar subsidy on debt is significantly greater than the per-dollar subsidy on MBSs. That finding is consistent with the higher profitability of the portfolio noted earlier and management's decision to increase net mortgage portfolios--financed by debt--much faster than outstanding MBSs. During 1991 through 1995, the ratio of portfolio holdings to outstanding MBSs for both Fannie Mae and Freddie Mac increased from 21 percent to 37 percent. The estimated subsidy on callable debt is substantially larger than that for noncallable debt, which is consistent with the rapid increase in the use of callable debt by the GSEs. During the 1991-1994 period, Freddie Mac increased the percentage of long-term debt with features for call, or other downward rate adjustments, from 38 percent to 88 percent. For Fannie Mae, that percentage rose from 22 percent to 55 percent. For 1995, the percentages were 73 percent for Freddie Mac and 48 percent for Fannie Mae.

The debt estimates used in this study are consistent with the low end of the range of a previous estimate (70 to 154 basis points) and with a direct comparison of the Lehman Brothers Agency Bond Index with the Lehman Brothers Aa Bond Index for 1991 through 1994 (101 basis points).¹³ They are also consistent with independent estimates of the amount of subsidy passed through to home buyers and the

13. Kenneth Thygerson, "Federal Mortgage Credit Agencies and the Decline in Thrift Charter Value" (paper presented at the annual meeting of the American Real Estate and Urban Economics Association, December 1990). One reviewer of the commissioned papers (Lawrence White) uses a 55 to 60 basis-point spread on GSE and fully private debt issues, but then adds basis points for the GSE exemption from state and local income taxes, exemption from SEC registration fees, relief from the necessity to purchase pool insurance for MBS issues, and so forth. Also see Brent Ambrose and Arthur Warga, "Reply to Shilling," *HUD Studies* (May 1996), p. 223.

Table 7.
Estimated Differences in Rates Between Jumbo Loans and Conforming Loans,
by Lender, 1989-1993 (In percentage points)

| | California | | | Total for 11 States | | |
|------|------------|--------------------|-----------------------------|---------------------|--------------------|-----------------------------|
| | S&Ls | Mortgage Companies | S&Ls and Mortgage Companies | S&Ls | Mortgage Companies | S&Ls and Mortgage Companies |
| 1989 | -0.453 | -0.505 | -0.496 | -0.306 | -0.594 | -0.593 |
| 1990 | -0.342 | -0.354 | -0.358 | -0.350 | -0.361 | -0.377 |
| 1991 | -0.475 | -0.461 | -0.472 | -0.330 | -0.491 | -0.425 |
| 1992 | -0.174 | -0.380 | -0.322 | -0.210 | -0.302 | -0.297 |
| 1993 | -0.192 | -0.279 | -0.253 | -0.278 | -0.234 | -0.241 |

SOURCE: Robert Cotterman and James Pearce, "The Effects of FNMA and FHLMC on Conventional Fixed-Rate Mortgage Yields," *HUD Studies* (May 1996), p. 125, Table 6.

NOTE: S&Ls = savings and loan associations.

earnings performance of the housing GSEs, as well as with the current structure of the secondary market for conforming mortgages and the Housing and Community Development Act of 1992. Each of those consistencies is discussed below.

Consistency with the Subsidy Pass-Through and Earnings

With the cost advantage in funding that is not available to any fully private intermediary, the housing GSEs are able to offer higher prices for mortgages than their competitors. Those higher prices bid for mortgages push down interest rates paid by home buyers and forestall entry by potential competitors. Fannie Mae and Freddie Mac thereby pass through some of the funding subsidy to home buyers.¹⁴

A recent study estimates that the GSEs reduced interest rates on average by about 35 basis points during the 1989-1993 period.¹⁵ That amount is the estimated difference between interest rates on "jumbo" mortgages (those above \$207,000 currently) and con-

forming mortgages (\$207,000 or less) that Freddie Mac and Fannie Mae are eligible to purchase. The rationale for using the difference between jumbo and conforming rates as the measure of the subsidy pass-through is that the housing GSEs cannot participate in the jumbo market--which is served by fully private, competitive firms. The difference in rates between the two markets, therefore, approximates the amount by which GSEs are passing through the benefits of GSE status in lower mortgage interest rates.

According to Unicon Research, conforming rates were 15 to 60 basis points lower than jumbo rates for 30-year fixed-rate mortgages originated over the 1989-1993 period (for a representative sample of their estimates, see Table 7). In estimating that pass-through, the analysts controlled for ratios of mortgage loan to home value, loan size, and new versus existing homes. Unicon's results provide a wider range of estimates than had been found previously. However, the estimated spread diminishes over the period, with the smallest differences reported in the latest year.¹⁶ The decline in the estimated spread be-

14. Given the nature of the subsidy and the market, this partial pass-through is consistent with maximizing profits. See Hermalin and Jaffee, "The Privatization of Fannie Mae and Freddie Mac," pp. 282-289.

15. Robert Cotterman and James Pearce, "The Effects of FNMA and FHLMC on Conventional Fixed-Rate Mortgage Yields," *HUD Studies* (May 1996), pp. 97-168.

16. Previous estimates of the pass-through were 30 basis points in the 1986-1987 period and 10 to 23 basis points in 1987. See Patric Hendershott and James Shilling, "The Impact of the Agencies on Conventional Fixed-Rate Mortgage Yields," *Journal of Real Estate Finance and Economics*, vol. 2 (1989), pp. 101-115; and ICF Inc., *Effects of the Conforming Loan Limit on Mortgage Markets* (prepared for the Department of Housing and Urban Development, March 1990).

Table 8.
Estimated Gross and Retained Funding Subsidies for the Housing GSEs, 1995 (In billions of dollars)

| | Fannie Mae | Freddie Mac | Total |
|--|------------|-------------|---------|
| Gross Subsidy | | | |
| Average debt outstanding | 278.3 | 105.7 | 384.0 |
| Subsidy (70 or 68 basis points) ^a | 1.9 | 0.7 | 2.6 |
| Average MBSs outstanding | 494.7 | 450.5 | 945.2 |
| Subsidy (40 basis points) | 2.0 | 1.8 | 3.8 |
| Total funding subsidy | 3.9 | 2.6 | 6.5 |
| Subsidy Pass-Through | | | |
| Mortgages financed | 719.1 | 529.9 | 1,249.0 |
| Pass-through (35 basis points) | 2.5 | 1.9 | 4.4 |
| Funding Subsidy Retained (Total subsidy minus pass-through) | 1.4 | 0.7 | 2.1 |
| Net Income Before Taxes and Gift | 3.4 | 1.6 | 4.9 |
| Retained Subsidy (Percentage of net income before taxes and gift) | 41.1 | 44.9 | 42.3 |

SOURCE: Congressional Budget Office.

NOTE: MBSs = mortgage-backed securities.

a. The savings for 1995 were 70 basis points for Fannie Mae and 68 basis points for Freddie Mac.

tween jumbo and conforming mortgage rates coincides with the growth of activity by private conduits in the jumbo mortgage market and the increasing liquidity of that market. Those developments would tend to reduce the rate in the jumbo mortgage market and diminish the spread between jumbo and conforming mortgages.

The Unicon Research study also finds a discontinuity or "stacking" in the distribution of mortgages at the conforming ceiling. Specifically, the analysts find that the probability that a mortgage will be at or below the conforming limit is much greater than the probability that the mortgage will be just above the conforming limit. That finding confirms that a difference in interest rates exists and that borrowers adjust the size of their loan to take advantage of the lower rates available on conforming mortgages. Stacking appears to diminish with the fall in the esti-

mated spread between jumbo and conforming mortgages.

The interest rate savings accruing to the housing GSEs of \$6.5 billion in 1995 is consistent with the estimated 35 basis-point subsidy pass-through and with the two agencies' earnings performance. As shown in Table 8, 35 basis points on the \$1.2 trillion in mortgages funded in 1995 would have consumed \$4.4 billion.¹⁷ That amount leaves a difference of \$2.1 billion as retained by the housing GSEs, which

17. This estimate applies the same 35 basis-point subsidy pass-through rate to all mortgages purchased by the GSEs, including adjustable-rate, multifamily, intermediate-term, second, and government-insured home loans, because no comparable estimates of the pass-through on those mortgages are available. If the pass-through rate on those loans is only one-half (or one-fourth) of the pass-through on conventional, fixed-rate, conforming mortgages, the estimated pass-through for 1995 would be \$900 million (or \$1.3 billion) lower than shown in Table 8.

Box 4.
When Is a Benefit a Cost?

Fannie Mae and Freddie Mac have asserted that government-sponsored enterprise (GSE) status "adds value" in excess of the expected cost of the implicit guarantee to taxpayers. That is, they claim that the reduction in their annual funding cost is greater than the outlays that the federal government should expect to make in the event of a GSE insolvency. According to the enterprises, that added value amounts to a free benefit shared by Fannie Mae, Freddie Mac, and home buyers at no cost to taxpayers.

The Congressional Budget Office disagrees. If the federal government offered to sell the rights to save \$6.5 billion in annual funding costs, competition among financial intermediaries would drive the bid price to \$6.5 billion. (That calculation properly ignores federal income taxes because the amount paid for GSE status would be fully deductible in calculating net income.) That \$6.5 billion in federal receipts could be used for any public purpose. If the government wanted to reduce mortgage interest rates by 35 basis points, it could use \$4.4 billion to achieve that reduction. The remaining \$2.1 billion would be available to reduce mortgage interest rates further or for other purposes. Even if the entire \$6.5 billion is value added by the government, the grant of that benefit to the GSEs is a cost to the government.

could raise their return on book equity from 11 percent a year to 20 percent.

Some observers have suggested that Fannie Mae and Freddie Mac should be credited with reducing interest rates on all conforming, conventional, fixed-rate mortgages and not just those that they buy or securitize. Clearly, the willingness of the housing GSEs to buy conforming mortgages at posted prices has reduced rates on some mortgages held by others. That rate reduction, however, does not change the conclusion that Fannie Mae and Freddie Mac are retaining \$2 billion in benefits that they could use to reduce mortgage interest rates further if they chose to do so.

Fannie Mae has chided some analysts for failing to back up the claim that the housing GSEs overcharge home buyers with estimates of the extent of the overcharge--that is, the amount by which interest rates on conforming mortgages are higher than warranted by Fannie Mae's costs of funding.¹⁸ As Table 8 indicates, the GSEs use \$4.4 billion to reduce mortgage interest rates by 35 basis points. If they passed through the entire estimated subsidy to home buyers, interest rates on conforming mortgages would be about 50 basis points lower than rates on jumbo mortgages. By retaining a portion of the subsidy, the housing GSEs are charging home-buying families 15 basis points more than would be possible with complete pass-through. The enterprises have claimed, however, that the benefit to home buyers and to the GSEs is not a cost to taxpayers (see Box 4).

The estimated retained subsidy accounts for over 40 percent of the GSEs' pretax net income in 1995. Moreover, the significance of the retained subsidy to the earnings of the GSEs appears to be increasing over time (see Table 9). The housing GSEs are subject to federal income taxes. On an after-tax basis, the retained subsidy in 1995 is \$1.5 billion but accounts for the same share of after-tax income as pretax income. (The cost estimates shown in Table 9 are used as the estimated cost of the housing GSEs for the remainder of this report.)

Consistency with Market Structure

Estimates of the gross and passed-through subsidy are also roughly consistent with the observed features of the market for securitizing conforming mortgages. Specifically, because the government has given the subsidy exclusively to the housing GSEs, they have been able to maintain a duopoly for decades, despite sustained high earnings and the active presence of potential competitors--using the same technology--in the parallel market for jumbo mortgages. More precisely, either a large subsidy to Fannie Mae and

18. The Federal National Mortgage Association's review of Benjamin E. Hermalin and Dwight M. Jaffee, "The Privatization of Fannie Mae and Freddie Mac: Implications for Mortgage Industry Structure," *HUD Studies* (May 1996), p. 315, footnote 3, states: "Remarkably, they offer no estimate of how much they think prices exceed marginal costs."

Table 9.
Estimated Retained Funding Subsidy and Pretax Net Income, 1991-1995 (In billions of dollars)

| | 1991 | 1992 | 1993 | 1994 | 1995 |
|---------------------------------------|------|------|------|------|------|
| Fannie Mae | | | | | |
| Retained Subsidy | 0.5 | 0.7 | 1.0 | 1.2 | 1.4 |
| Net Income | 2.1 | 2.4 | 3.0 | 3.1 | 3.4 |
| Subsidy as a Percentage of Net Income | 25.8 | 31.1 | 33.0 | 38.6 | 41.1 |
| Freddie Mac | | | | | |
| Retained Subsidy | 0.2 | 0.3 | 0.4 | 0.5 | 0.7 |
| Net Income | 0.8 | 0.9 | 1.1 | 1.5 | 1.6 |
| Subsidy as a Percentage of Net Income | 29.5 | 30.5 | 32.1 | 36.1 | 44.9 |
| Fannie Mae and Freddie Mac | | | | | |
| Retained Subsidy | 0.8 | 1.0 | 1.4 | 1.7 | 2.1 |
| Net Income | 2.9 | 3.3 | 4.1 | 4.6 | 4.9 |
| Subsidy as a Percentage of Net Income | 26.8 | 31.0 | 32.8 | 37.8 | 42.3 |

SOURCE: Congressional Budget Office.

Freddie Mac has kept other firms out of the conforming market, or some unidentified competitive advantage of the GSEs has done so. But if the explanation is some factor other than the federal subsidy, Fannie Mae and Freddie Mac would not lose that advantage with privatization.

Other studies have found that the housing GSEs appear to be "tacitly colluding duopolists in the conforming segment of the conduit market."¹⁹ If one recognizes a mutual dependence of interests by the GSEs, along with the nature of the subsidy provided, and that Fannie Mae and Freddie Mac are profit seekers, those findings are consistent with estimates that some but not all of the subsidy is passed through to home buyers.

It is uncertain that the housing GSEs succeed in maximizing profits. But it appears that they have limited their expansion short of the level of lending that would be observed in a purely competitive market in which the subsidy was available to all competitors and all of the subsidy was passed through to borrowers.

Consistency with the 1992 Act

The Congress seemed aware of the nature, extensive size, and disposition of the GSE subsidy when it adopted the Housing and Community Development Act of 1992. Specifically, in light of the subsidy estimates, one can understand the rationale behind creating the Office of Federal Housing Enterprise Oversight (OFHEO) to regulate the levels of shareholder capital in the two enterprises. The new authority of the Secretary of Housing and Urban Development to establish affordable housing goals for Fannie Mae and Freddie Mac is also understandable in light of those subsidy estimates.²⁰

Establishing OFHEO, with its heavy emphasis on ensuring soundness by enforcing an adequate level of shareholder equity, appears intended to limit the ability of management to increase the risk exposure of taxpayers. OFHEO's mandate is to determine--by simulating the effects on the housing GSEs of two extreme stress scenarios--the levels of market shareholder equity that would be sufficient to absorb all losses so that even in those two cases taxpayers would not be called on to cover losses.

The experience of bank regulators in attempting to promote the safety and soundness of federally insured institutions with risk-based capital standards is not entirely encouraging.²¹ Risk takes so many forms

19. Hermalin and Jaffee, "The Privatization of Fannie Mae and Freddie Mac," pp. 227, 241-253. See also Goodman and Passmore, *Market Power and the Pricing of Mortgage Securitization*.

20. The policy of using the GSEs to increase affordable housing, however, conflicts with the government's intention that the enterprises operate safely, without risk of failure. See John C. Weicher, "The New Structure of the Housing Finance System," *Review*, Federal Reserve Bank of St. Louis, vol. 76 (July-August 1994), pp. 47-65.

21. "Bank Regulators Back Taking More Flexible Approaches to Risk," *American Banker* (February 26, 1996), p. 4; Steven Grenadier and Brian Hall, *Risk-Based Capital Standards and the Riskiness of Bank Portfolio: Credit and Risk Factors*, Working Paper No. 5178 (Cambridge, Mass: National Bureau of Economic Research, 1996).

that it may be impossible for a central authority to measure and monitor risk with sufficient precision to protect the taxpayers' interest. OFHEO believes, however, that its capital standards will represent a significant advance over the standards used by bank regulators.

The willingness of the Congress to impose presumably costly but affordable housing goals on Fannie Mae and Freddie Mac is also consistent with Congressional understanding that the GSEs are retaining some subsidy as surplus. The language of the statute speaks of "activities relating to mortgages on housing for low- and moderate-income families involving a *reasonable* economic return that may be *less than the return earned on other activities*" [emphasis added].²²

Sensitivity Analysis

Measuring the funding cost savings to Fannie Mae and Freddie Mac from GSE status is hampered by a scarcity of comparable securities issued by fully private entities. That problem, however, is not just a matter of bad luck. It is an inevitable consequence of sponsored enterprises. Only the implicit federal guarantee permits an intermediary to issue MBSs without the credit enhancements required of private issuers. Sponsored status also enables GSEs to issue callable debt that is regarded as free of the risk of default. That quality of credit makes those securities much easier to sell than callable debt offered by private firms. The lack of comparable private issues is part and parcel of the advantages of GSE status to the enterprises.

One cannot address satisfactorily the shortage of comparable agency and private securities by measuring spreads on the small number of comparable issues over a long period, since yield spreads between agency and private issues vary substantially over time. To take an extreme example, the funding cost advantage of Fannie Mae was probably in the neighborhood of 1,500 to 2,000 basis points in the early 1980s when the GSE was economically insolvent. Its

funding advantage is now much less than it was then, but small changes in market and enterprise conditions can also significantly affect the value of GSE status.

In commenting on a draft of this report, both Fannie Mae and Freddie Mac noted the limited number of comparable GSE and private securities. One of Fannie Mae's solutions was to ask dealers what they thought the spreads might be on comparable securities if they existed. Freddie Mac suggested using only noncallable debt in the comparisons, even though over 40 percent of Freddie Mac's debt maturing in 1997 and beyond is callable. The Congressional Budget Office prefers statistical analysis of the limited data. The estimated subsidies for debt that this report uses are based on an analysis that controls for many of the factors that affect spreads. It uses data for the shortest, most recent period of estimate (1991 through 1994). At least nine matched pairs of bonds were available for comparison in every month in the estimation period.

Nonetheless, a limited sample size means that the estimates of the cost advantage of funding vary widely around the true value. The small sample, however, does not mean that the estimates are biased. They may be too low; they may be too high. To test for the significance of bias, the funding cost subsidies are recalculated under four alternative sets of assumptions (see Table 10).

First, to allow for the possibility that both the MBS subsidy and pass-through rates are now lower than they were during the estimation period, those rates are reduced to 30 basis points and 25 basis points, respectively. The net effect of those two adjustments is to raise the retained subsidy as a share of net income from 42 percent in the base case for 1995 to 48 percent.

Second, to address the claim advanced by the GSEs that they pass through 100 percent of the funding subsidy on MBS issues, the MBS and pass-through rates are both set at 25 basis points. The retained subsidy declines to 38.6 percent of 1995 net income. That is a significant reduction from 42 percent, but the net income of the GSEs still depends heavily on the retained subsidy from debt-financed portfolio lending.

22. 12 U.S.C. 1716, 106 Stat. 3994.

Third, estimates of the debt subsidies are reduced by 10 basis points for Fannie Mae and Freddie Mac. That calculation reduces the retained subsidy as a share of net income by about 4 percentage points from the second alternative, but the retained subsidy

still makes up more than one-third of the net income of the housing GSEs. Fourth, it is necessary to assume that the GSEs pass through 50 basis points in lower mortgage interest rates in order to reduce the estimate of the retained subsidy to near zero in 1995.

Table 10.
Retained Subsidy as a Percentage of Pretax Net Income Under Alternate Assumptions, 1991-1995

| | 1991 | 1992 | 1993 | 1994 | 1995 |
|-----------------------------------|-------|-------|-------|-------|------|
| Fannie Mae | | | | | |
| Base Assumptions ^a | 25.8 | 31.1 | 33.0 | 38.6 | 41.1 |
| Alternate Assumptions | | | | | |
| MBS = 30, Pass-through = 25 | 31.4 | 36.6 | 38.1 | 44.5 | 47.7 |
| MBS = 25, Pass-through = 25 | 23.6 | 28.4 | 30.7 | 36.9 | 40.2 |
| Debt subsidy reduced 10 points | 19.6 | 24.8 | 26.9 | 31.3 | 32.8 |
| Pass-through = 50 points | -5.6 | -1.6 | 3.0 | 6.8 | 8.9 |
| Freddie Mac | | | | | |
| Base Assumptions ^a | 29.5 | 30.5 | 32.1 | 36.1 | 44.9 |
| Alternate Assumptions | | | | | |
| MBS = 30, Pass-through = 25 | 32.2 | 33.4 | 35.2 | 39.6 | 49.6 |
| MBS = 25, Pass-through = 25 | 11.1 | 12.3 | 16.6 | 24.5 | 35.2 |
| Debt subsidy reduced 10 points | 26.0 | 27.4 | 28.7 | 31.4 | 38.2 |
| Pass-through = 50 points | -37.9 | -37.2 | -28.5 | -14.6 | -5.3 |
| Fannie Mae and Freddie Mac | | | | | |
| Base Assumptions ^a | 26.8 | 31.0 | 32.8 | 37.8 | 42.3 |
| Alternate Assumptions | | | | | |
| MBS = 30, Pass-through = 25 | 31.6 | 35.7 | 37.4 | 43.0 | 48.3 |
| MBS = 25, Pass-through = 25 | 20.1 | 24.0 | 26.8 | 32.9 | 38.6 |
| Debt subsidy reduced 10 points | 21.4 | 25.5 | 27.4 | 31.3 | 34.5 |
| Pass-through = 50 points | -14.6 | -11.4 | -5.6 | -0.1 | 4.3 |

SOURCE: Congressional Budget Office.

NOTE: MBS = mortgage-backed security.

a. MBS subsidy of 40 basis points; subsidy pass-through of 35 basis points.

Table 11.
Benefits to Fannie Mae and Freddie Mac from State and Local Income Tax Exemption,
1991-1995 (In millions of dollars)

| | 1991 | 1992 | 1993 | 1994 | 1995 |
|--|---------|---------|---------|---------|---------|
| Fannie Mae | | | | | |
| Net Income Before Taxes | 2,081.0 | 2,382.0 | 3,005.0 | 3,146.0 | 2,995.0 |
| Benefit from D.C. Corporate Tax Exemption ^a | 207.5 | 237.6 | 299.7 | 313.8 | 298.8 |
| Freddie Mac | | | | | |
| Net Income Before Taxes | 800.0 | 901.0 | 1,128.0 | 1,482.0 | 1,586.0 |
| Benefit from Virginia Corporate Tax Exemption ^b | 48.0 | 54.1 | 67.7 | 88.9 | 95.2 |
| Fannie Mae and Freddie Mac | | | | | |
| Total Benefit from the Corporate Tax Exemption Before Federal Tax Effect | 255.5 | 291.7 | 367.4 | 402.7 | 394.0 |
| Total Benefit After Federal Tax Effect ^c | 166.1 | 189.6 | 238.8 | 261.8 | 262.6 |

SOURCE: Congressional Budget Office.

a. District of Columbia corporate income tax rate is 9.975 percent.

b. Virginia corporate tax rate is 6 percent.

c. State and local taxes are deductible from income in calculating federal income taxes.

Summing Up

Government-sponsored enterprises are costly to the government and taxpayers in that they receive a benefit for which others would pay a substantial sum. In addition, the GSEs are retaining a substantial share of that benefit for management and shareholders rather than passing it through to home buyers. That conclusion holds for a variety of estimating methods and assumptions. If one measures the costs of the GSEs as the annual change in the value of the government's credit enhancement and the annual return on previously invested capital, then the average annual cost to the government--though highly volatile--averaged \$7.8 billion per year during the 1993-1995 period. If measured as the estimated funding cost advantage that the GSEs receive, the benefit is currently worth \$6.5 billion annually.

The estimate of funding cost savings excludes the direct savings to the GSEs from the special provisions of law that confer agency status, such as the exemptions from state and local income taxes and from SEC registration fees. The income tax exemption alone provides a net benefit of more than \$250 million at current income levels (see Table 11). In addition, the General Accounting Office has estimated that the exemption by the Securities and Exchange Commission is worth more than \$100 million annually.²³ Thus, the \$6.5 billion annual value of the subsidy to the housing GSEs is a significant understatement of the cost to the government and taxpayers.

23. Letter from James L. Bothwell, Director, Financial Institutions and Market Issues, General Accounting Office, to Richard K. Armev, Majority Leader, U.S. House of Representatives, March 25, 1996.

The Public Benefits of the Housing GSEs

The housing government-sponsored enterprises claim that, consistent with their charters, they provide four general types of public benefits.¹ Those benefits are:

- o Reducing interest rates to home buyers;
- o Stabilizing mortgage (and residential real estate) markets;
- o Improving the technology of mortgage finance; and
- o Increasing home ownership by moderate- and low-income households and families in central cities, as well as in rural and underserved areas.

To evaluate those claims, one must apply several criteria, including:

- o *Money's Worth.* Is the service provided still worth paying for today, even if the answer was clearly in the affirmative 25 years ago? That question is especially important given the availability of financial services from fully private intermediaries, operating without a GSE subsidy.

1. Title XIII (Federal Housing Enterprises Financial Safety and Soundness Act of 1992), subtitle D, sec. 1381 and 1382 of the Housing and Community Development Act of 1992, amending 12 U.S.C. 1451 and 1716.

- o *Sustainability.* Is the provision of a service by a GSE sustainable if it requires the management of the GSE to compromise its responsibility to its shareholders or to impose losses on others?
- o *Institutional Capacity.* Are the housing GSEs structurally suited to provide the intended service? Or are other institutions able to provide the service effectively and efficiently?

Providing Lower Interest Rates to Home Buyers

The unbooked and unbudgeted subsidies that the government provides to the housing GSEs pay the lower interest rates that the GSEs deliver to home buyers. Those lower interest rates are rebranded with the Federal National Mortgage Association or the Federal Home Loan Mortgage Corporation logo before they reach the home buyer, but that does not change the role of taxpayers as the source of those benefits. Fannie Mae and Freddie Mac are just one of several delivery vehicles that the Congress could use to make that transfer to home buyers. In fact, using GSEs for that purpose fails the money's worth and sustainability tests.

Using a duopoly to provide a subsidy to home buyers does not give good value for the money.

Without vigorous competition, the intermediaries retain a significant portion of the subsidy rather than passing it through. If the subsidy was offered to all conduits willing to accept the restrictions that accompany those privileges, the housing GSEs would be forced to pass through the entire subsidy either to meet the competitive price for mortgages or to forestall entry by competitors. Through a competitive delivery system, the government could provide the current benefit and save the retained subsidy. Establishing a competitive secondary market for conventional conforming mortgages would also ensure that any realized profits were earned, not bestowed by government policy.

The current system also raises a significant sustainability issue. Fannie Mae and Freddie Mac have the impossible task of deciding to which group they are more responsible: their shareholders or home buyers (the intended beneficiaries of the subsidy).

Providing Market Stability

By integrating local mortgage markets with organized capital markets, the housing GSEs added stability to local mortgage lending. When the GSEs were established, that benefit may have been worth paying for.

Today, circumstances are vastly different. Securitizing mortgages is now "a routine financial transaction."² Numerous firms have mastered the technology of securitizing mortgages and are searching for profitable opportunities to apply that technology. Private conduits have replicated the integrating services of Fannie Mae and Freddie Mac. The supply of mortgage financing to local housing markets no longer depends on subsidizing the housing GSEs. Those GSEs accelerated the use of the technology

for securing mortgages to integrate mortgage and capital markets, but the continuing cost of federal sponsorship is difficult to justify today for a benefit that others are willing to provide without a subsidy.

Recently, however, Fannie Mae set out a view of its role in stabilizing markets that extends beyond what might be expected of a fully private mortgage dealer and intermediary. Specifically, Fannie Mae argued that:

Providing liquidity to the residential mortgage market is at the core of Fannie Mae's and Freddie Mac's activities. . . . The special mission of Fannie Mae and Freddie Mac requires them to be in all markets at all times. Fully private firms have no such obligation. That explains the very different responses to regional downturns. When, for example, the oil prices fell, turning boom into bust throughout the "oil patch" states, many private firms cut back on (or eliminated) their mortgage lending in those states. By contrast, Fannie Mae remained an active buyer of both new and seasoned home mortgages. As a result, Fannie Mae's purchases relative to total loan origination in Texas almost doubled. . . . Besides swapping loans for MBS [mortgage-backed securities], mortgage lenders even in regions facing economic difficulties can sell mortgages to Fannie Mae and Freddie Mac for cash at the same posted prices as lenders everywhere else.³

On its face, that statement seems inconsistent with the stabilization role that could be expected of a private intermediary and also with Fannie Mae's fiduciary responsibility to its market shareholders. To make that inconsistency clear, consider the contribution to stabilizing the market that fully private dealers provide.

2. Statement of Alan Greenspan, Chairman, Federal Reserve Board, before the Senate Banking, Housing and Urban Affairs Committee, June 21, 1990. For a discussion of the development of securitization, see Robert Cotterman and James Pearce, "The Effects of FNMA and FHLMC on Conventional Fixed-Rate Mortgage Yields," *HUD Studies* (May 1996), pp. 103-112.

3. Federal National Mortgage Association's review of Benjamin E. Hermalin and Dwight M. Jaffee, "The Privatization of Fannie Mae and Freddie Mac: Implications for Mortgage Industry Structure," *HUD Studies* (May 1996), p. 331.

Private Dealers and Market Stability

A dealer who stands ready to buy mortgages and sell mortgage-backed securities enhances market stability by assuring others of the opportunity to buy or to sell at quoted prices. Fully private dealers maintain almost all financial markets, including the most liquid of them all--the market for U.S. Treasury securities. To maintain a continuous market in any asset, a private dealer must have access to the flow of funds available in the organized financial markets. Such access is routinely available to highly capitalized intermediaries, except during periods of financial crisis--a phenomenon discussed below.

Private dealers attempt to profit from buying at all times, but they do so at prices that are a little lower than the prices they expect to receive when they sell. When buying, dealers prosper or fail on the basis of their ability to anticipate the price at which they will be able to sell. The risk of their business is that sales prices will be lower than were expected when purchases were made. Falling market prices usually cause dealers to reduce the prices they offer because they anticipate lower sale prices. Thus, dealers can provide a stable opportunity for sellers to sell when prices are falling, but they cannot offer to buy today at yesterday's prices after the market price has fallen. To put that more precisely, private firms may make a decision to incur losses on some activities and transactions but only in the expectation that such an action will have long-term benefits.

Fannie Mae's View of Stabilization

Fannie Mae's description of its behavior in the "oil-patch" recession differs from that of a fully private dealer in that the government-sponsored enterprise claims a willingness to purchase mortgages at unchanged posted prices even as mortgage values decline. The fall in oil prices and the accompanying recession in oil-producing states described by Fannie Mae prompted a rise in unemployment and a decline in wealth, income, and housing prices. All of those factors indicate an increasing credit risk on home mortgages secured by properties in the affected region. A lower quality of credit means higher expected losses from default and lower mortgage val-

ues. Faced with such a market change, private dealers must offer a commensurately lower purchase price if they are to recoup the purchase price when they sell. Ideally, dealers lower the prices they offer in those circumstances by just enough so that at the new price they can recover the increased default costs.

Fannie Mae claims that its unique role in stabilization forced it to ignore those higher credit risks and lower mortgage values and to pay the same posted prices for oil-patch mortgages as for less risky mortgages originated elsewhere. If so, Fannie Mae must have expected to incur losses on those purchases. That pricing decision also means that no other purchaser, including Freddie Mac, could buy oil-patch mortgages at Fannie Mae's prices without also expecting to lose shareholders' money. That pricing policy of Fannie Mae may explain why others "eliminated" lending in those states and why Fannie Mae obtained a larger market share.

Buying mortgages at above-market prices constitutes a transfer of shareholder wealth to mortgage sellers. It naturally raises questions about the limits--if any--on the amounts the GSE is prepared to transfer in such circumstances and about the amount actually lost in the cited case. Of course, one mitigating factor not discussed in Fannie Mae's statement is the contribution of private mortgage insurers (PMIs) to the stabilization role. Fannie Mae can satisfy itself that it has stood ready to buy all mortgages from all regions at all times, conditional on those mortgages meeting its quality requirements--including private mortgage insurance on loans with loan-to-property-value ratios above 80 percent. By raising the requirements for mortgage insurance on more risky loans, Fannie Mae can indeed stay in all markets at all times at unchanged prices, but it will have reduced the volume of qualified supply and lowered the net (after-insurance premium) benefit to the home buyer. Moreover, the price Fannie Mae actually pays for most mortgages is not necessarily the posted price but rather a negotiated price. The claim of being a reliable market maker lacks substance if the posted offer to buy is at a below-market price.

Assigning public benefits to the expanded stabilization role claimed by Fannie Mae involves a real dilemma: either the role is not substantively differ-

ent from that performed by a fully private intermediary, or it entails a decision to transfer the assets and wealth of shareholders to sellers when the market value of mortgages is falling. The latter interpretation requires Fannie Mae's management to make decisions about distribution that are usually reserved for elected officials. That interpretation also raises the possibility that Fannie Mae's efforts at stabilization could conflict with the policy objective that the GSE operate in a manner consistent with its own financial safety and soundness.

Freddie Mac's View of Stabilization

Freddie Mac's interpretation of its stabilization mission appears to differ from that of Fannie Mae. In particular, rather than stress its willingness to purchase at a posted price "in all markets at all times," Freddie Mac has said:

Because we are the stewards of our owners' capital, we deploy capital only where the returns justify it. This focus provides a clear framework for making business decisions and drives the terms on which we will compete to purchase mortgages. It ensures that we will not pursue short-term growth, market share or earnings at the cost of unacceptable long-term returns on capital.⁴

Discussing recent performance, Freddie Mac's management noted in the same report:

Competition for [a] shrinking [volume of] origination caused a slackening of credit and pricing standards in the primary market. Against this backdrop, we continued to maintain our discipline. Although this may have occasionally reduced our business volume, this disciplined approach is consistent with our commitment to building shareholder value and putting families into homes they can afford to keep.

That interpretation of stabilization is consistent with that of a fully private dealer's contribution to promoting market stability.

Financial Shocks and Market Stability

On occasion, the financial markets of the world are subjected to shocks from such events as sharp declines in U.S. or foreign stock prices or the unexpected failure of a large financial institution. Such a shock can trigger a financial crisis or "panic," as they were called in the 19th century. During such a crisis, the capital markets may cease to function as reservoirs of funds. Financial market makers can be cut off from the funds they need to maintain stability. Markets may collapse as a result. Fortunately, the Federal Reserve and other nations' central banks are extremely sensitive to that danger and well equipped to counter those threats by providing liquidity to financial institutions, including market makers. Indeed, the Federal Reserve has been remarkably successful in doing so for the past 50 years.

The central bank is responsible for ensuring the stability of the national financial markets. Fannie Mae and fully private intermediaries transmit that stability to markets in which loans are originated by serving as conduits to the national capital markets. So long as central banks effectively carry out their mission, all conduits--both private and sponsored--can perform the valuable service of making an integrated market in mortgages for the entire country.

Advancing Technology

Fannie Mae and Freddie Mac claim to provide a significant national benefit as innovative leaders of the mortgage finance industry. One of the forms that leadership takes is the investment that the housing GSEs are making in automated underwriting systems. Those systems are intended to shorten the time required to get a mortgage approved by the lender, increase the ability of originators to identify good credit risks using nontraditional loan standards, and reduce the cost of mortgage origination. The GSEs have invested substantial amounts in that and related

4. Freddie Mac, *1994 Annual Report* (April 1995), p. 13.

software development. If the software achieves their expectations, the nation will receive a benefit from such innovation. But like all innovations, this one has a cost: the investments that had to be given up because this particular innovation was undertaken. Investments in innovation have a net benefit to the country only if the benefits from the financed activity are greater than those that would have been realized from other uses of invested funds.

The market cost of capital disciplines the investment undertaken by fully private firms. That is, no fully private firm would undertake an investment for which the expected return was not at least as great as the cost of funding the project. An investment hurdle equal to the market cost of capital is socially useful because that market price is the expected return on alternative investments. With GSEs, the subsidy by taxpayers reduces the cost of capital below the market rate. Thus, GSEs can profitably undertake investments for which the rate of return is less than the return on investments that fully private firms undertake. Consequently, when the GSEs invest in innovative technology, that decision is less likely to be consistent with economic efficiency than if a fully private company made the decision. Therefore, the claim that public benefits result from increased investment in mortgage technology may fail the money's worth test.

Extending Low-Income Home Ownership

The Housing and Community Development Act of 1992 gave the Secretary of Housing and Urban Development authority to establish goals for the housing GSEs that were intended to increase access to mortgage financing for lower-income borrowers. For 1995, the targets set by the Secretary included:

- o 30 percent of units financed for households with income at or below the area median;
- o 30 percent of units financed secured by properties in central cities; and
- o \$4.6 billion (Fannie Mae) and \$3.4 billion (Freddie Mac) in mortgages for households with income at or below 80 percent of the area median.

Both GSEs exceeded their income-based targets by a considerable margin, but Fannie Mae barely reached the central-city target (at 30.4 percent) and Freddie Mac fell short (with 23.4 percent). Despite the existence of those goals, most observers agree that the "proportion of mortgages purchased through low-income home ownership programs is low relative to overall GSE conventional activity" and that GSE activity for rental housing is "small" compared with the "size of the market for multifamily lending."⁵

For 1996, the goal of the central cities has been redefined as a "geographically targeted" goal including rural and other "underserved" areas. That change substitutes a goal that Freddie Mac met for one that it did not meet. That is, both Fannie Mae and Freddie Mac would have met their central-city goal for 1995 had the 1996 goal been in place.

Both housing GSEs are also conducting large consumer education and outreach efforts, including advertisements in multilingual, audio, braille, and computer formats; telephone hot lines; and home-buying fairs. Despite those intense publicity campaigns, a significant contribution by the GSEs to the nation's affordable-housing goals has yet to be demonstrated. Fannie Mae and Freddie Mac claim that by reducing interest rates on home mortgages, they increase home ownership by all income groups. However, the federal subsidy is responsible for that effect. The housing GSEs are only one of several alternative vehicles for delivering that subsidy. Increased home ownership is not a benefit of using one delivery instrument rather than another.

Recent research conducted at the Federal Reserve Board, however, develops new data and addresses the capacity of the housing GSEs to extend mortgage financing opportunities to lower-income borrowers.⁶

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5. Susan Wachter and others, "Implications of Privatization: The Attainment of Social Goals," *HUD Studies* (May 1996), pp. 339-340.
 6. Glenn B. Canner and Wayne Passmore, "Credit Risk and the Provision of Mortgages to Lower-Income and Minority Homebuyers," *Bulletin*, Board of Governors of the Federal Reserve System (November 1995), pp. 989-1016.

The Federal Reserve study begins with an insightful discussion of the component functions of mortgage lending and identifies those that are crucial to the objectives of increasing home ownership by low-income households. According to the study, the functional elements of mortgage lending are:

- o Originating the loan, including ensuring that the relevant documents are in order and that the borrower meets the applicable standards for credit quality;
- o Securing financing for the loan, which means getting the dollars to be advanced to the borrower from an entity with loanable funds;
- o Servicing the loan by collecting payments on the mortgage when due and remitting payments to the holder of the loan; and
- o Bearing the credit risk that the borrower will not abide by the terms of the loan contract.

In today's financial markets, assuming credit risk is the critical function--the binding constraint--in providing a mortgage to a home buyer. Mortgage originators, servicers, and holders are important to the lending process, but the decision to lend hinges on the willingness of some entity to accept credit risk. If a risk bearer can be found, providers of the ancillary functions of lending are readily available.

The principal institutional contributor to the flow of mortgage loans to low-income borrowers, therefore, is the provider of credit-risk services. Although much is known about which institutions provide funding for home mortgages, relatively little had been known about the distribution of credit risk on mortgages until the Federal Reserve study. Potential providers of credit risk on home mortgages include private mortgage insurers; government mortgage insurers, specifically the Federal Housing Administration (FHA) and the Department of Veterans Affairs (VA); Fannie Mae and Freddie Mac; and the portfolio lenders, including banks, thrifts, and credit unions.

The Federal Reserve study found that depository institutions bore the credit risk in about 28 percent of the owner-occupied home-purchase mortgages origi-

nated in metropolitan areas during 1994. The percentages for other participants in the mortgage markets were 23 percent for the FHA and VA, 17 percent for private mortgage insurers, and 17 percent for Fannie Mae and Freddie Mac combined. In fact, those data probably overstate the true amount of risk that the housing GSEs bear. As the study put it:

Generally, the type of mortgage insured by the FHA or PMI companies is riskier than the type of mortgage for which Fannie Mae or Freddie Mac bear the credit risk. Thus, if one could "weight" mortgage loans by the actual credit risk they pose to the institutions that insure, hold or purchase mortgages, the FHA and PMI companies presumably would bear a proportion of the credit risk that is higher than we calculate.

For mortgages that do not exceed the FHA size limit (\$77,197 in most areas of the country in 1994, more in high-price areas) and therefore are more likely to be made to low-income borrowers, the study found that the depository institutions and the Federal Housing Administration bear most of the credit risk.

[The depositories, their affiliates, and the FHA] account for about 56 percent of the FHA-eligible mortgages extended to lower-income borrowers. Fannie Mae and Freddie Mac taken together are the third largest risk holders in this market with a 15.2 percent share of the market, whereas PMI companies as a group bear the risk of 12.3 percent of these mortgages.

The FHA and depository institutions (including affiliates) accounted for about 60 percent of the FHA-eligible mortgages extended to black or Hispanic borrowers. PMI companies accounted for about 14 percent, and Fannie Mae and Freddie Mac accounted for about 10 percent.⁷

Thus, in terms of providing the crucial credit-risk service to low-income and minority borrowers, purely private depositories appear to outperform Fan-

7. Canner and Passmore, "Credit Risk and the Provision of Mortgages," p. 1003.

nie Mae and Freddie Mac.⁸ That result may not be difficult to explain. Fannie Mae and Freddie Mac largely specialize in mortgage finance for first-quality borrowers rather than in assessing and bearing the credit risk for marginal borrowers.⁹ The housing GSEs require private mortgage insurance on all loans with a loan-to-value ratio of more than 80 percent and are generally more likely to require private mortgage insurance on conventional mortgages than are depository holders. Their reluctance to bear credit risk may simply reflect that:

Fannie Mae and Freddie Mac, unlike depositories, generally have no interactions with borrowers and are not located in the neighborhoods where the mortgages are originated; thus they lack the opportunity to look beyond traditional measures of risk.¹⁰

Even though Fannie Mae has announced its intention to acquire another \$1 trillion of mortgages for borrowers "who have not been well-served by our housing finance system--families who earn less than the median income in their area, those living in central cities and rural areas, the elderly, immigrants, first-time home buyers, and others with special housing needs," Fannie Mae apparently does not intend to increase its assumption of credit risk.¹¹ The GSE's chairman has dismissed suggestions that this initiative, "Showing America a New Way Home," will increase risk at Fannie Mae. Instead, he has said that Fannie Mae will buy mortgages originated to "well-qualified" borrowers. He has also forecast that "loan-to-value ratios are not likely to rise significantly from where they are currently" and that Fannie Mae could adjust price and "would consider further raising mortgage insurance requirements if it became necessary."¹²

8. Wachter and others also raise the possibility that "private conduits that specialize in underwriting and securitizing these [low-income] loans may be better able to price their risk." See "Implications of Privatization," p. 353.

9. As noted, Fannie Mae has described its "most important function" and "essential mission" as "that of providing liquidity--at all times and in all places--to the mortgage market."

10. Canner and Passmore, "Credit Risk and the Provision of Mortgages," p. 1006.

11. Fannie Mae, *1994 Annual Report* (April 1995), p. 2.

The claim by the housing GSEs that the enterprises deliver social benefits from increasing home ownership by disadvantaged borrowers appears to fail the institutional capacity test.

Summing Up

The largest claim of public benefit advanced by the government-sponsored enterprises is that they reduce mortgage interest rates. By reducing rates across the spectrum of conforming mortgages, they claim to increase the ability of low-income borrowers to qualify for a mortgage of a specified size. That claim misstates the role of the housing GSEs in determining interest rates. Fannie Mae and Freddie Mac receive a federal subsidy that they are expected to pass through to home buyers. They are not the source of that benefit. Rather, the housing GSEs are a vehicle for conveying a subsidy to intended beneficiaries. The estimated ratio of retained to passed-through subsidies suggests that GSEs are a high-cost form of delivery.

Stabilizing mortgage markets is another public benefit claimed by Fannie Mae. But it is clear that either the housing GSEs provide no more stabilizing effects than fully private intermediaries or they are being asked to violate their responsibilities to shareholders. In the first case, no public benefit accrues that would warrant taxpayer support; in the second case, no assurance is possible that the government-sponsored enterprises will continue to sacrifice their responsibility to shareholders.

Finally, the housing GSEs claim to provide public benefits in contributing to the nation's affordable housing goals. That contribution is over and above any effect that the pass-through of interest rate subsidies would achieve. Yet evidence is lacking that this benefit exceeds what could be accomplished by fully private firms and by various levels of government with the funds that governments would receive following the repeal of the special exemptions afforded to the GSEs under current law. The housing GSEs

12. "Fannie's Chief Staking Name on \$1 Trillion Challenge," *American Banker* (February 5, 1996), pp. 14, 15.

appear to have no special institutional capacity for providing low-income borrowers with what they most need to get a loan--acceptance of credit risk. In

sum, scant evidence exists of public benefits from the GSEs that would justify a retained taxpayer subsidy that is more than \$2 billion annually.

The Congress and the GSEs: Weak Control and Incompatible Interests

Since subsidies to government-sponsored enterprises have no direct effect on federal outlays or the budget deficit, delegating authority for meeting some of the nation's housing goals to privately owned, federally sponsored corporations may have a budgetary advantage over direct federal action. A high price, however, must be paid for that benefit. The process of getting the subsidies for mortgage funding outside the budget has so strengthened the hand of private shareholders and weakened federal control that the management of the GSEs have both the motive and opportunity to subordinate the interests of taxpayers and the government to their own objectives and those of shareholders. Incompatible public and private interests may also explain differences in the approach of policy analysts and the GSEs to the issue of privatization.

Choosing a GSE or Non-GSE Structure

Sponsored enterprises are just one of many institutions available to the Congress for integrating mortgage and capital markets, delivering mortgage subsidies, and increasing home ownership. Federal and state agencies, a variety of nonprofit organizations, and for-profit intermediaries and contractors are all

capable of carrying out one or more of those functions. The different effects on the federal budget and operating efficiency influence the choice of institutional structure. An expectation prevails that private, for-profit entities can achieve lower operating costs, respond to changes in market conditions and technology more rapidly, and acquire specialized resources more easily than their nonprofit and governmental counterparts.

The Difficulties in Controlling an Agency

No matter which institutional structure the Congress selects for carrying out an activity, experience shows that simply assigning a task is almost never sufficient to ensure that the entity carries out its assignment exactly as intended. In fact, two commonly encountered conditions can ensure that the designated agent will not conduct itself precisely in accord with the wishes of the Congress.

First, the management of the entity may have different goals or preferences than the Congress. In the case of an executive branch agency, differing political agendas may be responsible. Managers of GSEs, for their part, are likely to give greater weight to the interests of private shareholders than would the Congress. That difference in preferences is expected

because the economic well-being of GSE management is more closely related to that of shareholders than to achieving public policy goals.

Opportunity is the second condition that can produce conduct by an agency that is different from what the Congress intended. That is, the agency can take some actions that are not apparent to the Congress. In fact, best efforts to the contrary, the management of every entity has numerous opportunities, undetectable by others, to "tilt" activity toward its preferred objectives.

The tools that the Congress uses to exercise control over its "agents" reflect an understanding of those conditions and a related proposition: the unintended use of delegated authority and responsibility tends to increase as the difference between Congressional and agency preferences grows, particularly given the limits on the ability of the Congress to monitor behavior. To reduce the opportunity for incompatible behavior, the Congress uses annual appropriation and oversight hearings, confirmation hearings, uniform salary and wage schedules, standard procurement procedures, simple but easily measured indicators of agency performance, and insistence on transparent operating technologies.

Congressional Control: Agencies Versus Government-Sponsored Enterprises

Although Congressional control of on-budget agencies is less than complete, it is significantly stronger than the influence that the Congress has over GSEs. The oversight and control of a GSE is weaker than for an agency because the monitoring costs are higher, the incentives facing the management of a GSE are more sharply at odds with the public policy goal of maximizing public benefits while minimizing public costs, and GSEs have discretionary resources available to influence policy decisions.

Monitoring Costs. The costs of understanding what an agent is doing increase with the number and complexity of its delegated responsibilities, and with restrictions on access to information about its performance. Both federal agencies and the GSEs are be-

ing asked to accomplish tasks that are growing in number and complexity. Having achieved their original purpose, the housing GSEs can now cite the authority to undertake a large number of tasks whose precise nature is not always clearly defined. Those tasks include providing ongoing assistance to low-income borrowers, promoting access to the market for rural and central-city homeowners, providing funds to "underserved" markets, responding "appropriately" to the private capital market, and providing leadership for the residential mortgage finance system. Those statutory roles are subject to such varieties of interpretation and reinterpretation that it is difficult to determine if and when they have been met.

The increased complexity of operations also appears to be more rapid at the GSEs than in federal agencies, where policy decisions rather than market changes are a more important factor. That added complexity reduces the ability of people outside the firm to understand its behavior. To cite one example, as the types of GSE securities proliferate to exploit fully the implicit federal guarantee and to accommodate new market niches, and as the hedges put in place to achieve the targeted level of risk become more complex, it becomes increasingly difficult for the Congress and its support agencies to estimate the amount of the subsidy that the GSEs are collecting. With every financing innovation, the GSEs gain an advantage over the government in having access to information.

When the Congress wants detailed information about the costs, operations, and plans of a federal agency, it obtains the information--often in public session--on the grounds that all such information is "public." For a privately owned GSE, however, such information is "proprietary" to the firm and is not made available to others. That characteristic of information about a GSE significantly increases the cost of monitoring its operations.

One kind of information that may be obtained for almost any on-budget federal agency is the amount of money it spends for various purposes. Not only are those amounts measured and accounted for, but they are subject to appropriation by the Congress. Federal agencies, therefore, tend to be on a fairly short financial tether. Perhaps more than any other single fac-

tor, the periodic need for appropriations forces the management of federal agencies to be mindful of the goals and objectives of the Congress.

The federal subsidy to the housing GSEs is open ended and, to a significant degree, under the influence of the GSEs' management. If the Office of Federal Housing Enterprise Oversight is unable to monitor and control risk taking by the GSEs, the federal government must fill any gap between shareholder equity and the amount of capital required to maintain a super Aaa standing in the financial markets. At no point in the budget process does the Congress vote on that transfer to the GSEs, nor is there any accounting for the use of those resources.

Incentives for Agents. In for-profit settings, the problem of controlling an agent's behavior can be addressed by tying the compensation of the agent to the financial gains of the principal. In government, opportunities for sharing gain are limited. Consequently, the government relies more on reducing the agent's latitude for pursuing his or her own interests. In the case of GSEs, both strategies are in evidence--one by shareholders, the other by government--but the balance of incentives appears to favor shareholders strongly at the expense of taxpayers and the public interest.

Private shareholders have succeeded in aligning management's interest with their own by relating management compensation directly to the returns that they realize. At both the Federal National Mortgage Association and the Federal Home Loan Mortgage Corporation, a large share of each executive's total compensation depends on growth in annual earnings, earnings per share, and stock prices.¹ That form of compensation is explicitly intended to ensure compatibility between the interests of executive officers and those of shareholders. In addition, executive officers are provided with stock options and restricted stock. At the end of 1995, executive officers and directors of Fannie Mae and Freddie Mac owned more than 1.6 million shares and 695,000 shares in

their companies, respectively. The five officers of each GSE whose positions were disclosed held options to purchase 825,000 (Fannie Mae) and 385,000 (Freddie Mac) additional shares of stock. On December 31, 1995, those options had an estimated exercise value of \$44 million (Fannie Mae) and \$15 million (Freddie Mac). The upside value of those compensation agreements is limited only by the increase in the price of GSE stock.

Little is remarkable about those compensation arrangements, particularly when seen in a corporate, for-profit context. They are recognizable as a conscious attempt to deal with the principal/agent problem, in which shareholders are viewed as the principals. However, in the context of a government-sponsored enterprise, in which management controls taxpayer subsidies to a significant extent, those compensation agreements can be inconsistent with the interests of taxpayers and the government.

The current structure of incentives facing the management of the housing GSEs is tantamount to that of a firm with two classes of equity holders, in which management controls the distribution of gains and losses between the two classes but is compensated with just one class of stock. No disinterested judge could avoid finding at least the appearance of a conflict of interest in that arrangement.

Examining the Role and Limitations of the Office of Federal Housing Enterprise Oversight

The Office of Federal Housing Enterprise Oversight, created by the Federal Housing Enterprises Financial Safety and Soundness Act of 1992, is intended to protect the interests of taxpayers from a loss brought on by the insolvency of a housing GSE. In pursuing that objective, OFHEO will develop and impose a risk-based capital requirement on the housing GSEs. Although the regulation has not been issued, OFHEO is apparently taking a highly technical, sophisticated approach to meeting its statutory mandate.

1. This and most of the information on compensation is from Fannie Mae, *Proxy Statement and Notice of Annual Meeting of Stockholders, May 16, 1996* (March 25, 1996); and Freddie Mac, *Proxy Statement and Notice of Annual Meeting of Stockholders, May 14, 1996* (April 12, 1996).

The 1992 statute specifies in some detail the stressful economic conditions that the housing GSEs must be able to survive under the standard for risk-based capital. Those conditions include large losses from mortgage defaults and a large increase or decrease in interest rates. In fact, the statute limits the discretion of OFHEO to specify a wider range of losses from defaults and limits the extent of interest rate scenarios tested.

Although OFHEO appears to be pursuing its statutory mandate with diligence and professional competence, the interests of the Congress and taxpayers cannot be fully protected by it. First, OFHEO's mandate is to avoid a failure by the housing GSEs that could impose losses on taxpayers. If it is successful, that step would be consistent with protecting taxpayer interests. But OFHEO is not charged with the task of eliminating the subsidy that Fannie Mae and Freddie Mac retain. Indeed, from the office's perspective, continued receipt of that cushion of annual income could be regarded as a plus for safety and soundness. In addition, OFHEO's objective of minimizing risk is inconsistent with the current objective of using the GSEs to finance the achievement of social goals. Finally, even though OFHEO has the legal authority and the institutional capacity to closely monitor and evaluate the financial position of Fannie Mae and Freddie Mac, it cannot possibly have access to all of the information the agencies possess.

Taking into Account Subsidized Profits and Political Risks

The possibility of privatizing Fannie Mae and Freddie Mac clearly reveals the inconsistency of taxpayer and shareholder interests. For taxpayers and government policymakers, that issue involves weighing costs and benefits in search of efficient, equitable public policies. Changes in the federal relationship with the housing GSEs that would decrease government subsidies and increase public benefits are naturally seen as desirable.

For the shareholders and managers of Fannie Mae and Freddie Mac, however, the possibility of privatization raises the specter of losing more than 40 percent of the firms' net income. Terminating the federal subsidy and withdrawing the government's equity position could reduce the market value of the housing GSEs by an equivalent percentage. Clearly, the prospect of such a loss of personal fortune is one of the biggest risks facing investors and senior managers of those companies.

In keeping with its fiduciary responsibility to shareholders and its own financial interests, the management of the housing GSEs has devoted a significant (but undisclosed) portion of the enterprises' resources to countering--or hedging--that political risk. For example, the two housing GSEs have 12 employees who are registered lobbyists under the Lobbying Disclosure Act of 1995 and a number of political consultants under contract.

Fannie Mae, in particular, makes no secret of its attempts to influence federal policy toward the GSEs as a means of controlling political risk. Those efforts have led one observer to remark that "at Fannie Mae political and financial power are inextricable: bone and sinew, mortise and tenon."² Some of Fannie Mae's initiatives in the past several years seem aimed at ensuring the flow of federal benefits to the enterprises in perpetuity.

Consider, for example, Fannie Mae's decision to create 25 Partnership Offices in cities across the country to coordinate with state and local political authorities. Although those offices may conduct some mortgage-related business, their principal function is to enhance Fannie Mae's political base. In discussing that move, Fannie Mae's general counsel said: "For a relatively small investment, Fannie Mae will be recognized as a force for good in each of the cities or states. By doing so [Fannie Mae] will have 25 networks of support."³ Also, in commenting on the GSEs' success in defeating a proposed cost-of-capital equalization fee proposed in 1995, Fannie

2. Michael Carroll, "Masters of Beltway Capitalism," *Institutional Investor* (July 1995), p. 61.

3. *Ibid.*, pp. 64-65.

Mae's general counsel concluded, "the strength of our handling of this issue and others" comes from "building this network and working it over time so that when a franchise issue comes up, our ducks are lined up."⁴ Significantly, too, Fannie Mae explicitly includes the contribution to preserving its "franchise" when evaluating the performance of executive staff.⁵

Those efforts to acquire "political risk insurance" have borne fruit. As Fannie Mae put it in its 1995 annual report: "Policy makers in Washington, DC and throughout the country understand very well that Fannie Mae is a critical part of the success of our nation's housing finance system. And this has made our franchise stronger than ever before."⁶ One ana-

lyst has gone so far as to conclude that "Fannie Mae and Freddie Mac are so large and powerful today that the government probably lacks the ability to compel them to accept privatization if they believe that their interests would thereby be disadvantaged."⁷

The conduct of the GSEs in this respect is not scandalous or even anomalous. Rather it is entirely consistent with management's obligation to protect the interests of shareholders. The lawful, but unbridled, advance of shareholder interests at the expense of taxpayers, however, is an essential and inescapable consequence of the choice of GSEs as a means of delivering a federal subsidy to borrowers. It is part of the price of using GSEs as an instrument of public policy. Not least, it is a factor to be weighed in any decision to continue that practice or to end it by privatizing Fannie Mae and Freddie Mac.

4. Ibid., p. 65.

5. Fannie Mae, *Notice of Annual Meeting of Stockholders, May 18, 1995* (March 27, 1995), p. 11.

6. Fannie Mae, *1995 Annual Report* (April 1995), p. 4.

7. Thomas Stanton, "Government-Sponsored Enterprises and Changing Markets: The Need for an Exit Strategy," *The Financier*, vol. 2, no. 2 (May 1995), p. 32.

Options for Improving the GSE Cost-Benefit Balance for Taxpayers

The Congress could adopt measures to increase public benefits, reduce costs, or improve the ability of the government to obtain timely, relevant, and reliable information about the Federal National Mortgage Association and the Federal Home Loan Mortgage Corporation. Although many of those changes in current policy would stop short of privatization, they would withdraw some of the retained benefits of the status of a government-sponsored enterprise or provide firmer estimates of the potential gains or losses from privatization.

Increase Public Benefits

Increasing public benefits would redirect subsidies from Fannie Mae and Freddie Mac to public beneficiaries, including taxpayers. If the subsidy was to be redirected to home buyers, a policy of increasing competition in the secondary market for conforming mortgages would be required. If the subsidy was to be retargeted toward low-income and other high-risk borrowers, more intrusive regulation of GSE mortgage purchases and additional mandated activities could be necessary.

Increase the Subsidy Pass-Through to Home Buyers

The lack of competition in the market for securitizing conforming mortgages limits the share of the subsidy now passing through to home buyers. Fannie Mae

and Freddie Mac are able to sustain a duopoly because GSE benefits are provided exclusively to them. One solution is for the government to withdraw its implicit guarantee of all GSE securities. Doing so, however, would cause mortgage interest rates to rise. Alternatively, the government could explicitly guarantee all mortgage-backed securities, whether issued by a GSE or a fully private company. To qualify, fully private conduits would have to agree to meet the safety and soundness requirements of the Office of Federal Housing Enterprise Oversight under the same terms as Fannie Mae and Freddie Mac. The government would not make any payments under that guarantee, except in the extreme circumstance--as is the case with the GSEs--of an issuer failing to make payments on MBSs.

Under this option, mortgage rates could fall by the portion of the subsidy on MBSs that the GSEs retain--that is, five basis points (0.05 percentage points). The government's liability, however, would increase in scope. Moreover, under current budget concepts, the expected cost of those guarantees would be recorded in the budget as outlays when the federally guaranteed MBSs were issued. Some of that increase in outlays, however, would simply recognize the costs of the GSEs that are now excluded from the budget.

Eliminate the Debt Subsidy

If explicit MBS guarantees were available, no justification would exist for the special privileges now granted to the GSEs, including the exemption from

state and local income taxes and Securities and Exchange Commission registration fees. Those special provisions of the law could be repealed. When taking that action, the government could also disavow any responsibility for subsequent debt issues of the GSEs. If the government's disavowal of credit enhancement for future debt issues was credible, the market interest rate on new issues would rise to reflect the intrinsic quality of credit of the GSEs. The explicit guarantee on MBSs, along with withdrawing all special privileges for GSEs, should eliminate the subsidy on GSE debt. If, despite those measures, the market continued to regard the debt of GSEs as being enhanced in quality by the federal government, then the GSEs would emerge with most of their subsidy intact, unthreatened by the entry of private competitors that would not have the option to issue subsidized debt. In such circumstances, the GSEs might leave the MBS market entirely to private intermediaries and specialize in debt-financed portfolio lending, whose high profitability could survive this policy change.

An exclusive or dominant focus by Fannie Mae and Freddie Mac on higher-risk portfolio lending would increase the importance of effective safety and soundness measures. The scope of OFHEO's regulatory responsibilities would also increase under this policy as the number of firms within its jurisdiction rose. The exposure of taxpayers to risk could also widen if a larger share of home mortgages was securitized.

If those policies were successful in terminating the subsidy on GSE debt, substituting explicit for implicit guarantees, and forcing the complete pass-through of the MBS subsidy, then they would have achieved successful privatization by most standards. Competition would increase, mortgage interest rates would fall, and home ownership would rise. Eventually, the Congress could repeal the GSE charter acts and recharter the enterprises under state law as a formality. Breaking the GSEs' monopoly and replacing the exclusive implicit guarantee with an inclusive explicit one would strengthen Congressional control of the subsidy. For example, the government's guarantee might eventually be reduced from 100 percent of loss to 95 percent. Alternatively, the government could provide the current volume of federal guarantees of MBSs without charge and meet the growth in

demand for guarantees by auctioning additional credit enhancement. Those policy changes could result in budget savings.

Target the Retained Subsidy

If Fannie Mae and Freddie Mac were to be permitted to continue receiving subsidies at current rates, policy could attempt to redirect a portion of the retained benefit to low-income and other high-risk home buyers. Raising the affordable-housing goals authorized in the Federal Housing Enterprises Financial Safety and Soundness Act of 1992 would be a natural approach to that policy.

However, clarity of objectives is vital in evaluating this option. The goal is to increase loans to borrowers who would otherwise not get credit but who are good credit risks. The policy does not intend to force issuers to originate loans that cannot be repaid and result in foreclosure and sale of property. That outcome would leave the borrower worse off than if a loan had not been granted, impose needless costs on the GSEs, and increase taxpayers' risks.

Given the limited understanding of the factors that lead to mortgage default, the desired goal is unlikely to be achieved by simply using arbitrary numerical targets for the purchase of mortgages by borrowers with specific characteristics. Use of the automated underwriting systems developed by the housing GSEs is increasing and might be helpful, but its success is not yet confirmed. More important, if the automated systems do succeed in identifying good credit risks who would otherwise be rejected, Fannie Mae and Freddie Mac would find it profitable to purchase those mortgages without binding goals for affordable housing.

The GSEs are expert at funding and generating large profits. The last characteristic suggests that a more direct way to ensure affordable housing would be to require the GSEs to contribute cash to a fund that would directly assist low-income borrowers through mortgage interest rate buydowns and contributions to down payments. A precedent for such a requirement is the Federal Home Loan Bank System's Affordable Housing Program, which requires the banks to contribute 10 percent of their net income

Box 5.
Reducing Costs and Preserving Value

The housing enterprises have claimed that some of their funding cost savings is value added by the government in excess of the expected outlays from a GSE insolvency (see Box 4 on page 20). If that is true, then cutting public cost by reducing the enterprises' activities (or moving to full privatization) could reduce the government's value added and cause the loss of value to exceed the gains to taxpayers.

This potentially adverse effect, however, overlooks explicit guarantees as an alternative means of creating that value. Replacing free implicit guarantees with explicit ones and selling them at competitive fees would have several advantages over current policy. First, an explicit guarantee would provide an unconditional guarantee to investors. Second, the cost of the guarantee would be recognized and controlled in the budget. And third, receipts from guarantee fees would provide the government with resources to target subsidies toward special needs such as first-time or low-income home buyers or for any other public purpose.

from the previous year for acquiring and rehabilitating affordable rental housing.¹ That measure would more effectively target the retained subsidy toward the intended beneficiaries.

Reduce Public Costs

The strategy of reducing public costs includes making policy changes that would limit either the subsidy rate or the total amount of subsidy accruing to the housing GSEs or both. Four examples would be to raise the equity requirements for GSE shareholders, lower the ceiling on conforming mortgages, cap and reduce the size of the GSEs' mortgage portfolios, and impose a cost-of-capital equalization fee on GSE

debt issues. In those cases, the social gains from reducing the scope of GSE activity could be affected by the extent to which the benefits of GSE status are "value added" by government (see Box 5).

Increase Shareholder Equity

For a given level of risk assumed by a GSE, the higher the shareholder equity is, the less the need for credit enhancement by taxpayers. Thus, a requirement that shareholders put more of their capital at risk could reduce the cost of GSE operations to taxpayers. That requirement would be an extension of the policy of imposing risk-based capital requirements on the GSEs.

One of the disadvantages of reducing the taxpayer subsidy is that the GSEs might lower the portion of the subsidy passed through to home buyers, particularly if they had no additional competition in the marketplace.²

Lower the Ceiling on Conforming Mortgages

Decreasing the ceiling on conforming mortgages would reverse the direction of annual change in that market. Instead of increasing, the maximum-size loan eligible for purchase by the housing GSEs would decrease each year starting from the current level of \$207,000. This policy would reduce management's discretion to determine the GSEs' rate of growth and the call on taxpayer resources. In time, it would also produce smaller GSEs.

Under the policy of downsizing loans, the dividing line separating the conforming and jumbo markets would move steadily in the direction of mortgages within reach of low-income households. As the limit on conforming mortgages receded and on jumbo loans expanded, competitive fully private intermediaries would securitize a wider range of mort-

1. Congressional Budget Office, *The Federal Home Loan Banks in the Housing Finance System* (July 1993), pp. 21-24.

2. "GSE Chiefs Spurn Higher Capital Standards, Warning Costs Will Increase Mortgage Rates," *Inside Mortgage Securities* (April 19, 1996), pp. 9, 10.

gages. All mortgage markets would retain their access to the capital markets.

Interest rates at the conforming/jumbo boundary would rise. Those interest rate increases, however, would apply only to the largest mortgages, where a 25 to 35 basis-point rise in rates would have only a small effect on the decision to become a homeowner. In time, the declining ceiling on conforming mortgages would reach more interest-sensitive, low-income borrowers. When that occurred, the government could target cash subsidies toward those borrowers. Those subsidies could be financed from fees charged for explicit federal guarantees of privately issued MBSs.

A gradual downsizing of the GSEs would reduce the amount of shareholder capital required to protect taxpayer equity and would free equity capital in the housing GSEs. That effect would permit Fannie Mae and Freddie Mac to buy back existing equity shares without exposing taxpayers to increased risk. By refunding equity to stockholders, the housing GSEs would be providing capital to investors, which could be placed with the private intermediaries that would be expanding into the market formerly dominated by Fannie Mae and Freddie Mac.

Reducing the limit on conforming loans would also slim the housing GSEs to the size of fully private intermediaries. That reduction in the scale of Fannie Mae and Freddie Mac would address the general concern that privatization would not be effective in withdrawing the implicit federal guarantee because the housing enterprises would be too big for the government to permit them to fail.

Cap the GSEs' Mortgage Portfolios

The subsidy rate to the GSEs is substantially higher on debt issued to finance portfolio holdings of mortgages than on MBSs because the taxpayer capital required to back portfolio lending is higher. If the GSEs shifted their funding from debt to mortgage-backed securities, subsidies by taxpayers would be reduced without losing market integration or other benefits that the GSEs may provide to the public. This option places a dollar-volume cap on portfolio

assets, although it could also be framed as a dollar cap on the volume of outstanding debt securities. In either case, the cap could be reduced gradually to the point at which the volume of risky assets held by the GSE was no more than 5 percent of the volume of MBSs outstanding. That policy would make the GSEs more like the jumbo conduits. Moreover, a portfolio of that size would be large enough to permit the GSEs to hold mortgages in inventory as a part of the process of securitizing mortgages. But it would not be large enough for the GSEs to take on substantial interest rate risk. A limit of 5 percent would be comparable with the size of Freddie Mac's owned portfolio when its operating focus was almost exclusively on MBS funding.

The housing GSEs argue that if their role in the secondary market was reduced, the volume of mortgages held by federally insured depositories or on-budget government agencies would increase. Thus, they argue, the taxpayer's exposure to risk would not be reduced by scaling back or privatizing Fannie Mae and Freddie Mac. The government would have an increased exposure to loss from the failure of insured banks and thrifts and from its on-budget direct loans and guarantees. But the distribution of mortgage risk among institutions after the market has been privatized is unknown. Capital requirements are significantly higher, however, for insured depository institutions than for the housing GSEs. Those requirements provide the federal government with some protection from depository risk. In addition, the government already recognizes and reserves funds for losses in its on-budget programs. Finally, the claim that deposit-insurance and federal-guarantee policy needs to be improved is a call for their reform; it is not an argument against reforming GSE policy.

Impose a Cost-of-Capital Equalization Fee on Debt

A capital-cost equalization fee might be levied on the average volume of debt that each GSE had outstanding each year. Such a fee would recover some of the benefit on the most deeply subsidized activity of the GSEs. It would target benefits as well as encourage the GSEs to focus more on their MBS line of business. A fee of 20 basis points would yield more than

\$800 million per year based on the currently outstanding debt of the GSEs. At the direction of the Congress, some or all of those collections could be earmarked for targeted subsidies to low-income home buyers or for other purposes. Exempting MBSs from the fee would provide an incentive for the housing GSEs to shift funding toward less deeply subsidized forms of financing but avoid the need to raise mortgage interest rates.

Improve the Ability of Government to Monitor the GSEs

The aim of improving the government's ability to monitor the GSEs is to reduce their ability to control the size of their federal benefit and to narrow the range of disputed subsidy estimates. That approach includes increasing required disclosures by the GSEs and conducting several market transactions to obtain more objective information about the GSEs and the subsidies they receive.

Increased Disclosures

Under this option, the GSEs would be required to report such information as:

- o The estimated subsidy received by the firm from its status as a GSE on callable and noncallable debt securities and MBSs;
- o Exposure to interest rate risk;
- o The estimated subsidy passed through to home buyers;
- o Amounts invested in developing new technologies, including automated underwriting systems;
- o Losses incurred or profits realized in stabilizing markets and targeting low-income housing; and
- o All costs incurred by the firm in attempting to influence government policy through lobbying,

political and economic "education," grants and contributions, or other means.

The above information could be subject to audits and detailed review by the Office of Federal Housing and Enterprise Oversight.

Market Tests

This option would narrow the estimates of the GSE subsidy and subsidy pass-through rates by revealing them in market prices. It includes requirements for:

- o Fannie Mae and Freddie Mac to issue a substantial volume of MBSs without guarantees. Private credit enhancements could be used to back those securities, but the securities would not be guaranteed by the GSEs.
- o The federal government to auction the right to issue limited volumes of federally guaranteed MBSs and callable and noncallable debt. Sales would be restricted to qualifying intermediaries that agreed to comply with OFHEO's risk-based capital requirements.

Privatize

Inasmuch as the GSEs are already privately owned, it seems odd to speak of privatization as a policy option. "Restructuring" is the preferred term used by one study.³ Withdrawing federal sponsorship, or defederalization, is close to the essence of this option. However achieved, this policy would effectively eliminate the implied federal guarantee of GSE debt and MBSs.

Privatization could be undertaken abruptly by repealing the federal GSE charters and all the special provisions of law and regulation that convey the implicit guarantee. A sudden withdrawal of sponsored status--though it would make the decision more diffi-

3. Thomas H. Stanton, "Restructuring Fannie Mae and Freddie Mac: Framework and Policy Options," *HUD Studies* (May 1996), pp. 1-47.

cult to reverse--runs the risk of creating enterprises "too big to fail" and of subjecting the financial system to a shock from changes in the prices of many securities. A more gradual approach could address those difficulties.⁴

One of the thorniest issues facing privatization is the need to win the support of shareholders and management. The magnitude of the subsidy going to those interests makes it unlikely that stakeholders could avoid a loss if federal sponsorship was withdrawn. Accordingly, strong resistance to privatization is expected from the GSEs.

Based on recent experience with another GSE, the Student Loan Marketing Association, policies that reduce the federal subsidy can overcome such resistance.⁵ Policies that would produce that result include reducing the size of the loan ceiling for conforming mortgages, imposing a cost-of-capital fee, limiting the ability of the GSEs to issue debt to finance their mortgage portfolios, mandating contributions to a low-income housing assistance fund, and imposing higher capital requirements for shareholders. Those policies could help the owners and managers of Fannie Mae and Freddie Mac to anticipate a net benefit from privatization.

Of course, such options beg a question: why would the GSEs agree to those policies as a first step toward the withdrawal of their subsidy? That admission simply acknowledges that once one agrees to share a canoe with a bear, it is hard to get him out without obtaining his agreement or getting wet. If the GSEs were to support privatization, they and the Congress could certainly carry it out without financial disruption.

Fairness for the Housing GSEs

Although unilateral action by the government is envisioned under all of the options, most of the proposals require tacit approval by the government-sponsored

enterprises. Fannie Mae and Freddie Mac's agreement is necessary because they always have the option of seeking fully private status. Indeed, if any policy imposed more costs on the GSEs than it provided in government benefits, the GSEs' responsibility to their shareholders would require them to pursue privatization rather than oppose it. Retaining the exit option ensures that management and shareholders can avoid costs that exceed benefits.

Remaining Questions

The Housing and Community Development Act of 1992, which mandated this study, directed that it examine the effects of privatization on six areas:

- o Costs to the enterprises,
- o Costs of capital,
- o Home ownership,
- o Secondary market competition,
- o Capital requirements for the GSEs, and
- o Secondary market liquidity.

Although this report has supplied answers to most questions at various points, offering explicit responses provides a convenient summary of the Congressional Budget Office's principal findings.

Enterprise Operating Costs

The effect of privatization is difficult to predict. Repealing the exemption from state and local income taxes and SEC registration fees would raise GSE costs by perhaps \$300 million per year. Yet the GSEs could presumably reduce spending for many purposes, especially lobbying and political risk-hedging. At the same time, competition on a level playing field with the private intermediaries should shed light on current expenditures that are not cost-effective. The net effect on operating costs of the GSEs could be either positive or negative.

4. Ibid.

5. Thomas H. Stanton, "Supplementary Analysis," *HUD Studies* (May 1996), pp. 78-79.

Funding Costs

The effect of privatization on this area is unambiguous: capital costs of the housing GSEs would increase by at least 50 basis points on average--or by the amount of the federal funding subsidy.

Home Ownership

The effect on home ownership is ambiguous and depends on other policies adopted by the Congress. If, for example, the Congress decided to continue the subsidy to home buyers through other means, home ownership would most likely not be affected. Moreover, if some of the subsidy retained by the housing GSEs was effectively targeted toward low-income home buyers, home ownership among that group could rise.

Secondary Market Competition

All indications are that, after a period of adjustment, competition in the secondary market would increase in both the conforming mortgage and jumbo loan sectors.

Capital Requirements for the GSEs

On a per-dollar basis of assets and risk assumed, capital requirements would rise. GSE status implies an infusion of taxpayer equity that privatization would withdraw. However, the former GSEs would be significantly smaller after the adjustment to privatization was complete. Thus, their total dollar requirement for capital could be lower than under current policy.

Secondary Market Liquidity

The liquidity of a market refers to the ability to buy or sell large quantities of securities without affecting price. Privatization should not significantly affect the overall size of the secondary market. Big volumes tend to promote liquidity. Yet the number of issuers of MBSs would increase. That proliferation of issuers could increase the cost of evaluating many separate security issues for investors. As a limit, the liquidity of the secondary mortgage market should be no less than the liquidity of the corporate bond market, in which large numbers of diverse debt securities are bought and sold daily.