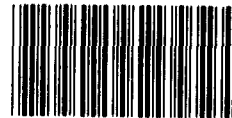


August 1990

GOVERNMENT-  
SPONSORED  
ENTERPRISES

The Government's  
Exposure to Risks



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United States  
General Accounting Office  
Washington, D.C. 20548

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General Government Division

B-239226

August 15, 1990

The President of the Senate and the  
Speaker of the House of Representatives

This report presents the initial results of our review of financial institutions known as government-sponsored enterprises (GSEs). The Financial Institutions Reform, Recovery, and Enforcement Act required us to study the risks undertaken by eight GSEs and the appropriate levels of capital for such enterprises consistent with financial soundness and stability and with minimizing the potential financial exposure of the federal government.

This report discusses the risks undertaken, capital levels, and federal regulation of Farm Credit Banks, Banks for Cooperatives, Federal Home Loan Banks, Federal National Mortgage Association (Fannie Mae), Federal Home Loan Mortgage Corporation (Freddie Mac), Student Loan Marketing Association (Sallie Mae), College Construction Loan Insurance Corporation (Connie Lee), and Federal Agricultural Mortgage Corporation (Farmer Mac).

We are providing copies of the report to interested Members of Congress, appropriate committees and executive branch agencies, the GSEs, and the public.

This report was prepared under the direction of Craig A. Simmons, Director, Financial Institutions and Markets Issues, who may be reached on 275-8678 if there are any questions. Other major contributors are listed in appendix XIII.

A handwritten signature in cursive script that reads 'Charles A. Bowsher'.

Charles A. Bowsher  
Comptroller General  
of the United States

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# Executive Summary

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## Purpose

Government-sponsored financial enterprises hold hundreds of billions of dollars in obligations. The large losses of the thrift industry have raised concerns about the government's exposure should any of these government-sponsored enterprises fail. The Financial Institutions Reform, Recovery, and Enforcement Act of 1989 required GAO to study the risk-taking and capital of these enterprises.

This is the first of two reports required by the act. For this report, GAO studied (1) each enterprise's measures and controls for interest rate risk, credit risk, management and operations risk, and business risk using unverified information supplied by the enterprises and (2) current federal supervisory structures and capital requirements that control enterprise risk-taking and capital. GAO's final report will examine these issues further.

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## Background

Congress created government-sponsored enterprises to help make credit reliably available to farmers, homeowners, colleges, and students. Congress made the enterprises privately owned and operated, limited their activities to specified economic sectors, and gave them benefits to help accomplish their public goals.

GAO studied eight enterprises. Three promote agricultural lending—Farm Credit Banks, Banks for Cooperatives, and Federal Agricultural Mortgage Corporation (Farmer Mac); three promote home lending—Federal Home Loan Banks, Federal National Mortgage Association (Fannie Mae), and Federal Home Loan Mortgage Corporation (Freddie Mac); and two promote higher education lending—Student Loan Marketing Association (Sallie Mae) and College Construction Loan Insurance Association (Connie Lee). These enterprises make loans, buy loans from other lenders, and/or guarantee financial products. Three other temporary government-sponsored enterprises established to finance the resolutions of the Farm Credit and thrift crises were not included in this study.

Like any private financial firm, enterprises are subject to financial risk. For example, enterprises can lose money when borrowers do not repay their loans. They are also exposed to losses from poor management decisions and unfavorable business conditions. Finally, some are exposed to losses from changes in interest rates.

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## Results in Brief

The sheer size of government-sponsored enterprises' financial obligations of over \$800 billion, their public policy purposes, and the

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probability that the federal government would assist a financially troubled enterprise, make it appropriate for the government to (1) supervise their risk-taking activities and (2) establish minimum levels of capital.

The government supervises some enterprises but not others. The agricultural enterprises and the Federal Home Loan Banks each have a regulator with certain authorities to monitor risk-taking and enforce capital rules. Connie Lee's activities, like those of other private insurers, are regulated by state authorities and also appear to be disciplined by private creditors. However, Fannie Mae's, Freddie Mac's, and Sallie Mae's risk-taking and capital levels are not closely supervised by the government. Furthermore, enterprise ties with the government have weakened the discipline that creditors normally provide to completely private financial firms.

With private creditor discipline weakened, enterprise boards of directors and managers are largely free to set levels of capital as they wish unless minimum capital levels are established by law or regulation. In financially troubled times after capital is depleted, owners and managers may have incentives to take unusual risks in a last-ditch effort to recover. General creditors may be willing to lend enterprises the funds needed to take these unusual risks because they expect to be protected from loss by the federal government.

The Farm Credit and thrift crises vividly demonstrate the effects of inadequate federal supervision of the risk-taking and capital levels of financial institutions. The government did not have the monitoring or forecasting capability or capital rules in place to learn about the Farm Credit crisis in time to prevent it from becoming serious. For thrifts, capital regulations were largely unenforced, and oversight and supervision were weak. As a result, the crisis reached unprecedented proportions. After each financial crisis, legislation reformed and strengthened the supervisory role of the financial regulators, making them independent and responsible for establishing risk-based capital rules. But the regulatory reforms were enacted too late to avoid large taxpayer assistance programs.

While GAO did not become aware of anything in its preliminary review to suggest that any enterprise is at risk of immediate failure, GAO did not conduct an independent test of the financial vulnerabilities of government-sponsored enterprises. The information GAO reviewed suggested that certain Farm Credit institutions continue to have serious financial



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difficulties. Furthermore, changes in management strategies, economic downturns, or other adverse events could precipitate future enterprise losses. The speed with which a firm can go from an apparently sound position to one that is financially imperiled was seen in the thrift industry, the Farm Credit System, and Fannie Mae in the early 1980s. Thus, caution dictates that the government not wait for a crisis before protecting its interests. By strengthening oversight and establishing risk-based capital rules in the current favorable environment, the potential for future financial crises can be reduced.

GAO believes a better system of monitoring, some reasonable capital rules, and appropriate enforcement authorities are needed for Fannie Mae, Freddie Mac, and Sallie Mae. In general, this system needs to ensure that the federal government obtains timely information on the risks undertaken by enterprises and provides proper oversight, including congressional oversight. This system should be designed to keep emerging problems from imposing losses on taxpayers and develop appropriate responses quickly so that major unanticipated losses can be contained. GAO has not yet formed an opinion on the precise way this can best be accomplished. GAO plans to continue its analysis and make recommendations in this regard in its final report.

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## Principal Findings

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### Elements of Bank Regulation Provide a Basis for Comparison

GAO compared the monitoring and capital regulatory structure used for banks with that used for government-sponsored enterprises because both groups present similar concerns to the government. In both situations, the government is interested in the financial firm's viability in part because the government may suffer financial losses from large-scale failure. In addition, federal ties can promote unsafe risk-taking on the part of banks, just as they can with government-sponsored enterprises.

Supervision of banks typically includes (1) minimum levels of owner investment or capital, (2) limits on risk-taking, (3) monitoring of the bank's financial performance, and (4) authorities for the regulator to enforce rules. GAO believes that the elements of safety and soundness supervision used for banks provide a conceptual framework for developing a structure that will better enable the federal government to protect its financial interests in government-sponsored enterprises. GAO

recognizes that the structure must accommodate the distinctive enterprise characteristics—specifically their limited lines of business and their large, nationwide operations—that make them different from banks.

## Enterprise Regulatory Oversight Inconsistent

The government actively supervises the risk-taking and capital levels of some enterprises but not others. The Farm Credit Administration has been established as an independent financial regulator of the Farm Credit Banks and their related associations, Banks for Cooperatives, and Farmer Mac. Congress has amended the Farm Credit Administration's authorities over time, and they now resemble the key ingredients of financial supervision that are used to promote safe and sound banking operations. All Farm Credit institutions, except Farmer Mac, must meet risk-based capital standards modeled after bank capital rules. It is unclear whether the Farm Credit Administration can require Farmer Mac to meet capital requirements that are based on the risks undertaken. For this report, GAO did not evaluate the Farm Credit Administration's effectiveness, but GAO plans to conduct such work in the future.

The Federal Housing Finance Board regulates the Federal Home Loan Banks. This regulatory body was created in August 1989 and has adopted preexisting rules that resemble the elements of bank regulation. As of June 1990, two board members had been nominated but none had been confirmed, so the Secretary of Housing and Urban Development had full powers of the Board. Consequently, it is unclear how the Federal Housing Finance Board will implement its authorities and whether it will be effective as an independent regulator for safety and soundness.

The Department of Housing and Urban Development has had authority to regulate Fannie Mae since 1968 and received such authority over Freddie Mac in 1989. However, the Department has not provided the kind of safety and soundness supervisory controls normally imposed by banking regulators. GAO reported in 1985 that the Department's regulation of Fannie Mae was inadequate. The Department's regulation of Fannie Mae has not changed significantly since 1985. In addition, although the Department became Freddie Mac's regulator in August 1989, it has not yet promulgated rules covering Freddie Mac's operations. Specific examples of inadequate regulation include the following:

- The Department has never used its authority to audit Fannie Mae. The Department first established a Fannie Mae oversight unit in 1978, only

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to disband it in 1981 when Fannie Mae was facing serious financial difficulties.

- The Department does not have the full range of authorities (particularly enforcement authorities) typically available to bank regulators.
- Inherent conflicts could exist between the Department's short-term housing policy goals and its goals as a financial regulator. Recent history of the thrift and Farm Credit crises has illustrated the disastrous effects of having regulators responsible for both promoting an industry and overseeing it.
- The Department does not have clear authority to apply capital rules to Fannie Mae and Freddie Mac that are more stringent than those set by statute. The statutory debt-to-capital standards currently applied to Fannie Mae and Freddie Mac are not based on the risks they undertake. For example, no equity capital is required for risks associated with guarantees of their \$500 billion in mortgage-backed securities, although management may choose to hold such capital. Fannie Mae and Freddie Mac can also increase their interest rate risk exposure without holding additional capital. Furthermore, capital is broadly defined by statute to include equally owner equity, loss reserves, and subordinated debt. Owner equity represents the best protection to the government against unexpected losses because owners have incentives to protect their personal investments from losses. By contrast, loss reserves account for expected loan defaults, and subordinated debt involves borrowings from creditors that must be repaid to avoid default. In effect, Fannie Mae and Freddie Mac can increase their risks without a commensurate increase in equity capital.

Sallie Mae has no federal regulator to oversee the safety and soundness of its financial activities or set minimum capital requirements.

Although Connie Lee has no federal regulator, it is subject to state insurance regulation. Unlike other enterprises, Connie Lee has no federal ties that may promote unsafe risk-taking and expose the federal government to losses.

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## Enterprise Risks and Capital Vary

GAO studied risks undertaken by government-sponsored enterprises by reviewing information from enterprises, interviewing enterprise officials and regulators, reviewing reports prepared by regulators, and reviewing reports and analyses done by third-parties such as external auditors, enterprise consultants, and private analysts. GAO did not independently develop data on the level of risks undertaken by enterprises, or independently verify their data or assertions made in their reports.

GAO anticipates testing certain GSE risk control procedures in the second phase of its study.

From a consolidated perspective, the Farm Credit System of Farm Credit Banks and their related associations and Banks for Cooperatives were able to eliminate losses from operations in 1989 and reported a profit in both 1988 and 1989 after 3 years of losses resulting from (1) defaults and declines in asset values caused by a serious agricultural recession, (2) high exposure to interest rate risk, and (3) management weaknesses. The Jackson Federal Land Bank was assisted and then closed in 1988, and three other Farm Credit institutions have required an infusion of federal financial assistance to remain viable. The Agricultural Credit Act of 1987 provided System institutions up to \$4 billion in government-guaranteed bonds, which has alleviated any immediate concerns about System viability. However, System institutions still face substantial amounts of risk. For example,

- audited financial statements indicate 14 percent of the \$49 billion in loans outstanding are high-risk loans;
- the Farm Credit Administration has identified weaknesses in the management of institutions that hold over 60 percent of the System's assets; and
- System institutions face continual business risks, e.g., potential crop failures caused by uncontrollable factors such as the weather.

Historically, the Federal Home Loan Banks have presented little risk of failure. They have been profitable, have never reported credit losses, and typically have returned healthy earnings to their owner-borrowers (primarily thrifts). The Federal Home Loan Banks were insulated from the effects of record numbers of thrift failures by conservative lending policies and collateral. At the end of 1989, they had capital equal to about 8 percent of assets. (See p. 78.) However, future profitability will be dampened because their earnings will be used to help pay the costs of thrift failures and to fund new programs for affordable housing. The shrinking of the thrift industry also represents a risk to the Federal Home Loan Banks because it could mean loss of borrowers and investors.

Fannie Mae's financial performance has swung from substantial losses in the early 1980s to record profits in 1989. Its financial losses resulted primarily from interest rate changes. Fannie Mae's past business strategy of borrowing short-term debt to fund long-term mortgages proved costly when interest rates rose dramatically in the late 1970s

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and early 1980s. Lower interest rates and a new business strategy enabled Fannie Mae to reverse the losses. Fannie Mae now reports that its exposure to interest rate risk has been greatly lessened, although not eliminated. Its seriously delinquent loans have also declined from unusually high levels experienced in the mid-1980s.

Without an effective capital requirement that is risk-based, Fannie Mae has a good deal of discretion in determining the amount and composition of its capital. Fannie Mae has been increasing its capital holdings from a depleted level and now reports that its capital is sufficient to withstand nationwide losses comparable to the high rate of defaults it experienced from loans made in Texas in 1981 and 1982. However, Fannie Mae's equity capital has been less than 1 percent of its assets and mortgage-backed securities over the past 5 years, ranging from a low of 0.61 percent at the end of 1986 to 0.88 percent at the end of 1989. (See p. 80.)

Freddie Mac has been consistently profitable during the 1980s. Freddie Mac avoids most interest rate risk, and available evidence indicates that its credit losses have been lower than industry averages. Most of Freddie Mac's credit risk comes from mortgage-backed securities, which, like those of Fannie Mae, are not considered under its statutory capital requirement. Freddie Mac's capital has also been less than 1 percent of its assets and mortgage-backed securities over the past 5 years, ranging from a low of 0.50 percent at the end of 1986 and 1987 to 0.62 percent at the end of 1989. (See p. 81.) However, Freddie Mac reports that its current capital levels are designed to enable it to withstand losses from mortgage defaults comparable to those experienced during the Great Depression. Freddie Mac also has a good deal of discretion over the amount and composition of capital.

Sallie Mae's financial performance has been consistently profitable. Its student loans are typically guaranteed by state and non-profit agencies and reinsured by the Department of Education, resulting in no material credit losses to Sallie Mae. Sallie Mae reports that it attempts to avoid losses from interest rate changes by borrowing funds with interest rate payments that adjust parallel with the interest earned on student loans. Sallie Mae has decreased its capital holdings as a percentage of its assets from about 5 percent in 1985 to about 3 percent currently. Sallie Mae officials believe the enterprise's capital levels would comply with bank risk-based capital standards. (See p. 82.)

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Connie Lee expects few or no losses from either interest rate risk or credit risk in its current business of bond reinsurance. Connie Lee's capital level is set by management to conform to private market standards for the highest quality bond reinsurers.

Farmer Mac has been preparing standards and methods of operation for its financial operations, which are not yet underway.

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### Rationale for Overseeing Enterprise Risk-Taking and Capital

Without overseeing enterprise risk-taking, the government has little ability to identify, prevent, or contain the effects of the kinds of problems that have led to taxpayer losses in the past. The government has helped enterprises in financial trouble even though it was not legally obligated to do so. Fannie Mae suffered cumulative net losses of over \$350 million in 1981, 1982, 1984, and 1985. In 1982, Congress passed a law that extended Fannie Mae's tax loss carryback period. Fannie Mae estimated the value of this benefit to date at \$25 million. In 1988, the government authorized \$4 billion in federally guaranteed bonds to assist the troubled Farm Credit System, which had reported cumulative net losses of \$4.6 billion from 1985 to 1987.

Federal capital standards are appropriate for enterprises because private markets allow enterprises to borrow with relatively low levels of capital. These enterprises can continue to borrow money in private markets even when performing poorly. In 1981, for example, the estimated market value of Fannie Mae's net worth was reported to have declined to a negative \$11 billion. Under these circumstances, a wholly private firm would typically be blocked from borrowing or would be permitted to borrow only at extremely high rates of interest. Indeed, some private firms in that situation would be forced into liquidation once the general creditors learned the facts. Fannie Mae, however, was able to continue borrowing very large amounts (\$31 billion in long-term debt and \$64 billion in short-term funds in 1981 and 1982) with only a brief increase in its borrowing costs. Throughout the episode, Fannie Mae retained the highest credit rating possible, and borrowing costs returned to levels typified by "safe" investments by the end of 1982. Similarly, while Farm Credit institutions were incurring massive losses, they continued borrowing albeit at higher interest rates. It seems clear that, with respect to government-sponsored enterprises, the federal ties cause investors to behave like insured depositors who believe their investments to be very safe.

Enterprise officials and analysts have suggested that investors in enterprise securities expect the federal government to back their investment, so they do not fully evaluate the quality of the enterprises' borrowings. However, the one enterprise for which federal assistance is deemed unlikely is Connie Lee, which does not have federal ties comparable to other enterprises and appears to have the same types of private creditor discipline as other private financial firms.

Since most enterprises can continue to borrow funds even when financially troubled, they could have an incentive and have the ability to increase the government's risk should heavy losses occur. After most private capital is depleted, enterprise managers might have the incentive of using their ties to the government to continue borrowing and undertake highly risky activities in order to recoup losses. This situation would resemble the risk-taking incentives that increased the government's costs from under-capitalized thrifts with deposit insurance. With thrifts, the government took steps to improve its supervision of risk-taking and capital.

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## Recommendations

GAO believes that additional oversight of Fannie Mae's, Freddie Mac's, and Sallie Mae's risk-taking and capital levels is needed. GAO will make specific recommendations to accomplish this in its final report. GAO may have further recommendations as a result of its ongoing work on enterprises.

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## Agency Comments

GAO obtained written comments on a draft of this report from all the enterprises, their regulators, and the departments of Agriculture and Education. A summary of the overall comments and GAO's evaluation appear in chapter 5. The written comments appear in appendixes I through XII.

Generally, the enterprises and federal departments and regulatory agencies expressed a desire for GAO to emphasize more strongly certain positive aspects of their operations, risk management, or capital.

The Department of Housing and Urban Development disagreed with certain conclusions in the report. The Department believed it inappropriate for GAO to say that regulatory capital requirements imposed on Fannie Mae and Freddie Mac are inadequate without saying what an acceptable standard would be. It agreed that the statutory capital requirement does not adequately address the risks of these enterprises but was unclear

about the Department's authority to establish more stringent capital requirements. GAO believes it is appropriate to report now on concerns with current capital standards and oversight and plans to recommend solutions in its final report.

Freddie Mac said GAO should have concluded that it is a very strong, well-capitalized institution. Further, Freddie Mac believed GAO should have endorsed the stress tests that it uses to determine capital adequacy and the use of market value accounting in measuring capital. GAO plans to continue to examine these issues.

Freddie Mac also said that all the necessary elements for its regulation are in place and that the Department of Housing and Urban Development has sufficient powers to regulate Freddie Mac. The Department also believes it is the appropriate regulator of Fannie Mae and Freddie Mac. Fannie Mae said it believes it should be regulated but did not take a position on whether the Department is the appropriate regulator. Both Freddie Mac and the Department believe it is unnecessary to separate the safety and soundness oversight function from the public policy function. GAO believes that the Department has not exercised its regulatory authority and that the government cannot depend on the Department to reconcile its role as a safety and soundness regulator with its role as a promoter of housing.

Sallie Mae said it is unfair for the report to conclude that increased oversight is needed because of the perception that the government would assist a failed enterprise without making the granting of such assistance explicit. Sallie Mae also said that unquantifiable benefits arising from an enterprise's federal ties do not warrant such oversight. GAO reports the effects of both existing ties between the federal government and the enterprises as well as past government assistance actions as support for concluding that the government could face losses if an enterprise failed. GAO also cites these ties as reasons why private market discipline is imperfect in the case of enterprises. Thus, GAO believes it is prudent for the government to establish adequate oversight of enterprises.



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## Abbreviations

|        |  |
|--------|--|
| BC     | Bank for Cooperatives  |
| CEO    | Chief Executive Officer                                      |
| CPA    | Certified Public Accountant                                  |
| FCA    | Farm Credit Administration                                   |
| FCB    | Farm Credit Bank   |
| FCS    | Farm Credit System   |
| FHFB   | Federal Housing Finance Board                                |
| FHLB   | Federal Home Loan Bank                                       |
| FIRREA | Financial Institutions Reform, Recovery, and Enforcement Act |
| GAAP   | generally accepted accounting principles                     |
| GSE    | government-sponsored enterprise                              |
| HUD    | Department of Housing and Urban Development                  |
| LTV    | loan-to-value  |
| MBS    | mortgage-backed securities                                   |
| RTC    | Resolution Trust Corporation                                 |
| SEC    | U.S. Securities and Exchange Commission                      |
| S&P    | Standard and Poor's Corporation                              |



# Introduction

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The Financial Institutions Reform, Recovery, and Enforcement Act (FIRREA) requires that we study the risks undertaken by financial institutions known as government-sponsored enterprises (GSE). As used in this report, a GSE is a federally chartered, privately owned corporation designed to provide a continuing source of credit nationwide to a specific economic sector. Congress wanted information about whether GSEs could face problems similar to those causing widespread thrift failures.

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## Background

Congress created GSEs between 1916 and 1988 because it wanted to ensure that reasonably priced credit was available for borrowers seeking to finance homes, agricultural businesses, and college educations. The GSEs are just part of the government's overall assistance to the economic sectors it has consistently given national priority—housing, agriculture, and higher education. These sectors receive assistance in the form of grants, price supports, direct loans, guaranteed loans, and other subsidies.

The GSEs were created to correct what were perceived as flaws in the credit markets. First, there was an uneven availability of credit in various regions, which resulted directly from banking laws and regulations. These laws and regulations limited the activities and geographic diversification of various segments of the financial industry, especially banks and thrifts. Interstate banking and intrastate branching were largely prohibited. As a result, most bank and thrift funds came from local deposits, and most of their borrowers were local residents. These restrictions made credit unevenly available in different parts of the country because local deposits did not always meet local demand for funds.

Second, agriculture, housing, and higher education loans were not very appealing to large-scale investors. These investors generally prefer investments that (1) can easily be sold and converted into cash (this attribute is referred to as liquidity) and (2) are sold in relatively large denominations. Individual mortgages, student loans, and agricultural loans generally did not meet these criteria because

- they were characterized by relatively small principal amounts, could be prepaid at unpredictable times, and required constant attention and possibly difficult collection procedures;

- efficient national markets where these loans could be bought and sold did not exist;<sup>1</sup>
- investors could not easily compare the loan quality among different lenders; and
- the risks inherent in such investments were difficult to evaluate and price.

Third, banks preferred commercial loans over housing, agriculture, and education loans. Commercial loans were perceived to be more profitable, easier to administer, and safer. Given banks' short-term funding sources, longer-term mortgage loans were riskier than shorter-term commercial loans. Agricultural businesses were more volatile than many other commercial businesses, making small farmers a higher risk population. Federally guaranteed student loans had strict administrative requirements. In addition, local banks and thrifts tended to withdraw from these sectors when the need for funds was the greatest—i.e., when the economy worsened for that particular sector.

## GSEs Created as National Financial Institutions

Congress created GSEs to overcome these basic problems with credit availability. GSEs would operate nationally to make funds available in all regions of the country. They would bridge the gap between local borrowers', local lenders', and large investors' needs by offering securities on Wall Street that were highly liquid, were sold in large denominations, carried known maturities, and were considered relatively safe. In addition, they would make agriculture, housing, and education loans more appealing to lenders by creating efficient secondary markets for resale of the loans in both good and bad economic times. As shown in table 1.1, three GSEs included in the study are involved in the housing market, two in the agricultural market, one in the agricultural and rural housing markets, and two in the higher education market. Three other GSEs established to finance the resolutions of the Farm Credit and thrift crises were not included in this study. The three are the Financing Corporation, the Financial Assistance Corporation, and the Resolution Funding Corporation. They were created in 1987, 1988, and 1989, respectively.

<sup>1</sup>These markets are commonly referred to as secondary markets. The primary market is where an institution makes a loan or borrows money by selling a debt security to an investor. A debt security is a document in which the institution promises to pay back the principal in a certain number of days, months, or years, commonly referred to as the security's maturity. Interest is paid on the security's principal amount either periodically or at the end of its maturity. The secondary market is where the loan documents and securities are sold to third-party investors and can be bought and sold at any time before their maturity.

Table 1.1: GSEs Included in This Study

| GSE name  | Year created | Market sector                   |
|---|--------------|---------------------------------|
| Farm Credit System Banks                        |              |                                 |
| Farm Credit Banks                               | 1916/1988    | Agriculture                     |
| Banks for Cooperatives                          | 1933         | Agriculture                     |
| Federal Home Loan Banks                         | 1932         | Housing                         |
| Federal National Mortgage Association           | 1938/1968    | Housing                         |
| Federal Home Loan Mortgage Corporation          | 1970         | Housing                         |
| Student Loan Marketing Association              | 1972         | Education                       |
| College Construction Loan Insurance Association | 1986         | Education                       |
| Federal Agricultural Mortgage Corporation       | 1988         | Agriculture<br>Rural<br>Housing |

### Federal Ties Both Constrain and Benefit GSEs

GSEs typically are subject to a number of federal controls that have no private sector parallels. For example, most GSE boards of directors have some members who are appointed by the President of the United States, not strictly by the shareholders. The Student Loan Marketing Association's (Sallie Mae) Chairman of the Board is selected by the President. Each Federal Home Loan Bank (FHLB) has a minority of directors appointed by its federal regulator, the Federal Housing Finance Board (FHFB). In addition, FHFB annually designates each Bank's chairman and vice-chairman. Directors have an ongoing responsibility to ensure that GSEs operate within their charters. Some GSEs are also subject to oversight by federal agencies, such as the Farm Credit Administration (FCA), which regulates and examines the agricultural GSEs, and the Department of Housing and Urban Development (HUD), which generally oversees the Federal National Mortgage Association (Fannie Mae) and the Federal Home Loan Mortgage Corporation (Freddie Mac). Furthermore, the Secretary of the Treasury is authorized to approve or disapprove the issuance of FHLB System, Fannie Mae, Freddie Mac, and Sallie Mae debt securities. FCA has such authority over Farm Credit System (FCS) securities, and the FHFB also has authority over FHLB securities. In addition, FCS banks must consult with the Secretary of the Treasury on securities issues.

Each GSE's charter, except the Federal Agricultural Mortgage Corporation (Farmer Mac), limits it to certain permissible activities related to one line of business—either housing, education, or agriculture. Farmer Mac is limited to agriculture and rural housing. New GSE activities related to its defined market may also be restricted until it obtains legal or regulatory authority. For example, FCA held hearings in June 1989 to

consider whether FCS institutions should be allowed to offer additional financially related services to their agricultural customers. FCA has not allowed FCS institutions to expand the services they offer on the basis of these hearings. Such oversight is meant to ensure that GSEs operate safely and devote their energies to the public policy purposes for which they were created.

Legislation also provides numerous operating privileges that generally increase the GSEs' profitability by lowering costs of operations and increasing the liquidity of the GSEs' securities. First, most GSEs have access to federal funding should it ever be needed. Each GSE, except the College Construction Loan Insurance Association (Connie Lee), Farm Credit Banks (FCB), and Banks for Cooperatives (BC) can borrow money from the Treasury. The line of credit ranges widely: \$4 billion for FHLBS, \$2.25 billion each for Fannie Mae and Freddie Mac, \$1.5 billion for Farmer Mac, and \$1 billion for Sallie Mae. Except for Farmer Mac, the lines of credit are at Treasury's discretion, and Treasury officials said they have no rules or guidelines governing situations when such credit may be granted or denied.

FCS institutions have access to federal assistance that differs slightly from the GSE norm. Farmer Mac is eligible to draw on its Treasury line of credit of \$1.5 billion under specific conditions outlined in the Agricultural Credit Act of 1987. Other FCS institutions facing serious financial difficulties do not have direct lines of credit with Treasury but can obtain federal financial assistance through the FCS Assistance Board. Through September 30, 1992, the Assistance Board may authorize FCS institutions up to \$4 billion in assistance. Government-guaranteed bonds provide funds for the assistance, and the government pays part of the interest. The principal of the bonds is supposed to be repaid by the assisted institution, and the interest the government pays is to be repaid by FCS institutions. After 1992, the FCS Insurance Corporation will have authority to assist troubled FCS institutions.

The GSEs also enjoy certain cost-saving benefits from their federal ties. First, most GSEs have certain tax exemptions. FCBS and some of their associations and FHLBS pay no federal, state, or local taxes other than real property taxes. BCs and specific types of FCB associations are fully taxable. Fannie Mae, Freddie Mac, and Sallie Mae are exempt from state and local income taxes but not taxes on real property. Second, FCBS, BCs, FHLBS, and Sallie Mae save money because investors in their debt securities pay no state or local income tax on interest earned from the securities. All other things being equal, investors will accept lower returns



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(that is, a lower borrowing cost to the GSE) on tax-exempt securities than on taxable ones. Third, all GSEs, except Farmer Mac and Connie Lee, are explicitly exempted from registering their debt securities and asset-backed securities with the U.S. Securities and Exchange Commission (SEC), saving them administrative fees.<sup>2</sup>

Congress also gave certain GSEs benefits that enhanced the liquidity of their debt and asset-backed securities.<sup>3</sup> These GSE securities can be used as collateral for public deposits and for borrowing from Federal Reserve Banks and FHLBs; this makes them attractive investments for banks and thrifts. In addition, hypothetically, these GSE securities can be held in unlimited amounts by national banks, and the Federal Reserve can buy and sell them in open market operations. Finally, these GSE securities are issued and payable through the Federal Reserve's book-entry system, which allows funds and securities to be electronically traded.

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## How the GSEs Operate

The GSEs in our study use two basic operating styles—portfolio lending and credit enhancement through financial guarantees. FCBS, BCS, FHLBs, and Sallie Mae operate primarily as portfolio lenders that either buy or make loans and then hold them to earn interest. Connie Lee and Farmer Mac operate primarily as guarantors of securities. Freddie Mac operates primarily as a guarantor of securities but also holds a portfolio of mortgages. Fannie Mae operates as both a portfolio lender and guarantor of securities.

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## Portfolio Lenders

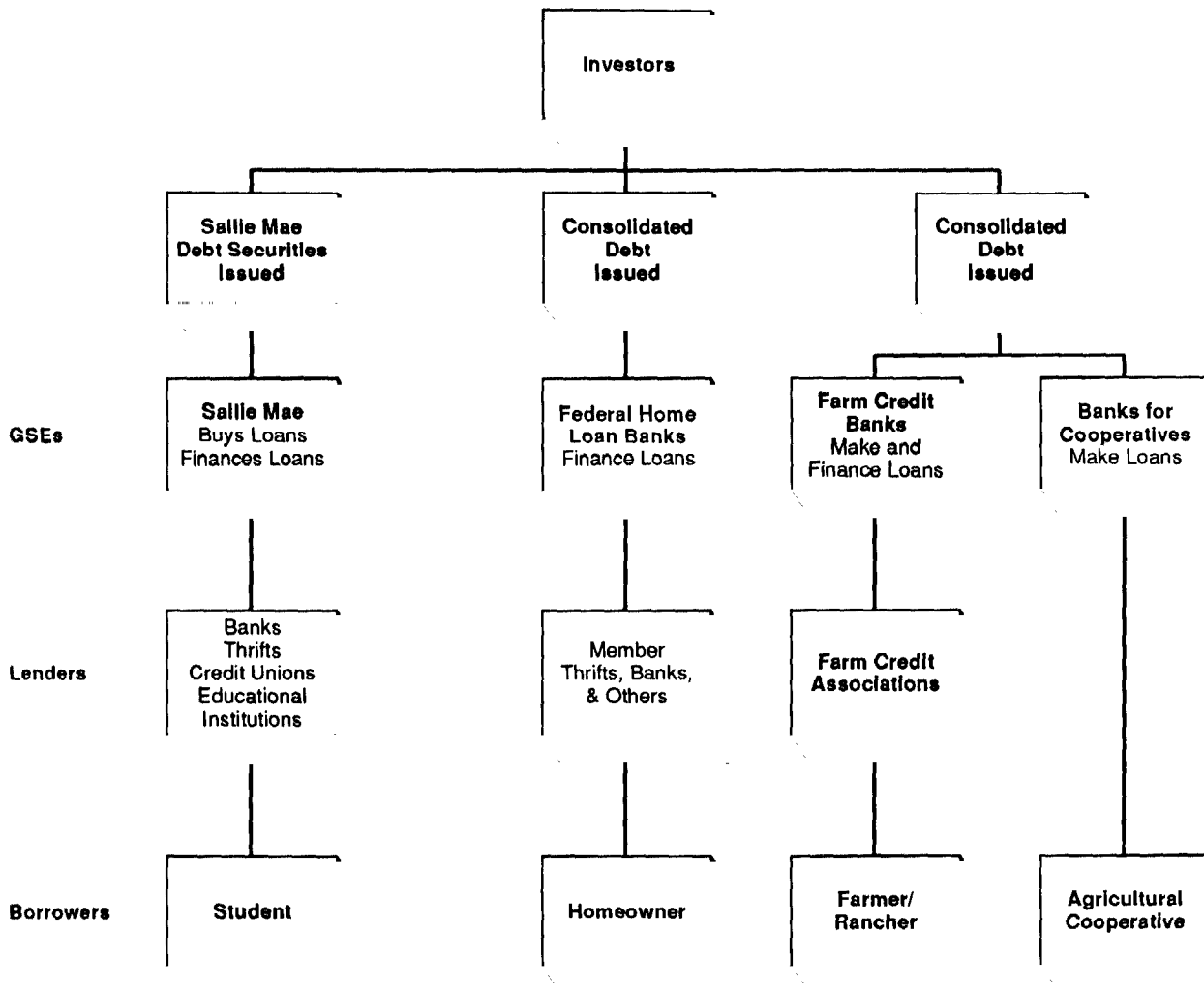
GSEs that operate as portfolio lenders either purchase assets to hold in portfolio, make loans, or do both of these activities. They obtain most of their operating funds by selling to investors debt securities (bonds and notes) that are general obligations of the GSE. In general, portfolio lenders try to maximize the difference between the interest earned on their loans and other assets and the interest paid on debt securities and other liabilities—this is net interest income. FCS banks, FHLBs, and Sallie Mae are primarily portfolio lenders. Figure 1.1 shows the basic operating methods of these GSEs.

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<sup>2</sup>Unlike Fannie Mae and Freddie Mac, Farmer Mac is designed to act principally as a guarantor of asset-backed securities, not as an issuer. Farmer Mac guaranteed asset-backed securities must be registered with the SEC.

<sup>3</sup>Connie Lee and Farmer Mac have not issued debt securities or asset-backed securities.

Figure 1.1: Operations of FCS, FHLBs, and Sallie Mae



Farm Credit System

FCS is a nationwide network, which, as of December 31, 1989, comprised 11 operating FCBS and 1 Federal Intermediate Credit Bank and their 283 associations that lend money to farmers and ranchers, and 3 BCs that lend money to agricultural-related cooperatives and rural utility systems—the National Bank for Cooperatives (CoBank), the Springfield Bank for Cooperatives, and the St. Paul Bank for Cooperatives. Each institution is owned by its borrowers, and the borrowers elect directors. The directors then select one public director. The resulting board of

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directors, in turn, selects the institution's top management. For example, each association is owned and controlled by its farmer-borrowers, and each FCB is owned and controlled by its associations. FCBS and BCS raise operating funds by selling System-wide consolidated debt securities to investors through the Federal Farm Credit Banks Funding Corporation in New York. Each bank is liable for the securities issued on its behalf, and all the banks together are "jointly and severally" liable should any issuing bank fail to repay its securities. FCBS make loans both directly to farmers and to FCB associations that, in turn, loan the funds to farmers. BCS make loans directly to agricultural cooperatives, individuals involved in international agricultural transactions, and rural utilities. As of December 31, 1989, FCS institutions had combined loans of about \$49 billion to farmers and related businesses.

#### FHLB System

The FHLB System encompasses 12 districts, each with its own FHLB. FHLBs are owned and controlled by thrifts and other financial institutions (members) in each district. Each FHLB has a separate management and board of directors. The System's Office of Finance raises operating funds for the FHLBs by selling debt securities to investors in the national credit markets. Similar to FCS debt, all 12 banks are jointly and severally liable for these securities. FHLBs loan funds to their members that, in turn, make direct loans to customers for housing and other purposes. As of December 31, 1989, FHLBs had combined loans to members, called advances, of about \$142 billion.

#### Sallie Mae

Sallie Mae is a single institution that is owned and controlled by private stockholders. The President of the United States appoints 7 of the board of directors' 21 members and selects the chairman. Sallie Mae generally raises funds by selling debt securities to investors or raising equity capital. These funds are used to (1) purchase student loans from banks and other financial institutions; (2) make loans to financial institutions so they can make additional student loans; (3) guarantee student loan revenue bonds; and (4) invest in academic facility bonds, student loan revenue obligations, and other liquid assets. As of December 31, 1989, Sallie Mae's portfolio included about \$16 billion in student loans, about \$9 billion in loans to financial institutions, and about \$10 billion in cash and investments.

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#### Guarantors

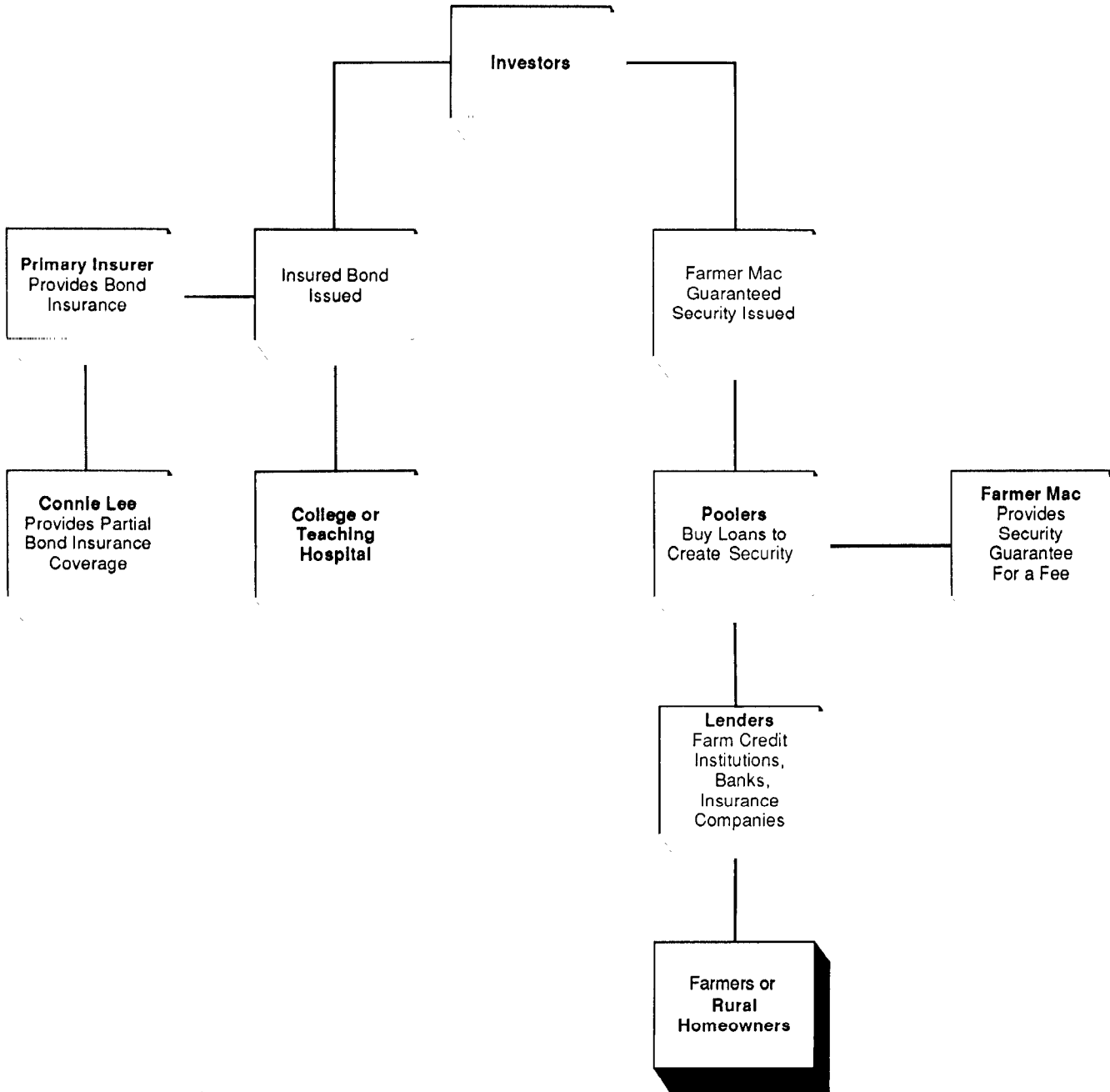
The second operating style GSEs use is to act as financial guarantors. Farmer Mac operates primarily as a guarantor of asset-backed securities, and Connie Lee operates primarily as a bond reinsurer. Unlike portfolio lending, this operating style does not necessarily require the GSEs to

borrow funds with debt securities. These GSEs earn income through fees. GSEs providing financial guarantees need to accurately evaluate and price risks associated with the securities, primarily the risk that the underlying loans or bonds will default. Figure 1.2 shows the basic operations of Connie Lee and Farmer Mac.

An asset-backed security is created through a process known as pooling. In this process, a GSE or other financial institution groups or “pools” loans (assets) with similar maturities, interest rates, and underlying collateral. This group of loans is held in trust, usually by the pooler, and used as collateral to create a new security of a specified maturity and interest rate that can be bought and sold. The GSE guarantees that the interest and principal on the security will be paid according to schedule. The original lender or another institution services the loans by collecting loan payments from the borrowers and passing them on to the pooler. In turn, the pooler pays the interest and principal on the asset-backed security to the investor who holds the security. Each party in the transaction—loan servicer, pooler, and security guarantor—receives a fee for its services.

Bond insurers are another type of guarantor. Bond insurance guarantees the bond-holder that payment of principal and interest will be made as scheduled. Institutions issuing bonds may buy such insurance to reduce their interest expense and to broaden the bonds’ appeal. Investors are willing to accept lower interest and to purchase bonds from relatively smaller and less familiar entities if the bonds are insured. Primary bond insurers deal directly with the institution and can provide insurance for the whole amount of a bond. Reinsurers enter into contracts with the primary insurer to reimburse the primary insurer for part of any default loss on the bond. Both primary insurers and reinsurers earn fees for the bond insurance.

Figure 1.2: Operations of Connie Lee and Farmer Mac



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**Connie Lee**

Connie Lee is a private insurance holding company incorporated in the District of Columbia with a fully-owned subsidiary insurance company incorporated in Wisconsin. As such, it must comply with insurance regulations in all states in which it does business. Sallie Mae currently owns about 75 percent of Connie Lee's common stock, and the Department of Education owns the other 25 percent. Connie Lee's 11-member board of directors has 2 members appointed by the Department of Education, 2 appointed by the Department of the Treasury, 3 appointed by Sallie Mae, and 4 elected by stockholders. Connie Lee currently reinsures academic facility bonds and plans to become a primary insurer during 1990. It is financed with the proceeds from stock sales and operating revenues and does not intend to issue debt securities. As of December 31, 1989, Connie Lee had an outstanding exposure of about \$1.7 billion from insured bonds.

**Farmer Mac**

The Agricultural Credit Act of 1987 established Farmer Mac to create a secondary market for agricultural real estate and rural housing loans. Its 15-member board of directors includes 5 members appointed by the President of the United States, 5 members elected by stockholders that are FCS institutions, and 5 members elected by stockholders that are non-FCS financial institutions. Start-up of Farmer Mac has been financed with capital contributions. As of December 31, 1989, Farmer Mac had stockholder equity of about \$20 million but had not guaranteed any securities.

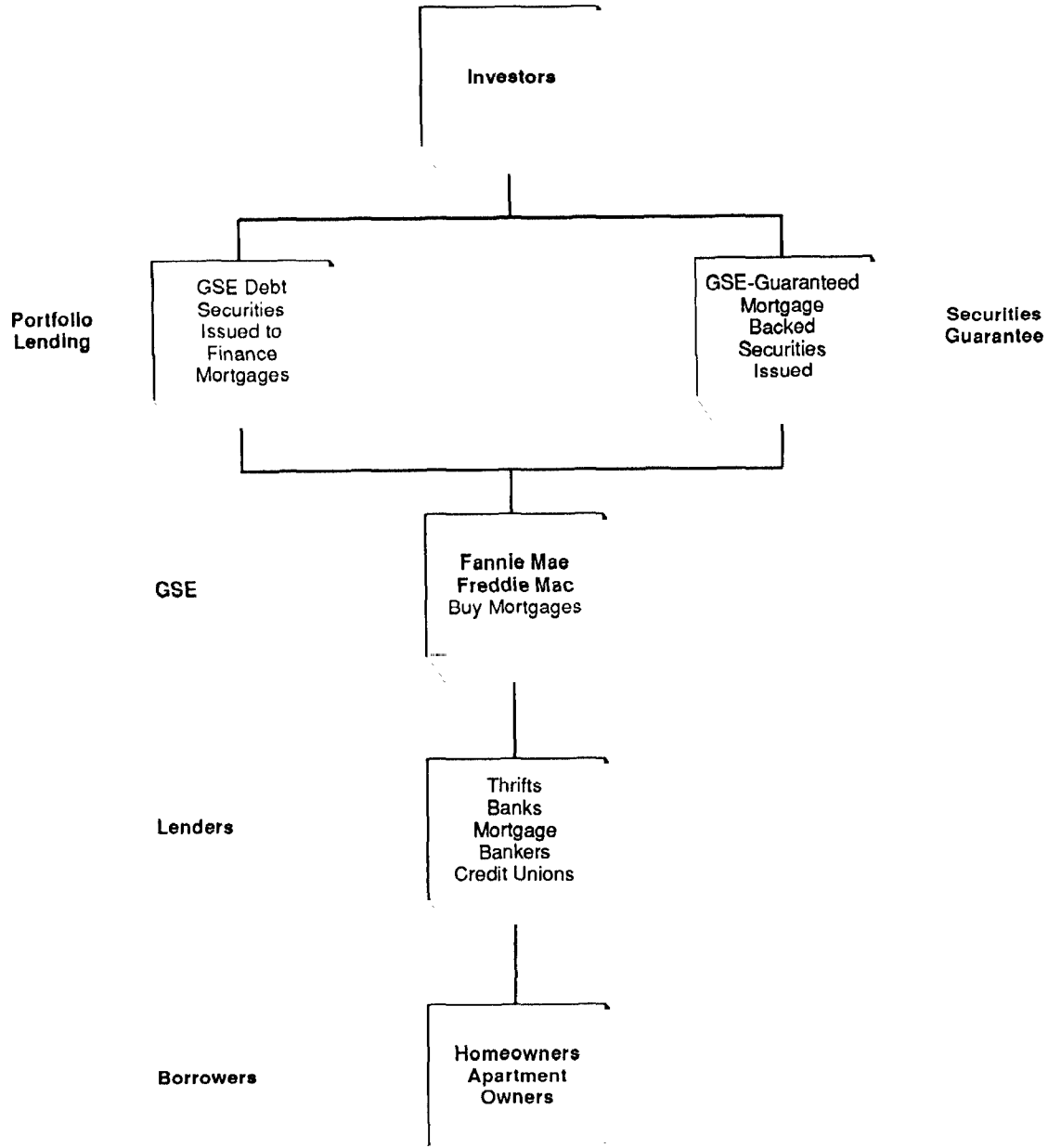
Farmer Mac was established to guarantee timely payment of interest and principal on securities backed by a pool of agricultural real estate and/or rural housing loans. Farmer Mac is to certify certain other financial institutions to act as the poolers that will buy agricultural and rural housing mortgage loans, form loan pools, and issue and sell securities backed by the pools. The statutory authority requires that the pooler establish either a subordinated security class or a cash reserve to provide a cushion for Farmer Mac of at least the first 10 percent of losses.

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**Both Portfolio Lenders and Guarantors**

Fannie Mae and Freddie Mac make up a third group of GSEs. This group operates using characteristics of both portfolio lenders and security guarantors. They act as both poolers and guarantors for securities backed by pools of mortgages, which we refer to as mortgage-backed securities (MBS). About 95 percent of Freddie Mac's mortgage business is in MBS and 5 percent is in portfolio lending. Figure 1.3 shows the basic operating styles of Fannie Mae and Freddie Mac.

Figure 1.3: Operations of Fannie Mae and Freddie Mac



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Fannie Mae and Freddie Mac are corporations, each owned and controlled by private stockholders with an 18-member board of directors, 5 of whom are appointed by the President. Before the Federal Home Loan Bank Board was abolished in 1989, it served as Freddie Mac's board. Fannie Mae's and Freddie Mac's operations provide a secondary market where mortgages can be bought and sold.

**Fannie Mae**

Fannie Mae operates as both a portfolio lender and MBS guarantor, earning profits from both interest income and fees. It raises funds for portfolio purchases primarily by selling debt securities. As of December 31, 1989, Fannie Mae had a net mortgage portfolio of almost \$108 billion and MBS of about \$228 billion.

**Freddie Mac**

Freddie Mac operates primarily as an MBS guarantor but also has a portfolio of loans. As of December 31, 1989, it held a net mortgage portfolio of about \$15 billion and had outstanding MBS of about \$272 billion. Freddie Mac's earnings also come primarily from fees and interest income. However, it only pays for part of its portfolio with debt securities. Freddie Mac funds the remainder of its portfolio with equity, mortgage-related securities, and the interest and principal it collects for mortgages in MBS pools. Instead of passing the principal and interest on to MBS security holders immediately, it temporarily uses the money to fund its portfolio. However, Freddie Mac's funding strategy may be changing. Freddie Mac recently announced it will pass payments on new securities through to investors more quickly.

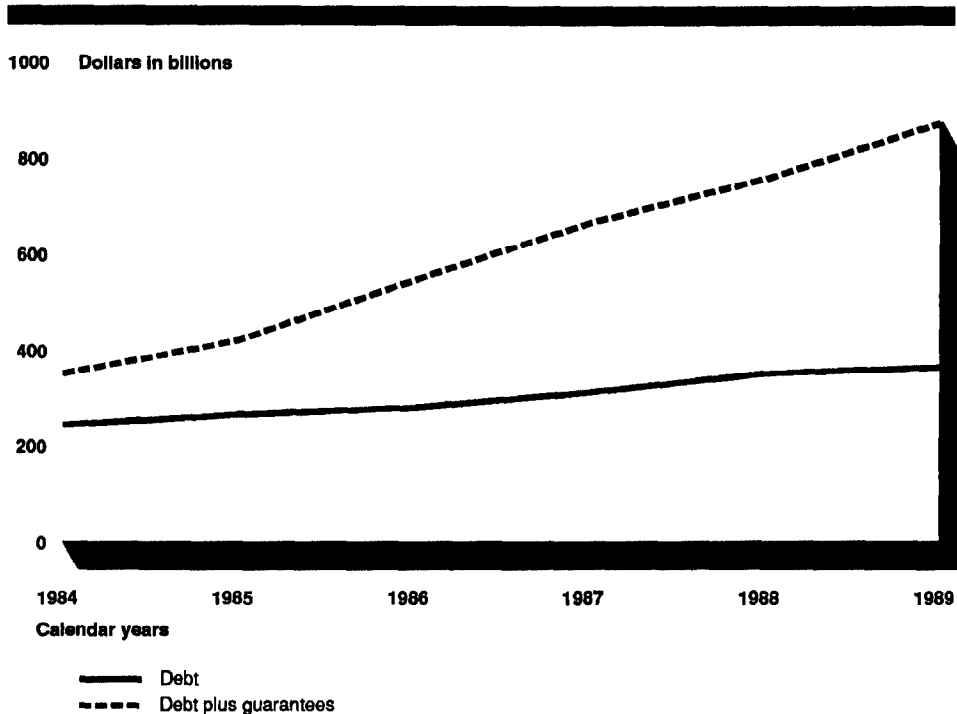
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**GSEs Have Large Debts**

The GSEs have begun to attract public interest because in total they grew so rapidly during the 1980s. As shown in figure 1.4, debt and MBS guarantees outstanding totaled over \$800 billion by the end of 1989, about a 250-percent increase from 1984. The figure excludes Connie Lee and Farmer Mac, which were created in the latter half of the decade.



Figure 1.4: Growth of GSE Debt and Guarantees



## Objectives, Scope, and Methodology

FIRREA required that we study the risks undertaken by the eight GSEs and the appropriate levels of capital for such enterprises consistent with financial soundness and stability and with minimizing the potential financial exposure of the federal government. FIRREA also required the Treasury Department to do a similar study.<sup>4</sup> We coordinated our work with Treasury's efforts by jointly attending meetings and sharing information whenever possible.

FIRREA required us to submit two reports to Congress on the study's results—an interim report in May 1990 and the final report in May 1991. We designed the interim report to describe the risks undertaken by GSEs, how they control and measure these risks, the capital they hold to guard against risks of losses, their relationship with the federal government, and how their operations are regulated for financial safety and soundness. In our final report, we plan to (1) provide our independent evaluation of the GSEs' key risk-control mechanisms, (2) recommend appropriate techniques for setting minimum capital levels, and (3)

<sup>4</sup>See Treasury's report entitled Report of the Secretary of the Treasury on Government Sponsored Enterprises (May 31, 1990).

examine the quality and timeliness of information available concerning GSE activities.

To address the above objectives, we reviewed relevant literature, congressional testimony, external studies, information statements, credit reports, investment research from Wall Street firms, and news releases. We also interviewed officials from Standard and Poor's Corporation (S&P) and Moody's Investors Service to determine the basis for their assessment of GSE risk.

Our detailed work at each GSE was tailored to the GSE's unique circumstances. At Fannie Mae, Freddie Mac, and Sallie Mae we obtained most of our information from (1) written and oral responses to specific questions and (2) supporting data provided by top and mid-level managers. We toured Freddie Mac's and Fannie Mae's facilities and observed various activities, such as buying mortgages and selling MBS, as they happened. To determine their risk management practices, current capital positions and strategies, and exposures to each type of risk, we

- reviewed corporate policies and standards, including seller and servicer guides;
- obtained data on their current financial condition and operating results, such as default rates and profit margins;
- reviewed the GSEs' methodologies for determining capital adequacy, pricing, sensitivity to interest rate changes, sensitivity to economic stress, and management information systems; and
- examined copies of external auditor reports and management letters that highlighted internal control weaknesses.

Because the FHLB System and FCS include numerous institutions spread over the United States, we relied on our most recent reports concerning these GSEs and data and opinions from their federal regulators—FHFB and FCA—and the FCS Funding Corporation and FHLB System's Office of Finance for overall information on the status of these GSEs. To obtain first-hand information about individual institutions, we met with officials from two FHLBS, two FCBS, one BC, and one FCS association; and we visited one FCB.

We also restricted our work concerning Connie Lee and Farmer Mac because of their limited operations. In addition, Connie Lee does not have the same characteristics as other GSEs, and the officials we contacted did not consider Connie Lee to be a typical GSE. We plan to include

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the status of Farmer Mac in our final report but plan no further review of Connie Lee.

We did not independently verify the information supplied by the GSEs or others, but we discussed internal controls over their data collection and reporting and tried to resolve inconsistencies in the information collected from various sources. The work underlying this report was done between October 1989 and March 1990 using generally accepted government auditing standards. The Farm Credit Council, FHLBS, Fannie Mae, Freddie Mac, Sallie Mae, Connie Lee, Farmer Mac, FCA, FHFB, and the departments of Agriculture, Housing and Urban Development and Education provided written comments on a draft of this report. Their technical comments have been added to the text where appropriate and their overall comments are presented and evaluated in chapter 5. The written comments are reproduced in appendixes I through XII.

# Risk Identification and Management

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GSEs fulfill their public policy purposes and earn profits by taking risks. Like other private companies, GSEs face risks from changes in market interest rates; loan defaults and other credit problems; external business factors such as natural disasters, industry competition, changes in technology, demographics, or legislation; and improper management decisions that may adversely affect a firm's profitability. FIRREA required that we study and report on the GSEs' exposure to these risks.

Each of the GSEs currently manages these risks somewhat differently and has changed its risk management strategies over time in response to economic and other external factors. On the basis of (1) unverified information provided by the GSEs and their federal regulators and (2) reports and analyses done by third parties such as external auditors, GSE consultants, and private analysts, we found that each GSE generally manages its business in ways that avoid certain risks and attempts to control losses from other risks. We found they had been generally successful in minimizing losses from the risks taken and did not find any risk control problem or financial condition that would indicate a current threat to the viability of a GSE. However, certain FCS institutions remain weak, and we cannot predict what effects future external economic conditions and internal management practices and changes might have on the risk-taking strategies or the financial health of any GSE. Because the risk control mechanisms cannot eliminate all risk, the government and GSEs need to be concerned with protecting against unexpected adverse events. We discuss how this is currently done in chapters 3 and 4.

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## Interest Rate Risk

Like banks and thrifts, GSEs engaged in portfolio lending are exposed to possible losses and changes in the value of the GSE arising from changes in interest rates, called interest rate risk. The GSEs use a number of techniques to control interest rate risk. Currently available data indicate that FCS institutions' capabilities and practices in managing interest rate risk are inconsistent. The data indicate that Fannie Mae has greatly decreased its interest rate risk exposure since the early 1980s. Finally, the data indicate that FHLBS, Freddie Mac, and Sallie Mae each manage their business in ways that result in very little interest rate risk. However, constant monitoring and adjustment of the control techniques is necessary to avoid increases in a GSE's exposure to interest rate risk, which changes over time as the economy, the GSE's portfolio, and technology change.

To illustrate how changes in interest rates can create gains and losses, suppose a GSE made a \$100,000 loan with a fixed interest rate of 10

percent and a 5-year maturity. To keep the example simple, assume the loan requires the borrower to make only interest payments until the maturity date. At that time, the principal is to be fully repaid. Now suppose the GSE obtained the funds to make this loan by selling a \$100,000, 1-year note on which it paid a rate of 9 percent. Thus, a long-term fixed-rate loan is funded with a short-term fixed-rate liability. For the first year, the GSE would earn 10 percent on its loan, pay 9 percent on its liability, and have the difference, commonly referred to as the net interest margin, to pay its expenses and retain as profit. At the end of the year, the GSE would have to repay the note but would not receive the loan principal, so it would have to borrow another \$100,000. If interest rates decreased during the year such that it now costs 8 percent to refinance the note, the GSE's net interest margin would increase to 2 percent, increasing profits. Suppose, however, interest rates had risen to 11 percent. The GSE's net interest margin would be negative 1 percent, and the GSE would be losing money on this loan.

A second element of interest rate risk occurs when a GSE uses long-term fixed-rate liabilities to fund short-term fixed-rate assets. Losses can occur when interest rates fall, and a GSE with high cost, long-term debt has to replace loans that prepay or mature with lower interest rate loans. As an example of a prepayment, suppose a GSE made a 5-year loan for \$100,000 at 10 percent and funded it with a 5-year note at 9 percent. If interest rates decline 2 percent during the first year, the borrower may decide to refinance the loan, i.e., pay off the existing loan and take a new loan at a lower interest rate. (To keep the example simple, suppose the new 8-percent loan is made with the same GSE). Thus the GSE must continue to pay 9 percent for the next 4 years while earning only 8 percent on the new loan. Therefore, the ability of a borrower to prepay a loan without penalty provides an additional element of interest rate risk for the lender. This element of interest rate risk is particularly important for mortgage loans because of their long time to maturity and their tendency to be prepaid when rates fall.

A third element of interest rate risk occurs when borrowers hold long-term loans, such as mortgages, longer than expected. Suppose a GSE makes many 30-year, fixed-rate mortgage loans and from experience knows the typical homeowner will sell the house and repay the loan in 7 years. On the basis of this experience, the GSE may fund the mortgages with liabilities that mature in 7 years. If interest rates then increase, homeowners will have less incentive to sell their homes because the interest rate on a mortgage for their new home will be higher. For the

same reason, there will be fewer potential home buyers. Therefore, borrowers may delay selling their homes until rates fall, thereby lengthening the actual life of the mortgages beyond the lender's expectations. After 7 years, the GSE must refinance its liabilities and begin paying a higher interest rate on its funds than it receives on its assets.<sup>1</sup>

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## Measurement of Interest Rate Risk

Four techniques used by GSEs to measure interest rate risk are maturity gaps, duration gaps, market value sensitivity, and computer simulations.

### Maturity Gaps

Comparing maturities of assets and liabilities gives a financial firm a partial view of its interest rate risk exposure. One such technique, called the maturity gap, groups assets and liabilities into time intervals based on when they repay or reprice. For example, intervals used could be 1 to 30 days, 31 to 90 days, 91 to 180 days, 181 to 365 days, 1 to 3 years, etc. Comparing the dollar volume of assets and the dollar volume of liabilities maturing in a particular interval shows the relative interest rate sensitivity of that segment of the portfolio. If the dollar volume of liabilities is more than the dollar volume of assets in a particular interval, then during that interval interest expenses will likely change more than interest earnings if interest rates change.

Although useful, maturity gap analysis has significant shortcomings for adequately measuring interest rate risk in certain portfolios. First, it classifies assets and liabilities by (1) the date interest rates change if the asset or liability has a variable interest rate or (2) the date they repay, if the interest rate is fixed, thereby ignoring all payments required before those times. This shortcoming is particularly important for amortized loans, such as mortgages, where the sum of the intermediate cash flows is much larger than the final payment.<sup>2</sup> Second, the number of time intervals selected is arbitrary. The wider the time intervals used, the fewer and thus more manageable but less precise the measurements. For example, a 1- to 3-year interval could have assets with 3-year maturities and liabilities with 1-year maturities in the same interval. Third, maturity gap analysis usually cannot be used to measure the interest rate sensitivity of the overall portfolio because it is interval-specific.

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<sup>1</sup>Prepayment patterns may differ from lenders' expectations for reasons other than interest rate changes. In a stable interest rate environment, though, the potential losses arising from prepayments are considerably reduced because prepayment patterns are more easily predicted.

<sup>2</sup>An amortized loan is one with equal periodic payments calculated to repay all the loan principal at the end of a fixed time period. The principal balance is repaid over the time period, and interest is paid on the outstanding principal balance.

Fourth, managing risk exposure using these measurements is difficult because it requires different management strategies for each interval rather than an overall strategy for the whole portfolio.

## Duration Gaps

To overcome the shortcomings of maturity gaps, some firms now use duration gaps to measure interest rate risk. Duration gaps measure the average economic life of a whole portfolio rather than the time to final payment for each asset or each liability. Asset duration is a single number, measured as a unit of time, that identifies the average economic life of the asset portfolio (for example, 27 months). The duration measure accounts for all intermediate cash flows associated with each asset—not just the final payment—by estimating the present value of each asset payment.<sup>3</sup> Likewise, liability duration measures the average economic life of liabilities. The difference between a firm's asset and liability durations is called its duration gap.

The duration gap measures the overall interest rate risk exposure of a GSE. The larger the gap in absolute value, the greater the GSE's exposure to interest rate risk. For example, a GSE where the average economic life of its assets is 2 years greater than the average economic life of its liabilities has a duration gap of 2 years. Should interest rates rise, the GSE's net interest income will fall because interest expenses will rise sooner than interest income. Some GSEs try to avoid interest rate risk by managing their portfolios to keep their duration gaps at or near zero.

Management of a GSE's exposure to interest rate fluctuations requires continual monitoring and adjusting. Durations change when interest rates change, and they change over time even in stable rate environments. As discussed, durations are based on the present value of a security's future cash flows. If interest rates change, the rate used to discount the cash flows also changes. Also, as time passes, the remaining cash flows are closer to being realized, so the duration declines.

A major shortcoming of duration analysis is the difficulty of computing duration for certain types of assets and liabilities. Duration is useful for judging sensitivity to small interest rate changes, but it is less useful for large interest rate shifts because it is more difficult to predict the effects of large shifts. Further, duration gaps are often difficult to measure precisely because a number of forecasts and assumptions must be made. First, duration measurements require complete information on each asset's and liability's cash flows as well as estimates of possible changes

<sup>3</sup>The present value of a cash payment in the future is the value of that future cash if paid today.

to the expected cash flows, such as from prepayments. Second, securities with changing rates or that may be prepaid require interest rate projections. Third, payment failures, taxes, and other factors may add to the inaccuracy of duration measures.

In summary, duration gap analysis is a more sophisticated approach to measuring interest rate risk than maturity gap analysis. Proper use of duration requires complete data and a comprehensive understanding of the securities involved, including proper consideration of factors such as loan prepayments. It also requires continual monitoring of changes in the duration gap and a timely response to observed changes.

### Market Value Sensitivity

A third technique used in measuring interest rate risk is to estimate the sensitivity of a GSE's market value net worth to various changes in interest rates. Market value net worth provides a measure of the GSE's ability to absorb losses. Financial firms report their income statements and balance sheets according to generally accepted accounting principles (GAAP). GAAP relies primarily on the historical (book) value of financial assets and liabilities rather than on their current market value. The market value of such assets and liabilities is affected by current interest rates but also can change if the likelihood of prepayment or repayment changes. The market value of assets minus the market value of liabilities provides the market value of net worth.

For example, using GAAP a bank carries a 5-year, 10-percent loan at the amount of unpaid principal over the life of the loan. If interest rates decrease, the market value of the loan increases because the loan earns a rate higher than the bank could earn on a new loan. Likewise, the market value declines if interest rates rise because the bank could earn more on a new loan. One method of monitoring a firm's exposure to interest rate risk then is to regularly determine the market value of the firm's assets and liabilities (marking-to-market) and project how market value would change for assumed changes in interest rates.

While a valuable tool for measuring a GSE's ability to bear risk, market value sensitivity has certain limitations. It estimates the liquidation value of a firm and therefore does not capture the value of a firm as a going concern. Also, there are no set standards for determining the market value of all types of assets and liabilities.

### Computer Simulations

A fourth method of measuring interest rate risk is to simulate a portfolio's profitability under various interest rate environments. The GSEs



used various complex methods to develop these simulations that followed three general steps. First, a random number generator is used to produce several hundred interest rate paths of some predetermined length into the future. Second, a computer model is then used to estimate the value of the firm over each path by estimating the loan defaults and prepayments that occur over each path. The average of the results is the estimated market value of the firm. Third, interest rate risk can then be measured by using this type of simulation to estimate the effects of different funding strategies and interest rate changes on the expected value of the firm. On the basis of the information provided by the GSEs, national credit rating agencies, and other recognized experts, we believe these types of simulations are a reasonable method of measuring interest rate risk.

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### Control of Interest Rate Risk

Once it is measured, managers can change the interest rate risk exposure of their firms by lengthening or shortening the expected maturity of their assets and liabilities so that payment streams on assets and liabilities behave similarly. They also may issue assets and liabilities with features that reduce interest rate risk. For example, a GSE might encourage the origination of variable-rate loans where the interest rate charged the borrowers changes at scheduled intervals according to current market rates, known as repricing. The GSE can then match these assets with liabilities that mature at the same intervals the loans are repriced. Still another technique allows GSEs to issue liabilities with variable maturity terms, or call features. Callable debt allows the GSE to prepay its bonds after a specified time frame—a useful option to GSEs in case interest rates decline. Another technique available to certain GSEs is to levy prepayment penalties or restrictions on borrowers who prepay their loans when rates fall.

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### Management of Interest Rate Risk

The GSEs differ widely in their exposure to and management of interest rate risk. Management of interest rate risk is especially important at FCS institutions, FHLBS, Fannie Mae, and Sallie Mae because of their large loan portfolios. As discussed below, FHLBS and Sallie Mae avoid much of the interest rate risk associated with portfolio lending by closely matching the interest rate sensitivity of their assets and liabilities. FCS institutions and Fannie Mae have assets and liabilities that are less well matched and have greater exposure to interest rate risk. Freddie Mac

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largely avoids interest rate risk by minimizing its portfolio lending, concentrating instead on MBS that transfer the interest rate risk to the investors. Connie Lee and Farmer Mac do not directly undertake interest rate risk.

### The Farm Credit System

During the mid-1980s, FCS suffered significant losses due in part to interest rate risk exposure. FCS institutions had used some high cost, long-term debt to fund mostly variable rate loans that repriced administratively rather than via an index. When interest rates dropped sharply, these institutions had to continue paying the high cost debt but did not reprice loans proportionately and thus earned lower interest rates on their loans. According to an FCA official, the current capabilities and practices of FCS institutions to manage interest rate risk vary widely. Today, some FCS institutions still have high-rate debt issued in the mid-1980s. On the basis of the information presented below, we believe FCS as a whole has improved its asset and liability management. However, FCBS manage liabilities but share management of assets with their associations, making interest rate risk management difficult, and possibly exposing some institutions to significant interest rate risk.

As discussed in an earlier report,<sup>4</sup> FCS developed a strategy in 1986 to address its past failure to effectively manage interest rate risk. To aid the FCBS and BCS, the Funding Corporation monitors each FCB's and BC's interest rate risk exposure and assists with asset and liability management. Quarterly, the FCBS and BCS report maturity gaps and duration gaps to the Funding Corporation, which identifies interest rate mismatches. CoBank and 10 of the 11 FCBS also use a simulation model to measure interest rate risk exposure. Using this model, a bank will calculate its portfolio's market value and its duration gap. The FCBS use these measures to determine their interest rate risk exposure and to evaluate alternate methods of reducing that exposure.

Representatives of the Funding Corporation described for us how they assist the banks in their asset and liability management. They said that all the banks now have committees that oversee asset and liability management. They said that each bank provides the Funding Corporation data concerning its duration gaps but the Funding Corporation has not verified those data or tested them for reliability. We have not independently examined the interest rate risk management of any FCB or BC.

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<sup>4</sup>Farm Credit Actions Needed on Major Management Issues (GAO/GGD-87-51, Apr. 1, 1987).

FCS interest rate risk management is complicated by fragmented responsibilities and prepayment uncertainties. Within FCS districts, the FCBS control liability management and share control over asset management with their related associations. The FCBS borrow money from capital markets and manage the liabilities of the district. The FCBS and borrower-owned associations share control over the assets by making direct loans and setting the rates and terms for those loans. The fragmented responsibilities and borrower pressures to limit rate increases could make it difficult for managers to assure that the behavior of the liabilities corresponds closely to the behavior of the assets.

Loan prepayments further complicate FCS interest rate risk management. FCS loan prepayments are very difficult to predict, primarily because the terms of the loans and the characteristics of agricultural activities differ among borrowers. Good historical data do not exist to help predict agricultural loan prepayments.

#### Federal Home Loan Banks

The FHLBS fund large portfolios of loans to member institutions primarily with fixed-rate debt. According to representatives of the FHLB System's Office of Finance, which issues all debt for the System, FHLBS have little interest rate risk exposure because they (1) charge prepayment fees on fixed-rate loan prepayments and (2) match the repricing of their assets and liabilities closely. The representatives said the maturity gaps for all FHLBS are close to zero.

According to FHLB guidelines, the prepayment fees must compensate the FHLB for at least 90 percent of the economic loss arising from the prepayment. Also, according to a Moody's credit report, the FHLBS use a combination of sophisticated hedging techniques, such as interest rate swaps and futures contracts, to align the durations of their assets and liabilities.

#### Fannie Mae

Fannie Mae has not always been successful in managing interest rate risk. After 13 profitable years, Fannie Mae reported cumulative net losses of over \$350 million during 1981, 1982, 1984, and 1985. These were caused primarily by the failure of Fannie Mae's asset and liability management strategy in the unprecedented interest rate environment in the early 1980s. In the 1960s and 1970s, Fannie Mae had followed an asset and liability management strategy of funding long-term fixed-rate mortgages with relatively short-term debt. As interest rates rose sharply in 1980 and 1981, Fannie Mae had to pay much higher interest rates as

it refinanced its debt. But the interest Fannie Mae earned on the mortgages already in its portfolio remained constant. Fannie Mae officials said that other outmoded strategies also contributed to the losses.

More recently, Fannie Mae appears to have improved its ability to withstand fluctuations in interest rates by more closely matching durations of assets and liabilities. At the end of 1989, Fannie Mae held a \$108 billion portfolio of mortgages, funded with a variety of debt securities. It measures its interest rate risk by calculating the duration gap of its portfolio. This gap was 29 months at the end of 1984 but had declined to approximately 6 months at the end of 1989 (see table 2.1). Fannie Mae officials told us their target duration gap has been 6 to 12 months. They said this is the appropriate range because, in a falling interest rate environment, prepayments cause mortgage durations to fall quickly while liability durations actually increase. They said that maintaining an asset duration of 6 to 12 months greater than the liability duration compensates for this effect.

Table 2.1: Fannie Mae's Duration Gap

| In months |      |      |      |      |      |      |
|-----------|------|------|------|------|------|------|
|           | 1984 | 1985 | 1986 | 1987 | 1988 | 1989 |
| Duration  | 29   | 18   | 11   | 8    | 10   | 6    |

Note: Numbers are approximations of year-end duration gaps.

Source: Fannie Mae.

Rather than avoiding interest rate risk, Fannie Mae actively manages its exposure to such risk to make a profit. According to a Fannie Mae official, Fannie Mae attempts to fund its portfolio with a mixture of liabilities that meet its targeted duration gap. When Fannie Mae buys mortgages for its portfolio, it uses computer models to determine the price it will pay for the mortgages, project the expected returns on the mortgages, and identify a funding strategy to meet its duration gap target. Since, as discussed earlier, durations change even in stable interest rate environments, Fannie Mae must continually monitor its gap and make adjustments in response to interest rate changes.

Fannie Mae buys mortgages for its portfolio only when the returns are high enough to cover expected interest rate risk losses from those mortgages and provide a targeted return on equity. If the expected interest earnings on mortgages are judged insufficient to bear the interest rate risk, Fannie Mae buys mortgages and creates MBS, passing the interest rate risk on to investors.

To further control its interest rate risk, in the past few years Fannie Mae started expanding the type of debt securities it issues. It first issued callable debt as part of an asset and liability management strategy in 1983. In 1988, Fannie Mae began what officials called a programmed effort to regularly issue callable debt. Callable debt allows Fannie Mae to refinance its liabilities when interest rates fall and home owners are more likely to refinance their mortgages. In comments on a draft of this report, Fannie Mae said that as they add more callable debt to their liability structure, their optimal duration gap will approach zero. In 1988, Fannie Mae also began issuing debt that repays more quickly when interest rates fall and repays more slowly when rates rise, giving it repayment characteristics similar to those of mortgages. According to Fannie Mae, in 1989 these two types of securities accounted for about 30 percent of all long-term debt issued. Fannie Mae officials said they plan to increase the use of these debt securities in the future.

Fannie Mae officials provided us with written and oral descriptions of how they measure Fannie Mae's interest rate risk exposure by using computer simulations to examine the effects of changes in interest rates on its net interest earnings. We have not verified the accuracy or reliability of the data and computer models used or the assumptions made for these simulations. As discussed earlier, the simulations estimate the firm's value and test the effects of alternate funding strategies on the portfolio's performance. According to Fannie Mae, the first stress test scenario replicated the interest rate experience of 1978 through 1982, when the United States had the highest average, and most extreme swings in interest rates in the last 100 years. The second test simulated an interest rate increase of 600 basis points<sup>5</sup> over 12 months starting from November 1989 levels. Interest rates were then held at that level for 4 years. A Fannie Mae official said that the stress tests show that Fannie Mae would continue to have positive net interest earnings in each year of either simulation.

## Freddie Mac

Freddie Mac's policy is to largely avoid interest rate risk. Their interest rate risk management strategy helped to keep Freddie Mac profitable throughout the 1980s, even when interest rates were extremely volatile.

Freddie Mac's interest rate risk management strategy is based on pooling about 95 percent of the mortgages it buys into MBS that pass the interest rate risk on to the security holder. As a result, Freddie Mac's

<sup>5</sup>A basis point is 1/100th of a percentage point, so an increase of 600 basis points is equal to an increase of 6 percentage points.

possible exposure is generally limited to interest rate risk on the remaining 5 percent of the mortgages it holds in its portfolio. Freddie Mac retains these mortgages in its portfolio as inventory to facilitate the creation of new MBS and to fund new mortgage purchase programs where volume has not yet reached a level sufficient to create an MBS. At the end of 1989, Freddie Mac held about \$15 billion of mortgages in portfolio, and an additional \$5.6 billion financed with mortgage-related debt securities.<sup>6</sup>

Freddie Mac officials provided us with written and oral descriptions explaining that Freddie Mac measures the interest rate risk of its total operations in three steps. First, it computes its market value net worth quarterly. Second, it computes the interest rate sensitivity of its market value by calculating the expected value of the firm under a range of simulated interest rate environments ranging from plus 500 basis points to minus 500 basis points. When running the simulation assuming replacement of repaid mortgages, Freddie Mac reports that market value rises as interest rates decline, and declines as interest rates rise. According to Freddie Mac's simulation results, its market value would remain greater than \$4 billion if interest rates rose 500 basis points. Third, Freddie Mac simulates how its accounting value changes by computing how the interest rate changes would alter the firm's expected cash flow.

Freddie Mac uses these techniques to decide how to alter its operations to reduce interest rate risk. In particular, it uses the various measures in deciding how to fund the mortgages it retains in its portfolio. Part of its interest rate control procedures is to update these measurements at least quarterly.

## Sallie Mae

According to Sallie Mae, as of September 30, 1989, 82 percent of Sallie Mae's assets would reprice within 3 months, and all but \$221 million—less than 1 percent—of those assets were matched with debt repricing within the same period. They said this condition is typical of Sallie Mae's assets over time. Since assets and liabilities reprice at about the same time, Sallie Mae's net interest margin should remain roughly constant, other factors remaining the same. The maturities of the remaining assets and liabilities were also fairly closely matched. As a result, Sallie Mae had little interest rate risk.

<sup>6</sup>For a discussion of Fannie Mae's and Freddie Mac's issuance of multi-class, mortgage-related securities, see *Housing Finance: Agency Issuance of Real Estate Mortgage Investment Conduits* (GAO/ GGD-88-111, Sept. 2, 1988).

Sallie Mae measures its interest rate risk sensitivity using maturity gaps. We believe Sallie Mae does not encounter the shortcomings normally associated with this measurement technique because the vast majority of its assets and liabilities reprice in 3 months or less. According to Sallie Mae officials and Sallie Mae's audited financial report, Sallie Mae eliminates most of its interest rate risk by funding its assets with debt securities that have characteristics similar to its assets. First, fixed-rate loans are usually funded with fixed-rate debt of like duration. Second, it funds its variable-rate loans with variable-rate debt. Third, it often issues fixed-rate debt and then enters interest rate exchange agreements (interest rate swaps) with other financial institutions that result in it being liable for interest payments with characteristics similar to the interest earned on its assets.

Sallie Mae initiated the first U.S. interest rate swap in 1982, and data show it has since used this technique extensively in controlling its interest rate risk. An interest rate swap is simply an exchange of interest payment streams between two parties. For example, Sallie Mae may issue a 5-year, fixed-rate debt, and a bank may issue certificates of deposit paying interest tied to 91-day Treasury bill rates. Sallie Mae may swap its interest payments on the 5-year bond for the bank's variable rate interest payments. Such agreements benefit both parties by effectively giving them liabilities with characteristics resembling those of their assets. The exchange agreements are particularly beneficial to Sallie Mae during times when it can easily raise fixed-rate, medium-term debt. Such agreements typically also benefit the party that may have variable-rate liabilities like deposits but fixed-rate assets like mortgages and may have difficulty raising medium-term debt. In making such swap arrangements, Sallie Mae must take care that its swap partners are financially able to live up to the swap agreement.

Connie Lee and Farmer Mac

Connie Lee officials said that because of regulatory and market preferences for equity financing, Connie Lee does not anticipate issuing debt securities as part of its normal operations. Therefore, Connie Lee does not incur interest rate risk. Since Farmer Mac has not begun operations, it is not clear what interest rate risk, if any, it will undertake.

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## Credit Risk

Credit risk is the risk of loss arising from borrowers failing to repay their loans and/or other parties failing to meet their obligations to administer or guarantee loans. Credit risk is inherent in the daily operations of all financial firms, including all eight GSEs. The raw exposure of GSEs to credit risk is very large—over \$800 billion—but through a

variety of control techniques they strive to assure that their actual losses are relatively well controlled. Data provided to us show that the GSEs use generally accepted methods for controlling losses from credit risk and have generally been very successful in controlling these losses. However, in stressful economic environments, such as the real estate downturn in the Southwest and the agricultural recession of the mid-1980s, some GSEs have experienced unusually large and sometimes serious losses from credit risk. Any change in strategy toward more risky practices or the failure to adequately predict or prepare for economic downturns could subject most of the GSEs to large additional credit losses.

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## Measures of Credit Risk

There are two basic measures of credit risk—the volume of loans or insured bonds that are not performing according to the contractual agreement and the dollar losses to the firm resulting from such nonperforming loans or bonds.

Typically, when a borrower fails to make a scheduled payment, the loan is termed delinquent. Delinquency rates are an early indicator of credit problems. After a period of continuing delinquency, the lender or GSE may act to recover the loan principal by foreclosing on the property and/or filing a claim with any party that insured or guaranteed the loan. At the time of foreclosure, the loan is said to have defaulted. Only a fraction of delinquent loans default.

The financial losses from defaults include any principal of the loan (or bond) not repaid, interest not paid, and expenses to foreclose or restructure, adjusted by recoveries from collateral sales and insurance. GSEs generally use sophisticated automated systems to price their services to cover expected credit losses. Generally, default and loss rates are a retrospective rather than a prospective measure of credit risk. However, default and loss rates can be predicted by GSEs when they have historical default and loss data for similar types of loans in various economic circumstances. With new products, defaults and losses are difficult to predict accurately, and product performance must be monitored carefully to control credit risk.

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## Methods to Control Credit Risk

GSEs manage credit risk by trying to control the number of defaults and minimize the losses that result from defaults. Most GSEs control defaults through underwriting standards that provide a quality control over the credit risks they take and help them prevent defaults. To minimize



losses from any defaults that do occur, GSEs use techniques called credit enhancements that allow them to recover all or portions of their potential losses from collateral or from third parties such as lenders, loan insurers, or loan guarantors.

## Underwriting Standards

Underwriting is the process of identifying the potential risks of loss associated with financial activities to allow pricing of such risks. Underwriting is an integral part of business and financial transactions that occur daily throughout the private and public sectors of the economy and involve the transfer and pricing of risk. The underwriting process is used for evaluating and pricing many types of financial instruments that GSEs buy and sell, such as insurance policies, stocks, bonds, and loans. Underwriting standards are guidelines used to (1) limit the type and amount of risk of loss permitted in a financial portfolio and (2) establish methods to control such risks.<sup>7</sup>

Before a GSE purchases a loan, guarantees a security, or insures a bond, certain underwriting standards must be met. Such standards are developed by GSEs or others based on the default experience of similar financial products. Underwriting standards cover numerous borrower and property characteristics that help GSEs evaluate the likelihood of defaults and the severity of related losses. For example, GSEs that buy mortgages typically have underwriting standards to indicate that a borrower has sufficient income to make the scheduled payments and a credit history suggesting that the borrower has met past obligations in an acceptable manner. Another common mortgage standard is a maximum loan-to-value (LTV) ratio that measures the borrower's equity (down payment) in the property. Experience has shown that borrowers with low amounts of equity in the property, and thus high LTV ratios, are more likely to default than borrowers with high amounts of equity. GSEs also have established appraisal standards that are used to estimate the value of the property serving as collateral for the mortgage.

Because most GSEs do not typically make loans directly, standards are also used to qualify other parties to participate in their credit activities. For example, GSEs involved in the mortgage and student loan businesses have established standards for lenders and loan servicers. Such standards may include measures of financial strength, past performance indicators, and management quality. Lenders and servicers expose the

<sup>7</sup>For a comprehensive description of the elements of underwriting standards used in today's secondary markets, see our report entitled Federal Agricultural Mortgage Corporation: Underwriting Standards Issues Facing the New Secondary Market (GAO/RCED-89-106BR, May 5, 1989).

GSE to risk of default to the extent that they fail to follow standards adequately when making the loan or fail to collect payments diligently. GSEs have also established audit and quality control procedures to monitor the performance of lenders and servicers. Some GSEs also set standards for firms with which they share financial risk. For example, when a GSE enters an interest rate swap agreement, there is a credit risk that the other party may fail to meet its obligation. To mitigate such risk, a GSE will typically set minimum standards of financial strength for such parties.

Although GSEs establish standards to limit the risk of defaults, officials from some GSEs said they often waive or modify their standards to give themselves flexibility in dealing with unique transactions. Before doing so, they said, they assess whether such unique transactions would materially alter credit losses. GSE officials said they impose alternative ways to offset the risks and also price such transactions to compensate the GSEs for any increase in the amount of credit risk undertaken as a result of the modified standards. Also, the officials said they often negotiate for credit enhancements when entering into such transactions.

## Credit Enhancements

Credit enhancements are vehicles for GSEs to control their losses from default. Through credit enhancements, GSEs transfer their credit risk to other parties. Described below are some common credit enhancements:

- Guarantees are commitments by third parties to pay principal, interest, and related costs should the borrower fail to make loan payments. For example, state guaranty agencies and a federal agency supply student loan guarantees.
- Private mortgage insurance is obtained by borrowers for an annual premium. Lenders or GSEs typically require such insurance coverage for borrowers who have made low down payments. Should the borrower default, the private mortgage insurer is typically obligated to pay the GSE a percentage of the unpaid principal balance, accrued interest, and foreclosure costs.
- Collateral is property or financial assets pledged as security for a debt, such as a mortgage or other loan. When a loan defaults, the holder of the loan takes possession of any collateral pledged for the loan.
- Recourse is an agreement between a GSE and a lender or servicer that obliges the lender to cover some or all of the losses arising from loans sold to the GSE. Some recourse agreements are supported by collateral, such as Treasury securities.

GSEs are exposed to the risk of default losses from parties providing credit enhancement on loans that they buy. For example, Fannie Mae and Freddie Mac suffered losses when mortgages they owned or guaranteed defaulted and the private mortgage insurer that provided credit enhancement for those mortgages—TICOR Mortgage Insurance Company—failed in the 1980s. GSEs manage this risk by establishing standards for these parties to ensure they are financially sound and reliable and are able to meet contractual commitments with the GSE. GSEs monitor these firms' financial and business performance through financial reports and on-site audits.

## GSE Management of Credit Risk

GSE exposure to credit risk varies, since the activities, markets, and customers of the GSEs are different. On the basis of the information discussed below and discussions with national credit rating agencies and other recognized experts, it appears to us that the FHLBs and Sallie Mae are exposed to the least amount of credit risk because of their high quality assets, conservative credit policies, and for Sallie Mae the guarantees backing its student loans and backing the collateral for its advances to banks. Fannie Mae and Freddie Mac face moderate credit risk compared to the other GSEs because (1) mortgages are generally more risky than fully guaranteed loans and less risky than agricultural loans and (2) the GSEs use underwriting standards and credit enhancements to control losses from credit risk. FCS faces a higher amount of credit risk relative to the other GSEs because its loan repayments are based on a borrower's agricultural income, which is more unpredictable than residential mortgage repayments and guaranteed student loan repayments. Connie Lee officials said it has limited exposure to credit risk because educational institution bonds that qualify for insurance have high standards and rarely default. Also, they said that credit risk is limited in any given year to the payments due that year because the entire principal does not become due when payments are missed. When Farmer Mac begins operations, it plans to use underwriting standards and to require loan poolers and originators to assume responsibility for the first 10 percent of credit losses from each pool.

## Farm Credit System

During the agricultural recession in the mid-1980s, FCS experienced defaults and serious credit-related losses at levels unprecedented since the 1930s. During the decline in the agricultural sector, the BCS' losses were not significant enough to endanger their existence, but some other FCS institutions experienced severe problems. Table 2.2 illustrates improvements in FCS loan quality as the agricultural sector improved after 1986.

**Table 2.2: FCS Loan Quality and Loss Measures** (As of December 31 of Each Year)

| Dollars in millions |                    |                  |                              |                 |
|---------------------|--------------------|------------------|------------------------------|-----------------|
| Year                | Net loan principal | Nonaccrual loans | High-risk loans <sup>a</sup> | Net loan losses |
| 1985                | \$66,615           | \$5,323          | \$9,578                      | \$1,105         |
| 1986                | 54,614             | 7,066            | 13,171                       | 1,352           |
| 1987                | 49,547             | 5,234            | 10,828                       | 488             |
| 1988                | 49,570             | 3,329            | 7,895                        | 413             |
| 1989                | 49,129             | 2,553            | 7,093                        | (5)             |

<sup>a</sup>Includes nonaccrual loans.

Source: FCS Funding Corporation.

Major indicators show that the quality of FCS' aggregate loan portfolio has improved every year since FCS recorded its most extensive losses in 1985 and 1986. Nonaccrual loan volume decreased about \$4.5 billion from December 1986 to December 1989. Nonaccrual loans generally include (1) loans for which interest or principal payments are delinquent for 90 days and (2) loans for which circumstances indicate that collection of principal or interest is in doubt. Coupled with the shrinking FCS loan volume, the reduction in nonaccrual loan volume represents a decrease in the percentage of nonaccrual loans to net loan volume from about 13 percent in 1986 to about 5 percent in 1989. FCS' high-risk loan volume also decreased from \$13.2 billion in 1986 to \$7.1 billion in 1989. High-risk loans include nonaccrual loans, loans with restructured terms, and potential problem loans exhibiting serious credit weaknesses and requiring more than normal servicing. Loan losses net of any proceeds recovered from the loans declined from \$1.35 billion in 1986 to a net recovery of \$5 million in 1989.

The changes in FCS loan portfolio quality followed fluctuations in the agricultural economy and efforts of FCS institutions to adapt to economic changes. The increase in high-risk loans during the mid-1980s reflected the depressed agricultural sector and declines in farmland value. Decreasing high-risk loan volumes since 1986 followed improvements in the agricultural sector and efforts of FCS institutions to work with financially stressed borrowers to improve the credit quality of their loans. Loan delinquencies declined; certain loans in nonaccrual status were completely or partially repaid; and a substantial number of loans were restructured or reinstated to accrual status. Agricultural loans are risky because their repayment depends on (1) the unpredictable nature of the agricultural business, which varies from growing crops to raising livestock or processing food products; (2) the cash flow from the property,

which can be affected by changes in federal farm policy—such as subsidy payments—and the weather; and (3) the value of agricultural loan collateral, which fluctuates relative to the income it produces.

FCA has established basic credit standards, but officials said that management varies among FCS institutions because the standards allow for local adaptation to district philosophies. FCS officials said that recently improvements have been made because most institutions now evaluate the cash-producing ability of the borrower's property, in addition to the highly volatile LTV ratio, the borrower's financial condition, and other factors.

The BCS have had better asset quality than the FCBS because they did not have large real estate mortgage portfolios and the agricultural cooperatives to which they lend have a better record of repaying loans than individual farmers with agricultural mortgage loans. CoBank also uses federal guarantees as credit enhancements for part of its loan portfolio. Eighty-five percent of CoBank's international loans and 25 percent of its domestic loans have federal guarantees.

## Federal Home Loan Banks

The FHLBS have suffered no credit losses since their creation. This loss history reflects their conservative credit standards and the use of collateral as a credit enhancement.

Each FHLB establishes its credit policy under regulations and broad credit policies issued by the former Federal Home Loan Bank Board and adopted by the FHFB. FHFB allows each FHLB discretion as to how to implement the credit policies. FHFB officials said that FHLBS are exposed to some credit risk from parties with which they do interest rate swaps, but they have controls to evaluate and monitor these parties. An FHLB official said that most FHLBS exceed FHFB guidelines to limit such credit risk, and that all interest rate swaps are collateralized.

Legislation, FHFB guidelines, and FHLB policies and regulations require the FHLBS to reduce their risk of loss from their advances by obtaining collateral with a current market value of at least 110 percent of the advance. FHLBS are permitted to set higher levels of collateral, depending on the financial strength of their members. Eligible collateral, as defined by statute, consists only of high quality assets such as first mortgages, U.S. Treasury or agency securities, deposits at an FHLB, and a limited amount of other real estate-related collateral if it is acceptable to the FHLB. FHFB officials said the FHLBS determine the market value of this

collateral on a regular basis, and if the market value falls below the required level, additional collateral must be provided.

Although many thrifts have failed in recent years, the FHLBs incurred no default losses. According to several FHLB officials, the FHLBs have never experienced a default-related loss on an advance because the FHLBs have always had sufficient collateral backing advances made to thrifts that later failed. As a result, they said it is in the receiver's interest to repay such advances and assume ownership of the collateral. Furthermore, they said FHLBs have priority over most other creditors in the event of a thrift failure. Additionally, receivers have typically paid any associated prepayment fees.

**Fannie Mae**

Fannie Mae's delinquency rates have been decreasing over the past 5 years. From 1980 through 1984, Fannie Mae's delinquencies were higher than those reported by other mortgage-lending institutions in a Mortgage Bankers Association survey of mortgage industry participants. At December 1989, Fannie Mae's single-family delinquency rates were lower than those reported in the survey. Table 2.3 presents Fannie Mae's delinquencies for single-family conventional fixed-rate and adjustable-rate mortgages as a percentage of all these loans from 1985 through 1989. Fannie Mae does not publicly report multifamily delinquency data comparable to the single-family data it reports. Data have been reported to investors showing that 30-day or more multifamily loan delinquencies as a percentage of the unpaid principal balance of multifamily loans have ranged from a high of about 6 percent in 1987 to about 2 percent in 1989.

**Table 2.3: Fannie Mae Single Family Conventional Mortgage Delinquencies<sup>a</sup>**  
 (As of December 31 of Each Year)

| Year | Percent of the total number of loans |                  |
|------|--------------------------------------|------------------|
|      | Portfolio                            | MBS <sup>b</sup> |
| 1985 | 1.6                                  | 1.0              |
| 1986 | 1.7                                  | 0.6              |
| 1987 | 1.7                                  | 0.5              |
| 1988 | 1.3                                  | 0.5              |
| 1989 | 1.1                                  | 0.4              |

<sup>a</sup>Includes loans delinquent 3 or more monthly payments, in relief, and in foreclosure. MBS data for years before 1988 for loans in relief only includes loans pooled from portfolio. Such data for loans pooled from lenders was not available.

<sup>b</sup>Excludes loans where lender has primary credit risk (recourse business) and multifamily and government guaranteed loans.

Source: Fannie Mae.

While both Fannie Mae's portfolio and MBS delinquency rates have declined since 1985, its portfolio delinquencies have been significantly higher than its MBS delinquencies. Fannie Mae explained that most of its delinquent portfolio loans were originated before 1986 under its earlier underwriting standards, which did not protect against credit risk as well as current standards do. Fannie Mae officials said that its portfolio and MBS loans originated since 1985 are actually of comparable credit quality.

Fannie Mae's average delinquency rate has historically been higher than that experienced by Freddie Mac. According to Fannie Mae officials, the difference in delinquency performance is primarily because in the early 1980s Fannie Mae dealt more with mortgage banking institutions that sold it unseasoned, higher risk adjustable-rate mortgages while Freddie Mac dealt with thrift institutions that sold it seasoned, lower risk fixed-rate mortgages. Fannie Mae officials believe such differences will be much narrower in the future because Freddie Mac and Fannie Mae have generally competed for the same institutional lenders and loans since 1986. Freddie Mac officials said the difference in delinquency performance before 1986 resulted from using stricter underwriting standards than Fannie Mae.

Table 2.4 presents Fannie Mae's credit loss experience for the past 5 years. Total losses have increased since 1985 but have remained relatively constant as a percentage of total mortgage unpaid principal.

**Table 2.4: Fannie Mae Credit Losses** (As of December 31 of Each Year)

| Dollars in millions |                        |               |                                  |
|---------------------|------------------------|---------------|----------------------------------|
| Year                | Total unpaid principal | Credit losses | Losses as a percent of principal |
| 1985                | \$153,663              | \$170         | 0.11                             |
| 1986                | 195,195                | 201           | 0.10                             |
| 1987                | 239,219                | 285           | 0.12                             |
| 1988                | 282,408                | 315           | 0.11                             |
| 1989                | 340,847                | 243           | 0.07                             |

Source: Fannie Mae.

Fannie Mae officials said the use of recourse may be curtailed as new risk-based capital rules require mortgage lenders to hold capital for MBS for which they retain some credit risk and thus discourage lenders from selling mortgages to Fannie Mae with recourse. At the end of 1989, approximately 31 percent of Fannie Mae's outstanding loans in portfolio and MBS had recourse. Since Fannie Mae's charter and standards require

lenders to provide recourse or private mortgage insurance for conventional mortgages with LTV ratios greater than 80 percent, for those mortgages, mortgage insurance or comparable credit enhancements would be substituted for recourse.

Fannie Mae officials said that its revised credit standards, implemented in 1985, improved its overall credit quality. Fannie Mae's delinquency rates appear to bear this out. However, the loans originated since 1985 have just entered the period—3 to 5 years—in which Fannie Mae officials said defaults are most likely. The revised standards increased the amount of income that high LTV borrowers needed to qualify for a mortgage loan. Other changes included limits on the amount a home seller could contribute to the borrower's down payment or closing costs to ensure appraisal validity, requiring that the minimum 5 percent down payment come from the borrower's assets, and requiring an excellent credit history. Fannie Mae said they assure themselves that these standards are being implemented by reviewing samples of purchased loans. The samples are selected on the basis of loan characteristics, past lender activities, and property location.

**Freddie Mac**

Freddie Mac's predominant risk exposure comes from credit risk. Freddie Mac's delinquency and default rates have traditionally been lower than the housing industry average and vary significantly among mortgage product lines. Table 2.5 presents Freddie Mac's delinquencies from 1985 through 1989.

**Table 2.5: Freddie Mac Conventional Mortgage Delinquencies<sup>a</sup>** (As of December 31 of Each Year)

| Year | Single-Family Fixed-Rate |                    | Adjustable-Rate |                    | Multifamily |                    |
|------|--------------------------|--------------------|-----------------|--------------------|-------------|--------------------|
|      | Total loans              | Percent delinquent | Total loans     | Percent delinquent | Total loans | Percent delinquent |
|      | 1985                     | 2,818              | 0.40            | 24                 | 1.84        | 6                  |
| 1986 | 3,853                    | 0.37               | 43              | 1.65               | 7           | 0.74               |
| 1987 | 4,294                    | 0.34               | 90              | 0.71               | 10          | 1.22               |
| 1988 | 4,409                    | 0.33               | 149             | 0.66               | 10          | 1.29               |
| 1989 | 4,717                    | 0.35               | 315             | 0.54               | 11          | 1.59               |

<sup>a</sup>Includes loans delinquent three or more payments and foreclosures in process.  
Source: Freddie Mac.

Delinquencies among the majority of Freddie Mac's mortgages—conventional single-family, fixed-rate mortgages—have declined slightly since 1985. Delinquencies on adjustable-rate mortgages, although higher than



the rate for fixed-rate products, have dropped from 1.84 percent in 1985 to .54 percent in 1989. Freddie Mac has had a higher delinquency rate on its multifamily mortgages than on its other mortgages. This delinquency rate has been rising in the last 5 years. As a result, Freddie Mac decreased the maximum LTV ratio acceptable from 85 percent to 70 percent and requires credit enhancement for all multifamily mortgages with LTV ratios above 70 percent. According to a February 1990 report, multifamily mortgages account for about 3 percent of Freddie Mac's portfolio.

Credit losses over the past 4 years have been the highest in Freddie Mac's history. Table 2.6 shows credit losses as a percentage of mortgage volume over the past 5 years.

**Table 2.6: Freddie Mac Credit Losses** (As of December 31 of Each Year)

| Dollars in millions |                        |                     |                                  |
|---------------------|------------------------|---------------------|----------------------------------|
| Year                | Total unpaid principal | Total credit losses | Losses as a percent of principal |
| 1985                | \$114,529              | \$42                | 0.04                             |
| 1986                | 182,936                | 53                  | 0.03                             |
| 1987                | 225,507                | 144                 | 0.05                             |
| 1988                | 243,831                | 165                 | 0.06                             |
| 1989                | 294,722                | 207                 | 0.06                             |

Source: Freddie Mac.

Freddie Mac officials said the large increase in losses starting in 1987 resulted from timing differences based on Freddie Mac's rapid growth in MBS, which started in 1985. They said that mortgage losses have a life cycle of low losses initially, increasing for about 5 years, and then dropping off for the remainder of the mortgage's life.

Freddie Mac officials said they evaluate credit risk prospectively by analyzing Freddie Mac's current mortgages in terms of current market value LTV ratios. They said that homeowner equity is the major determinant of defaults. They have estimated Freddie Mac's current LTV ratio based on indices of changing home values, not new appraisals of its mortgages.

During 1987 and 1988, most mortgages sold to Freddie Mac were sold without recourse. Freddie Mac faces the same situation as Fannie Mae in that the new risk-based capital standards would tend to discourage banks and thrifts from selling mortgages with recourse to Freddie Mac.

Freddie Mac has controls similar to those used by Fannie Mae for minimizing credit risk. In addition, Freddie Mac has published eligibility and reporting requirements for its private mortgage insurers and does annual on-site reviews of the insurers.

### Sallie Mae

Sallie Mae's cumulative student loan default rate as of December 31, 1988, was 12.2 percent compared to the national average of 13.3 percent. This figure represents total defaults since inception of the program as a percentage of total loans that have entered repayment. Since Sallie Mae's student loans are guaranteed or privately insured, default rates are not an accurate measure of Sallie Mae's credit risk. Losses to Sallie Mae as a result of defaults have been immaterial—about \$4 million since 1979.

Because most of Sallie Mae's student loans are guaranteed by state and non-profit agencies and reinsured by the Department of Education, Sallie Mae is exposed to losses from these loans only to the extent that they are inadequately originated or serviced. In such cases, the government may not honor the guarantee. To control this risk, Sallie Mae has standards for buying, making, and servicing its loans. Sallie Mae screens loans before purchasing and rejects those where the guarantee may be in jeopardy because of improper origination or servicing.

Sallie Mae's major techniques to control credit risk associated losses are (1) establishing servicing standards, (2) monitoring servicers, and (3) servicing an increasing proportion of loans in-house. Sallie Mae officials said Sallie Mae currently services about 50 percent of its student loans through its five regional servicing centers and dedicates a division to reviewing third party servicers. Sallie Mae also reviews the financial condition of all counterparties to its interest rate swap transactions.

Sallie Mae requires at least 100 percent collateral on its loans to lenders of guaranteed student loans. The collateral on these loans includes guaranteed student loans, U.S. Treasury or agency securities, or other acceptable collateral. Sallie Mae sets the required type and amount of collateral based on the credit standing of the lender.

### Connie Lee

Since it began providing reinsurance in 1988, Connie Lee has experienced no defaults. Connie Lee officials expect few defaults in the future because historically, education institution bonds that meet insurance standards have rarely defaulted. Connie Lee officials said that, unlike other forms of insurance or bank loans, municipal bond insurance is

written to a standard of no losses. In addition, they said that institutional bond defaults are handled differently than mortgage defaults. A default does not result in the whole debt becoming due. The payment of principal and interest is paid in accordance with the original maturity schedule. The maximum liability in any single year is established in accordance with the original schedules of the bonds—insured or reinsured—and is a small fraction of the total liability. Insurers and reinsurers rarely pay a significant amount in claims—even after default—due to reliance on reserves and debt restructuring.

As a reinsurer, Connie Lee shares the overall risk of default with the primary insurers. Connie Lee officials said its policy is to reinsure up to 50 percent of default risk, and typically it bears about 10 to 20 percent of the total risk. They said that to control for credit risk Connie Lee reviews the characteristics of bonds it reinsures and evaluates and monitors the primary insurers' credit policies, loss reserves, and financial condition. S&P, a major rating agency, has approved Connie Lee's credit standards as consistent with maintaining the highest rating for the bonds it reinsures.

#### Farmer Mac

Farmer Mac has not yet certified any poolers or guaranteed any loan pools, so it has no default experience. To limit future default risk, Farmer Mac has established credit, appraisal, and servicing standards that its program participants must follow. The standards require that poolers monitor the activities of lenders and servicers. In addition, Farmer Mac plans to review the poolers' operations.

To provide reserves against default losses, Farmer Mac plans to assess the poolers an initial fee of 50 basis points of the original security principal and an annual fee of 25 basis points of the unpaid principal balance. Farmer Mac also plans to adjust the level of credit enhancement provided by poolers to reflect expected losses. Legislation requires that Farmer Mac poolers—with optional participation by original lenders—establish a cash reserve fund or retain an interest in the pool equal to at least 10 percent of the principal amount of loans in the pool. Before the Farmer Mac guarantee can be used to offset default losses, full recourse must be taken against the cash reserves or retained interests.

Farmer Mac officials said Farmer Mac has developed a computer-simulated stress test to analyze the financial performance of proposed pools of loans under historical stressful periods in agriculture. It plans to use the results of the stress tests to decide whether to guarantee the pool

and whether to require more than the minimum 10 percent reserve or participation interest.

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## Business Risk

We defined business risk as the risk that factors largely beyond an organization's control could lead to unexpected changes in earnings, growth, or capital. Examples of external factors that pose business risk to the GSEs include (1) changes in legislation or regulation governing their lines of business and (2) changes in demand for their products. GSEs also have business risk associated with operating single lines of business. Business risk cannot be easily measured, and many business risk factors are difficult to anticipate and control. The GSEs appear to use similar methods to manage their exposure to business risk.

All the GSEs face risk associated with legislative or regulatory changes that could force them into new markets, eliminate old markets, or otherwise raise their cost of doing business. For example, Congress increased costs for certain GSEs when it eliminated their exemption from paying federal income taxes. Current administration proposals that could increase costs include assessing user fees on certain GSE activities.

GSEs face business risk because of uncertainties in the markets they serve. Such market risks include the possibilities that demand for their products or services could shrink; interest rates could increase their cost of doing business; specific geographic regions could face serious economic stress and cause losses; and competitors using innovative technologies could create new products or services that consumers prefer.

All GSEs are limited in their abilities to manage their business risk exposure by legislation that requires them to serve specific public missions. GSEs' charters require that their activities, for the most part, be concentrated in a single line of business, such as buying and selling residential mortgage loans, buying and selling guaranteed student loans, loaning to member institutions, making or guaranteeing agricultural related loans, or insuring college construction loans. These requirements for single lines of business prohibit the GSEs from seeking alternative business opportunities to supplement, diversify, or replace current business when economic conditions or the promise of higher returns would lead a private firm into other lines of business. However, GSEs can shift assets into new products and investments within their given line of business.

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## Methods of Managing Exposure to Business Risk

As indicated, GSEs cannot, for the most part, control business risk factors such as changing demand, competition, legislation, and technology because these factors are external to the firms' operations. However, the GSEs have used techniques such as the following to manage their exposure to external threats and react to business environment changes:

- GSEs attempt to influence risk from changing legislation and regulation by lobbying Congress for favorable legislative treatment. Four GSEs have an organizational unit specifically dedicated to congressional relations, and FCS and Fannie Mae have established political action committees to provide campaign contributions.
- GSEs generally use economic, political, and market research data and analytical information to assess their market position and to predict how future conditions will affect their operations. The analysis of resulting data helps managers formulate corporate strategies and measure their performance and customer satisfaction.
- GSEs develop new products and enter new markets within their legislative or regulatory limitations to respond to changes in their external environments and to help manage their business risk exposures.
- GSEs diversify geographically and, in some cases, by product line to mitigate business risk exposure. Legislation requires the GSEs to operate nationwide, and their geographic diversification helps them to avoid large exposures to regional economic shocks. Economic downturns like the late 1970s recession in the rust belt states and the 1980s recession in the Southwest oil industry states often have occurred on a regional basis. Some GSEs also diversify the characteristics of their products. For example, nationally, FCS makes loans for different agricultural commodities. In addition, both Fannie Mae and Freddie Mac have diversified into numerous variations of fixed-rate, adjustable-rate, and multifamily mortgages. While GSEs can diversify their product lines somewhat, all GSEs are limited to product lines that fall within their respective legislation.

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## GSEs' Business Risk Vulnerabilities

Fannie Mae, Freddie Mac, Sallie Mae, Connie Lee, one FCB, and one FHLB provided us with written and verbal descriptions showing they generally use all the methods described above to manage business risk. As discussed below, we did not find any material weaknesses in their efforts to manage business risk. We did not meet with officials from all FCS institutions and all FHLBs, so we cannot make generalizations about their efforts to control business risk. Nevertheless, GSEs, like all financial firms, cannot manage every potential risk in every possible environment at all times. Because any financial firm cannot control factors external

to its organization, GSEs always will be vulnerable to certain risks. Following are some vulnerabilities we identified as facing the GSEs now and in the near future.

### Farm Credit System

A major business risk to FCS is its shrinking market and potentially shrinking market share. FCS' loan portfolio has shrunk from a high of about \$82 billion in 1983 to about \$49 billion at the end of 1989. However, FCA officials said the shrinkage of the agricultural credit market is largely completed. The liquidity provided by Farmer Mac, which was not operating at the time of this report, may allow commercial banks easier entry into the long-term agricultural loan market, which has historically been dominated by FCS.

FCS also faces business risk from the unpredictable nature of the agricultural sector. Agriculture is subject to drought, disease, and other natural occurrences that can affect the supply of and demand for agricultural products. In addition, FCS faces certain economic risks such as decreases in the international demand for U.S. agricultural products. FCS also faces business risk such as upcoming agriculture legislation that will govern \$40 billion to \$50 billion in annual federal spending for the nation's farm program. The level of federal agricultural subsidies can directly affect the ability of farmers and ranchers to repay their FCS loans.

FCS must also respond to the Agricultural Credit Act of 1987 that will tap earnings to meet higher capital standards and newly levied insurance premiums. Failure to meet these standards would raise safety and soundness concerns and could result in FCA sanctions that could curtail growth in bank lending operations. In commenting on a draft of this report, FCA said that new operations and possible new independent funding sources for FCS associations may be a greater risk than the risks arising from the weak financial conditions of some FCS banks.

### Federal Home Loan Bank System

Weaknesses in the thrift industry pose a major business risk for FHLBs. Two FHLB officials and a FHFB written statement said that the higher thrift capital standards and other FIRREA reforms are reducing the size of the thrift industry. As a result, the FHLBs expect fewer members, expect these members to contribute less capital to the FHLBs, and expect to make fewer loans to their members. Thus, the FHLBs' interest income, capital, and ability to pay dividends may be diminished.

The FHLB System also faces business risk from uncertainty regarding thrift bailout legislation. As part of FIRREA's financing measures, the FHLB System must contribute \$2.1 billion of retained earnings plus \$300

million per year from FHLB System income for 40 years to pay the principal and some of the interest on bonds issued by the Resolution Funding Corporation to finance the liquidation of insolvent thrifts. FIRREA also required FHLBs to fund an Affordable Housing Program with at least \$50 million annually, increasing to \$100 million annually in 1995. Should the government's costs of rescuing the thrift industry rise above authorized amounts (and it appears they will), the FHLB System could be required to make further contributions to the rescue, although current law does not authorize such contributions.

The Dallas FHLB has proposed a new program that would allow it to participate in thrifts' loans to developers. The FHLB would then sell 90 percent of its participating interests in the loans to outside investors. This program could increase the Dallas FHLB's risk exposure because it would require the FHLB to evaluate and underwrite construction loans, which have inherently greater credit risks than mortgages. None of the other FHLBs has endorsed this proposal.

#### Fannie Mae

The evidence indicates that Fannie Mae currently faces a variety of business risks. First, it operates in a constantly changing market that forces it to continuously develop, evaluate, and price new types of mortgages and securities. Most past mortgage purchases have been 30-year, fixed-rate mortgages which have had fairly predictable payment, default, and foreclosure experience. However, because new products generally have limited loss experience, they may result in higher risks than established products until adequate loss controls can be developed.

Second, Fannie Mae faces competitive pressures from Freddie Mac. The ways Fannie Mae responds to any increase in competition could increase its overall risk structure.

Third, although Fannie Mae's mortgages and MBS are diversified nationally, a relatively high concentration of loans in California makes Fannie Mae vulnerable to regional economic shocks and local natural disasters. However, officials said California's economy is more diversified than that of many states and California has a high number of mortgages compared to many other states.

#### Freddie Mac

Freddie Mac faces similar business risks to Fannie Mae's. In addition, Freddie Mac faces possible changes in its operations because of uncertainty about how its new stockholders and Board of Directors will exert control over Freddie Mac's business. For example, it is possible that the new Board, facing sharp competition from Fannie Mae, could redirect

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Freddie Mac's strategic goals and operations, although the Chairman believes the Board is satisfied with Freddie Mac's traditional strategy.

Sallie Mae

Sallie Mae officials said their largest business risk stems from the highly regulated nature of guaranteed student loans. The value of a student loan is determined by its terms: rate structure, borrower eligibility, and collection procedures. These terms are set legislatively by Congress or administratively by the Department of Education, not by the marketplace or by Sallie Mae. For example, in 1986 Congress reduced the special allowance that is used to determine the federal interest subsidy for holders of student loans from 350 to 325 basis points.

Sallie Mae officials said that increased competition from commercial banks also poses a business risk because banks are starting to retain their guaranteed student loans rather than sell them to Sallie Mae.

Connie Lee

Connie Lee faces the same business risks and uncertainties that all new businesses face. Although it has hired managers with experience in bond insurance and financial services, it has little experience as an entity. Also, Connie Lee plans to offer primary bond insurance soon and will then have to compete with primary bond insurers with which it currently has reinsurance contracts.

Farmer Mac

Farmer Mac has developed underwriting standards and an operating manual but has not yet begun operations. It faces an unclear market with an uncertain future. Demand for Farmer Mac's services is uncertain, and questions exist about how the markets will respond to this new GSE.

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## Management Risk

Management and operations risk (subsequently referred to as management risk) is the potential for losses resulting from the decisions or indecisiveness of a company's managers. In many respects, management risk encompasses all the risks faced by corporations, including credit, interest rate, and business risks. For example, since GSE managers establish loan standards and financing policies, their decisions determine their firms' exposure to credit and interest rate risk. Generally, managers can expose their firms to losses through incompetence, inadequate planning, poor internal controls, risky business strategies, fraud and negligence, and other forms of mismanagement.



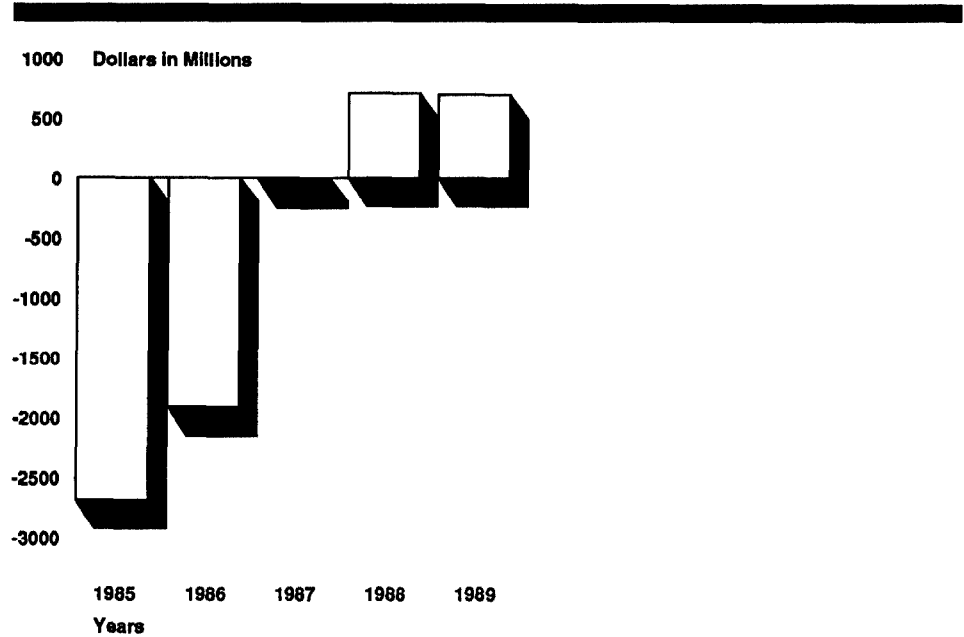
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## Measuring Overall Management Performance

Management risk is less measurable than credit and interest rate risks. However, examining a firm's overall performance over time provides a retrospective picture of how well that firm has managed the sum of all its risks. Long-term profitability is one of the best measures of corporate performance. Specific profitability measures include net income and various financial ratios such as return on average assets and return on average equity. An FCS official said that, because FCS institutions are borrower-owned, owner returns could also be provided through lower initial loan rates to shareholders. In general, corporate managers seek long-term improvements in their firms' incomes and returns. However, strong financial ratios do not always prove that a firm has effective management, nor do weak ratios prove that a firm has ineffective management. Strong economic and market conditions could enable ineffectively managed corporations to report profits, and weak conditions could cause effectively managed corporations to show losses. Profitability indicators should therefore be used in conjunction with other indicators, such as evaluations of internal controls and corporate planning and opinions of external auditors, to measure current management performance.

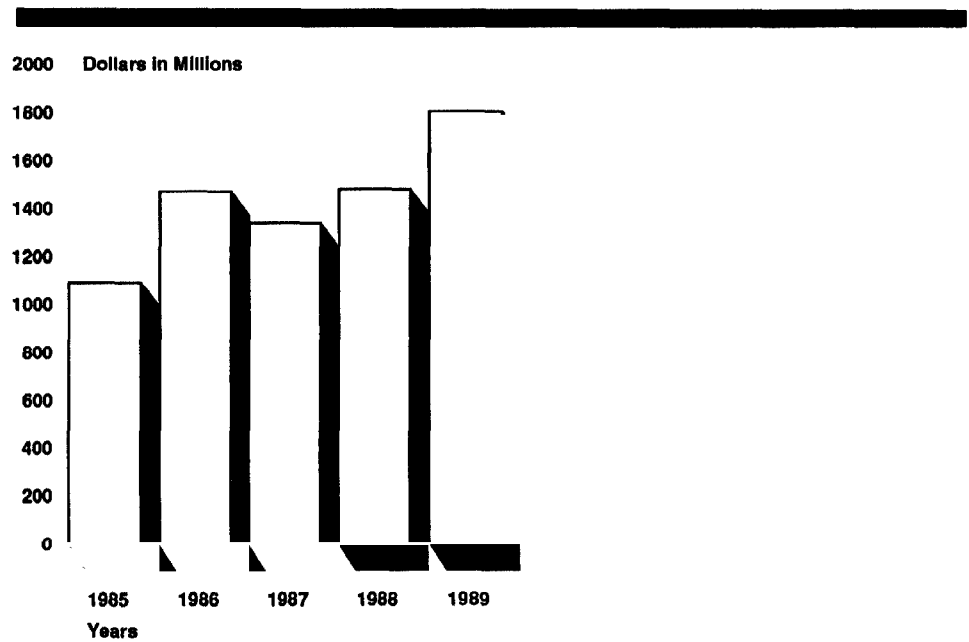
As figures 2.1 through 2.5 illustrate, the GSEs have generally shown increasing net profits between 1985 and 1989. Although FCS and Fannie Mae did not post profits in every year, they have shown a general trend of decreasing losses and increasing profits during this period. Because net income results do not account for inflation or the size of the GSE, financial analysts generally use financial ratios to judge financial results. Tables 2.7 and 2.8 illustrate that these profits as a percentage of average assets and average equity were generally positive but fluctuated over time and among GSEs.

Figure 2.1: Farm Credit System's Net Income, 1985-1989



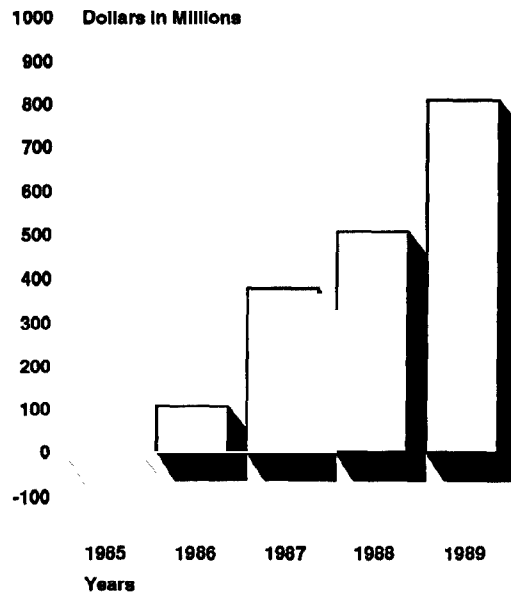
Source: Farm Credit System's 1989 Annual Information Statement.

Figure 2.2: Federal Home Loan Banks' Net Income, 1985-1989



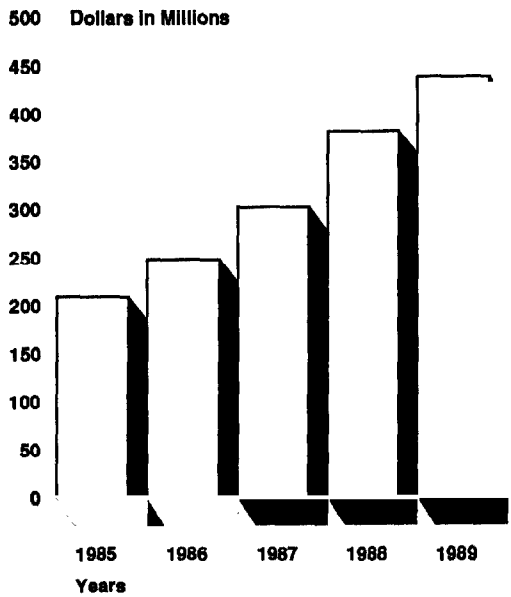
Source: Federal Home Loan Bank Board's 1987 Annual Report and the Federal Housing Finance Board.

Figure 2.3: Fannie Mae's Net Income, 1985-1989



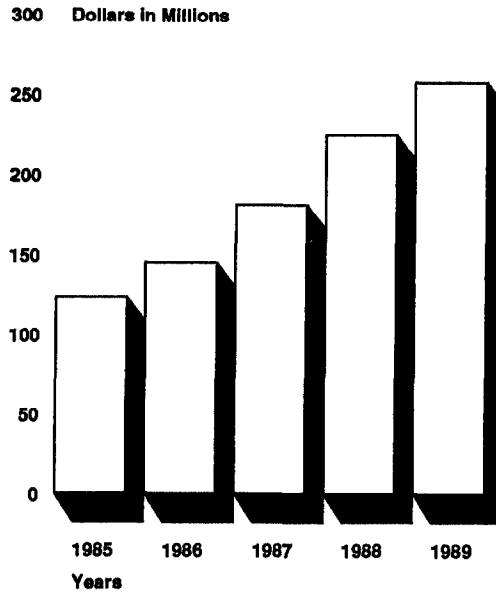
Source: Fannie Mae's 1989 Annual Report.

Figure 2.4: Freddie Mac's Net Income, 1985-1989



Source: Freddie Mac's 1989 Annual Report.

Figure 2.5: Sallie Mae's Net Income, 1985-1989



Source: Sallie Mae's 1989 Annual Report.

Table 2.7: Return on Average Assets<sup>a</sup>

In basis points<sup>b</sup>

| GSE                      | 1985  | 1986  | 1987 | 1988 | 1989 | Five-year simple average |
|--------------------------|-------|-------|------|------|------|--------------------------|
| FCS <sup>c</sup>         | (322) | (255) | (3)  | 114  | 111  | (71)                     |
| FHLBs                    | 104   | 120   | 93   | 88   | 100  | 101                      |
| Fannie Mae               | 0     | 6     | 17   | 19   | 26   | 14                       |
| Freddie Mac              | 21    | 16    | 14   | 15   | 15   | 16                       |
| Sallie Mae               | 95    | 88    | 88   | 87   | 80   | 88                       |
| Banks <sup>d</sup>       | 70    | 63    | 12   | 82   | 52   | 56                       |
| Large banks <sup>e</sup> | 49    | 55    | (66) | 96   | 11   | 29                       |

<sup>a</sup>Does not include off-balance sheet assets except MBS for Fannie Mae and Freddie Mac. MBS typically has lower risk and profit margins than loans held in portfolio. Return is after taxes. Average assets were calculated by summing beginning and ending assets and dividing by two. For banks and large banks, year end assets were used.

<sup>b</sup>A basis point is one hundredth of a percentage point (1 basis point = .01%).

<sup>c</sup>Additions to loan loss provisions were greater than net losses in 1985 and were 94 percent of net losses in 1986. Reversals in loan loss provision accounted for 97 percent and 41 percent of FCS net profits in 1988 and 1989, respectively, and reduced 1987 losses by \$184 million.

<sup>d</sup>All federally insured commercial banks.

<sup>e</sup>Banks with assets greater than \$10 billion.

Source: GAO calculations based on GSEs' annual reports.

**Table 2.8: Return on Average Equity<sup>a</sup>**

In percent

| GSE                      | 1985   | 1986   | 1987  | 1988 | 1989 | Five-year simple average |
|--------------------------|--------|--------|-------|------|------|--------------------------|
| FCS                      | (26.6) | (27.3) | (0.3) | 20.0 | 24.1 | (2.0)                    |
| FHLBs                    | 11.5   | 13.3   | 10.4  | 9.9  | 12.0 | 11.4                     |
| Fannie Mae               | (0.7)  | 9.6    | 25.1  | 24.9 | 30.7 | 17.9                     |
| Freddie Mac              | 30.0   | 28.5   | 28.2  | 27.5 | 25.0 | 27.8                     |
| Sallie Mae               | 19.7   | 21.7   | 27.0  | 30.3 | 28.0 | 25.3                     |
| Banks <sup>b</sup>       | 11.3   | 10.0   | 2.0   | 13.3 | 8.1  | 8.9                      |
| Large banks <sup>c</sup> | N/A    | N/A    | N/A   | N/A  | 2.2  | N/A                      |

<sup>a</sup>Average equity was calculated by summing beginning and ending equity and dividing by two. Return is after taxes. For banks and large banks, year-end equity was used. Equity capital excludes FCS' protected stock for 1988 and 1989.

<sup>b</sup>All federally insured commercial banks.

<sup>c</sup>Banks with assets greater than \$10 billion.

Source: GAO calculations based on GSEs' annual reports.

## Methods Used by GSEs to Control Management Risk

On the basis of profits and returns on assets over the last 5 years, most GSEs generally appear to have controlled their management risks by using various available methods. However, we have no basis for determining whether profits resulted from effective management or other factors—such as favorable economic conditions. Also, because managers cannot control factors such as external economic and market shocks, there is always a level of uncertainty about how well existing controls will work when such shocks occur.

The GSEs described various techniques they use to control their exposures to management risk. Previous sections discussed the methods GSEs used to manage or control interest rate, credit, and business risks—all specific forms of management risk. This section will address the general techniques to control overall management risk. These techniques include (1) proper personnel practices, (2) strategic and operational planning, (3) accounting and management information systems, (4) internal control systems, and (5) internal and external audits.

### Proper Personnel Practices

Competent, informed, and ethical managers and employees are essential for protecting GSEs against all types of risk. A corporation's personnel policies—recruiting, training, and evaluating—play an important role in controlling all corporate risks.

All GSEs we visited cited hiring, training, and personnel evaluations as key controls over management risk. GSE officials said they control management risk primarily by selecting experienced and knowledgeable personnel for critical positions. The directors of most GSEs have financial, legal, academic, or other specific backgrounds related to their GSE's operations. Also, on the basis of our preliminary review of GSE personnel qualifications and after numerous briefings and discussions with top GSE managers, it appeared that the GSEs we visited generally had hired qualified, experienced, and well-informed managers. For example, Sallie Mae's former President and Chief Executive Officer (CEO) (who recently resigned) held the same position for 17 years. Also, Connie Lee's President and CEO worked for Sallie Mae for 14 years, including 3 years as an executive vice president. At the GSEs we visited, managers appeared well-informed during numerous interviews. Most of the GSEs offered internal or external training to improve the knowledge and skills of their employees and managers.

Available information showed that the managements at some FCS institutions have not proved as effective in controlling risks as the managements of other GSEs. We did not visit the individual FCS institutions because of their number and locations. However, we reviewed Moody's October 1989 report on FCS banks and discussed FCS management performance with FCA and rating agency officials. These sources highlighted serious concerns about FCS management performance. The rating agency reported that FCS "has not generally been run on a very businesslike basis." FCA officials said that several FCS institutions now have CEOs with financial backgrounds but that several others still operate under management philosophies similar to the ones that caused large losses in the mid-1980s. The officials said that, because of the cooperative nature of FCS, the boards of directors that hire and fire CEOs generally have farming backgrounds, not banking or financial backgrounds. In addition, an FCA official told us that about 60 percent of FCS assets are owned by institutions that are under FCA enforcement actions that require them to address specific problems. Management weaknesses that resulted in these problems could expose FCS institutions to serious losses. FCA officials also said that Agricultural Credit Act of 1987 changes to the FCS structure, such as increasing lending authority at local associations, could place additional risk at the local level.

## Strategic and Operational Planning

Effective planning enables an organization to visualize its future, set goals and objectives to achieve its vision, develop and evaluate alternative strategies to accomplish its goals and objectives, and choose an

appropriate course of action. GSEs use long- and short-term planning processes to accomplish these tasks to varying degrees.

We discussed the planning process with officials from six GSEs—Fannie Mae, Freddie Mac, Sallie Mae, Connie Lee, an FCB, and an FHLB—and FCA. The six GSEs used two principal types of planning—strategic and operational. Strategic plans focused on the firms' broader policy issues and covered 3 to 5 years. Operational planning focused on how various components will implement strategic objectives and usually covered 1 year.

The six GSEs limited strategic decision-making authority to senior managers and boards of directors. Senior managers developed the plans and either the top managers (i.e., the president and/or chief executive officer) or the board approved them. FCA has developed planning guidelines for FCS institutions, and it reviews the institutions' plans to ensure compliance with the regulations. FHFB also reviews FHLBs' strategic plans and has approval authority over their annual plans.

The six GSEs we visited had the same approval requirements for both operating plans and strategic plans. In the operating plans, the GSEs' senior managers set corporate priorities for the year, such as which new products the GSEs will pursue. The operating plans generally established objectives for certain individuals or business units and provided some measures to evaluate progress toward the goals. For example, the annual plans of the FCB we visited listed individual responsibilities and deadlines for completing each planned objective. Most GSEs set divisional and departmental goals and made the division or department head responsible for accomplishing them.

Most of these GSEs used their corporate plans to evaluate actual performance during the year. Some GSEs reviewed divisional and corporate performance every quarter, while others had annual reviews. GSE officials said that the performance reviews influenced decisions about compensation for managers.

The GSEs generally augmented their strategic and operational plans with frequent operational planning sessions. Officials said that division heads, department heads, and unit managers met regularly to discuss production issues and plan short-term operations.

GSE managers also plan how their firms will handle disaster recovery operations and data backups for automated systems to cover potential destruction of their facilities. For example, Fannie Mae and Freddie Mac

had extensive backup systems, including complete off-site duplicates of records, to keep their critical automated data systems running in case a catastrophe were to destroy their headquarters. All of the other GSEs had similar backup systems and disaster recovery plans for their automated systems operations.

### Accounting and Management Information Systems

Managers use information provided by accounting and management information systems to make critical decisions. Therefore, the systems must provide accurate and timely data to help managers control corporate risks. Senior managers use information from the databases to determine operating costs, forecast economic events and conditions, establish budgets and objectives, monitor compliance with budgets, and compare actual performance to objectives. For managers to make reliable business decisions, the automated systems must produce reliable data. This means that system transactions must be properly recorded, classified, and reported and that accountability over assets and liabilities must be maintained.

All of the GSEs use automated systems for tracking information such as loan characteristics and payments, monitoring loan servicing, and tracking risk exposures of loans and security guarantees. For example, Fannie Mae designed its LASER database to make loan management easier for itself and its lenders. Officials said that LASER maintains about 240 information fields for Fannie Mae's approximately 5.5 million loans, and managers can manipulate the LASER data for various purposes. Likewise, Freddie Mac's MIDAS system is designed to integrate its entire mortgage and security processing functions from loan acquisition to principal and interest receipts to investor payments. Officials said the MIDAS database contains over 7 million loans and provides information for functions such as pricing and default analyses.

Another example of how GSEs use automated systems is one FHLB's financial asset and liability management system that tracks the bank's advances to its member institutions. The system monitors data elements for each loan. Bank personnel also use the system to help make loan decisions and produce various marketing and forecasting reports. The other GSEs also use automated systems to track operational data.

### Internal Control System

An organization's internal control system consists of policies and procedures established by senior management to provide reasonable assurance that specific objectives and goals will be achieved. Internal controls



provide management with the tools to help ensure that corporate direction and control will be maintained. Management internal controls pertain to the economy and effectiveness of management decision-making. Accounting controls pertain to the organization's ability to record, process, summarize, and report financial data accurately, promptly, and in conformity with GAAP. Segregation of duties within an organization and safeguarding of the assets are usually categorized as accounting controls.

Internal control policies and procedures at the six GSEs we visited included those that controlled credit and interest rate risk, the two most serious risks facing GSEs. Because of the magnitude of those risks, we discussed their measurement and control in separate sections of this chapter. The policies and procedures discussed here are primarily accounting controls, including controls over the GSEs' information systems.

Internal control policies are needed to cover development and introduction of new products because of the uncertainties about the success of untested products. At each of the six GSEs we visited, such policies—or, in the case of FCS institutions, FCA regulations—required testing to verify that demand existed for the new product before the expense of product development was incurred and that the GSE had the capacity to control the new business activity and associated risk. For example, Fannie Mae officials said that they exercise control over the four risks associated with new products—credit, pricing, legal, and systems control—by forming a production development team made up of personnel from their operating divisions. Freddie Mac and Sallie Mae officials said they used similar approaches for developing new products.

Placing limitations on managers' authority, multiple reviews of contracts, and segregation of duties are control policies that help ensure that managers adhere to the organization's credit policies. For example, Freddie Mac and Fannie Mae limited the size of deals that their regional account executives could negotiate with lenders, thus preventing any one person from committing the organization to an undue amount of risk. Freddie Mac also required its regional vice presidents to review all contracts negotiated between the Freddie Mac account executives and lenders. Freddie Mac and Fannie Mae segregated duties by having headquarters risk management officials review and approve all deals above certain dollar amounts negotiated in the field before they became binding. Both GSEs were organized to separate sales and marketing functions from risk management. This separation was to provide a check and

balance between the possibly conflicting missions of maximizing sales and minimizing risk. At Fannie Mae, policy provided that any conflict between the two divisions would be settled by the Credit Policy Committee, which is chaired by the Chief Credit Officer.

The six GSEs exercised control procedures over the management of interest rate risk by monitoring the process. As discussed earlier in this chapter, the duration matching method is used by some GSEs to manage interest rate risk. This method does not lend itself well to control procedures because it is dependent on subjective judgments and assumptions. Officials of one FHLB said its internal auditors review the bank's duration management strategy, including the reliability of the data used to calculate duration. Officials of an FCB said that they exercised control by annually contracting with a recognized outside expert to review asset and liability matching methodology and procedures.

Since all six of the GSEs rely so heavily on automated accounting and management information systems in their operations and decision-making, the most vital internal controls may be those that provide assurance that the information in their systems is accurate and timely. The six GSEs used similar controls, primarily built-in edit checks, to verify the accuracy of data in their systems. These checks prevent information or transactions not meeting various preset conditions from entering the systems. Transactions failing the edit checks are listed on daily or periodic error reports and must be corrected and reentered.

Officials at Fannie Mae, Freddie Mac, and Sallie Mae told us that accounting staff reconciled actual principal and interest receipts for loans held in portfolio and in MBS with expected principal and interest receipts based on the loan terms. At Fannie Mae and Freddie Mac, unreconciled discrepancies over 1 month old reflect unfavorably in accounting staff performance appraisals. Officials from an FHLB said that their bank has incorporated a number of edit checks into its data systems to identify possible errors concerning loans to member institutions. Their system produced daily reports with details on the bank's loans; these reports were verified against the original transaction forms to ensure data accuracy. Connie Lee officials said that in addition to edit checks, Connie Lee's small number of transactions allows its staff, if necessary, to manually verify each transaction entering its system.

FCA officials said that FCS financial information has improved substantially in the last few years. However, they still had some concerns about the integrity of data in some FCS institutions' data systems.

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## Internal and External Audits

The objectives of internal and external audits differ, but both help control management risk by providing assurance that internal controls function adequately and that financial statements present fairly the operating results and financial position of a corporation. An external auditor's primary objective in a financial statement audit is to express an opinion on the financial statements of an organization. An external auditor evaluates the internal controls to the extent the external auditor deems necessary to comply with generally accepted auditing standards but does not render an opinion on the system of internal control. An internal auditor's objectives are to evaluate the adequacy of the internal controls over certain business activities and the organization as a whole. In carrying out internal control evaluations, internal auditors also verify that the financial transactions are recorded accurately and promptly in the general ledger. Both auditors should privately report their results and findings to the audit committees of the boards of directors.

The boards of directors, through their audit committees, should have ultimate corporate responsibility for internal controls, according to the National Commission on Fraudulent Financial Reporting, also known as the Treadway Commission. The Commission, a multi-organizational effort funded by the American Institute of Certified Public Accountants and other accounting organizations, was established to respond to increasing allegations of financial reporting fraud and to SEC fraud enforcement actions. In its October 1987 report, the Treadway Commission made several recommendations concerning boards of directors' audit committees and corporate internal audit departments. One recommendation was that the audit committee, as part of its internal control responsibilities, should monitor compliance with company codes of conduct. The Treadway Commission also recommended that audit committees have necessary resources for their job and suggested that the internal auditors could be their staff. The Treadway Commission further recommended that audit committees be responsible for communicating to senior management control weaknesses identified by the internal and external auditors. The Treadway Commission viewed the audit committee of a board of directors as the "key to vigilant and informed oversight of the financial reporting process, including the company's system of internal control."

Consistent with the Treadway Commission recommendations, according to GSE and FHLB officials, the audit committees of FHLBs, Fannie Mae, Freddie Mac, and Sallie Mae are independent from top management and have responsibility for internal controls, financial reporting, and conflict of interest standards. In addition, Fannie Mae and Freddie Mac officials

said that the audit committees meet periodically with both the internal and external auditors and top management. Officials of the three GSEs said that both internal and external auditors have direct, easy, and private access to the audit committees.

The FCS audit committee, based on our review of its charter, is also consistent with the Treadway Commission recommendations. The committee is to be independent and is responsible for reviewing internal controls, accounting, and financial reporting for the entire FCS. The audit committee is to meet four times per year.

The Treadway Commission also believed that an effective internal audit function must be independent and objective. Officials at an FCB, an FHLB, Fannie Mae, and Freddie Mac said that their audit departments were designed to be consistent with the Treadway Commission standards. The auditors at these GSEs and Sallie Mae used procedures designed to objectively determine the GSEs' riskiest business activities and targeted their audit efforts toward those activities. Connie Lee did not have an internal audit department,<sup>8</sup> and Farmer Mac was not operating yet.

The internal auditors' reporting requirements appear to further demonstrate the independence and objectivity of the audit departments. The policies of Fannie Mae, Freddie Mac, Sallie Mae, an FHLB, and an FCB require that audit reports be addressed to the vice president of the business activity being audited, with copies to the GSE's president and/or chief executive officer. According to the vice presidents in charge of the five GSEs' audit departments, management must respond to any identified deficiencies, usually with a plan of corrective action. The audit departments are to follow up on the deficiencies to ensure that corrective actions are taken. In addition, the vice presidents of Fannie Mae and Sallie Mae said their audit departments prepared reports and discussed their report findings and follow-up results in their meetings with the audit committees.

The education and certifications of the audit departments' staff indicated professionalism. Officials said that many of the professional staff at Fannie Mae, Freddie Mac, and Sallie Mae had advanced degrees. Each department also had specialized electronic data processing auditors trained in computer programming and operating systems. In addition,

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<sup>8</sup>Connie Lee's CEO said Connie Lee employs about 25 people and has sufficient controls over accounts and management actions so that it currently has no real need for an internal audit department.

most of the staffs had some type of professional certification, usually as a certified public accountant (CPA).

Coordination of external auditors with internal auditors was another recommendation of the Treadway Commission. The external auditors of an FCB, Fannie Mae, Freddie Mac, and Sallie Mae provided a check on the quality of the internal audit departments. According to the vice presidents in charge of the four GSEs' audit departments, the external auditors coordinate extensively with the internal auditors and consider internal findings and conclusions in order to avoid duplication of effort. The FHFB said that FHLBs' external auditors also do these tasks. As required by professional auditing standards, GSEs' external auditors have satisfied themselves in recent audits that the internal auditors' work was reliable. External auditors gained this assurance by reviewing the internal audit departments' independence, staff qualifications, policies and procedures, and workpaper evidence.

The external auditors provided an independent review of the eight GSEs' internal controls and financial statements. However, because their reviews of internal controls were part of a financial statement audit, they only evaluated the controls necessary for their audit of the financial statements. The external auditors concluded that the audited financial statements of all GSEs presented fairly, in all material respects, the results of 1989 operations and the financial positions as of December 31, 1989.

We also reviewed the most recent external auditors' letters to the management of Fannie Mae, Freddie Mac, Sallie Mae, Connie Lee, and the FHLBs. These letters discussed internal control weaknesses that, based on the auditors' judgment, require management attention. Most of the weaknesses were related to the accounting and management information systems, which are considered by professional auditing standards to be a major element of a firm's overall internal control system.

In 1988 Fannie Mae's external auditor reported some limitations in the Foreclosure Claims System, which is considered to be one of LASER's five critical applications. The auditor's concerns included issues such as impaired progress in charging off claims and foreclosed properties and a lack of agreement between system summary reports and underlying database information. Fannie Mae officials said they recognized their system's weaknesses before the external auditor reported them. They said that addressing weaknesses in the Foreclosure Claims System is a priority issue for 1990.

For fiscal year 1989, Freddie Mac's external auditors reported that Freddie Mac staff were not complying with some of Freddie Mac's guidelines for managing credit risk. The external auditors found that the policies and goals in the area of credit compliance were reasonable, but the implementation, execution, and management of the process needed strengthening. They recommended that Freddie Mac management review the area and revise procedures appropriately. Freddie Mac's management agreed with the finding and recommendation. Freddie Mac had also identified opportunities for improvement in credit compliance during a 1989 internal study. Freddie Mac officials said that action had been taken to correct the problems. Freddie Mac noted, however, that the weakness had not adversely affected its loan quality and that its default experience continued to be very favorable.

The external auditors at an FHLB reported that accounting-related weaknesses resulted in misstatements of \$3.5 million and \$6.2 million in two general ledger accounts at the end of 1989. While these amounts were not considered material with respect to the FHLB's balance sheet, the auditors recommended that procedures be implemented at the end of each quarter and year-end to ensure that account amounts are properly recorded. The FHLB said that corrective actions are being implemented.

Our review of Sallie Mae's 1988 and Connie Lee's 1989 management letters revealed no significant weaknesses. Connie Lee's external auditor strongly recommended that automated controls be built into their automated systems. Connie Lee officials told us that they had developed controls for both of its systems and were in the process of documenting the controls in an accounting procedures manual.

We did not receive the management letter from the FCB we visited. However, we discussed FCS' information systems with FCA officials. FCA's examination of FCS institutions may include a review of automated system operations. FCA officials said that FCS institutions do not use consistent computer systems or databases that we believe could facilitate oversight and provide for more consistent operations among districts. The officials said that FCS institutions have been responsive to FCA's comments and suggestions for improving their automated systems, but the systems still need improvements.

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## Conclusions

Our review of the information provided by the GSEs on the risks they undertake, which we did not verify, uncovered nothing to indicate that any GSE is currently at risk of failure or serious financial losses. GSEs

basically face the same risks as other private financial institutions— interest rate, credit, business, and management risk. Each GSE employs a different strategy to manage its risks. The information provided by the GSEs indicates that they are currently either avoiding certain risks altogether or trying to manage the risks to maximize long-term profits. While the various strategies employed by the GSEs over time have generally been profitable, FCS encountered serious losses in the mid-1980s because of failures to properly manage interest rate and credit risks, and Fannie Mae reported large losses in the early 1980s caused by its earlier interest rate risk management strategy.

Although available information indicates certain FCS institutions are still having serious financial difficulties, the information provided us indicates that FCS as a whole is taking steps to recover from its past risk control problems. Information provided by Fannie Mae indicates it has greatly reduced its exposure to interest rate risk and could withstand large interest rate changes for several years. We plan to evaluate some of these risk control efforts and the efforts of the other GSEs in more detail in our second report.

Although we did not identify alarming problems for the GSEs in the currently benign economy and relatively good financial conditions, one cannot assume that today's management philosophies and financial conditions are a prologue for the future. Changes in management strategies, economic downturns, or other adverse events could precipitate future GSE losses or even failures. Because the GSEs cannot control the future, the GSEs and the government need to be prepared for any adverse changes. The remainder of this report will discuss how well the government and the GSEs are prepared for dealing with possible problems.

# Loss Reserves and Capital: Buffers Against Loss

When GSEs experience unforeseen losses, they depend on their capital to keep from becoming insolvent. Judgments about the appropriateness of capital levels are fundamentally subjective. The evidence presented in this chapter suggests that GSEs (1) apply different philosophies in setting their target capital levels and (2) change their philosophies toward capital levels in different circumstances. For the most part, each GSE supplied us with reasonable rationale for its current capital strategy. We have not yet sufficiently evaluated the capital levels held by GSEs to judge their adequacy for protecting the government against current levels of risk.

For private firms without federal ties, capital holdings are usually influenced by the credit markets. Firms with too little capital to safely cover their risks pay higher prices to borrow than firms that are well-capitalized. However, GSE capital levels and risk-taking are not as well regulated by credit markets. Except for short-term rate increases, creditors have treated GSE securities as very safe investments almost irrespective of the GSE's financial health. With private creditor discipline weakened, GSE Boards of Directors and managers are largely free to set levels of capital as they wish unless minimum capital levels are established by law or regulation.

The government's interest in a GSE's risk-taking and capital differs somewhat from the interest of GSE managers and owners. Both parties want to avoid loss. However, the government's primary interest is achieving specific public policy purposes while GSE owners and managers, except for those of FCS institutions, are primarily concerned with maximizing shareholder value. In this chapter, we discuss the private mechanisms for setting capital levels. In chapter 4, we discuss how the government imposes capital requirements as part of its safety and soundness regulation.

## Current GSE Capital and Loss Reserves

GSEs and other financial institutions establish capital and loan loss reserves as buffers against loss. A well-capitalized GSE can remain solvent through several years of adversity. A weakly capitalized GSE is far less able to withstand adversity. The problems experienced by FCS in the mid-1980s demonstrated how capital can quickly erode in certain adverse economic environments. Interest rate changes and a severe downturn in the agricultural economy in the mid-1980s caused losses of \$4.6 billion and, along with other factors such as borrower-stockholders leaving FCS, depleted FCS capital to the point where government assistance was needed to prevent the failure of several institutions. Violent



fluctuations in interest rates and high regional default rates also caused Fannie Mae to experience losses of over \$350 million in the early 1980s and depleted capital to the point that, considering the market value of assets and liabilities, HUD's 1986 annual report on Fannie Mae said that the estimated market value of its net worth was almost negative \$11 billion in 1981.

Generally, equity capital includes stock, paid-in capital, and retained earnings. Some GSEs' statutes define capital to include subordinated debt. Subordinated debt is like other debt, except its holders receive payment only after the firm repays all its other creditors.

Each GSE's senior management establishes internal capital guidelines based on the GSE's funding strategy and the nature of its operations and risks. Current GSE capital guidelines are largely based on the judgment of senior management and on variants of techniques used by independent rating agencies to evaluate the capital adequacy of firms engaged in businesses similar to those of GSEs. FCS institutions, FHLBs, Fannie Mae, and Freddie Mac also have minimum regulatory capital requirements.

GSE loss reserves are established based on past loss experience and must conform to regulations and/or GAAP standards. GSEs maintain loan loss reserves specifically to cover expected losses from defaults and these reserves are not related to interest rate or other risks. Loss reserves do not control credit risk; they provide financial reserves to cover expected losses from credit risk. GSEs determine loss reserve levels based on factors such as economic conditions, geographic concentrations, loan characteristics, and historical loan loss experience. GAAP standards and applicable regulatory accounting principles require that loss reserves be established if losses are probable and can be reasonably estimated. Each GSE's loss reserves are reviewed by its CPA, its regulator, or both.

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## Farm Credit System

FCS capital differs from capital held by most financial institutions in that not all stockholder equity is at risk in the event of failure. As cooperative owners, FCS borrowers are required to be stockholders. Before October 1988, FCS associations retired the stock when the borrower repaid the loan. The Agricultural Credit Act of 1987 and FCA regulations require that FCS institutions can retire stock that is issued after October 5, 1988, only if, after the retirement, the institution's capital will remain above its regulatory capital requirement. However, the 1987 act protected preexisting borrower stock against loss, regardless of the financial condition of the institution issuing the stock. As a result, the federal

government should consider such protected stock as actually a liability of FCS, not a buffer against loss.

The Agricultural Credit Act of 1987 directed each bank and association board of directors to develop a capitalization policy. These policies must meet or exceed the minimum risk-based capital requirement set by FCA.<sup>1</sup> Individual FCBS decide how capital will be accumulated, either by issuing borrower stock and participation certificates, retaining earnings, or both.

Officials from CoBank said they set internal capital requirements based on loan volume. CoBank borrowers must hold capital in CoBank based on their outstanding loan volume over a period of years. CoBank's board of directors reviews capital adequacy and may retire stock quarterly. The borrowers are responsible for contributing their share based on their loan volume over a 5-year period.

FCA requires that each institution maintain adequate reserves for losses on its loan portfolio, sales contracts, notes and accounts receivable, and acquired properties. These reserves must be maintained according to GAAP and regulatory accounting procedures prescribed by legislation and FCA regulations. According to FCA, FCS institutions' reserve policies should include at least two elements: (1) a detailed analysis of individual loans and acquired properties to estimate specific losses and (2) an analysis of the entire loan portfolio to estimate nonspecific losses. FCB and BC reserves are examined by FCA at least once a year and are included in financial statements audited by CPAs.

Table 3.1 shows FCS' total assets, loss reserves, and capital as of the end of 1985 through 1989. Capital levels vary across different FCS institutions.

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<sup>1</sup>Regulatory capital requirements for each GSE are described in chapter 4.

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**Table 3.1: FCS Capital** (As of December 31 of Each Year)

Dollars in billions

| Year | Total assets | Loss reserves | Equity capital     | Capital as a percent of assets | Capital and reserves as a percent of assets |
|------|--------------|---------------|--------------------|--------------------------------|---|
| 1985 | \$80         | \$3.2         | \$8.4              | 10.5                           | 13.9  |
| 1986 | \$70         | \$3.6         | \$5.6              | 8.0                            | 12.6  |
| 1987 | \$62         | \$3.0         | \$5.0              | 8.1                            | 12.2  |
| 1988 | \$62         | \$1.9         | \$2.0 <sup>a</sup> | 3.3 <sup>a</sup>               | 6.1 <sup>a</sup>                            |
| 1989 | \$64         | \$1.6         | \$3.8 <sup>b</sup> | 5.9 <sup>b</sup>               | 8.1 <sup>b</sup>                            |

<sup>a</sup>Beginning in 1988, protected stock was not considered equity capital. FCS also had \$3.3 billion of protected capital.

<sup>b</sup>FCS also had \$1.7 billion of protected capital.

Source: FCA.

**Federal Home Loan Banks**

Statutory and regulatory rules, discussed in chapter 4, largely determine capital levels for FHLBs. FHFB is responsible for assuring that capital requirements are met, and each FHLB's CPA is supposed to review capital surplus as part of the bank's annual audit. FHLB management may, at its discretion, increase capital levels above the regulatory minimum but currently has a strong incentive not to do so—FIRREA took most of the FHLBs' capital surplus to pay for the thrift crisis, and the government may be tempted to do so again if surplus capital is available. As discussed previously, FHLBs have experienced no default-related losses. Consequently, FHLBs have not established reserves for loan losses. However, the Federal Home Loan Bank Act required FHLBs to maintain a legal reserve account. FIRREA removed this requirement, effective after 1991. Table 3.2 shows the FHLB System's total assets and capital.

**Table 3.2: FHLBs Capital** (As of December 31 of Each Year)

Dollars in billions

| Year | Total assets | Equity capital | Capital as a percent of assets |
|------|--------------|----------------|--------------------------------|
| 1985 | \$112        | \$10.1         | 9.0                            |
| 1986 | \$132        | \$11.8         | 9.0                            |
| 1987 | \$154        | \$13.7         | 8.9                            |
| 1988 | \$175        | \$15.5         | 8.9                            |
| 1989 | \$180        | \$14.2         | 7.9                            |

Source: FHLB System's Office of Finance.

Fannie Mae

According to Fannie Mae officials, Fannie Mae uses stress tests as guidelines for setting risk-based capital. In particular, Fannie Mae runs stress tests involving a severe depression and high levels of defaults in the housing market (credit risk stress test) and a sharp increase in interest rates (interest rate risk stress test). The capital guideline is established by first determining the amount of total capital needed to “pass” both the credit risk and interest rate risk stress tests. Senior managers then consider other factors not covered in the stress tests, such as business risk, and set actual capital targets.

Fannie Mae tests its capital adequacy for credit risk by applying the effects of the default experience for its Texas mortgages originated in 1981 and 1982 to its entire portfolio and MBS.<sup>2</sup> According to Fannie Mae officials, applying that default experience to its current mortgages results in a 9 percent nationwide default rate. Fannie Mae uses the level of capital necessary to survive this “Texas-like” depression nationwide as the appropriate capital level for credit risk. Fannie Mae officials said they have more than enough capital to withstand this stress.

Fannie Mae also runs several simulations of rapid and sustained increases in interest rates (described in ch. 2) to test its capital adequacy in such environments. For each simulation, Fannie Mae officials reported an overall positive net interest margin during each year of the 5-year period analyzed.

Fannie Mae’s loss reserve policy is to base the amount of loss reserve on the risk characteristics of the loan type: government insured or guaranteed, single-family, or multifamily. Fannie Mae estimates and provides for conventional, single-family losses at the time of loan purchase or during the first several years following issuance of MBS. According to Fannie Mae, it adjusts reserves to ensure that they are appropriate. Fannie Mae’s reserves are to be reviewed as part of its annual audit by a CPA.

<sup>2</sup>Since nearly all the mortgages that Fannie Mae purchased that originated in Texas in those years were 30-year fixed-rate mortgages, it uses default and prepayment experience of those mortgages to derive default rates for each product type in this stress test. The percentage default rates experienced by Fannie Mae on such loans through September 30, 1989, and projected lifetime, by LTV at time of origination, are:

| LTV rate:           | >90  | >80≤90 | >75≤80 | >70≤75 | >60≤70 | ≤60 |
|---------------------|------|--------|--------|--------|--------|-----|
| Default rate:       | 25.4 | 14.2   | 9.0    | 3.8    | 1.9    | 0.7 |
| Projected lifetime: | 28.0 | 16.0   | 10.0   | 4.5    | 2.2    | 0.8 |

Table 3.3 shows Fannie Mae's total assets and MBS, loan loss reserves, subordinated debt, and equity capital. Fannie Mae recently announced its plans to increase its equity capital and loan loss reserves by about \$2 to \$2.5 billion during 1990 and 1991.

**Table 3.3: Fannie Mae Capital** (As of December 31 of Each Year)

Dollars in billions

| Year | Total assets and MBS | Loss reserves | Subordinated debt | Equity capital | Capital as a percent of assets and MBS | Reserves, subordinated debt, and capital as a percent of assets and MBS |
|------|----------------------|---------------|-------------------|----------------|--|---|
| 1985 | \$154                | \$0.2         | \$2.1             | \$1.0          | 0.66                                   | 2.2   |
| 1986 | \$195                | \$0.3         | \$1.8             | \$1.2          | 0.61                                   | 1.7   |
| 1987 | \$239                | \$0.3         | \$2.1             | \$1.8          | 0.76                                   | 1.8   |
| 1988 | \$282                | \$0.4         | \$2.6             | \$2.3          | 0.80                                   | 1.9   |
| 1989 | \$341                | \$0.5         | \$2.3             | \$3.0          | 0.88                                   | 1.7   |

Source: Fannie Mae.

## Freddie Mac

Freddie Mac officials said economic stress tests offer the best measure of Freddie Mac's risk and capital adequacy. Freddie Mac's goal is to survive during these simulations for at least 7 years, the equivalent of a high-quality investment-grade credit rating. Freddie Mac officials use the results of these stress tests and their considerations of other factors not incorporated in the stress tests to set Freddie Mac's capital target.

Freddie Mac uses a modified version of Moody's depression scenario to test its ability to survive massive credit losses in a severe economic environment. Instead of the Texas default rate, falling housing prices and declining interest rates drive Freddie Mac's depression scenario—prices fall 10 percent per year for 4 years. The depression environment generates damaging defaults and prepayments. According to Freddie Mac officials, running the scenario with year-end 1989 data, it survived for 10.5 years, sufficient for the highest quality investment-grade credit rating. Freddie Mac also runs a stress test for a high interest rate environment. Because it passes nearly all interest rate risk on to investors who purchase MBS, Freddie Mac easily passes this test.

Freddie Mac calculates default loss reserves for different loan types with the riskier loans requiring greater reserves. Multifamily loans are considered to be the riskiest and have the highest reserve. Single-family

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adjustable-rate loans require the next highest reserves, and single-family fixed-rate loans require the lowest reserve level. As with the other GSEs, Freddie Mac's reserve levels are subject to audit as part of its annual external audit. Table 3.4 shows Freddie Mac's total assets and MBS and its loan loss reserves, subordinated debt, and capital.

**Table 3.4: Freddie Mac Capital** (As of December 31 of Each Year)

Dollars in billions

| Year | Total assets and MBS | Loss reserves | Subordinated debt | Equity capital | Capital as a percent of assets and MBS | Reserves, subordinated debt, and capital as a percent of assets and MBS |
|------|----------------------|---------------|-------------------|----------------|--|---|
| 1985 | \$116                | \$0.2         | \$1.0             | \$0.8          | 0.67                                   | 1.7   |
| 1986 | \$192                | \$0.3         | \$2.0             | \$1.0          | 0.50                                   | 1.7   |
| 1987 | \$238                | \$0.3         | \$2.1             | \$1.2          | 0.50                                   | 1.5   |
| 1988 | \$261                | \$0.4         | \$2.0             | \$1.6          | 0.61                                   | 1.5   |
| 1989 | \$308                | \$0.5         | \$2.0             | \$1.9          | 0.62                                   | 1.4   |

Source: Freddie Mac.

Beginning with its 1989 third quarter results, Freddie Mac made its market value balance sheet public. At the end of 1989, it estimated a market value net worth of \$4 billion after taxes, compared to a book value net worth of \$1.9 billion. The difference arose mostly from Freddie Mac's valuation of the future stream of guarantee fees from its existing MBS. Freddie Mac strongly believes the market value net worth is a more accurate reflection of its ability to absorb losses than the book value of its capital. Freddie Mac also advocates the use of mark-to-market accounting for regulatory purposes. Because nearly all of Freddie Mac's business is guaranteeing MBS, its balance sheet does not fully reflect the value of its off-balance sheet activity.

**Sallie Mae**

Sallie Mae's senior officials said their principal consideration in determining capital adequacy is the highest quality investment-grade credit rating. Sallie Mae determines its necessary capital level primarily through discussions with rating agencies, investment banking firms, and by monitoring its stock price and earnings per share. According to Sallie Mae officials, inappropriately high capital levels disadvantage stockholders by reducing their return on investment, and inappropriately low capital levels disadvantage creditors by increasing the risk of losses on their investment. In either case, they said the private market would

force Sallie Mae to make adjustments to form a balance between the two types of investors. As discussed later in this chapter, we believe GSEs' ties with the government affect creditor behavior, thus allowing stockholders to obtain low credit costs without maintaining capital levels normally required by creditors. However, representatives of the rating agencies said that Sallie Mae's capital is currently high enough to obtain a high investment-grade rating independent of its agency status. We have not formed an opinion on the adequacy of Sallie Mae's capital.

According to Sallie Mae officials, some student loans may not be properly serviced and will not qualify for federal or state insurance. Based on past experience, Sallie Mae believes that losses resulting from the failure to qualify for insurance will be immaterial, but they maintain a loss reserve of about \$12 million based on these expected losses. Table 3.5 shows Sallie Mae assets, subordinated debt, and capital.

**Table 3.5: Sallie Mae Capital** (As of December 31 of Each Year)

Dollars in billions

| Year | Total assets | Subordinated debt | Equity capital | Capital as a percent of assets | Subordinated debt and capital as a percent of assets |
|------|--------------|-------------------|----------------|--------------------------------|--|
| 1985 | \$14         | \$0.2             | \$0.7          | 4.7                            | 6.1  |
| 1986 | \$18         | \$0.2             | \$0.7          | 3.6                            | 4.7  |
| 1987 | \$23         | \$0.2             | \$0.7          | 3.0                            | 3.9  |
| 1988 | \$29         | \$0.2             | \$0.8          | 2.8                            | 3.5  |
| 1989 | \$35         | \$0.0             | \$1.0          | 2.9                            | 2.9  |

Source: Sallie Mae.

## Connie Lee

Connie Lee's senior management said that state insurance regulators set capital ratios to ensure the adequacy of capital to meet claims. However, the credit rating agencies generally apply more stringent capital guidelines to bond reinsurers before they will give them the highest credit rating. These guidelines result in higher capital requirements than the state regulatory minimum so Connie Lee's capital policy is almost entirely driven by its credit rating. According to Connie Lee officials, Connie Lee cannot function as a primary insurer or reinsurer without the highest credit rating because capital markets for such bonds generally do not support a bond backed by less than the highest investment-grade.

Connie Lee contracts with a major rating agency to conduct a formal credit evaluation. S&P evaluates Connie Lee like it evaluates other municipal bond insurers. Within the evaluation, S&P subjects Connie Lee to a simulated "worst case" environment, where Connie Lee's portfolio of assets lose value either through reduced future cash flows or a reduction in the market value of its collateral. The test measures total capital needed for transactions that are already insured and for anticipated future business. Officials from both S&P and Moody's agreed that the rating given Connie Lee, unlike those given other GSEs, is independent of any association with the federal government. They said Connie Lee's rating is done on the same basis and with the same criteria as that applied to fully private bond reinsurers.

Connie Lee officials said that when they believe bond defaults are probable, a provision for unpaid claims and claims adjustment expense similar to a loss reserve will be made. To date, no claims or claims adjustment provisions have been made. Also, Connie Lee is required by state law to hold a contingency reserve for losses. As of December 31, 1989, Connie Lee was exposed to about \$1.7 billion of bond reinsurance and had shareholders surplus and contingency reserves of \$54 million.

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### Farmer Mac

Farmer Mac accumulated start-up capital through the sale of common stock to eligible commercial banks, insurance companies, and FCS institutions. The initial stock sale yielded approximately \$22 million in capital. According to Farmer Mac officials, their current plans for requiring credit enhancements and reserves should prevent Farmer Mac from suffering losses greater than the guarantee fees and credit enhancements it will receive from poolers and lenders. Farmer Mac has not reserved for expected losses because it has not yet guaranteed any securities.

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### Creditor Discipline of GSE Capital and Risk- Taking Weakened by Government Ties

GSEs' risk-taking and capital adequacy are not disciplined to the same degree that creditors discipline fully private firms. Because GSEs have ties to the government, rating agencies and creditors believe that the federal government would likely assist the GSEs through any financial difficulty. Such assistance is expected to insulate creditors against losses. In effect, the marketplace will allow a GSE to undertake risky activities at less cost than would otherwise be assessed because creditors believe that the government, not they, will suffer any resulting losses. This situation is somewhat analogous to federally insured depository institutions where depositors know their insured funds are safe



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and know they need not be concerned about risky activities by the institutions.<sup>3</sup> This creditor behavior reduces the incentives for GSE managers to increase capital levels as the level of risk rises.

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### Rating Agencies Influenced by Federal Ties to GSEs

Two major rating agencies, S&P and Moody's, categorize the credit quality of GSE senior debt securities they rate as equivalent to that of the highest quality securities issued by private firms. However, S&P's criteria rely heavily on the GSEs' links to the federal government and past evidence of government support. Moody's ratings also include a detailed analysis of the government's relationship to each GSE. Moody's said they rate the senior debt of some GSEs as the highest quality, in part because they expect the government to assist a troubled GSE's creditors.<sup>4</sup> Were these rating agencies to apply a credit assessment without considering the government ties, only Connie Lee and probably FHLBS and Sallie Mae would earn the highest rating.

Both S&P and Moody's rate debt securities on a relative scale of default risk for investors. They typically base their ratings for financial institutions on asset composition and quality, management of interest rate risk, liquidity, earnings trends and profitability, relevant economic forecasts, quality of overall management, and capital adequacy. While GSEs do not typically contract with private rating firms, S&P and Moody's often rate GSEs' senior debt securities as a service to, or at the request of, investors.

Both S&P and Moody's officials said that the GSEs' links to the government influenced the rating that these firms receive, in some cases more than others. GSE securities typically include disclaimers saying that such securities are not backed by the full faith and credit of the U.S. government. However, the rating agencies believe the government would assist a GSE whenever its financial viability is threatened because (1) the government would feel a moral obligation to assist the GSEs it has created; (2) the GSEs have dominant roles in national housing, education, and agricultural finance that would be missed; and (3) domestic and international banks and other investors that hold GSE debt securities would pressure the government to prevent default. For each individual GSE,

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<sup>3</sup>For a more detailed discussion of the lack of depositor discipline, see Deposit Insurance: Analysis of Reform Proposals (GAO/GGD-86-32A, Sept. 30, 1986).

<sup>4</sup>A Moody's official noted that it is not unusual for government ties to affect ratings of other private firms when there is a perception of government support for those firms. For example, the ratings of large banks may be affected by perceived government support for their continued operation.

this assessment is based on a review of the GSE's legislation, its importance to the economy, the strength of its political constituency, and any previous assistance provided by the government. Even when FCS and Fannie Mae experienced serious financial difficulties, the credit quality of their senior debt securities continued to be assessed as the highest investment-grade.

The rating agencies have testified publicly and told us privately that without federal ties the senior debt securities of several GSEs would be considered less than the highest quality investments.<sup>5</sup> Based on information provided by the GSEs, regulators, and others, Moody's and S&P officials told us that FHLB System and Sallie Mae senior debt securities would be at the high end of investment-grade. They said Freddie Mac and Fannie Mae senior debt securities would be at the lower end of investment-grade. Both rating agencies perceived Freddie Mac's debt securities to be somewhat safer, without federal ties, than Fannie Mae's. FCS debt would rate at the high end of speculative-grade. Neither agency has rated Farmer Mac because it has not yet guaranteed securities.

Connie Lee contracts with S&P to receive a rating in the same way fully private commercial bond insurers do.<sup>6</sup> In S&P's opinion, the ties between Connie Lee and the government do not indicate a likelihood that the government would assist the firm should it become financially troubled. Consequently, Connie Lee's AAA rating is based on S&P's assessment that the firm has high quality management and sufficient capital to meet its commitments as a bond reinsurer in a worst case scenario. Moody's has not issued a rating on Connie Lee.

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### **Creditor Behavior Indicates Federal Ties Are Key**

The GSEs borrow funds at rates that suggest that creditors believe GSE securities to be quite safe. Analysts and GSE officials explain that creditors expect a GSE would likely receive federal assistance should one become seriously troubled. Consequently, creditors do not discipline the

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<sup>5</sup>Both rating agencies use an alphabetic scale to rate bonds. There are two general categories of investment. The lower-risk/higher-quality category is called investment-grade. For example, S&P bond ratings from the highest to lowest investment-grade are AAA, AA, A, and BBB. Riskier categories of bonds are called speculative-grade. S&P's alphabetic range from highest to lowest grade of speculative debt are BB, B, CCC, CC, C, and D. Moody's investment-grade ratings are Aaa, Aa, A, and Baa, and their speculative-grade ratings are Ba, B, Caa, Ca, and C. Moody's describes an Aaa rating as meaning the interest payments are protected by a large or exceptionally stable margin and the principal is secure. Further, foreseeable changes are unlikely to impair the fundamentally strong position of such bonds.

<sup>6</sup>Most of the individual FHLBs also contracted with a rating agency to obtain a rating on letter of credit obligations.

risk-taking or capital levels of GSEs as rigorously as completely private firms. For example, when Fannie Mae and FCS became financially troubled, their borrowing costs rose temporarily, indicating some measure of creditor uncertainty about federal assistance. Overall, however, each was able to continue to borrow at relatively favorable rates.

By comparing issuers' costs of funds, one can get a sense of the market's perception of a security's risk. When a GSE issues a debt security to finance its activities, it pays creditors interest on the funds borrowed. These interest costs, called "cost of funds" for the GSE, or alternatively "yield" to the investors, are a measure that can be used to gauge investor perception of the risk of any given security. The best comparisons among securities can be made when other characteristics that could influence the cost of funds—such as the maturity and issue date of the security—are similar or nearly identical.

Creditors obtain information on the risk of losses arising from a firm's potential failure to repay its borrowings from several sources, including the financial firm itself, security analysts, and rating agencies. Two primary considerations for creditors are the firm's overall risk exposure and the adequacy of its capital to protect against such risks. Other things being equal, as the level of risk increases, creditors demand increasingly higher yields on their investment, higher levels of capital, or both. Creditors may refuse to extend further credit when repayment seems uncertain. Consequently, creditors provide a level of discipline to most financial firms seeking to borrow at reasonable rates by demanding increased capital when they increase their risks.

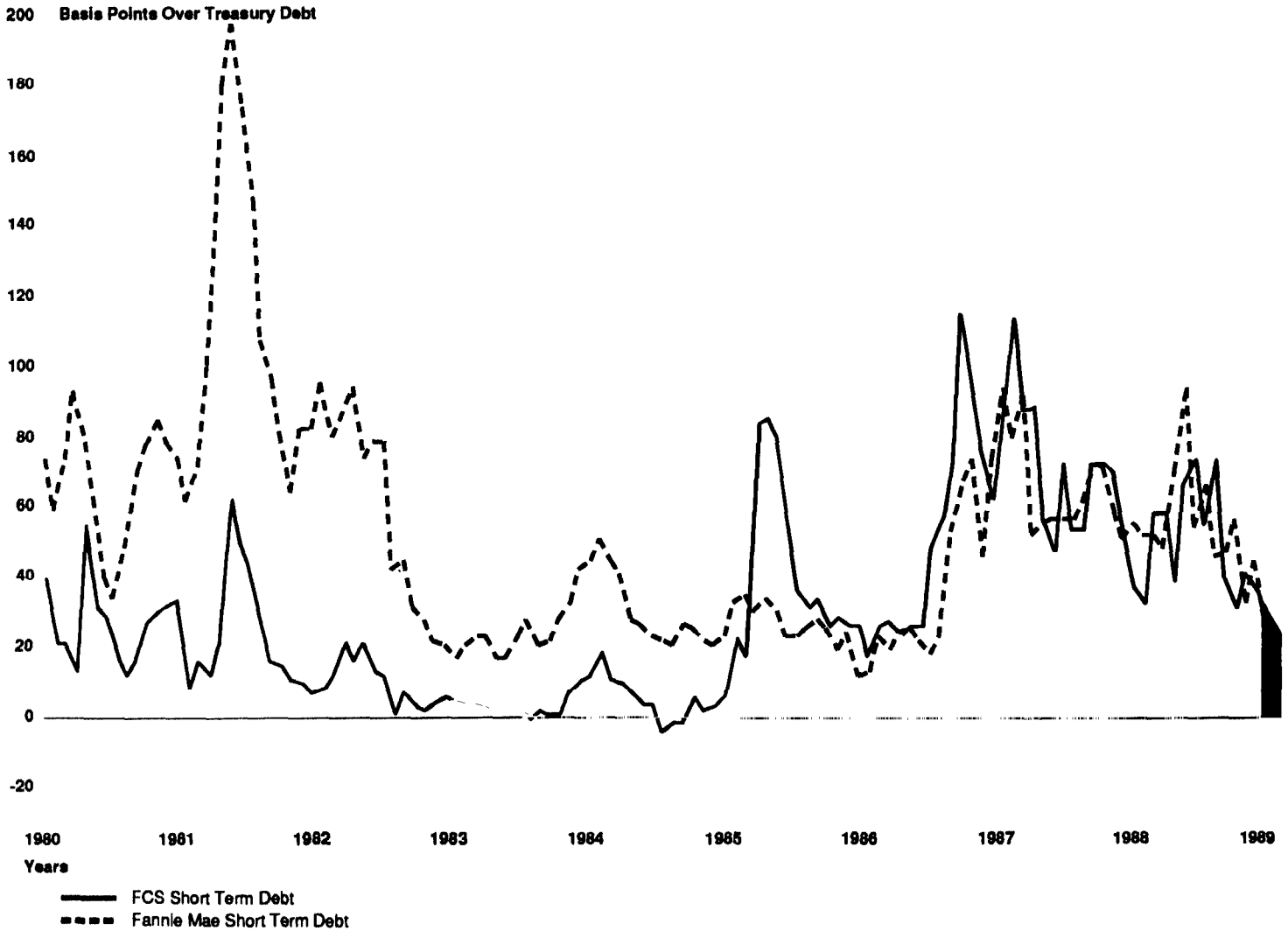
To determine how creditors treated GSE debt, we reviewed data on GSEs' cost of funds over the 1980s provided by the GSEs as well as cost of funds data provided by Salomon Brothers, Inc., an investment firm. The data generally indicate that GSEs borrow funds at rates above those on U.S. Treasury securities. GSE debt costs were generally comparable to fully private AAA firms, ranging from 30 basis points less to 30 basis points more than those paid by AAA firms.

In our view, the noteworthy evidence from examining GSEs' costs of funds is that creditors do not react to deterioration in the financial condition of a GSE the same way they react to a similar change in a private firm. Creditors have demanded a higher return when they learn of deterioration of a GSE's financial condition, but the GSEs have retained their AAA ratings, and creditors have continued to purchase debt securities even when the GSEs were in serious financial difficulty. For example,

figure 3.1 shows Fannie Mae's cost of funds for 3-month debt obligations from 1980 to 1989. When interest rates rose in the early 1980s, Fannie Mae sustained large losses. According to a 1986 HUD report, the estimated market value of Fannie Mae's net worth was almost negative \$11 billion in 1981. During these years, its spread over Treasury securities temporarily increased—at one point reaching 200 basis points. Fannie Mae, however, was able to continue borrowing, raising about \$31 billion in bonds and debentures and over \$64 billion in short-term notes during 1981 and 1982. During this time, Fannie Mae actually increased its borrowings because it wanted to purchase a high volume of high-yielding mortgages as part of its strategy to reverse its losses. In our view, completely private firms facing similar financial problems would have needed federal guarantees to find such willing creditors and avoid bankruptcy.

Figure 3.1 shows similar widening of FCS spreads when several of its institutions were in danger of failing during the mid-1980s. FCS' 1985 losses were \$2.7 billion, and its 1986 losses were \$1.9 billion. FCS costs on 6-month debt obligations reached about 85 basis points above comparable Treasury securities in the fall of 1985 before the Farm Credit Amendments of 1985 were enacted, and then peaked again at roughly 115 basis points over Treasury securities for short-term debt before a financial assistance package became law in January 1988.

Figure 3.1: FCS and Fannie Mae Cost of Funds Relative to Comparable Treasury Debt



Source: GAO, based on data from FCA and Fannie Mae.

These data indicate some degree of creditor uncertainty about the ultimate outcome of the particular GSE's stress, including uncertainty over the actual nature of a possible federal response. We believe, however, as others have said before, that Fannie Mae and FCS would have faced much higher costs of funds or been denied credit entirely during their periods of stress without the likelihood of federal assistance. We find this situation somewhat analogous to federally insured banks and

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thrifts that, despite being insolvent, were able to continue obtaining deposits and taking risks in a last-ditch effort to recover their depleted capital. In that case, creditors (depositors) knew that explicit federal guarantees protected their insured funds regardless of the risks undertaken by the bank or thrift.

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## Conclusions

The GSEs establish their capital levels on the basis of both private and regulatory considerations. We discuss the regulatory considerations in chapter 4. The private considerations have led to various capital levels among the GSEs. We did not develop a basis sufficient to form an opinion on the adequacy of current capital levels for protecting the government's interest. However, each GSE supplied us with reasonable rationale for its current capital strategy from a private standpoint. Fannie Mae and Freddie Mac generally based their private capital targets on the subjective judgments of their managers, guided by capital adequacy tests similar to those used by credit rating agencies. Sallie Mae based its target on its management's judgment and discussions with rating agencies. The capital levels for FCS and FHLBs were primarily influenced by legislation and regulation. Connie Lee generally operates within capital adequacy limits established by S&P. Farmer Mac had not started operating, and thus its capital level could not be evaluated.

The GSEs establish loss reserves by comparing the characteristics of current assets and MBS with historical losses. We did not form an independent opinion on the adequacy of these reserves but noted that the reserve levels, if any, are subject to audit by independent CPAs for all GSEs and by federal regulators for FCS and FHLB System institutions.

GSEs' ties with the government have weakened the discipline that creditors normally provide to completely private financial firms. In some cases, creditors accept lower interest rates from a GSE's debt securities than they would normally accept given the GSE's capital and risk levels. They also have continued to lend to GSEs that were encountering severe financial stress and were perceived as in danger of failing. These actions reduce the incentives for GSE managers to increase capital as risks increase because the cost of debt does not rise concurrently with the level of risk.

# Federal Government Inadequately Monitoring Risks and Capital of Fannie Mae, Freddie Mac, and Sallie Mae

Fannie Mae, Freddie Mac, and Sallie Mae are not subject to (1) adequate federal monitoring of their risk-taking, (2) minimum capital rules that are risk-based, or (3) adequate enforcement authorities. We are concerned that the government would not be prepared to prevent or mitigate losses from a future crisis facing Fannie Mae, Freddie Mac, or Sallie Mae.

## Why GSE Risk-Taking and Capital Should Be Overseen

Unless the government oversees GSE risk-taking and capital levels, it has little capability to prevent taxpayer losses that may arise from GSE failure.

## The Government Has Assisted Troubled GSEs and Other Large Firms and Municipalities in the Past

In the past, the government has provided assistance to GSEs, private nonfinancial firms, and large banks facing financial difficulties even when not legally obligated to do so. Such action suggests that in certain circumstances the government was unwilling to suffer the consequences of these firms' failures.

Legislative and regulatory relief along with lower interest rates and a new business strategy helped Fannie Mae recover from financial difficulties it experienced in the early 1980s. Fannie Mae reported losses in 1981, 1982, 1984, and 1985 totaling over \$350 million.<sup>1</sup> Fannie Mae did not request financial assistance from the Treasury. However, in October 1982, legislation was enacted that lengthened the tax loss carryback period for Fannie Mae, permitting earlier recovery of taxes previously paid and resulting in tax benefits its officials estimated at \$25 million. Such action decreased federal revenue from what it would have otherwise been. HUD also decreased Fannie Mae's minimum capital requirement at the time of its difficulties by increasing Fannie Mae's maximum debt-to-capital ratio from 25:1 to 30:1, indicating its willingness to forbear during Fannie Mae's time of stress.

The agricultural recession and high interest rates during the early 1980s created an FCS crisis that was exacerbated by management weaknesses. Several FCS institutions were nearly insolvent, and some failed. FCS as a

<sup>1</sup>In December 1986 the Financial Accounting Standards Board issued FAS 91, which requires that most commitment fees be treated as an adjustment to interest income and amortized over the life of the related mortgages. Accordingly, Fannie Mae adjusted its 1985 commitment fees retroactively, which resulted in a \$7 million loss in 1985.

whole reported losses totaling \$4.6 billion from 1985 to 1987. Legislation enacted in 1988 authorized up to \$4 billion in federally guaranteed bonds for FCS institutions—\$1.2 billion had been used as of June 12, 1990. Also, in the 1980s, reforms were enacted to strengthen FCA's regulatory effectiveness and lessen the need for future federal assistance.

The government has also assisted certain troubled corporations and municipalities—e.g., Chrysler, Lockheed, Conrail, and the City of New York—when no federal obligation existed. Furthermore, federal bank regulators have chosen to provide financial assistance to large, failing banks rather than suffer the aftershocks of a large bank's liquidation. Their actions have provided de facto protection to some creditors without deposit insurance.

The appropriateness of such financial assistance has been strongly debated. On one hand, such assistance is thought to undermine the disciplining forces involved in failure—particularly the weeding out of economically inefficient firms. On the other hand, assistance is often justified as preventing the potentially damaging and costly aftershocks of such a failure.

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### Reasonable Chance of Future Assistance

For private firms without federal ties the government could choose to do nothing about impending failure, allowing creditors and bankruptcy courts to resolve various claims. For GSEs, the government would need to respond in some affirmative way—by either helping the troubled GSE or acting to close it. We believe that assistance will be viewed as a viable option because allowing a GSE to fail would threaten its public policy mission and would possibly threaten the solvency of other financial institutions that invest in GSE securities.

### Resolving GSE Crisis

The government would likely become involved in a future GSE crisis because there are no clear-cut legislative or regulatory mechanisms to resolve certain GSEs' financial difficulties. Fannie Mae, Freddie Mac, and Farmer Mac cannot be dissolved unless by action of law. Each of these three GSEs could request that Treasury exercise its authority to purchase GSE obligations, but the Secretary's authority is discretionary for all GSEs but Farmer Mac. A Treasury official told us that decisions to purchase a GSE's obligations would be made on an ad hoc basis when requested and that there are no rules or procedures governing the extension or denial



of such a line of credit. Fannie Mae, Freddie Mac,<sup>2</sup> and Farmer Mac have never used their Treasury lines of credit in an emergency situation. However, Fannie Mae used its line of credit to assist in its transition from public to private status in 1968.<sup>3</sup>

Certain GSEs can be assisted or closed by their regulators. For example,

- BCS, FCBS, and their related associations, when facing financial difficulties, can request financial assistance from the FCS Assistance Board. Four institutions have been granted such assistance. If assistance is denied, an insolvent institution can be placed under conservatorship or receivership by FCA, which then assigns the affected territory to another institution. After 1992, the FCS Insurance Corporation will have the authority to provide assistance to troubled FCS institutions. The Insurance Corporation will be largely funded with premiums assessed on FCS institutions. The Insurance Corporation will insure the timely payment of principal and interest on System debt obligations. Joint and several liability of System institutions will be maintained but will be triggered only if all the monies in the insurance fund are exhausted.
- FHFB has authority to liquidate or reorganize any FHLB. FHLBs could also request to use their Treasury line of credit. No FHLB has been liquidated or reorganized because of financial difficulty by FHFB or the former Federal Home Loan Bank Board.<sup>4</sup>
- Connie Lee's insurance subsidiary must be licensed by state authorities to offer insurance, and any state can withdraw its license. The assets of Connie Lee's insurance company are subject to insolvency provisions of state insurance laws. As a holding company incorporated in the District of Columbia, Connie Lee would be subject to federal bankruptcy provisions.

The possible resolution mechanisms for Fannie Mae, Freddie Mac, and Sallie Mae are not clear. Neither Fannie Mae, Freddie Mac, nor Sallie Mae has a regulator with explicit authority to assist or liquidate the firm. Furthermore, although the Federal Bankruptcy Act may apply to

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<sup>2</sup>FIRREA provided Freddie Mac with a \$2.25 billion line of credit with Treasury. Before FIRREA was enacted in 1989, Freddie Mac could borrow from FHLBs. Freddie Mac officials said that as part of a special government program to subsidize housing, Freddie Mac borrowed \$1.6 billion from the FHLB System in May 1974 to buy mortgages in an effort to stimulate a slack mortgage market. The FHLB System in turn borrowed this money by accessing its line of credit with Treasury.

<sup>3</sup>Before 1968, Fannie Mae typically relied upon Treasury for partial funding of its operations. This practice was phased out by June 30, 1969.

<sup>4</sup>An FHLB official said that the former Los Angeles FHLB was liquidated in 1946 because of a dispute with the former Federal Home Loan Bank Board, but not due to any financial problem.

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Sallie Mae, it does not appear to apply either to Fannie Mae or Freddie Mac.<sup>5</sup>

Should a GSE be in a situation where it cannot resolve its problems, then the government would be faced with a situation similar to what it faced when large numbers of insolvent thrifts could not be closed until Congress acted. Options for resolving a GSE crisis would include (1) assisting the firm through its difficulties, (2) restructuring the firm, (3) liquidating the firm, or (4) some combination of these three. Any of these options could be executed in ways that either protect investors or force them to suffer losses.

There is no formal government policy on providing assistance to large firms facing failure that might clarify the government's likely response to a future GSE crisis. In choosing a response to an impending failure of a large firm or municipality, we have suggested that the government (1) identify the problem, (2) determine how the national interest can be served by various alternative actions, (3) establish clear congressional goals for the alternative chosen, and (4) structure any assistance to protect the government's financial interest.<sup>6</sup> We suggested that these steps be taken in responding to the FCS crisis and believe they would be equally applicable to any future GSE crisis.

There are a number of reasons why we believe assistance would be a viable option for resolving a GSE crisis. First, the government may feel a moral responsibility to protect creditors because of the numerous federal ties between GSEs and the government that were described in chapter 1.

Second, government decision-makers may view assistance favorably because financial assistance would renew a GSE's capability to continue its public policy purpose. Any GSE failure would likely happen when the GSE is needed the most. Housing, agricultural, or educational crises might provoke difficulties for GSEs as well as difficulties for borrowers. For example, FCS had difficulty offering competitive loans to farmers in the mid-1980s when both farmers and FCS were facing financial difficulties. In such times, the government may favor financial assistance if it wants a GSE to maintain or increase its activities to help achieve national goals.

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<sup>5</sup>Freddie Mac believes that a U.S. district court could appoint a receiver for Freddie Mac under common law practice.

<sup>6</sup>For a more detailed discussion, see GAO report Guidelines for Rescuing Large Failing Firms and Municipalities (GAO/GGD-84-34, Mar. 29, 1984).

By contrast, a GSE failure may exacerbate an already difficult situation in a given market sector.

Another reason that government decision-makers may assist a financially troubled GSE in the future would be to prevent resulting financial difficulties for GSE creditors. Currently, a significant proportion of GSE securities are held by institutions with federal insurance. Federally insured national banks and thrifts are hypothetically allowed to hold almost unlimited amounts of GSE securities in their portfolios. Should these institutions become insolvent as the result of a GSE's failure, the government would have a legal obligation to protect depositors with federally insured accounts. The government may judge the costs of direct assistance to a troubled GSE to be less than the indirect costs arising from a GSE's failure.

Precise data on who owns debt and other securities of each GSE is unavailable, so it is difficult to project the effects of GSE failure on the financial condition of other firms. However, HUD periodically surveys a sample of financial institutions regarding their housing related GSE debt security holdings. Table 4.1 shows the estimated percentage of FHLB, Fannie Mae, and Freddie Mac debt securities held by insured depository institutions based on the sample of institutions.

**Table 4.1: Percent of GSE Debt Securities Held by Insured Depository Institutions** (As of June 1989)

| Dollars in billions               |             |                   |                    |
|-----------------------------------|-------------|-------------------|--------------------|
|                                   | <b>FHLB</b> | <b>Fannie Mae</b> | <b>Freddie Mac</b> |
| Outstanding debt                  | \$154       | \$106             | \$22               |
| Percentage of securities held by  |             |                   |                    |
| Commercial banks                  | 26.6        | 49.9              | 16.1               |
| Savings banks                     | 1.4         | 2.9               | 1.3                |
| Savings and loans                 | 4.5         | 9.0               | 3.9                |
| <b>Total insured depositories</b> | <b>32.5</b> | <b>61.8</b>       | <b>21.3</b>        |

Source: HUD survey.

Facing possible insolvencies of banks and thrifts, poor reactions from overseas investors, and possible disruption of securities markets, the government may decide in the future, as it has in the past, to assist a troubled GSE.

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## Protecting the Taxpayers' Interests in GSE Risk-Taking

We believe the elements of bank regulation provide a basis for comparing the adequacy of government monitoring of GSE risk-taking and capital regulation because the government is exposed to similar risk characteristics with both types of entities. Banks and GSEs both take interest rate, credit, business, and management risks and use similar methods to protect themselves against losses from these risks. In both cases, the government does not directly suffer losses when these firms lose money but instead is affected by large-scale failures. In the case of banks, the government becomes exposed to these risks when losses from impending bank failures are large enough to deplete the deposit insurance fund. With GSEs, the government could be exposed to losses when a GSE's viability is threatened. Furthermore, creditor discipline is weakened for banks having federally insured deposits just as it is weakened for GSEs. In the case of both banks and GSEs, risk-taking and capital levels are not adequately restricted by private creditors because they expect that in most cases, the government, not they, will suffer the resulting losses.

Because of the similar risks, we believe the government needs to oversee GSEs by applying the same principles it uses for banks. To protect its financial interest and control inappropriate risk-taking by banks, the federal government (1) sets minimum risk-based capital requirements, (2) establishes rules to limit risk-taking, (3) monitors the financial performance of the institution and its compliance with the rules, and (4) enforces the rules by imposing sanctions should a bank operate in an unsafe manner.

Just as GSEs attempt to prevent losses from various kinds of risks through control and measurement mechanisms, bank regulators establish the bounds of safe operations to prevent taxpayer losses caused by unsafe practices—losses that would be large enough to endanger the bank's viability and thus put the government at risk. For example, bank regulators promulgate regulations that define unsafe practices and then take actions to ensure the regulations are followed. Bank regulators are also responsible for resolving failures should they occur. The cost of regulation is normally borne by the banks.

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## Capital Standards for Banks

Bank regulators set minimum capital requirements to give appropriate incentives to bank owners and reduce the government's exposure to losses arising from the federal deposit guarantee. Capital is like a deductible on the government's insurance of a bank's deposits. That is, before the government guarantee is called, the institution must exhaust

its capital (pay the deductible). Other things being equal, the greater a bank's capital, the less risk to the government.

Setting minimum capital levels is ultimately a judgment based on the level of risk a firm should be able to withstand. Past regulations established minimum capital as a fixed percentage of a bank's balance sheet assets. Currently, new risk-based capital requirements are being phased in. Under these requirements, capital is the higher of (1) a percentage of the bank's credit risk-adjusted on-and off-balance sheet assets, or (2) a percentage of the bank's total balance sheet assets.

The risk-based formula provides the bank's owners and managers with incentives to control the risks they take—the higher the risk, the higher the capital they have to hold. The second part of the capital regulation prescribes an absolute capital floor, regardless of the credit risk of a bank's assets. This additional requirement ensures that a bank has some minimum level of capital for interest rate, management, and other risks. Regulatory capital standards typically establish a minimum capital level, not an optimum level. The optimum capital decision is normally left to bank owners, who are free to hold higher levels of capital based on their internal guidelines.

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## Other Regulatory Controls for Banks

Another element of banking regulation is limiting certain highly risky activities. For example, regulators place restrictions on the amount a bank may lend to any one borrower. This limits the exposure of the bank to the financial fortunes of any one firm or individual. Regulators may also require approval for a bank to engage in a new activity or issue a new type of financial security. Regulations may also be set that govern a bank's transactions, such as those with an affiliate. These controls are meant to ensure the safe and sound operation of the bank. To enable the government to identify and react to problem situations, banking regulation typically involves monitoring a bank's financial performance through reports and examinations. The regulator typically has authority to obtain and evaluate detailed private information on the bank's operations.

Bank regulators also have enforcement authorities that they may use to prevent unsafe and unsound practices. Formal enforcement actions can include such deterrents as (1) fines, (2) cease and desist orders requiring a firm to take specific steps to return to regulatory compliance, or (3) replacing a bank's management. Formal enforcement actions are typically used after informal means fail to correct problems identified by the

regulator. Bank regulators also have authority to place a bank under conservatorship (placing it under new management to conserve its assets) or receivership when it becomes insolvent and unable to recover from its losses. In addition, the Federal Deposit Insurance Corporation can withdraw its insurance as a result of unsafe and unsound practices.

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## **Comparing GSE Monitoring and Capital Rules to Banking Regulation**

Fannie Mae, Freddie Mac, and Sallie Mae are subjected to much weaker monitoring, capital rules, and enforcement actions than banks. Although specific details on oversight of Farmer Mac have not yet been decided, we have no immediate concerns about the oversight structure in place for FCS, FHLBS and Farmer Mac. Connie Lee has no strong, ongoing ties to the government and is regulated by state insurance regulators, so supplemental federal regulatory controls seem unwarranted.

The Treasury has authority to approve the amount and types of securities issued by certain GSEs. It has exercised this function as a way of regulating the timing of GSE security issues so as not to disrupt the government securities market and as a way of protecting its taxing functions. This activity does not control the risk-taking activities of the GSEs.

We find the situation of inadequate monitoring and supervision of Fannie Mae, Freddie Mac, and Sallie Mae reminiscent of FCS oversight before the 1985 amendments to the Farm Credit Act and thrift oversight before FIRREA. Before 1985, FCA had inadequate authorities to supervise risk-taking of FCS institutions. FCA did not have good information on risks and had limited enforcement authorities over FCS institutions. As a result, FCA was in a poor position to prevent problems. Legislation passed in 1985 gave FCA powers very similar to those given bank regulators and made it independent of FCS. However, this regulatory reform was too late to address FCS management, funding, and lending policies before they contributed to huge FCS losses.

For thrifts, the Federal Home Loan Bank Board had conflicts between its role as regulator and its role as promoter of the industry. For example, troubled thrifts were allowed to operate with inadequate capital, risking insured deposits rather than owners' equity. Weak supervision allowed thrift managers and owners to use insured deposits to take high risk ventures in a last-ditch effort to recoup losses. When unsuccessful, these ventures resulted in additional losses that increased the eventual cost of the taxpayer bailout. To correct these problems, FIRREA established the Office of Thrift Supervision as an independent regulator, responsible for establishing and enforcing risk-based capital rules.

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## Farm Credit System

FCS is regulated by FCA using all four elements of bank regulation. We did not evaluate the effectiveness of FCA's regulation, including capital standards, for this report but plan to evaluate the effectiveness of key components as part of our ongoing oversight of FCS and FCA.

FCS institutions are the only GSEs with capital regulations approximating those of banks. The Agricultural Credit Act of 1987 directed FCA to formulate such risk-based capital standards. FCA modeled its capital regulations after bank regulations and set minimum capital at 7 percent of risk-adjusted assets. The FCA capital standards are being phased in for all FCS institutions from 1988 to 1993. At the end of 1989, 5 of the 11 FCBS had already met the fully phased-in requirements, as had the Federal Intermediate Credit Bank of Jackson. Two of the BCS had met the standards. FCA regulations require all institutions to develop a plan for meeting the capital standards by 1993. According to FCA, all institutions have generally met this requirement.

FCA also has authority to promulgate rules limiting the activities of FCS institutions to ensure their safe and sound operations. FCA controls permissible activities by determining the specific authorities of the institutions, such as the types of loans they can and cannot make. FCA also limits other FCS activities, like restricting the amount of loans made to one borrower.

FCA has authority to monitor all aspects of FCS institutions' operations. It has imposed reporting requirements for FCS institutions and also regularly examines institutions' operations. FCA's regulatory activities are paid for by FCS.

FCA has a full range of enforcement authorities available to it and places FCS institutions under some type of formal supervisory action when they are considered to be operating in an unsafe or unsound manner. FCA officials said that as of January 23, 1990, FCS institutions holding over 60 percent of FCS' assets were under some type of enforcement action.

At the time of the FCS financial crisis, the FCA system of monitoring, oversight, supervision, and enforcement was significantly weaker than the current system. The Farm Credit Amendments Act of 1985 established FCA as an arms-length regulator and gave FCA new powers and responsibilities, including the authority to take specific enforcement actions against FCS institutions and individuals, such as the power to issue cease and desist orders and the responsibility to examine all FCBS,

BCS, and direct lending associations at least annually and other associations every 3 years.

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## **Federal Home Loan Bank System**

FIRREA created FHFB in August 1989 with authority to regulate FHLBS using all four elements of bank regulation. As of April 1990, two FHFB members had been nominated, but none had been confirmed. The Secretary of HUD has served alone as the acting Chairman of the Board since FHFB was created. It is unclear how FHFB will implement its authorities and whether it will be effective. We plan to review the status of FHFB's implementation of its regulatory responsibilities in our next report.

FHLBS do not operate under risk-based capital requirements like banks and thrifts. As discussed in chapter 2, FHLBS control their credit risk in various ways and have never suffered losses from such risk. FHFB requires FHLBS to operate under a debt-to-capital ratio that compares the amount of consolidated obligations held by the FHLB to its paid-in capital and legal reserves. The FHFB carried forward the former Federal Home Loan Bank Board's requirement for a 12-to-1 debt-to-capital ratio as its capital standard. In addition, member thrifts may not borrow amounts from their FHLB in excess of 20 times the amount of stock they have purchased from their FHLB. These requirements treat all advances as having the same credit risk and do not consider the interest rate risk undertaken by an individual FHLB. FHFB policies require members to hold FHLB stock and provide collateral on letters of credit as though the letter of credit were an advance.

FHFB has general statutory authority to ensure the safe and sound operation of FHLBS. It carried forward the former Federal Home Loan Bank Board's regulations. These controls prohibit or limit certain activities such as the ways letters of credit can be issued.

FHFB has authority to monitor and examine the activities of FHLBS. FHFB also has authority to enforce its rules that promote the safe and sound operations of FHLBS, including specific authority to suspend or remove FHLB managers or employees. FHFB costs are paid by the FHLBS.

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## **Fannie Mae and Freddie Mac**

HUD has had authority to regulate Fannie Mae since 1968 and received authority to regulate Freddie Mac in 1989 but does not explicitly have the full range of authorities, particularly enforcement authorities, typically available to bank regulators. Furthermore, HUD's past monitoring



of Fannie Mae's risk-taking has been inadequate to alert the government to potential problems.

Although Fannie Mae's financial condition has improved since the early 1980s, our current assessment of HUD's monitoring of Fannie Mae's risk-taking reconfirms a position we took in an April 1985 report on Fannie Mae's activities.<sup>7</sup> We concluded then that Fannie Mae's ties to the government expose the government to potentially large but ill-defined risks that were not adequately regulated by HUD. We recommended that Congress establish by legislation a permanent oversight function within HUD or some other regulatory entity to monitor, evaluate, and report to Congress about Fannie Mae's activities. HUD's regulation of Fannie Mae has not changed significantly since 1985. In addition, although HUD became Freddie Mac's regulator in August 1989, it has not yet promulgated rules covering Freddie Mac's operations.

Unlike bank capital rules, Fannie Mae's and Freddie Mac's capital requirements offer little protection against risk-taking by these GSEs. The capital rule legislatively applied to Fannie Mae and Freddie Mac

- very broadly defines capital to include subordinated debt and loss reserves, allowing owner equity to be a minor part of the total;
- does not consider the risk of off-balance sheet activities, a major portion of Fannie Mae's and Freddie Mac's business, or their exposure to interest rate risk; and
- does not consider the different risks involved in different types of mortgages.

Fannie Mae's and Freddie Mac's statutory debt-to-capital ratio is 15-to-1. This is analogous to the minimum capital-to-liabilities ratio that thrifts followed before FIRREA. The requirement simply means that the GSE may issue senior debt only when all its outstanding senior debt will be less than 15 times its capital. HUD has authority to lower the amount of capital required by raising the ratio. For example, HUD currently allows Fannie Mae to issue debt up to 20 times its capital. It is unclear from the statutory language whether HUD could set capital at a higher level or set capital requirements that are risk-based.

New bank capital regulations require a significant proportion of owner equity as capital, but Fannie Mae's and Freddie Mac's debt-to-capital

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<sup>7</sup>The Federal National Mortgage Association in a Changing Economic Environment (GAO/RCEd-85-102, Apr. 15, 1985).

ratio does not. Owner equity represents the best protection to the government against unexpected losses because owners have incentives to protect their personal investments. The definition of capital for Fannie Mae and Freddie Mac differs from the one used for banks because subordinated debt and loss reserves can be counted in full as capital. Fannie Mae's charter limited the allowable amount of subordinated debt to twice the sum of equity capital—common stock, additional paid-in capital, and retained earnings. This limit was legislatively removed in 1982. When subordinated debt issued before that legislation is retired, Fannie Mae will not be limited in the amounts of subordinated debt it can count as capital. Subordinated debt is not permanent owner capital; it is a liability of the GSE that has to be repaid. It provides a cushion to senior debt-holders. However, subordinated debt protects the government from losses only if the government responds to a GSE crisis by allowing subordinated debt-holders to suffer losses. Loan loss reserves are also less of a cushion than owner's equity because reserves are designed to cover losses that are already expected in the portfolio, not unexpected losses. Bank risk-based capital guidelines limit the amount of subordinated debt and loan loss reserves that can be counted as part of capital.

Fannie Mae's and Freddie Mac's debt-to-capital ratios also do not cover the credit risk associated with guaranteeing MBS and other off-balance sheet activities, nor do they address interest rate risk. Together, Fannie Mae and Freddie Mac guarantee over a half trillion dollars in MBS. These off-balance sheet activities represent a majority of their business. Ironically, however, the reserves held to cover losses arising from defaults of mortgages in MBS can be counted as capital, thereby inflating the capital part of the ratio. As discussed in chapter 2, interest rate risk caused losses large enough to threaten the solvency of Fannie Mae in the early 1980s, but such risks are not considered in the debt-to-capital ratio.

Finally, the regulatory debt-to-capital ratios do not account for the relative riskiness of different types of mortgages in Fannie Mae's or Freddie Mac's portfolio. History indicates the credit risk associated with mortgages can vary greatly, depending on the mortgage type and terms. Changes in the relative concentration of low and high risk mortgages can significantly affect the whole portfolio's risk profile without affecting the debt-to-capital ratio. For example, multifamily and adjustable-rate mortgages have sustained higher default rates than single-family conventional mortgages, but the debt-to-capital ratio does not distinguish among portfolios regardless of the relative mix of these types of mortgages.

HUD has general authority to oversee Fannie Mae's and Freddie Mac's fulfillment of their public missions. In particular, HUD has authority to require Fannie Mae and Freddie Mac to devote a certain amount of their activities to low and moderate income housing as long as the GSEs earn a reasonable rate of return from such activities. In addition, HUD must approve new conventional mortgage purchase and sales programs before they are undertaken by Fannie Mae and Freddie Mac. HUD's role in monitoring the risk-taking of Fannie Mae's and Freddie Mac's operations and its authority to promulgate effective risk-based capital rules are not clear in the statutory language. HUD has limited experience as a regulator of financial firms and has traditionally dedicated few staff members to such functions. HUD first established a Fannie Mae oversight unit in 1978, only to disband it in 1981 when Fannie Mae was facing serious financial difficulties. A HUD official estimated that HUD had devoted between 5 and 10 staff years to Fannie Mae oversight during the last 10 years.

HUD has had the authority to audit and examine the books and financial transactions of Fannie Mae since 1968 but has not exercised the authority. In 1989, FIRREA gave HUD similar authority over Freddie Mac. HUD has asked Fannie Mae to submit various reports on a periodic basis, but it has not examined Fannie Mae's operations. In addition, no specific funds have been appropriated for such regulatory purposes.

HUD has limited explicit enforcement authority over Fannie Mae and Freddie Mac. No statutory provisions exist governing enforcement authorities except that HUD has the authority to limit dividend payments.

The Secretary of HUD has established a Financial Institutions Regulatory Board to advise him on (1) monitoring the operations of Fannie Mae and Freddie Mac and (2) policy and regulatory oversight and review. HUD officials say the Department is committed to monitoring the risk-taking and capital adequacy of Fannie Mae and Freddie Mac in the future.

HUD officials were unable to specify how they will monitor and supervise Fannie Mae and Freddie Mac. They were studying various alternatives for exercising their regulatory responsibilities. We reported in 1985 that HUD had not complied with its responsibility to prepare annual reports on Fannie Mae. Since that time, HUD produced two reports—one

for 1986 and another for 1987. HUD recently submitted reports to Congress on Fannie Mae and Freddie Mac that discuss HUD's plans for regulating the two GSEs. HUD also held public hearings on July 31, 1990, on the regulation of Fannie Mae and Freddie Mac.

We asked HUD officials whether they were concerned about possible conflicts between HUD's housing mission and its regulatory responsibilities to oversee risk-taking. The Assistant Secretary for Policy Development and Research said he believed the Department could successfully manage such conflicts. This official said that it was too early for HUD to conclude whether the Department would need added statutory authorities to carry out its responsibilities.

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### Sallie Mae

Sallie Mae has neither a federal regulator nor federal regulatory capital requirements. Further, its charter does not specify minimum capital requirements. Sallie Mae's charter requires it to submit a report of the annual audit of its financial statements to the Secretary of the Treasury. In turn, the Treasury must submit this annual audit to Congress and the President together with Treasury's report on the financial condition of Sallie Mae. The Department of Education has audit authority over the Guaranteed Student Loan Program. Treasury has audit authority over Sallie Mae but like HUD has not exercised this authority. As a result, the federal government relies heavily on Sallie Mae's owners and managers to avoid undue risk-taking and set appropriate capital levels.

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### Connie Lee

Connie Lee has no federal regulator but is regulated by state insurance regulators, which specify minimum capital requirements. Connie Lee is subject to reporting requirements, rules, and the enforcement authorities of the states in which it is domiciled and does business. Because Connie Lee (1) has no apparent federal benefits other than start-up capital, (2) appears to be regulated like other private insurers are regulated, and (3) appears to be subject to the same private market discipline as other private insurers, we find no compelling reason for providing federal monitoring and supervision of its activities.

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### Farmer Mac

Farmer Mac, while regulated by FCA, currently does not have any regulatory capital requirements. It is unclear at this point whether FCA will establish capital standards for Farmer Mac. FCA also has general authority to examine and regulate Farmer Mac and to enforce safe and

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sound operations. FCA recently completed its first examination of Farmer Mac.

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## Bank Regulatory Structure Can Be Modified for GSEs

We believe the elements of bank regulation—minimum capital levels that are based on the risks undertaken, limits on risk-taking, monitoring of financial performance, and authority to enforce rules—provide a basis for comparison with GSE oversight. However, these elements probably need to be modified to account for characteristics such as their limited lines of business and large, nationwide operations that distinguish GSEs from banks. We have not yet developed opinions on how the bank regulatory model should be adapted for Fannie Mae, Freddie Mac, and Sallie Mae. We plan to study these issues further and discuss them in our second report.

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## Conforming Risk-Based Capital Rules to GSEs' Characteristics

To conform GSE capital standards to the principle that capital levels should be tied to the levels of risk taken, increased federal oversight could include capital requirements that require minimum capital levels to rise as risks increase for FHLBs, Fannie Mae, Freddie Mac, and Sallie Mae. Depending on the specific requirements that would be set, these GSEs may or may not need to increase their current capital holdings to conform to the minimum requirement.

In principle, we would endorse minimum capital levels that are risk-based. Requiring that capital holdings increase commensurate with corporate risk-taking helps ensure that the stockholders and managers of GSEs take risks with their own money rather than leveraging their federal ties. However, we are unconvinced that the bank risk-based capital rules could simply be adopted for GSE capital holdings because of the following shortcomings:

- The risk-based portion of the rules assesses only the credit risk of a bank's portfolio, not other sources of risk such as interest rates.
- The risk-based rules differentiate risk among various asset categories but not variants within an asset category. Unlike banks, which hold mortgages, commercial loans, and other assets that have relatively different risks, GSEs hold most of their assets within a single category where different types of assets can have very different risk characteristics. For example, adjustable-rate and multifamily mortgages are in the same asset category with single-family fixed-rate mortgages despite their relative differences in riskiness.

- The risk rules used for banks are not based on inherent credit risk from empirical evidence of losses. Since the GSEs specialize in one category of assets, they have developed more refined measures of credit risk.
- The bank risk rules do not account for geographic diversification or other characteristics that may reduce overall credit risk.

In general, bank capital rules were designed to provide a minimum capital base for thousands of institutions with widely different credit quality and different exposures to management and business risks. Since GSEs are few in number, customized rules that more precisely capture the sources and degrees of risk would seem more appropriate.

Unfortunately, there is no obvious alternative model to determine what GSE capital holdings should be. Certain GSEs would prefer to use the “stress tests” discussed in chapter 3 to model the financial performance of their businesses under extremely adverse conditions. This same kind of technique is used by rating agencies to evaluate the financial strength of firms and will be one of the options considered for establishing capital regulations for GSEs in our second report.

Other issues also need to be considered in evaluating appropriate regulatory capital levels for GSEs. First, setting a minimum capital level involves determining the level of risk that one believes the firm needs to be able to withstand. This inevitably involves a judgment about whether the firm should be able to withstand a high amount of adversity for a moderate period of time, a moderate amount of adversity for a long period of time, or something more or less stringent. New capital requirements may or may not impose added costs on the GSEs, depending on whether a specific GSE would need to hold more capital than it currently does to meet the minimum level. We plan to consider the costs and benefits of various options on the GSEs’ profitability and achievement of their public policy objectives in our next report.

Competitive equity issues are another consideration for setting capital levels. Risk-based capital rules have been developed under international agreements to provide some common treatment for banks operating internationally. One of the aims of bank risk-based capital rules is to prevent regulatory advantages and disadvantages among competing firms. GSEs hold some of the same assets that banks hold and also participate in international transactions. For example, certain GSEs hold mortgages and student loans in portfolio much the same as banks and thrifts do and have issued debt denominated in foreign currencies and have executed transactions with foreign institutions.

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## Modifying Other Aspects of Regulatory Control

Two fundamental differences between banks and most GSEs also indicate a need for tailoring bank regulatory elements to the specific GSE circumstances. First, many of the depositors that use banks are generally less sophisticated than the large-scale investors that buy GSE securities. Second, there are thousands of banks and thrifts operating with federal guarantees. The supervision, monitoring, and enforcement rules must cover the variety of circumstances that could be practiced by so many institutions. By contrast, Fannie Mae, Freddie Mac, and Sallie Mae each operates a single line of business serving a single market.

Our evaluation of various options for improving monitoring of risk-taking will start with the premises that

- federal oversight of GSEs should reflect the differences between GSEs and banks;
- monitoring of GSE activities should focus on whether a GSE's operations are consistent with its public policy purpose and whether such operations pose excessive risk to the government; and
- supervision need not inhibit private initiative, and GSE regulatory rules need not be so detailed that they cover every conceivable circumstance.

Several GSEs have flourished without federal intervention, and we believe they should have continued flexibility to accomplish their missions. In economically difficult times, certain GSEs have faced serious difficulties, and their future success became quite uncertain. Both possibilities lead us to conclude that when GSEs are well capitalized and operating within the bounds of proven practices, federal oversight could focus on non-intrusive, but effective monitoring of their ongoing conditions. Novel practices and ventures that have proven to be riskier need closer scrutiny. In times of declining profits, when capital is at risk of being eroded, GSEs could receive more active oversight to ensure that the government's interests are protected in any reasonable way possible.

Increasing federal supervision has definite costs. Neither Fannie Mae, Freddie Mac, nor Sallie Mae has borne the direct costs of routine oversight. Our evaluation of regulatory models will consider these costs and be guided by the assumption that any regulatory structure adopted must balance the desire of the federal government to be informed of GSEs' risks while enabling GSEs to structure their activities in a business-like manner. GSEs cannot function properly if they are blocked from taking calculated risks, but the government must be apprised of these risks in order to protect its interests.

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## Who Should Oversee, Supervise, and Enforce Rules

Currently, we have no position on whether improved GSE oversight, supervision, and enforcement should be centralized within the government or shared among several regulators. We believe, based on our work on the FCS and thrift crises, that a financial regulator should be independent of other public policy considerations. As a result, we would find HUD to be a less than satisfactory choice to regulate the financial affairs of Fannie Mae and Freddie Mac. Some of the possibilities that could be adopted will be evaluated in our next report. These include the following:

- The government could create one or more entities with independent boards responsible for supervising the safety and soundness of Fannie Mae, Freddie Mac, and Sallie Mae.
- Additional supervisory responsibility could be placed in Treasury. Treasury has the needed financial expertise, is independent of the GSEs' public policy objectives, and already has responsibility for approving GSE debt issues.
- FHFB could supervise Freddie Mac and Fannie Mae, in addition to its current regulatory responsibility for FHLBS. This would place all the housing-related GSEs under a single regulator. Another regulator would be needed for Sallie Mae.
- A central regulator could be given responsibility to oversee all GSE safety and soundness issues. This would involve merging the current responsibilities of FCA and FHFB into a single organization and enlarging the responsibilities to cover Fannie Mae, Freddie Mac, and Sallie Mae.

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## Conclusions

The federal ties to GSEs may place the government at financial risk and create a situation where private owners could act in ways that are adverse to the government's financial interest should a GSE encounter severe financial distress. To attempt to avoid a financial crisis and to prepare to handle one should it occur, the government would be prudent to protect its interest in the financial health of the GSEs by overseeing their risk-taking, including congressional oversight, and setting minimum capital standards that are based on the levels of risk undertaken. The similarities between GSEs and banks, particularly the government's risk of financial loss and the possible mismatch between private incentives and government interests, convince us that the four elements of bank regulation—minimum capital, rules limiting risk-taking, monitoring of financial performance, and enforcement authority—provide a conceptual framework for developing an oversight structure for GSEs. Our review showed that these elements are not currently in place to protect the government's financial interest for Fannie Mae, Freddie Mac,



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**Chapter 4**  
**Federal Government Inadequately**  
**Monitoring Risks and Capital of Fannie Mae,**  
**Freddie Mac, and Sallie Mae**

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and Sallie Mae. Furthermore, the FHLB capital standard is not based on the level of risk undertaken.

We recognize that the elements of bank regulation might need to be modified to account for features that distinguish GSEs from banks. We cannot yet specify the exact nature of the regulatory approach we prefer. We believe the approach should be designed to keep emerging problems from imposing problems on taxpayers and to develop appropriate responses to problems quickly so that major unanticipated losses can be contained. In our next report, we plan to further evaluate specific regulatory issues such as regulatory authorities, capital levels, number of supervisory agencies, and types of monitoring and examination.

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# Agency Comments and Our Evaluation

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Each of the GSEs included in this study and the regulators of these GSEs were asked to comment on a draft of this report. In addition, the departments of Agriculture and Education provided comments. The Treasury Department published its May 31, 1990, report on GSEs and did not comment officially on a draft of our report. The following sections summarize these comments and give our evaluation of them. Technical comments on specific passages in the report have been incorporated directly into the text where appropriate.

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## Comments From FCS, FCA, and the Department of Agriculture

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### Farm Credit Council and Federal Farm Credit Banks Funding Corporation

The Council (FCS trade association that coordinated comments on this report) and Funding Corporation commented for the FCBS and BCs. Their comments can be found in appendix I. They believe the draft report did not go far enough in describing the positive changes that have occurred in FCS since 1985 and in describing the inherent risk FCS faces because of its congressional mandate to provide credit to agriculture on a consistent basis. They strongly disagreed with our characterization of FCS management concerns that were expressed to us by FCA and national rating agency officials. They said that over the past several years there have been substantial changes and improvements in FCS management.

We agree that FCS' statutory purpose of serving the agriculture industry creates inherent risk not faced by certain other GSEs. The report describes this inherent risk, improvements to FCA's structure and authorities as an arms-length regulator, and the establishment of risk-based capital rules. The report points out that FCS as a whole made a profit from operations in 1989. However, the report also points out that we did not evaluate FCA's effectiveness or the effectiveness of any improvements that have been made in the institutions' management. Because of our time constraints and the size and number of FCS institutions, we had to rely on FCA, the Funding Corporation, rating agencies, and published reports to obtain evidence on FCS management successes and concerns. As discussed in the report, we found the opinions and information obtained from these sources to consistently show that, overall, FCS management had improved, but management problems still existed. We

found it significant that FCA has found it necessary to use enforcement actions against many institutions' management to have them change certain practices rather than these institutions changing these practices on their own initiative.

The Council and Funding Corporation also wanted us to clarify our discussion of assistance authorized by the Agricultural Credit Act of 1987. They stressed that the full \$4 billion in assistance that the act authorized has not yet been and may never be provided. They also stressed that the act provides for FCS institutions to repay all principal and interest on the assistance. We state in the report that, as of June 12, 1990, \$1.2 billion of the \$4 billion allocated had been used. We want to point out, however, that the government is ultimately liable for the assistance principal and interest should FCS and the FCS Insurance Corporation be unable to repay it. We also note that the government incurs an opportunity cost and interest costs on the money it borrows to make the interest payments during the first 10 years of assistance, even if FCS repays the interest payments.

The Council and Funding Corporation pointed out that the Farm Credit Insurance Fund will act as a buffer between FCS losses and government costs. They also say that the ultimate size of the fund is not capped and is in addition to the institutions' risk-based capital requirements. We agree that the insurance fund is designed to be a buffer in case institutions fail to make System-wide bond payments or payments to the FCS Financial Assistance Corporation required by the 1987 act. However, the fund's size is limited by the annual premiums that were established by the act, less costs and payments.

The Council and Funding Corporation also believe that the government's exposure to losses from FCS operations is reduced because (1) System-wide debt is the joint and several liability of all FCS banks; (2) each FCS bank has to have and maintain collateral of eligible assets at least equal in value to the total amount of debt securities outstanding for which it is primarily liable; and (3) the Funding Corporation's bank monitoring system provides an early warning and loss prevention mechanism. We agree that joint and several liability could be a buffer for the government. However, this buffer disappears if, as occurred with passage of the 1987 act, the government authorizes assistance that prevents joint and several liability from being invoked. We also agree that the collateral maintained to support debt securities does not insure the government against loss but could preclude an undercollateralized institution from issuing additional debt. Finally, while we agree that the Funding

Corporation's bank monitoring system could provide an early warning mechanism for losses, we have not evaluated the system and cannot comment on its effectiveness.

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## Farm Credit Administration

FCA commented that our report should emphasize FCA's actions to address risk reduction and the future role of the FCS Insurance Corporation. FCA said the FCS discussion should be refocused to emphasize potential risks for the future rather than carryover risks from recent history. FCA's comments can be found in appendix II.

We believe the factors that caused and amplified the problems in the 1980s—volatile agriculture economy and land values, unreliable market forecasts, unwise management decisions and practices, etc.—are still potential risks for the future. We believe the report does concentrate on future risks by using historical problems as indicators of future risks. As stated in FCA's comments, we did not assess the effectiveness of FCA's past actions, and we cannot predict its future effectiveness. We have expanded our discussion about the FCS Insurance Corporation to emphasize its future role but find it premature to predict whether it will be able to respond to future FCS financial problems.

FCA also suggested that we emphasize the need to apply the same risk elements to Farmer Mac as to the other GSEs. We agree that the same regulatory elements are needed for Farmer Mac.

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## Department of Agriculture

The Secretary of Agriculture provided three general and several specific comments that can be found in appendix III. First, the Department said that the report should place greater emphasis on the quality and type of capital at FCS institutions. It said that the cooperative structure of FCS institutions in which borrowers are also the owners of institutions' stock exacerbated past financial problems because the borrowers simply paid off their loans, which automatically retired their stock, and went elsewhere for loans. This practice reduced the institutions' capital during difficult times.

The Department also said that the new at-risk stock created by the Agricultural Credit Act of 1987 did not solve the fundamental problem that borrower stock is not viewed as a long-term investment in the FCS institutions but rather as a requirement for obtaining a loan. It said that there is no reason to believe that the borrowers holding at-risk stock would not attempt to have the government guarantee payment of their

stock in future times of severe financial difficulty. It pointed out that greater emphasis is now placed on retained earnings as a capital base. We plan to continue our evaluation of these areas as part of our ongoing oversight of FCS.

Second, the Department said that the report does not mention the serious problem that all FCS institutions' directors are borrowers and have an incentive to select management for the institutions on the basis of their willingness to obey the directors rather than their financial ability. It said that the borrower/directors have little incentive to hire management that will take responsible credit actions, raise interest rates, or price loans to cover the government's risk when those actions may hurt the directors and the other borrowers who elected them. The Department pointed out that these incentives may be particularly true when the directors perceive that the government may provide assistance to FCS institutions and protect their stock. It said that other financial regulators have restrictions on loans to directors and officers due to the problems created by insider loan activities. We agree that the cooperative nature of FCS makes it fundamentally different from a commercial enterprise and could result in management having incentives that increase the government's risk during periods of financial stress.

Third, the Department said that investors in GSE debt securities recently have been more diligent in determining appropriate yields for GSE securities than during the GSE financial difficulties of the 1980s. In addition, the Department said that rating agencies have been making investors more aware of the financial conditions of the GSEs.

The data used in the report from GSEs, their regulators, and Salomon Brothers showing yields for GSE debt securities and Treasury securities, do not show a clear pattern or marked difference between the early and late 1980s. The rating agency officials to whom we spoke cited no such differences in their approach or reporting. The spreads between FCS and Treasury securities are discussed on pages 87-88 of the report, and the rating agencies' review of the GSEs' risks is discussed on pages 84 and 85.

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## Comments From FHFB and FHLBs

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### FHFB

The FHFB generally agreed with the contents of our report but emphasized that many of our statements concerning FHLBs were based on statements and information obtained from officials of only two banks. The FHFB pointed out the difficulty of making FHLB System-wide generalizations based on such a small sample. Its detailed comments can be found in appendix IV.

We agree that care should be taken when generalizing about bank operations and policies on the basis of limited contact with individual banks. As noted in chapter 1, we also obtained System-wide and individual bank information from the FHLB Office of Finance—the System’s funding arm—and the FHFB—the System’s regulator. We believe both are in a good position to provide authoritative information on the general risk management policies and procedures of the banks in the System. Furthermore, we submitted an earlier draft of the report to all 12 FHLBs for technical review and received comments from 6 of them. Any discussion of System-wide condition or general bank policy was based on information provided by these sources.

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### Federal Home Loan Banks

The FHLB System generally agreed with our assessment of the risks facing FHLBs and the manner in which these risks are managed. The FHLBs also emphasized their excellent performance in managing interest rate and credit risk. Their detailed comments can be found in appendix V.

### Business Risk

The FHLBs questioned our assertion that the significant changes in the System associated with the passage of FIRREA<sup>1</sup> could introduce greater risk to the System. Instead, the FHLBs believe that FIRREA strengthened their ties to housing finance by expanding the types of institutions eligible for FHLB membership.

We are not convinced that expanding eligibility for FHLB membership will compensate for the shrinkage in the thrift industry—the System’s

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<sup>1</sup>Significant System changes associated with FIRREA included (1) increased capital levels; (2) greater restrictions on activities for thrifts; (3) shrinkage of the thrift industry; and (4) the System’s required contribution to the bailout, which reduced its retained earnings and limited its ability to pay dividends on its stock.

traditional base. Unless FHLBS are able to generate sufficient income to resume their historically high dividend payments on the stock required for FHLB membership, eligible nonmember institutions will lack an important incentive to apply for membership. Consequently, the membership base could continue to shrink, making it increasingly difficult to generate income.

The FHLBS also disagreed with our assertion in the draft report that they could be required to make further contributions to the thrift rescue. They commented that such statements can only be conjecture at this point and cited congressional testimony of the Secretary of the Treasury that indicated that the FHLBS will not be called upon to further the thrift bailout.

We agree that our statement concerning the possibility of an additional FHLB contribution to the thrift bailout is speculative. However, that is the nature of business risk as defined in our report—the risk that factors largely beyond an organization’s control could lead to unexpected changes in earnings, growth, or capital.

## Regulation

Finally, the FHLBS believed that it is not too early to judge the effectiveness of their new regulator, FHFB. The FHLBS said that FIRREA’s direction that FHFB assume the authority of the Federal Home Loan Bank Board (the previous FHLB regulator) and FHFB’s decision to carry forward the Bank Board’s policies as its own merely constitute a continuation of the previous regulatory relationship and do not pose any additional risk.

We believe that the creation of a new regulator creates significant uncertainties about the strategic direction that the new regulator will take and about how timely and effectively the new regulator will act to ensure FHLBS’ safety and soundness. We note that FHFB has potentially conflicting responsibilities for both supervising the safety and soundness of FHLBS and for ensuring that they carry out their housing finance mission. The Federal Home Loan Bank Board had similar conflicting responsibilities of both promoting and regulating the thrift industry. Until the FHFB is fully established and has time to determine whether or not existing regulations are appropriate to insure the safety and soundness of FHLBS, no clear judgment of performance is possible.

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## Comments From HUD, Freddie Mac, and Fannie Mae

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### HUD

HUD's comments include six areas of concern. Its comments can be found in detail in appendix VI.

First, HUD said that it is inconsistent and possibly misleading for us to say that Fannie Mae's and Freddie Mac's capital standards are inadequate while deferring recommendations as to what should constitute adequate capital.

HUD's comment suggests that it believes our report should not identify problems until we have a proposed solution. We disagree. Our experience suggests that it is very useful to arrive at a common definition of a problem before attempting to develop a specific solution. In the case of Fannie Mae's and Freddie Mac's capital standards, we are troubled by the fact that they do not relate to the levels of risks the GSEs incur. Further, this interim report was required by legislation even though our work, which includes developing solutions, is unfinished.

Second, HUD commented that our report points toward a regulatory structure that would include risk-based capital standards that would have capital ratios that vary by mortgage risk category and would include a capital standard for MBS and additional monitoring and supervision by a government regulatory agency. HUD said that the appropriateness of such a structure is presumed but not defended and the nature of the monitoring and supervision is not made clear. HUD suggested that we consider (1) standards for duration matching and other standards to limit interest rate risk, (2) the use of appropriately conservative underwriting standards, and (3) ongoing attention to management controls as an alternative to increased capital requirements.

HUD's impression that our report points toward risk-based capital standards with capital ratios that vary by risk category of mortgage is a misinterpretation. We do say that capital should increase as risk increases. We also believe that riskier mortgage holdings should require more capital. We have not, however, endorsed ratios or any other specific method for accomplishing this aim. Various options will be studied in the next phase of our work.



We disagree that our endorsement of the bank regulatory structure is presumed but not defended. The report explains on page 95 that we compared the existing regulatory structure for GSEs to the four elements of bank regulation because both situations present similar risks to the government. We agree with HUD that regulatory authorities to limit risk-taking are necessary to prevent undue risk-taking. We do not agree with HUD's implication that such rules eliminate the need for an appropriate capital standard. Having an appropriate capital rule helps ensure that, before a GSE undertakes additional risks, its owners must increase their capital. Consequently, we believe both authorities are needed and should be used in a way that allows the GSE flexibility to carry out its operations in a business-like manner.

Third, HUD objects to our conclusion that HUD's regulation of Fannie Mae's capital has been inadequate to alert the government to potential problems. HUD points to its two reports on Fannie Mae since 1985 that have documented the low levels of its capital despite compliance with the regulatory capital requirement. HUD points to the statutory definition of capital as the source of ineffective control, not its oversight.

We have modified this report to say that HUD's authority to apply more stringent capital requirements is unclear. However, regardless of the problems with the current statutory capital requirement, we believe that HUD has not fully exercised its existing authorities. HUD's past oversight of Fannie Mae has been inadequate to protect the government's interest. For example, in our 1985 report on Fannie Mae, we concluded that HUD or some other agency of the government should be overseeing Fannie Mae risk-taking in a way that HUD was not. In this report we discuss how HUD has still not audited Fannie Mae even though it has full authority to do so.

Fourth, HUD said that our report is too quick to recommend separation of policy from safety and soundness functions. HUD believes it is competent to deal with the financial regulatory issues.

While we do not question HUD's potential capability to oversee Fannie Mae and Freddie Mac, we note that the historical level of HUD's effort in overseeing the safety and soundness of Fannie Mae has been minimal. In the past, HUD has argued that this is what Congress wanted. We are suggesting that the taxpayers deserve greater protection. Since this function has not been well developed within HUD, we believe there would be little lost by placing it elsewhere. In the past, the government has

assigned dual responsibilities—both programmatic and financial oversight—to single agencies. In the final analysis, the government found the results of this arrangement to be very expensive in the cases of FCS and the thrift industry. We have suggested that the lessons learned from these two cases be applied to the regulatory structure for GSEs.

Fifth, HUD commented that the report properly defers conclusions about capital levels and methods of determining them. HUD said it is appropriate to wait until its own studies of Fannie Mae and Freddie Mac are released before considering specific regulatory standards. We agree.

Sixth, HUD said it is unfortunate that we did not attempt to verify financial information provided by the GSEs. Time constraints did not permit this, but we intend to verify certain key data, systems, and procedures during the second phase of our study. We are concerned not only about the reasonableness of assumptions in GSE risk-control and information systems, but also about the quality of data and the degree to which policies are effectively practiced. We believe such verifications would normally be a responsibility of the regulator, but HUD has never audited the operations of Fannie Mae.

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## Freddie Mac

Freddie Mac said that several additional points should have been made in the report. See appendix VII for their comments.

First, Freddie Mac noted that it is an extremely strong institution serving an important public mission without exposing the government to risk. Freddie Mac said that discussing its risks without discussing the housing benefits it provides is inappropriate. Freddie Mac pointed out that it could reduce its level of risk to almost nothing by very strict standards but would then cease to accomplish its housing mission.

Given the limitations of our scope of work, we are not prepared to express an opinion on Freddie Mac's overall strength as an institution. Our discussion of risks did not attempt to establish a proper level of risks or the appropriate means to achieve its public purpose. We believe such determinations can best be made by GSE managers and owners within the bounds of safety and soundness oversight. We believe the government's safety and soundness role must be one of establishing limits on unreasonable risk exposure, ensuring that risks are controlled and managed, and keeping capital at levels sufficiently high to absorb risks undertaken. Our study illuminated the fact that individual GSEs

have very different philosophies toward risk and public policy purposes, and they may change their philosophies over time. Freddie Mac's comments imply that it takes the risks it does only to accomplish public benefits. We believe Freddie Mac and others also take such risks because they can earn profits and increase shareholder wealth.

Second, Freddie Mac believes the best way to measure capital adequacy is through stress tests tailored to particular risks that Freddie Mac may undertake. This Freddie Mac opinion is discussed on pages 80 and 81 of this report. We have not yet formed an opinion on whether stress tests are the best way to measure Freddie Mac's capital adequacy. We note that stress test results depend heavily on the assumptions used in the stress model. Inappropriate assumptions can create misleading results.

Third, Freddie Mac believes that market value accounting is an important tool for risk assessment by both managers and regulators. Market value accounting is discussed in the report on page 35. We have added to the report Freddie Mac's belief that mark-to-market accounting is an important tool for regulatory purposes, but we have not yet formed an opinion on whether it should be a regulatory requirement.

Fourth, Freddie Mac believes that regulating Freddie Mac is not difficult, since its major risks can be easily monitored. Freddie Mac's comments pointed out that the four principles of bank regulation are effectively in place today as a result of Freddie Mac's internal risk management policies.

We do not agree that the four principles of bank regulation—minimum risk-based capital requirements, limits on risk-taking, monitoring financial performance, and enforcement authorities—are in place today. Notwithstanding Freddie Mac's risk control policies, there are no federal regulations governing Freddie Mac. We do not believe that the government should rely solely on Freddie Mac for protection as Freddie Mac's comments suggest. For example, Freddie Mac's letter summarized its stress tests and market value approach to measuring capital adequacy and suggested that these techniques meet the criteria of capital being held based on risks—the first element of bank regulation. In our opinion, such internal capital guidelines are not the equivalent of having a regulator establish minimum capital levels, including the measurement techniques and assumptions. Internal capital guidelines and stress tests can be changed at any time by Freddie Mac's management. They are not enforceable capital standards that have been adopted through public policy debate or verified on a regular basis.

Similarly, while we understand that Freddie Mac is working with HUD to define regulatory relationships, we are unconvinced that HUD should, as suggested in Freddie Mac's comments, simply accept Freddie Mac's proposed reporting indicators. We believe it is appropriate for a regulator to define its information and oversight needs.

Fifth, Freddie Mac said that HUD has the ability and enforcement powers to be an effective regulator. According to Freddie Mac, enforcement authority is present in HUD's general regulatory authority, and the Secretary could seek a temporary restraining order or permanent court injunction to prevent unsafe and unsound practices. Freddie Mac believes all HUD needs is a structure in which to use its authority.

We are concerned that until HUD's regulatory authority over Fannie Mae and Freddie Mac is clarified with legislation, future Secretaries of HUD may interpret their responsibilities in different ways. HUD has not had a systematic approach in either its philosophy or the management of its regulation of Fannie Mae. For example, at times, HUD has asserted an active role. At other times, HUD has interpreted its authority very narrowly and has engaged in passive oversight. In our opinion, large institutions like Fannie Mae and Freddie Mac should receive consistent oversight by a federal regulator as long as there are federal ties. Freddie Mac's assertion that the Secretary of HUD could seek court orders to prevent unsafe and unsound practices is literally true. However, this process could be time-consuming. We see nothing in Freddie Mac's statement to suggest that any harm would be done by making such enforcement authorities explicit in law rather than depending on court interpretation of statutes.

Finally, Freddie Mac says that our proposal for separating the safety and soundness regulator from the programmatic regulator does not withstand in-depth analysis. Freddie Mac believes that placing regulatory authority within existing offices of the Treasury Department would create conflicts at least as severe as HUD's. Freddie Mac believes other financial regulators such as the Federal Deposit Insurance Corporation or the FHFB would have conflicts also. More than just organizational placement, Freddie Mac said that it is worried about delays in decisions that involve two regulators, suggesting that such delays could be costly. Freddie Mac believes that its regulatory oversight should be carried out by HUD, perhaps by placing the safety and soundness responsibilities in a division of HUD that is separate from the program regulator.

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We do not believe that the federal agency responsible for promoting a public policy purpose is the best agency to oversee safety and soundness of a financial institution because of the potential conflicts between accomplishing the public policy and maintaining safety and soundness. We see Freddie Mac fundamentally as more of a financial institution than a housing institution. Accordingly, we think that Freddie Mac's safety and soundness regulation is most appropriately placed in an agency that is equipped to focus on the safety and soundness of Freddie Mac as a financial institution.

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## Fannie Mae

In its comments, Fannie Mae discussed its role as a secondary mortgage market participant, the benefits it provides to homeowners, the federal taxes it has paid, its status as a GSE, its problems in the 1980s, and its strategy to recover from these problems. Fannie Mae's comments also summarized the stress tests it uses to assess its risks and capital adequacy. Our views on stress tests are expressed in the discussion of Freddie Mac's comments.

In its comments, Fannie Mae concurred with our opinion that regulatory scrutiny over Fannie Mae is appropriate. However, Fannie Mae took no position on whether HUD should continue as its regulator. Fannie Mae's comments pointed out that Fannie Mae regularly provides information to HUD and to private investors and analysts. Fannie Mae said that HUD was given information, including business plans, during the early 1980s when Fannie Mae was experiencing serious financial difficulties. Fannie Mae's detailed comments on these issues can be found in appendix VIII.

Fannie Mae cited one specific item of disagreement with our report. It does not agree that GSE status creates incentives for management to take excessive risks. Fannie Mae pointed out that managers who are also shareholders have every interest in the long-term health and survival of Fannie Mae.

We agree with Fannie Mae that under normal circumstances, when a GSE is well-capitalized and profitable, owners and managers are interested in protecting and increasing the value of stock. However, in times of financial distress, when stock value has been seriously depleted, owners and managers may then have incentives to take unusual risks in order to recoup losses. Our report suggests that weakened creditor discipline would allow GSE owners and managers to take unusual risks because they can continue to borrow even when financially distressed. Furthermore, we note that the borrowing costs of a GSE are not strongly tied to

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the risks they undertake or the capital they hold, allowing GSE owners and managers to increase risks without a commensurate increase in capital.

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## Comments From the Department of Education and Sallie Mae

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### Department of Education

The Department of Education generally agreed with our conclusion that additional oversight of Fannie Mae's, Freddie Mac's, and Sallie Mae's risk-taking and capital levels is needed. Its comments can be found in appendix IX.

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### Sallie Mae

Sallie Mae made four general observations about our report. Its detailed comments can be found in appendix X.

First, Sallie Mae said it is unfair for our report to use the perception that the federal government would assist a troubled GSE as justification for increased regulation without making a promise of assistance explicit.

We do not agree. Our report attempts to disclose the nature and implications of GSE ties to the government and how the government has responded to GSE troubles in the past. We understand that giving GSE obligations the full faith and credit of the United States would resolve the ambiguity surrounding GSE status. However, we see no clear benefit to the government from taking such action. We expect that providing full faith and credit to GSE obligations would eliminate whatever private market discipline may exist because of the ambiguous status of GSEs and would create the need for very intrusive regulation. Since GSEs are neither fully private nor clearly public, we think their current status suggests that both private market discipline and federal regulation are appropriate. Our report attempts to note the weaknesses in both.

Second, Sallie Mae disagreed with the proposition that the unquantifiable benefits of agency status somehow warrant the application of increased federal regulation. Sallie Mae believes that the firm does not benefit in an economically significant way from its agency status. Sallie

Mae pointed to its high quality balance sheet and the effectiveness of its corporate management as the key indicators of its credit standing in the private markets. Sallie Mae said that it is arguable that the lost business opportunities from its charter limitations would more than offset any marginal cost savings it may experience in the credit markets.

Our report does not suggest that the federal oversight is needed because of the unquantifiable benefits of agency status. We discuss the benefits GSEs receive as evidence of the federal ties that may provide an incentive for the government to assist a troubled GSE. It is the risk to the government from GSE insolvency, not GSE profits, that provokes us to conclude that additional oversight is needed for certain GSEs. We agree that Sallie Mae's credit standing is quite high, and that there is no evidence to suggest that Sallie Mae represents an imminent risk of failure to the government. We would expect that federal oversight of Sallie Mae would simply reinforce the prudent business practices that Sallie Mae has traditionally employed and would not be overly intrusive.

In its third comment, Sallie Mae questioned the treatment of GSEs as analogous to banks, pointing out that the government's interest in the banking sector is more direct and more pervasive than its interest in protecting GSE investors.

Our report drew analogies between GSEs and banks but tried to make clear that we did not believe that GSEs should be treated identically to banks. We noted important similarities and differences between GSEs and banks that we believe argue for using the bank regulatory elements while customizing them to suit each GSE. However, we believe that the elements of safety and soundness oversight are appropriate for GSEs. The GSEs themselves use variants of these elements to manage the risks that they assume from business counterparties. For example, in doing business with another firm, Sallie Mae may require that the firm maintain minimum levels of capital or a minimum net worth; they may monitor the firm's performance under the business agreement, and they may terminate contracts when the firm fails to satisfy the terms. Sallie Mae's purpose in doing so is to limit its own exposure to risk, not to protect the interests of investors in the counterparty firms. Similarly, the government's purpose in overseeing Sallie Mae is to limit the government's exposure to risk, not to protect Sallie Mae's investors.

In its final comment, Sallie Mae asked that we carefully consider the wisdom of developing separate risk-based capital rules for each GSE or

allowing a federal regulator to create such rules in the absence of agreement on objective standards. Sallie Mae said that after 17 years of exemplary risk management, the imposition of an outside regulator to monitor and evaluate the adequacy of Sallie Mae's capital does not appear justified. With full disclosure of the financial risks undertaken by GSEs, Sallie Mae believes investors are able to make better-informed judgments on investment risk in the context of current market conditions than regulators would under static guidelines.

In our opinion, those who assume risks should evaluate the probability of suffering losses from such risks. If private investors in GSE obligations were to assume all risks, they would be likely to evaluate GSE risks more thoroughly and perhaps more competently than a regulator. However, the evidence suggests that GSE investors have not perceived the risk of default of GSE debt obligations and have not subjected GSEs to high levels of market discipline. We acknowledge that Sallie Mae has never needed federal assistance in the past and does not expect to need it in the future. But we do not believe that private markets have effectively disciplined GSE risk-taking. Unless the government would clearly demonstrate its willingness to allow a GSE to fail and its creditors to suffer losses, we would not expect the private markets to change their current discipline of GSE securities. As a result, we are reluctant to rely on private markets as a complete substitute for federal oversight.

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## Comments From Connie Lee and Farmer Mac

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### Connie Lee

Connie Lee agreed with the representations of Connie Lee contained in the draft report. See appendix XI for Connie Lee's comments.

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### Farmer Mac

Farmer Mac said that the discussion about Farmer Mac was generally fair, accurate, thorough, and objective. Farmer Mac agreed that it has no regulatory capital requirements but believes that it had other equity requirements. Farmer Mac said that its statute requires that every pool be backed by a cash reserve or a subordinated participation in the security of at least 10 percent of the security and that this provision should be considered as an equity requirement. Farmer Mac said that



this requirement exceeds the capital requirements financial regulators, rating agencies, and securities analysts use for other financial institutions. See appendix XII for Farmer Mac's comments.

While we believe the requirement for a 10-percent reserve or subordinated interest is an important protection against credit risk for Farmer Mac, we do not equate this requirement with an equity capital requirement. We believe the use of a reserve or subordinated interest in the securities guaranteed by Farmer Mac is not unlike credit enhancements, such as recourse with collateral, used by other GSEs to protect themselves against credit risk. However, equity capital would be the owners' investment in Farmer Mac. It would provide both an additional buffer against loss and Farmer Mac's owners with an incentive not to take excessive risks. Finally, we would point out that the value of farm land was very volatile in the 1980s. To be effective in protecting the government's financial interest, the reserve or subordinated interest should be accompanied by other buffers including conservative underwriting practices and equity capital.



# Comments From the Farm Credit System

Note: GAO comments supplementing those in the report text appear at the end of this appendix.

## THE FARM CREDIT COUNCIL

50 F STREET, NW • SUITE 900 • WASHINGTON, DC 20001 • 202/626-8710

DENVER OFFICE:  
P.O. BOX 5130  
DENVER, COLORADO 80217  
TEL: 303/740-4200

June 6, 1990

Mr. Richard L. Fogel  
Assistant Comptroller General  
United States General Accounting Office  
Washington, D.C. 20548

Dear Mr. Fogel:

We appreciate the opportunity to comment on the draft report entitled Government-Sponsored Enterprises: Government's Exposure to Risks. This letter summarizes the comments by the Banks of the Farm Credit System (System) about this report. Technical comments are noted directly on the attached draft of the report.

Initially, we note that the General Accounting Office is not recommending additional government oversight or higher capitalization of the System. We agree with this conclusion. However, we believe the report does not go far enough to highlight the positive changes which have taken place in the System since 1985 and the significance of these substantive changes. These changes include:

- the establishment of an independent, arms-length regulator,
- the strengthening of the regulator's powers to ensure safety and soundness of System institutions,
- the establishment of risk-based, permanent capital standards similar to those of Federally chartered banks,
- the establishment of a System-funded insurance fund,
- a significant reduction in operating costs, and
- major improvements in the management of System institutions.

### Background

The very reason for the Congress establishing the System is the basis for one of your agency's primary concerns--inherent risk. The Congress recognized these risks when it authorized the

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*Serving the Farm Credit System*



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institutions of the System. The Congress wanted a single-purpose entity devoted to making credit available to farmers, ranchers and their cooperatives in order to assure an adequate and dependable flow of capital into rural areas. There is ample evidence that financial intermediaries that do not have this legislative mandate will not make credit available on a consistent basis to meet the needs of rural America. The System has fulfilled and will continue to fulfill this vital public purpose role in order to assure an abundant, competitively priced supply of food and fiber for the American public. In accomplishing this goal, there is no question that the System may encounter risks which are avoided by commercial lenders who choose not to serve agriculture or who do so sporadically.

Risk Identification/Management

While there are risks in concentrated lending to one sector of the economy, the System is effectively managing these risks. Improved asset/liability management (ALM) has become a high priority to ensure that interest rate risk is minimized. Each System Bank monitors and manages its interest rate risk through an Asset/Liability Management Committee and on a day-to-day basis through application of sophisticated ALM techniques and funding strategies. The report reflects a concern that if System Banks manage the debt issuances (liabilities) and direct-lender Associations make the loans (assets), there is an inherent problem in the ALM process. We disagree with the premise that this is a problem that cannot be satisfactorily managed. Moreover, we note that the trend toward direct lending at the Association level, which was facilitated by the Agricultural Credit Act of 1987 (1987 Act), is consistent with the premise that the System's credit risk exposure will be minimized by keeping the responsibility for credit judgments at the local level. The Banks and Associations can and do work together to ensure that the behavior of the System's liabilities corresponds closely with the behavior of the System's assets.

Your report cites the System's regulator as limiting the System's ability to mitigate its risks through diversification. It is true that the Congress has taken a cautious stance with regard to lending authorities for the System; however, public comments by the Farm Credit Administration (FCA) acknowledge that greater diversification in the loan portfolios of System institutions will be necessary in the future to reduce the financial risk to System institutions while at the same time continuing to fulfill the public policy for which the System was created. In addition the expansion of fee-based services provides a further opportunity to diversify income.

In an additional effort by the System to prudently manage its risks, the System's Banks and Associations voluntarily adopted National Credit, Review and Appraisal Standards which are management policies and standards that are consistent with those of well-run commercial banks.

We strongly disagree with the conclusion reached that implicit Federal backing promotes excessive risk taking. It is our opinion that there is evidence which can be cited to the contrary. As we have described, by its very nature and Congressional mandate, the System is expected to serve agriculture on a consistent basis. While there is an inherent risk in serving as a financial

See comment 1.

See comment 2.

See comment 3.

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intermediary to this industry, it is our contention that the System is using all available credit, administrative and interest rate risk management tools to lessen that exposure so that operations are conducted in a safe and sound manner.

History also shows that there is a market mechanism which becomes a factor when risks are perceived to be too great. Even as a GSE, our cost of funds increased significantly when risks were perceived to be greater. We are, therefore, very cognizant of properly managing our business, just like other lenders. We encourage the GAO to become more familiar with the System's risk-control mechanisms as it indicates it will do as a part of the preparation of its second report.

#### Effective Management

We strongly disagree with your conclusions regarding the management of System institutions. Over the past several years there have been substantial changes in System management. This new management has done a remarkable job of managing institutions during periods of extreme stress and have returned the System to profitability. We find it regrettable that the GAO has found an unbalanced view upon which it has based its conclusions regarding System management. It is our hope that as you begin Phase II of your reporting project more direct communication and review of System institutions by GAO staff will provide a broader base for evaluating management effectiveness.

#### Clarification of Congressional Assistance

The financial assistance authority provided in the 1987 Act is often misrepresented as it is in this report. The perception has been created that the System has received \$4 billion in Federal money funded by America's taxpayers. This is erroneous. The 1987 Act provided a funding mechanism by which the Farm Credit System Financial Assistance Corporation can issue up to \$4 billion of U.S. Treasury-guaranteed debt to assist financially stressed institutions, to retire protected borrower stock in liquidating institutions, to fund third quarter 1986 Capital Preservation accruals, and for other specified purposes. It is true that the interest payments on portions of the debt issued will be funded for a limited period of time by the U.S. Treasury. However, the 1987 Act requires 100 percent System repayment of all interest and principal. To characterize the \$4 billion as direct Federal financial assistance not only creates the erroneous impression that U.S. Government funds will not be repaid, it also creates the incorrect impression that the U.S. Treasury has already written the System a check for \$4 billion. In fact, there has been only \$847 million in bonds issued to date, of which \$371 million was for direct assistance to four Banks, \$415 million was for payment of Capital Preservation accruals, and the balance was for other uses, including protected borrower stock retirement and Assistance Board expenses. We also anticipate issuance of approximately \$325 million in the next week. We believe the financial assistance should be described as U. S. Government-guaranteed borrowing authority.

See comment 3.

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June 6, 1990  
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Buffers Against Government Loss

There are four points specifically addressing the perceived risks to the U.S. Government that have not been fully developed in the Phase I Report: the Farm Credit Insurance Fund, the joint and several liability of the System Banks, the collateral requirement for issuing debt, and the System's internal Bank monitoring program.

The Farm Credit Insurance Fund was created by the 1987 Act primarily to insure debt issued by the System Banks. This fund will grow through the payment of premiums assessed to System institutions. Since the ultimate size of the Fund is not capped, it will be a significant buffer between any System losses and the potential exposure of the U. S. Government to such losses. Furthermore, this System-funded Insurance Fund is in addition to the 7 percent minimum, risk-based permanent capital requirements proscribed by the FCA for System institutions.

Another significant buffer between exposure of the Federal Government to losses is joint and several liability. All Systemwide debt issuances are the joint and several obligations of every System Bank. Often cited as a major reason for investor confidence in the System, joint and several liability is the line of defense after all of the assets of the Insurance Fund have been depleted.

In addition, the draft report fails to note the statutory collateral requirement imposed on Systemwide debt issues of System Banks. Each System Bank is to have at the time of debt issuance, and to maintain thereafter, specified eligible assets at least equal in value to the total amount of debt securities outstanding for which it is primarily liable. The collateral consists of notes and other obligations representing loans or real or personal property acquired in connection with loans and certain other assets specified in the Farm Credit Act and the FCA's regulations. While the collateral requirement does not ensure an investor or the U. S. Government against loss, it does preclude an institution whose collateral has lost substantial value from continuing to access the public debt market and thus possibly increasing the exposure of the Government.

Another important buffer to potential loss is the internal Bank monitoring program established by the System through the Federal Farm Credit Banks Funding Corporation. The Farm Credit Act recognizes the need for debt issuance criteria and provides for performing internal Bank reviews and analysis. The Federal Farm Credit Banks Funding Corporation has developed and implemented a Market Access and Risk Alert Program (MARAP). The MARAP is designed to provide an early-warning and loss prevention mechanism.


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June 6, 1990  
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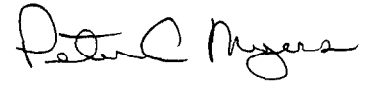
Independent Regulator

Finally, we would like to reemphasize the points that the GAO has made with respect to the System's regulator. The FCA has, as a result of the intensive Congressional scrutiny and legislative action regarding the System, been empowered with authorities similar to those of commercial bank regulators in order to regulate System institutions. These authorities require the FCA to be an arms-length regulator and to enforce safety and soundness at each System institution.

Again, we appreciate this opportunity to comment on your draft report. We respectfully remind the GAO of the substantive differences in structure, administration and business purposes among the GSEs and request that the General Accounting Office be mindful of these differences as it goes forward with its analysis. We are available at any time to respond to further questions or provide additional information as required.

Sincerely,

  
James A. Brickley  
President and Chief Executive Officer  
Federal Farm Credit Banks  
Funding Corporation

  
Peter C. Myers  
President and Chief Executive Officer  
The Farm Credit Council

Attachment

The following are GAO's comments on the Farm Credit Council's June 6, 1990 letter, which was also signed by the President and Chief Executive Officer of the Federal Farm Credit Banks Funding Corporation.

## GAO Comments

1. We acknowledge in our report that the FCS as a whole has improved its asset and liability management. However, we believe that the fragmented responsibilities for managing assets and liabilities make it difficult for the FCBS to manage interest rate risk. While liabilities are managed by an FCB with one group of managers and the corresponding loans to farmers are managed by associations with other managers that report to a board of directors chosen by the farmer-borrowers, there can be pressures to keep loan rate increases down even when liability rates increase.

2. We believe that the evidence presented in the report supports the conclusion that GSEs' ties to the government have weakened the discipline that creditors normally provide to completely private financial firms. We feel that the marketplace has allowed GSEs to undertake risky activities even when they were experiencing financial difficulties, because investors perceived that the government would suffer any resulting loss.

The report acknowledges the widening of GSEs' spreads over Treasury securities during periods of serious financial difficulty. However, even during these periods the GSEs retained their AAA ratings, and creditors continued to purchase GSE debt securities. In our view, creditors do not react to deterioration in a GSE's financial condition in the same way they react to a similar change in a completely private firm.

3. The report does not imply that FCA limits FCS' ability to mitigate its risks through diversification. It points out that a GSE's charter act limits it to certain permissible activities and that FCA provides oversight to ensure that FCS institutions operate safely while addressing their public policy purposes.



# Comments From the Farm Credit Administration

**Farm Credit Administration**

1501 Farm Credit Drive  
McLean, Virginia 22102-5090  
(703) 883-4000

June 4, 1990



Ms. Suzanne J. McCrory, Project Director  
General Government Division  
U. S. General Accounting Office  
Washington D.C. 20548

Dear Ms. McCrory:

Thank you for the opportunity to review the GAO draft report.

This first phase report provides a useful overview of GSE risk issues and a reasonable framework for the second phase of the GAO study. We have a number of comments on the focus as well as on specific technical details. We hope they will be useful to you both in editing the current draft and in conducting the second phase of your study.

We think the report inadequately addresses both the FCA regulatory role and the future role of the FCS Insurance Corporation. More generally, the Executive Summary should make a clearer distinction between the GSEs which have a federal financial regulator (Farm Credit Administration or the Federal Housing Finance Board) and those which do not.

We agree GAO inference that, among the GSEs, the FCS is not the primary risk concern. But we would propose that the FCS discussion be refocused to emphasize potential risks for the future rather than carryover risks from the recent history. To do otherwise does not provide an accurate portrayal of the prospective regulatory situation for this GSE. The result is to leave the impression that the FCS is not effectively regulated, despite the GAO assertion that the first phase of your study did not attempt to assess the effectiveness of FCA.

The current emphasis fails to recognize the steps FCA has taken to address risk reduction since we have received additional authorities. As you note late in the report, FCA has implemented actions in each of the major areas called for in the GAO draft. It also fails to recognize the potential impact of the FCS Insurance Corporation in government risk control. We believe these forward-looking factors are fundamental to any comparative assessment of government risk arising from the various GSEs.

Appendix II  
Comments From the Farm  
Credit Administration

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We would also agree with your observation that the information on Farmer Mac is not all in, which implies that its government risk concern level cannot be inferred from that of the FCS institutions. We suggest that your revision emphasize the need to apply the same risk standards as you indicate are needed for Fannie Mae, Freddie Mac, and Sallie Mae. We draw your attention to our comments specific to Farmer Mac.

We would also welcome an opportunity to meet with GAO to discuss any questions regarding the substantive issues we have raised.

Sincerely,



George D. Irwin, Deputy Director  
Office of Financial Analysis

Enclosure

# Comments From the Department of Agriculture

Note: GAO comments supplementing those in the report text appear at the end of this appendix.



DEPARTMENT OF AGRICULTURE  
OFFICE OF THE SECRETARY  
WASHINGTON, D.C. 20250

June 5, 1990

Mr. Richard L. Fogel  
Assistant Comptroller General  
General Accounting Office  
Washington, D.C. 20568

Dear Mr. Fogel:

Enclosed are our comments on the draft report entitled Government-Sponsored Enterprises: Government's Exposure to Risks. This report focuses on the risk-taking and capital of certain government-sponsored enterprises (GSE). Our comments are restricted to and focused on institutions of the Farm Credit System.

If you have any questions, please contact Mr. Eric Thor at 737-9255.

Sincerely,

A handwritten signature in black ink that reads "Clayton Yeutter".

Clayton Yeutter  
Secretary

Enclosures

GENERAL COMMENTS ON GAO DRAFT REPORT ON GSEs

Lack of Quality Capital in FCS institutions

1. GAO focuses on risk-based capital as an important buffer between GSE losses and the taxpayers. However, greater emphasis should be placed upon the quality and type of capital in these institutions. FCS institutions are cooperative institutions capitalized by their borrowers as a condition of borrowing. Generally, the borrower stock is retired automatically upon repayment of a loan. During the period of financial difficulty, operating losses of FCS institutions were exacerbated when quality borrowers paid off their loans seeking loans elsewhere with more attractive interest rates, thus reducing the capital available to support FCS institutions during difficult times. Such loan pay-downs dramatically accelerated when borrowers, learning of the financial condition of the institutions, sought to avoid losing their stock investment.

Although the Agricultural Credit Act of 1987 required that stock after a certain date must be "at risk" and that only "at risk" stock would count toward meeting permanent risk-based capital requirements, the fundamental problem of long-term capital and "non-investor" capital has not been solved. There is no reason to believe that farmer/borrowers holding "at risk" stock will not attempt to leave first or have the government guarantee payment of their stock in future times of severe financial difficulty of FCS institutions. The statute does permit lower borrower capital levels, which many Farm Credit districts are using. However, in these cases, greater reliance is placed upon retained earnings as a capital base.

Problems of Directors as Borrowers

2. GAO recognizes that directors of System institutions, which select management and set credit and loan pricing policies, are farmers without banking or financial backgrounds. The report does not mention a more serious problem in that all directors are borrowers and have greater incentive to select management based on their willingness to obey the directors rather than focusing on their financial ability. The borrower/directors have little incentive to hire management that will take responsible credit actions, raise interest rates, or price loans to cover the government risk when those actions may hurt themselves and the borrowers that elected them. This may be particularly true when these directors perceive that the federal government may provide the FCS institutions with assistance and protect their stock investment. Other financial regulators and institutions have substantial restrictions on loans to directors and officers due to the problems created by insider loan activities.

Monitoring by Investors and Rating Agencies

3. The report discounts the extent to which investors charge greater spreads over comparable Treasury securities in purchasing GSE securities. While investors do not demand rates that would be charged commercial enterprises with comparable risk, investors have been more diligent in determining appropriate yields for GSE securities than during the GSE financial difficulties of the 1980s. In addition, the independent rating agencies have been making investors more aware of the financial condition of the GSEs with very detailed explanation of their operations.

SPECIFIC COMMENTS ON GAO DRAFT REPORT ON GSEs

Former FCA Governing Structure and FCS Organizational and Financial Structure Accelerated Credit Crisis

1. Page 6, "The government did not have the monitoring capability or capital rules in place to learn about the Farm Credit crisis in time to prevent it from becoming serious" does not provide a complete picture. There may be more important causes, including (1) that the regulator was governed by a body of Presidentially appointed "representatives" of the banks that the agency regulated; (2) that the borrower stock invested in the banks, clearly meeting statutory and regulatory capital rules, operated, due to the nature of cooperative corporate structure, more like compensating balances than true equity; and (3) that the farmer/borrower directors of System institutions were not disinterested in matters affecting borrowers nor skilled in financial or agricultural credit matters.

The lack of independence of the former FCA Board insured that the regulator's monitoring of the System's deteriorating financial condition was not given proper consideration until it was too late. The nature of the cooperative borrower stock made the capital illusory when the borrower stockholders paid down their loans to the amount of the offsetting capital, permitting a "run" on these non-depository institutions. The insider nature of borrower/directors severely limited bank actions that would have stemmed the institutions' financial deterioration but would have resulted in financial difficulties for the farmer/borrowers. The nature of the Farm Credit banking structure is one of the more serious past and present financial risks of the FCS to the Federal government. The lack of regulatory enforcement to correct identified problems and the failure to follow generally accepted accounting principles also contributed to the FCS financial deterioration.

Now on p. 3.  
See comment 1.

Now on p. 18.

FCS Single GSE

2. Page 29: The draft report separates Farm Credit Banks and Banks for Cooperatives as separate GSEs. This may be misleading given general focus of the report on the borrowing activities of GSEs that implicitly commit the United States to repay debt obligations. Since 1978, the Farm Credit System Banks--including Federal land banks, Federal intermediate credit banks and Banks for cooperatives--have issued Federal Farm Credit Banks Bonds joint and several obligations of all System Banks and have ceased to issue separate bank system securities. The Federal land banks and Federal intermediate credit banks merged in 1988 to become the Farm Credit Banks. Though the Farm Credit Banks and the Banks for Cooperatives are separate legal entities they all borrow together through the issuance of Federal Farm Credit Bank bonds and notes, not independent debt obligations. Thus, for purposes of the debt markets and the potential impact on the United States they should be considered together as one GSE, the Farm Credit System banks.

Now on p. 18.

FCS Consultation with Treasury

3. Page 30. While the Secretary of the Treasury does not have specific approval authority over the issuance of Farm Credit securities, the System banks, pursuant to 31 USC 9108, must consult with the Secretary of the Treasury on securities issues. In practice, this has required consultation with Treasury when System banks have decided to issue a different type of security rather than particular issues of securities.

Now on p. 19.

Expiration of Bond Issuing Authority

4. Page 31. The draft report states that through 1992, the Assistance Board may authorize up to \$4 billion in federal assistance. It should be noted that the Assistance Board's authority to direct the Farm Credit System Financial Assistance Corporation to issue bond obligations to fund the assistance expires September 30, 1992. As a practical matter, provision of assistance after that date is limited to funds then held in the Farm Credit Assistance Fund, which is not expected to be significant.

Now on p. 21.

Current FCS Organizational Structure

5. Page 34. The chart shows Farm Credit Banks as only financing loans. This is true in only a few Farm Credit districts. Most Farm Credit Banks continue to make loans directly and to finance loans from associations to farmers and ranchers as stated on page 35 of the report.

Now on p. 21.

Now on p. 21.

Jackson FICB Lending

6. Page 35. The Federal Intermediate Credit Bank of Jackson does not make operating loans directly to farmers and ranchers but finances them through First South Production Credit Association and Northwest Louisiana Production Credit Association.

Now on p. 31.

FCS Activities Affecting Viability

7. Page 49. Adding the phrase "practices and" at the bottom of the page better covers most future activity that could significantly impact the risks to FCS viability. The sentence would read, " However, certain FCS institutions remain weak, and we cannot predict what effects future external economic conditions and internal management practices and changes might have on the risk-taking strategies or the financial health of any GSE."

Now on pp. 37-38.

FCB Asset Management

8. Page 61-62. While it can generally be said that FCBs manage the liabilities and associations service the assets, it is misleading to state that the associations manage all aspects of the assets. All FCBs that continue to have direct long-term lending authority manage those long-term assets. In other cases, the FCBs control the movements in interest rates on long term loans in most districts and therefore, have the authority to exert some control over the assets.

Now on p. 38.  
See comment 2.

9. Page 62. The rates, terms and conditions of the vast bulk of long-term agricultural real estate loans are set by the FCBs, not by the associations. It is organizationally possible under the Agricultural Credit Act of 1987 for Federal land credit associations and agricultural credit associations to make such decisions, but this mode of operations is currently present in only a few districts.

Now on p. 65

FCA Enforcement Actions

See comment 3.

10. Page 110. The report states that 60 percent of FCS assets are owned by institutions under FCA enforcement actions. Our understanding is that most of these assets are subject to written agreements with FCA which are not enforcement actions but may subject the institution to a notice of charges if the agreement is violated. See 12 USC 2261. The existence of such agreements or the fact that the institution is under an enforcement action is important to recognize the risk exposure of the institution but does not, by itself, indicate that the current management is inadequate. In many cases, management has been replaced as a result of the FCA actions and the new management is working to

restore the institution's financial condition in order to have the actions removed.

Analysis of Debt to Capital

11. Page 133. The chart and accompanying analysis does not look at debt or liabilities as a percentage of capital. Financial analysts generally look at the debt to equity ratio as an indication of repayment capacity.

Adequacy of Quality of FCS Capital

12. Page 152-53. It is a significant weakness of the report that the adequacy of the GSE capitalization is not assessed. As GSE capital is the buffer to U.S. government risk exposure, a real assessment of that risk exposure cannot be evaluated completely without a judgment on the adequacy of GSE capitalization and liability structure.

New York City Bail-Out

13. Page 156. The Federal government did not bail out the City of New York. President Ford affirmed in October 1975 that there would not be a Federal bail-out of New York City. The State of New York passed the Moratorium Act to allow the Municipal Assistance Corporation, established to assist the City, to offer bonds in exchange for defaulted obligations or for a 3-year principal payment moratorium and reduced interest package on the defaulted obligations. The Federal Reserve Board made clear its willingness to fulfill its role as lender of last resort, though no problem materialized.

FCS institutions Not Subject to Bankruptcy Act

14. Page 157, 160. Liquidation of Farm Credit System institutions is not subject to the Federal Bankruptcy Act or state laws. FCS institutions are liquidated by the Farm Credit Administration. See Knox National Farm Loan Association v. Phillips, 300 U.S. 194 (1937). See also 12 USC 2183. The Federal Land Bank of Jackson and numerous production credit associations have been liquidated under this statutory authority during the past seven years, not under the Federal Bankruptcy Act.

Whether Continued Federal Support of GSEs Necessary

15. Page 161. The report assumes without analysis that the public purpose for each GSE continues to exist such that private entities restricted to the same purposes would not provide the

Now on pp. 76-78.

Now on p. 89.  
See comment 4.

Now on p. 91.  
See comment 5.

Now on p. 92.

Now on p. 93.  
See comment 6.



same function. Such assumption should be supported by data and analysis. In view of United States risk exposure to GSEs, the need for public supported GSEs should be periodically re-evaluated to insure that continued government support is necessary. And if such support is not necessary, transfer of such risk to the private sector could greatly reduce government risk exposure. For example, the statement that the FCS had difficulty offering competitive loans to farmers during the mid-1980s suggests that other entities were providing competitive loans and that credit was available. Provision of funds to FCS at that time must be supported with analysis that credit was unavailable from the commercial sector to creditworthy borrowers or from FmHA as lender of last resort.

Comparison of GSE Oversight

16. Page 168. Comparison of the lack of oversight of Fannie Mae, Freddie Mac, and Sallie Mae to the oversight over FCS institutions may not be entirely appropriate. FCS institutions had virtually no financial marketplace checks on their activities until the financial deterioration was so severe that Federal assistance was necessary to avoid significant liquidation of System institutions. These other GSEs have marketplace impacts on the price of their equities that require earlier responses to financial downturns to avoid significant depletions of the value of their capital through selling in the marketplace. Fannie Mae experienced significant financial difficulty in the earlier 1980s, but recognized the problems early, addressed them, and avoided the necessity of Federal assistance.

The FCS institutions had regulatory and examination oversight, though not as strong as current authorities, but no concomitant marketplace impact. Though limited in enforcement tools prior to the 1985 legislation, the FCA could have made its findings public sooner, and the results may have limited the ultimate losses of FCS institutions during this period. The ineffectiveness of the regulator prevented recognition of the problems or their public disclosure. The result was a much later recognition of financial problems at a point that was too late to avoid collapse without Federal assistance. In addition, if the FCS institutions had marketplace sensitive equity, taxpayer losses may have been reduced.

FCS institutions Monitored as Banks

17. Page 185-86. We agree that GAO evaluation for improving monitoring of risk-taking must consider the differences between GSEs and banks. However, such evaluation should also distinguish FCS institutions from other GSEs in that the FCS are cooperative banks.

Now on p. 97.

See comment 7.

Now on pp. 106-107.

Now on p. 107.

GAO Conclusions

18. Page 187. In the case of the FCS, the private owners (farmer/borrowers) did act adverse to the government's interest in time of financial distress by paying down their loans and retiring their capital or by not allowing the hired management to appropriately raise interest rates. The current regulatory structure based on standard banking regulatory practices cannot necessarily prevent this from recurring.

The following are GAO's comments on the Department of Agriculture's June 5, 1990, letter.

## GAO Comments

1. We agree that the causes listed by the Department of Agriculture may have contributed to the FCS crisis. However, the intent of that section of the executive summary is to demonstrate the effects of inadequate federal supervision of financial institutions. Furthermore, while we have no immediate concerns about FCS viability, as discussed in the report text, we believe that FCS institutions still face substantial amounts of risk.
2. We modified the report to clarify that FCBS and their related associations share responsibility for managing assets.
3. While we did not review the actions ourselves, FCA officials told us that written agreements are considered enforcement actions. Regardless of the type of enforcement actions involved, we consider the fact that FCA has determined a need for such actions as an indication of risk exposure that requires changes from past practices. The fact that the enforcement actions are still in place indicates to us that the former practices have not been fully corrected.
4. We recognize that the report does not express an opinion on the adequacy of current GSE capital levels for protecting the government's interest. Several issues need to be considered in evaluating appropriate capital levels for GSEs, such as determining the level of risk the GSE should be able to withstand and the effect of added costs that might be imposed on the GSEs if higher capital levels are required. We plan to consider the costs and benefits of various options in our next report.
5. We did not mean to imply that the federal government provided the same degree or type of assistance to all troubled financial firms and municipalities. We discuss New York City's use of \$2.3 billion in short-term federal loans and \$1.65 billion in long-term loan guarantees in our report entitled Guidelines for Rescuing Large Failing Firms and Municipalities (GAO/GGD-84-34, Mar. 29, 1984).
6. The objective of our review was to study the risks undertaken by the eight GSEs. We did not address the extent to which the GSEs' public policy purposes continue to exist.

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7. We believe that the evidence presented in the report text supports the conclusion that GSEs' ties to the government have weakened the discipline that would normally be provided over completely private firms' debt securities. We point out in the report text that FCS equity stock has different characteristics from the stock of the other GSEs. Also, legislative and regulatory relief helped both Fannie Mae and FCS recover from the financial difficulties experienced in the 1980s.

# Comments From the Federal Housing Finance Board

## Federal Housing Finance Board

1777 F Street, N.W., Washington, D.C. 20006

Telephone: (202) 408-2500

Facsimile: (202) 408-1435

June 6, 1990

Mr. Richard L. Fogel  
Assistant Comptroller General  
U.S. General Accounting Office  
441 G Street, N. W., Room 3858C  
Washington, D. C. 20548

Re: Draft of GAO Government-Sponsored Enterprises Report;  
Request for Federal Housing Finance Board Comment

Dear Mr. Fogel:

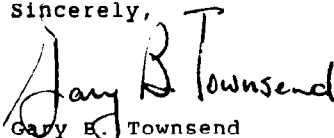
Thank you for the opportunity to comment on the U.S. General Accounting Office's draft report, "Government-Sponsored Enterprises: Government's Exposure to Risks". As regulator of the Federal Home Loan Banks (FHLBanks), the Federal Housing Finance Board is especially pleased with the draft report's conclusions that the FHLBanks present little risk of failure and are well capitalized and profitable. The FHLBanks have a long record of profitable and safe operation.

While in agreement with most conclusions with regard to the FHLBanks, we would add the caution that many of the report's statements were based on interviews with only two of the FHLBanks. In addition to important similarities, there are many regional, membership, and other differences that limit the applicability of generalizations to all FHLBanks.

Attached are further technical comments on specific sections.

Thank you again for this opportunity to comment.

Sincerely,



Gary E. Townsend  
Director of Examinations  
Office of Bank Supervision and Oversight

Attachment

# Comments From the Federal Home Loan Banks

Note: GAO comments supplementing those in the report text appear at the end of this appendix.

## FEDERAL HOME LOAN BANK OF DES MOINES

907 WALNUT STREET  
DES MOINES, IOWA 50309  
515/243-4211

June 18, 1990

Mr. Richard L. Fogel  
Assistant Comptroller General  
United States General Accounting Office  
Washington, D.C. 20548

Re: Draft Report Entitled "Government-Sponsored Enterprises; Government's Exposure to Risks"

Dear Mr. Fogel:

As Chairman of the Federal Home Loan Bank Presidents' Caucus, I appreciate this opportunity to provide the comments of the Federal Home Loan Banks ("Banks") to the General Accounting Office ("GAO") draft report entitled "Government-Sponsored Enterprises; Government's Exposure to Risks" ("Report"). The comments set forth below are separated into several sections -- one with general comments, one with specific comments respecting particular pages of the Report, and two attachments -- one with merely technical comments and one with new membership data.

### GENERAL COMMENTS

As an initial matter, the Banks wish to emphasize the various characteristics of the Bank System which distinguish it from certain of the other government-sponsored enterprises ("GSEs") and which minimize any undertaking of risk by the Banks. The Banks make loans to their members with recourse and secured by low-risk eligible collateral. Such loans are generally priced under a match-funding methodology with appropriate prepayment fees. The Banks are thus able to virtually eliminate both credit and interest rate risk. Further, the Banks have over eight times as much capital as certain of the other GSEs and have historically held more capital than most other financial institutions of comparable size. The Banks are able, therefore, to fulfill their mission to fund economical home finance in an effective and financially prudent manner.

Additionally, the Banks believe that their primary tie to housing finance has been enhanced with the passage of the Financial Institutions Reform, Recovery and Enforcement Act of 1989 ("FIRREA"). FIRREA expanded the types of institutions eligible for Bank membership to include certain other depository institutions engaged in long-term residential finance, such as commercial banks and credit unions, while continuing the eligibility of thrifts and insurance companies. Thus, while the shrinkage of the thrift industry is of concern to the Banks, thrifts and now other depository institutions continue the link between the Banks and home finance.

See comment 1

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Comments From the Federal Home  
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FEDERAL HOME LOAN BANK OF DES MOINES

Page 2

SPECIFIC COMMENTS

Now on p. 2

On Page 3, we recommend that the second sentence of the second paragraph be modified to read as follows: "To varying degrees and extents, these enterprises make loans, buy loans from other lenders, and guarantee financial products." By way of explanation, the sentence currently seems to indicate that all of the GSEs, including the Banks, engage in each of the activities described in that sentence.

Now on pp. 5 and 99.

On Pages 10 and 168, the Report indicates that it is premature to assess the effectiveness of the regulation of the Banks. FIRREA provides that the Federal Housing Finance Board ("FHFB") succeeds to the authority of the Federal Home Loan Bank Board ("FHLBB") with respect to the Banks. As such, we believe that Congress intended the FHFB to exercise its oversight function of the Banks in a manner similar to that of the FHLBB. To date, the FHFB has chosen to continue without interruption many of the policies and regulations which its predecessor, the FHLBB, promulgated concerning Bank operation and governance. In light of a record of regulatory continuity spanning nearly sixty years and in light of the strong capitalization and financial health of the Banks, we believe it should be possible to assess the effectiveness of the Banks' regulatory structure notwithstanding the FHFB's fairly brief tenure.

Now on pp. 7 and 57.

On Pages 15 and 98, the report notes a risk to the Banks arising from the shrinkage of the thrift industry. As noted above, while the shrinkage of the thrift industry is of concern, the Banks' primary tie is to housing finance rather than the thrift industry alone. As FIRREA expanded the types of depository institutions eligible for Bank membership, the Banks may continue their tie to economical home finance despite the shrinkage of the thrift industry.

Now on p. 18.

On Page 29, the Report notes that GSEs are subject to various federal controls that have no private sector parallels. The Report cites the fact that the President appoints members of the board of directors ("board") of most GSEs as an example of these federal controls. With respect to the Banks, it should be noted that while approximately three-fourths of the members of the board of the respective Bank are elected by shareholders (members), the other board members are appointed by the FHFB. At least two of the appointed members of each Bank board represent consumer or community interests.

Now on p. 43.

On Page 72, the Report cites two measures of credit risk, but these measures are not applicable to the Banks. First, pursuant to the respective Banks' advances and security agreement, most of the Banks may immediately call an advance if a member institution defaults on a payment. Further, after such event of default, the Banks have recourse both to the member itself as well as the underlying collateral. Additionally, it should be noted that members of most of the Banks are prohibited from securing advances at a Bank with collateral which is more than 90 days delinquent. The Banks have never suffered a loss on an advance.

Now on p. 48.

On Page 82, several matters warrant consideration:

a) The Report states that the Banks operate under broad credit policies adopted by the FHFB. It should be noted that the Banks also

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FEDERAL HOME LOAN BANK OF DES MOINES

Page 3

operate under regulations which govern the extension of credit (See. 12 C.F.R. Part 935) and each Bank's board, within the guidelines adopted by the FHFBL, establishes a credit policy for the respective Bank.

See comment 2.

b) With respect to credit risk exposure on interest rate swaps, the Banks' credit risk on the exchange of interest payments on fixed/floating interest rate swaps with members, is fully secured by low-risk collateral equal to a certain percentage of the notional amount of the swap; and basis (floating/floating) interest rate swaps with members are also secured in accord with the credit risk presented by the swap. In addition, most of the Banks have more stringent requirements to limit nonmember counterparty risk than those established by the FHFBL. For instance, certain of the Banks require nonmember counterparties rated below "AA" by the major rating agencies to agree to deliver collateral should the counterparty's capital fall below a prescribed level. The Banks, therefore, assume minimal credit risk in swap transactions.

See comment 3.

c) Contrary to the Report, the Banks did not avoid default losses on advances during the thrift crisis because the Federal Savings and Loan Insurance Corporation ("FSLIC") "typically paid off the advance and took responsibility for liquidating the collateral when regulators closed a thrift." The Banks have never liquidated collateral in order to cure a borrower default on an advance because the Banks have always had sufficient collateral value to ensure that it was in a receiver's best interest to pay off advances and acquire the collateral. Further, FSLIC receivers did not liquidate collateral in order to repay an advance, but rather FSLIC receivers repaid Bank advances and took a reassignment of the collateral securing the advances, which collateral FSLIC receivers may subsequently have liquidated for greater value than the advances repaid.

d) The statement that "FHLBs collect repayment before a failed thrift's other creditors" is not fully accurate. Pursuant to Section 10(f) of the Federal Home Loan Bank Act ("Bank Act"), the Banks have priority over all other creditors of a failed thrift with an exception for those having a priority interest under otherwise applicable law and for those who are actual bona fide purchasers. As a practical matter, receivers of failed thrifts generally repay advances in order to obtain the collateral securing such advances, which collateral often comprises the most marketable assets of the failed thrift.

Now on p. 58.

On Page 99, several matters warrant consideration:

a) Statements regarding the likelihood that the Bank System "could be required to make further contributions to the [thrift], rescue" can only be conjecture at this point in time. Furthermore, such statements contradict the recent Congressional testimony of Secretary of Treasury Brady indicating that the Bank System will not be called upon to further fund the thrift bailout.

b) The reference to the proposal of the Dallas Bank to participate in thrifts' loans to developers should be deleted as it is not indicative of the current risks facing the Bank System; furthermore, the proposal has not, as yet, received the approvals necessary prior to implementation. None of the other Banks has endorsed this proposal.



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FEDERAL HOME LOAN BANK OF DES MOINES

Page 4

Now on p. 99.

On Page 171, the Report notes that the Banks do not presently operate under risk-based capital guidelines. However, it should be noted that Banks are only authorized to make investments in low-risk instruments or obligations (12 U.S.C. § 1431(h)), and to make loans to their members fully secured with low-risk collateral (12 U.S.C. § 1430(a)). Such loans, being over-collateralized (collateral with a market value in excess of the principal amount of the outstanding loans granted to a member is pledged to the Bank to secure the loan) pose minimal risk to the Banks as reflected by the fact that no Bank has ever suffered a loss on a loan.

Now on p. 99.

The meaning of the first paragraph on Page 172 is unclear. That paragraph apparently states that the 12:1 debt-to-capital ratio (hereinafter "leverage ratio"), applicable to the issuance of certain consolidated obligations of the Banks, does not appropriately address interest rate risk of the Banks. Further, the Report states that the statutory prohibition on the extension of advances to any member in excess of 20 times the member's Bank stock does not adequately address the credit exposure of each Bank.

See comment 4

The Banks agree that the leverage ratio, which was first adopted in 1946 and never revised since that time, is not an appropriate measure of the default risk of the Banks. As the GAO and federal financial institutions regulators indicate, the default risk of a financial institution should be measured by the interest rate and credit risks associated with asset deployment, rather than by the relative split between debt and equity in the capital structure. Thus, the leverage ratio is an inappropriate constraint which may result in the ineffective use of Bank capital. Nevertheless, it should be noted that because the Banks use a match-funded methodology to price their advances and also employ sophisticated and extensive hedging techniques, the Banks assume only minimal, if any, interest rate risk. Additionally, it should be noted that the leverage ratio is only applicable to consolidated Bank debt issued under Section 11(c) of the Bank Act. Currently Section 11(c) debt is the only type of Bank debt outstanding. However, pursuant to Section 11(a) of the Bank Act, each individual Bank is authorized, with the approval of the FHFBS, to issue individual Bank debt not subject to the leverage ratio.

With respect to the credit risk exposure of the Banks, it should be noted that Bank stock is not the primary collateral for Bank advances; rather such advances are required to be fully secured by the types of eligible collateral (other than Bank stock) set forth in Section 10(a) of the Bank Act. Thus, Bank stock only serves as a secondary source of security for an advance. Additionally, the credit policies adopted by each Bank's board may further eliminate any credit risk by distinguishing between the credit risk inherent in advances to different members. For instance, certain of the Banks assign a lower collateral value to collateral located in economically distressed regions, or to collateral pledged by financially troubled members. These policies, in addition to the full collateralization of advances with recourse to the member, result in the virtual elimination of credit risk for the Banks.

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Comments From the Federal Home  
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FEDERAL HOME LOAN BANK OF DES MOINES

Page 5

This report clearly involved extensive effort on behalf of the GAO staff. I would like to thank you, on behalf of all of the Federal Home Loan Banks, for this opportunity to comment on the Report and we hope our comments will be helpful in the preparation of the final report. Please call me if you have any questions or would like to further discuss any of these comments.

Very truly yours,



Thurman C. Connell  
Chairman  
Bank Presidents' Caucus

Attachments

cc: FHLB Presidents

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The following are GAO's comments on the Federal Home Loan Banks' June 18, 1990, letter.

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## GAO Comments

1. We modified the report to clarify that an FHLB official said that interest rate swaps are collateralized.
2. We modified the report text to clarify that FHLB officials said that, because of the collateral backing advances made to thrifts, the receivers for failed thrifts have repaid the advances and assumed ownership of the collateral.
3. In chapter 2, we describe the credit risk management practices of the FHLBS. We describe how advances are over-collateralized and how the FHLBS have never suffered a loss from a loan default.
4. We do not agree with the FHLBS' interpretation of our report text concerning the FHLBS' required debt-to-capital ratio and stock requirement. We do not mean to judge the adequacy of these standards. The report text simply points out that the standards use fixed percentages that are not based on any empirical evaluation of credit or interest rate risk. The report notes that FHLBS operate on an asset and liability maturity-matched basis and that credit risk is small.

We agree that it is possible for individual banks, with FHFB's approval, to issue debt not subject to the debt-to-capital ratio. However, such debt has never been issued in the past. Should an individual bank request to issue such debt in the future, we would expect FHFB to take appropriate actions to ensure the overall safety and soundness and capital adequacy of the bank.

# Comments From the Department of Housing and Urban Development



THE UNDER SECRETARY  
U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT  
WASHINGTON, D.C. 20410-0050

June 6, 1990

Mr. Richard L. Fogel  
Assistant Comptroller General  
General Government Division  
U.S. General Accounting Office  
Washington, D.C. 20548

Dear Mr. Fogel:

I am pleased to provide the following comments on the draft report, Government-Sponsored Enterprises: Government's Exposure to Risks:

1. The report draws attention to key public policy issues. For example, HUD agrees that current statutory capital standards ignore the risk associated with off-balance sheet guarantees, lines of business which have become very important for FHLMC and FNMA. The report was not able to reach more definitive conclusions about capital adequacy at this time. No doubt the second report will be a significant contribution to this major issue. In this regard, it is inconsistent and probably misleading to say that capital standards are inadequate while deferring recommendations as to what should constitute adequate capital.

2. The report points toward a regulatory structure for FNMA and FHLMC that would include (a) a "risk-based" capital standard that, like the standards currently applied to banks and thrifts, would have capitalization ratios that vary by risk category of mortgage and would include also a capital standard for the MBSs, and (b) additional monitoring and supervision by a government regulatory agency. The appropriateness of such a structure is presumed but not defended, and the nature of the monitoring and supervision is not made clear.

In your next report I recommend that alternative approaches be considered, especially those that may be more effective. For example, specific standards for duration-matching and other measures to minimize interest rate risk, the use of appropriately conservative underwriting standards to reduce credit risk, and ongoing attention to the agencies' management controls could be identified as elements of a greater oversight alternative to increased capital requirements, since the adequacy of any amount of capital depends on corporate policy in these areas. Such a regulatory standard would be more complicated than a simple formula

Appendix VI  
Comments From the Department of Housing  
and Urban Development

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analogous to the bank and thrift standards. But such an approach might both be more effective in protecting the Government's interest considering the agencies' size and importance, and feasible given that there are only two agencies. In general, the report should more clearly distinguish between regulating thousands of banks or thrifts and regulating one or two large GSEs.

Now on pp 99-100.

3. The report claims that HUD's regulation of FNMA's capital has been "inadequate to alert the government to potential problems" (p. 173). This ignores two major HUD reports on FNMA since 1985 that have documented the thinness of FNMA's capitalization despite compliance with the regulatory capital requirement. In the same context, the GAO report effectively explains how the inclusion of subordinated debt and exclusion of risk from off-balance sheet activities in the statutory definition of capital for FNMA (and FHLMC) make the debt-to-capital ratio an ineffective control over capitalization. With this in mind, I cannot see how the report can say that HUD "has not applied stringent capital rules" to FNMA and FHLMC (p. 11).

Now on p. 6.

4. On the issue of potential conflict between Federal oversight of the agencies' risk-taking and Federal oversight of the agencies' compliance with their statutory public purposes, the report is too quick to recommend separation of oversight functions. Potential conflict between the two dimensions of agency performance may occur. Dividing the oversight responsibilities leaves ambiguous how and where the balance between them is determined.

HUD has substantial capacity to oversee these agencies comprehensively, as evidenced by the following: FIRREA restructured Federal oversight of the housing finance system, vesting important new responsibilities in the Secretary of HUD. The Department has already established a Financial Institutions Regulatory Board to coordinate its various oversight responsibilities and plans to create a new Office of Regulatory Functions to support these efforts. We have the capability for sophisticated modeling of financial risks; our models have been used by the Treasury Department in its analysis of the GSEs. These models exemplify and demonstrate HUD's competence to deal with the financial regulatory issues with which GAO and others are concerned. The forthcoming new HUD reports on FNMA and FHLMC will indicate our planned regulatory approach.

5. The report properly defers conclusions about capital levels and methods of determining them. HUD's studies of FNMA and FHLMC will address these issues, as does the recently-released Report of the Secretary of the

Appendix VI  
Comments From the Department of Housing  
and Urban Development

3

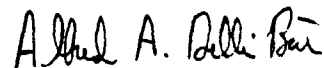
Treasury. It is appropriate to wait until all of these reports are released to consider specific regulatory standards.

6. It is unfortunate that GAO did not attempt to evaluate information provided by the GSEs. Such a verification effort would be appropriate, either before this report is released in final form or prior to next year's GAO report. This is particularly important in regard to capital adequacy. Stress test results, for example, are sensitive to parameter values and assumptions and the sensitivity of the results to these assumptions are as important as the results themselves. Moreover, results based on different assumptions or significantly different methodologies are not comparable.

7. Two minor corrections should be made on page 178: HUD's previous FNMA reports were for 1986 and 1987, not 1986 and 1988 as stated. HUD's next FNMA report will be released this summer and will cover the two years 1988-1989; simultaneously, the first HUD report on FHLMC will be issued, covering 1989. Secondly, please note that the correct title is Assistant Secretary for Policy Development and Research (without commas).

We are pleased to have had the opportunity to comment on this report.

Sincerely yours,



Alfred A. DelliBovi

Now on pp. 102-103.

# Comments From Freddie Mac

Federal  
Home Loan  
Mortgage  
Corporation

Leland C. Brendsel  
Chairman & Chief Executive Officer  
703/759.8500

June 4, 1990

Mr. Richard L. Fogel  
Assistant Comptroller General  
General Accounting Office  
441 G Street, N.W.  
Washington, D.C. 20548

Dear Mr. Fogel:

Thank you for the opportunity to review and comment on the GAO's first of two annual studies of government-sponsored enterprises (GSEs). We enjoyed working with GAO and are happy to receive the GAO's analysis and input concerning Freddie Mac's management of risk.

We are pleased that the report draws several conclusions with which we agree, specifically: that Freddie Mac poses no imminent risk of failure; that each GSE is unique and should be regulated in a manner consistent with its mission, risks and operations; that the risk-based capital rules that apply to depository institutions are not applicable to the GSEs; that Freddie Mac has virtually no interest rate risk; and that its credit risk experience, as measured by default and foreclosure rates, are below the industry averages.

We feel, however, that the following points should have been made:

- (1) Freddie Mac is an extremely strong institution serving an important public mission -- providing stable, affordable credit for housing -- without exposing the government to risk.
- (2) The best way to measure Freddie Mac's capital adequacy is through stress tests tailored to the particular risks Freddie Mac takes.
- (3) Mark-to-market capital is an important tool for risk assessment by both managers and regulators.
- (4) Regulating Freddie Mac is not difficult, since our major risks can be easily monitored.
- (5) HUD has both the ability and enforcement powers to be an effective regulator for Freddie Mac.
- (6) Having separate regulators for program fulfillment and for safety and soundness will create stalemates, conflicts of interest, and inefficiencies in Freddie Mac's operations.

1759 Business Center Drive  
PO Box 4115  
Reston, Virginia 22090

Mr. Richard Fogel  
June 4, 1990  
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FREDDIE MAC STRENGTH AND ITS HOUSING MISSION

We believe the report understates both the financial strength of Freddie Mac and the importance of the public policy mission it serves. Freddie Mac is not simply in "no immediate threat of failure": we are one of the strongest corporations in the country, with one of the lowest levels of risk exposure. We have a 20 year unbroken string of profits, credit losses significantly below the industry average, virtually no interest rate risk, and an extremely high quality mortgage portfolio.

Our current and continued high credit quality is due to a number of factors. We are limited to one line of business - the purchase of high-quality residential loans. Our mortgage-related obligations of \$280 billion are backed by over \$500 billion in American homes. For Freddie Mac to become a liability to the government, the value of these homes would have to drop precipitiously and our market value capital of over \$5 billion would have to be exhausted. This would take a nationwide economic catastrophe worse than the Great Depression.

Such a nationwide depression is extremely unlikely to happen, although it may occur in regional markets from time to time. Our national base of operations insulates us from these regional economic fluctuations. This geographic diversity significantly reduces the chance that we will need to draw on our capital and distinguishes us from other financial institutions.

We believe the report deserves a more fullsome discussion of the missions that the GSEs were created to serve. The duty to fulfill a specific mission brings with it the duty to take reasonable risks. It is inappropriate to discuss Freddie Mac's risks without fully discussing the housing benefits we provide. In the case of housing, there is no doubt that Freddie Mac could reduce its level of risk to a de minimis level by making our standards so strict that we would cease to accomplish our housing mission.

Our efficiency plus our Federal charter allow us to save the homebuyer approximately one-half of a percentage point on the cost of a home mortgage without exposing the government to risk. In addition to this significant savings, Freddie Mac insures that the supply of mortgage credit is uninterrupted, whether the national economy is weak or strong.



Mr. Richard Fogel  
June 4, 1990  
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REGULATING FREDDIE MAC

The GAO discusses that while Freddie Mac is not like a thrift or a bank, the bank supervision model is a useful way to think about how to regulate Freddie Mac. GAO proposes four components of regulation: minimum levels of capital, limits on risk taking, monitoring of performance, and authority to enforce rules. As described in the following discussion, these four principles are consistent with the very principles we use to determine Freddie Mac's capital adequacy and we believe they are effectively in place today.

MINIMUM LEVELS OF CAPITAL AND LIMITATIONS ON RISK TAKING

Capital Adequacy Should Be Measured Through Stress Tests and Market Value Accounting

We agree that a GSE's minimum level of required capital should be tied to the level of risk of the GSE. In this regard, we analyze Freddie Mac using three different stress tests which predict how Freddie Mac would fare in the event of a severe economic disaster. The most important test focuses on credit risk (the Great Depression scenario), and the two others focus on rising interest rates (a credit crunch and a permanent inflation increase). All of these techniques have implied minimum capital standards. Under these stress tests, Freddie Mac survives a major economic disaster for over ten years, and continues to be well-capitalized for even a 600 basis point interest-rate change.

Freddie Mac's stress tests also provide an important and reliable way of monitoring risk taking. They prevent Freddie Mac from taking on risks that will reduce the performance on the stress tests below a level comparable to firms that issue investment grade debt. Stress tests also take into account all of Freddie Mac's risks and how they interact.

In addition to subjecting Freddie Mac to these stress tests, we have recently reported our balance sheet on a market value basis. This approach differs from the traditional historical cost financial statements because our assets and liabilities are valued under current market conditions. GAO states that one of the limitations of market value accounting is that it measures only the liquidation value of a firm and not the going concern value. This liquidation value is the best estimate of the ultimate cost to the government.

Market value accounting is a very useful tool for any financial institution because it provides an assessment of the institution's assets and liabilities at their fair market value, and thus their

Appendix VII  
Comments From Freddie Mac

Mr. Richard Fogel  
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ability to absorb risk. We take a further step and subject this market value balance sheet to interest rate shocks to determine the impact of interest rate swings. This provides us with information concerning our net worth in the event of significant interest rate changes.

To further limit our risks, our charter is a strong backstop, in that it tightly limits our activity to the purchase of high quality residential mortgages.

MONITORING FREDDIE MAC'S PERFORMANCE

Freddie Mac's Risks are Easily Monitored

The credit risk on a nationally diversified portfolio of mortgages is low, well understood, and not subject to quick changes. Monitoring this risk is straightforward.

Interest rate risk can change more quickly and can dissipate market value capital suddenly, but it is also well understood and easy to measure. Freddie Mac, however, largely avoids interest rate risk by financing its mortgages purchases with pass-through securities.

In developing our regulatory relationship with HUD, we are preparing quarterly reports, including results of our stress tests, mark-to-market capital and other data that provide key indicators of risks. Because our risks are measurable and are relatively easy to monitor, this reporting approach will provide HUD with an accurate assessment of Freddie Mac on a timely basis. This fulfills the third component of the bank supervisory model, effective monitoring of performance.

ENFORCEMENT AUTHORITY

HUD Can Be An Effective Regulator With Its Current Tools

The final element of the bank regulatory model is enforcement authority. We believe that HUD has significant authority over Freddie Mac through its general regulatory authority. What is needed is a structure in which to use its authority to limit risk taking, monitor performance and enforce rules, as GAO recommends.

The report asserts that HUD does not have a full range of enforcement powers typically available to bank regulators. These statements are based on the lack of explicit provisions in FIRREA on such matters as cease and desist orders, supervisory agreements, conservatorships, etc.

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Comments From Freddie Mac

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Page 5

We believe that HUD has available to it a wide range of enforcement powers even in the absence of explicit statutory language providing such powers. The 'general regulatory power' that FIRREA grants HUD over Freddie Mac necessarily includes certain implied or inherent powers to take reasonable, appropriate actions to enforce directives issued by the Secretary in the exercise of that power. For instance, if the Secretary were to conclude that Freddie Mac was engaged in an unsafe or unsound practice, we do not doubt that the Secretary could apply to a U.S. District Court for a temporary restraining order and, ultimately, a permanent injunction requiring us to cease and desist from the practice in question.

PROBLEMS WITH DUAL REGULATION

The report proposes that Freddie Mac should have two regulators -- one for program fulfillment and one for financial safety and soundness -- because HUD could have "inherent conflicts between its short-term policy goals and its goals as a financial regulator." This proposal does not withstand close analysis.

First, every government agency that might regulate Freddie Mac's financial condition would suffer from other conflicts of interest at least as severe as HUD's. As a result, dual regulation would not eliminate the conflict of interests that it is intended to address. In the past, various administrative agencies have resisted and opposed actions and innovations necessary to Freddie Mac's accumulation of additional capital and the successful conduct of its business.

For example, if Treasury were to regulate Freddie Mac indirectly through the Office of the Comptroller of the Currency, it could be expected to choose the interests of national banks over those of Freddie Mac. The Office of Thrift Supervision would favor the interests of thrifts. Other possible regulators mentioned have conflicts of interest equally severe. The Federal Housing Finance Board is primarily concerned with the welfare of the Federal Home Loan Banks, which have sometimes been at odds with Freddie Mac. The Federal Deposit Insurance Corporation competes with Freddie Mac as a creditor of insolvent savings and loan associations. All kinds of financial institutions are Freddie Mac customers, and their interests were not necessarily the same as ours.

Second, dual regulation would be an inefficient form of regulation for the GSEs. If HUD and the safety and soundness regulator disagree, the likely result is that the matter will ultimately be escalated to an arbiter who may lack understanding of housing issues. Obtaining approval of important actions from two regulatory entities would take a great deal of time. Meanwhile, key business decisions would go unmade, and opportunities would be lost.

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Comments From Freddie Mac

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Regulatory paralysis presents its own risks, and could ultimately contribute to the financial instability of GSEs by depriving GSEs of the ability to make quick, innovative decisions. The only efficient system is to have a single regulator which is responsible for making decisions on the difficult policy questions presented by GSEs. Multiple layers of bureaucratic supervision will likely serve only to reduce efficiency, with little promise of yielding more effective supervision or better decisions.

The GSEs were created to be market driven and market-sensitive entities. The regulatory objective should be two-fold: to ensure that GSEs are not taking improper or unreasonable risks; and to avoid regulating them so heavily that they are unable to fulfill their public missions, or lose their flexibility to compete in and respond to the marketplace.

For the foregoing reasons and the fact that HUD's mission is to oversee and promote housing in the United States, we recommend that HUD remain the single regulator of Freddie Mac. One avenue to consider is to place the safety and soundness responsibilities in a division of HUD that is separate from the program regulator.

CONCLUSION

Freddie Mac is pleased that the first GAO study has found no evidence that it poses any risk to the Federal government. We believe that the next report should consider a wider range of public policy implications of its recommendations concerning appropriate capital levels and regulatory structure for the GSEs.

As reflected in our letter, we believe that the bank supervision model recommendations outlined in the GAO study are effectively in place for Freddie Mac at the present time.

Again, we appreciate the opportunity to comment on this report. I look forward to next year and the completion of the full study.

Sincerely,



Leland C. Brendsel  
Chairman and Chief Executive Officer

# Comments From Fannie Mae

3900 Wisconsin Avenue, NW  
Washington, DC 20016-2899  
202 752 6770

David O. Maxwell  
Chairman of the Board and  
Chief Executive Officer



June 4, 1990

The Honorable Charles A. Bowsher  
Comptroller General of the United States  
United States General Accounting Office  
441 G Street, N.W.  
Washington, D.C. 20548

Dear Mr. Bowsher:

We welcome the opportunity to comment upon the draft of the initial report prepared by the General Accounting Office to assess for Congress the government's exposure to risk posed by eight government-sponsored enterprises ("GSEs"). Pursuant to the Financial Institutions Reform, Recovery, and Enforcement Act of 1989, the GAO was directed to study the risk-taking and capital of these enterprises. We believe that the GAO has been successful in identifying the risks to which Fannie Mae is subject, as well as the basic elements of Fannie Mae's risk management and capitalization strategy.

We agree with the GAO that Congressional interest in GSEs is warranted in light of their size, the public policy purposes that they serve, as well as the potential for assistance by the Federal government.

As a publicly sponsored private corporation, Fannie Mae has reliably provided mortgage products and services that increase the availability and affordability of housing for low-, moderate-, and middle-income Americans for over half a century. The GAO draft report recognizes well the need to assess GSEs on the basis of their execution of their public policy purposes as well as their risks. Accordingly, Fannie Mae's growth over time should not be viewed merely in terms of size, but also should be assessed in light of the benefits provided to homeowners.

Our portfolio and MBS finance about one out of every seven mortgages in the United States. During 1989 and through the first quarter of 1990, our net new business volume of \$113.6 billion helped more than one million American families purchase homes. The benefits that Fannie Mae provides to American homeowners have

Fannie Mae The USA's Housing Partner

The Honorable Charles A. Bowsher  
June 4, 1990  
Page 2

never cost taxpayers a penny since Fannie Mae became private. In fact, over the last three years we paid some \$908 million in federal income taxes.

The GAO correctly identifies several indicia of Fannie Mae's status as a GSE. Congress designed Fannie Mae's continuing government ties to ensure that we could carry out our special purpose of assuring a ready supply of affordable mortgage credit in all parts of the United States. As the GAO draft observes, the rating agencies and in many cases, creditors, view GSEs in terms of their government relationship, recognizing that they are enterprises sponsored by the government to fulfill statutorily defined public missions and given certain government ties that permit the borrowing of large amounts of money at reduced cost. These cost savings result in lower interest rates to lenders and consumers on eligible mortgages.

Fannie Mae understands the GAO's close scrutiny of our financial performance during the early 1980s. As the GAO correctly notes, during the early 1980s, Fannie Mae was caught in the outdated strategy of borrowing short and lending long at a time of unprecedented interest rate heights and volatility. While our financial difficulties in the early 1980s were noteworthy, it is significant that Fannie Mae's management directed a full recovery without requesting or receiving financial assistance from the government. Indeed, since Fannie Mae became a private corporation, Fannie Mae has never requested the Treasury to exercise its discretionary authority to purchase Fannie Mae's obligations.

Fannie Mae's recovery from the financial difficulties in the early part of the last decade was the result of several management strategies, including development of a new line of business, our MBS; developing new mortgage and debt instruments to better match assets and liabilities and manage interest rate risk; using advanced technology to adapt to the new business environment; and taking steps to improve underwriting and reduce credit risk. Throughout this period, HUD, as Fannie Mae's regulator, was regularly given voluminous and revealing information of Fannie Mae's current status and business plans for a turnaround. Regularly, for most of that time, senior officers of Fannie Mae discussed at length with senior officials of HUD the information provided and its meaning.

The GAO recognizes on page 15 of the draft report that Fannie Mae's exposure to both interest rate risk and serious delinquencies has declined. As the GAO notes on page 64, we have improved our ability to withstand fluctuations in interest rates by more closely matching durations of assets and liabilities. In 1989, debt having callable features constituted around 30 percent of all term debt issued. As the percentage of callable debt increases, the optimal duration gap will approach zero. As evidenced by the record of profits and increase in equity throughout the latter half of the last decade, today Fannie Mae is

The Honorable Charles A. Bowsher  
June 4, 1990  
Page 3

financially strong and profitable. Management has every incentive to ensure that Fannie Mae stays that way because the first layer of risk in our business is borne by holders of our 240 million shares of common stock, listed on the New York Stock Exchange and other exchanges.

Fannie Mae agrees with the GAO's conclusion on page 129 of the draft that "the government has a special interest in achieving public policy purposes" pursued by the GSEs. Fannie Mae's statutory mission directs that Fannie Mae's activity focus on the public policy purpose of assuring a ready supply of affordable mortgage credit. We believe Congress had "an idea that worked" in designing Fannie Mae as a shareholder-owned company to carry out this purpose. We disagree that GSE status creates incentives for management to take excessive risks. The price of Fannie Mae's stock and its cost of debt rise and fall with the company's financial health. Fannie Mae's managers are obviously interested in the long-term health and survival of the institution and, as stockholders themselves, have every incentive to promote its financial well-being.

Fannie Mae has put in place a system of sophisticated risk management tools, which, combined with our publicly stated intention to increase capital by retaining substantial amounts of earnings and increasing loss reserves, is designed to provide a level of capital ample for the risks we take. We intend to add \$2 billion to \$2.5 billion to Fannie Mae's capital during 1990 and 1991. This does not include the \$500 million that could be added to capital through conversion of equity warrants expiring on February 1991.

We have concluded that the appropriate methodology for examining Fannie Mae's capital is to measure our ability to withstand certain "stress tests." In developing these stress tests, we worked with Paul Volcker and others at the firm of James D. Wolfensohn in New York.

The stress test Fannie Mae uses for our credit risk business applies default rates derived from Fannie Mae's experience on Texas loans originated during 1981 and 1982 to our entire book of business in every year and in every state. Because the Texas economy was highly dependent on a single industry, and there was a substantial over-supply of homes, losses similar to Texas's on a nationwide basis are highly unlikely. We use this credit stress test to determine the amount of capital required to remain solvent under such an extreme stress.

In addition to this credit stress test, we use two interest rate stress tests to measure our ability to remain solvent in "worst case" financial environments. The first replicates the interest rate experience of 1978 through 1982, when the United States had the highest average, and most extreme swings, in interest rates in the last 100 years. The second simulates a parallel upward shift in the yield curve of 600 basis points over a twelve month period

The Honorable Charles A. Bowsher  
June 4, 1990  
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starting from November 1989 levels and holds interest rates at that level for four years. The U.S. economy has never experienced such a sustained period of high interest rates. Given Fannie Mae's current balance sheets and net interest margin, our current asset/liability matching position would permit the company to maintain a positive net interest margin even under such an extreme interest rate environment.

Based upon these credit and interest rate risk stress tests, we will attain by the end of 1991 and maintain at a minimum thereafter the following capital ratios: non-recourse credit risk at a ratio of 135:1, recourse and collateralized credit risk at 250:1, interest rate risk on our on-balance sheet mortgages at 50:1, and credit and interest rate risk of our other on-balance sheet assets at 50:1. These capital ratios are designed to meet difficulties in the housing markets and movements in interest rates of a character significantly worse than any experienced over the nation as a whole in the post-World War II period. These ratios also result in an amount of capital that is ample to protect against other types of risk, including management and operations risks and an economic or financial environment even more adverse than envisioned in our stress tests.

Given Fannie Mae's purpose, size, and relationship to the government, we concur that thorough and ongoing regulatory scrutiny is appropriate. The government has both the right and responsibility to understand what we do and our financial condition. We welcome close scrutiny.

Under the applicable regulations, as I have said, we provide substantial information to HUD on a regular basis. Also, as a private corporation whose stock is traded on the major stock exchanges, Fannie Mae publicly discloses large quantities of information quarterly and more frequently as events warrant. Fannie Mae receives intense scrutiny by investors and analysts and in recent years has been the subject of several studies by government agencies. Finally, we are intensively and virtually continuously audited by a large and reputable public accounting firm, KPMG Peat Marwick.

We look forward to working with GAO staff on the 1991 study. We believe the process will make an important contribution to the definition of the issues and the assessment of options.

Sincerely,

*David O. Maxwell*

cc: Richard L. Fogel



# Comments From the Department of Education



UNITED STATES DEPARTMENT OF EDUCATION  
OFFICE OF THE ASSISTANT SECRETARY FOR POSTSECONDARY EDUCATION

JUN 13 1990

Mr. Richard L. Fogel  
Assistant Comptroller General  
United States General Accounting Office  
General Government Division  
Washington, DC 20548

Dear Mr. Fogel:

Thank you for the opportunity to review GAO's draft report, "Government-Sponsored Enterprises: Government's Exposure to Risks," GAO/GGD-90-XX, Dated May 23, 1990.

The Department is in general agreement with the single GAO recommendation. However, we are looking forward to receiving the more specific recommendations which the draft report indicates will be in the final report. Additional technical comments are attached.

We appreciate the opportunity to comment on this draft report.

Sincerely,

A handwritten signature in cursive script, appearing to read "Leonard L. Haynes III".

Leonard L. Haynes III

Attachments

400 MARYLAND AVE., S.W. WASHINGTON, D.C. 20202- \_\_\_\_\_

# Comments From Sallie Mae

STUDENT LOAN MARKETING ASSOCIATION  
1050 Thomas Jefferson Street, N.W.  
Washington, D.C. 20007-3871  
202-298-2600

EDWARD A. FOX  
President and  
Chief Executive Officer

June 8, 1990

Mr. Richard L. Fogel  
Assistant Comptroller General  
Government Accounting Office  
GAO Building Room 3858C  
441 G Street, N.W.  
Washington, DC 20548

Dear Mr. Fogel:

Thank you for the opportunity to review and comment on the draft of your report on Government Sponsored Enterprises: Government Exposure to Risks. We have read the study and compliment you and your staff for the thorough, comprehensive and professional nature of your work. Since we have conveyed technical comments by telephone, I will limit myself here to a few general observations.

First, we trust you are aware that the many statements contained in the report concerning the probability of federal assistance in the event of a GSE failure in and of themselves tend to reinforce the study's conclusion that there is a perception among investors that the federal government will act as a credit backstop for all GSEs. We feel that there is an element of unfairness in the government's willingness to reinforce this view without making the guarantee explicit while at the same time using it as justification for increased regulation.

Second, we are forced to take issue with the proposition that the unquantifiable benefits of "agency status" somehow warrant the application of increased federal regulation. We disagree that Sallie Mae benefits in an economically significant way from its agency status. We believe the "AAA" nature of our balance sheet and the effectiveness of our corporate management by themselves largely support our credit stature in the capital markets. Moreover, it is arguable that the lost business opportunities which result from the limitations imposed on the scope of our business activities more than offset any marginal borrowing cost savings that might be present under certain market conditions on account of our "agency status."

Mr. Richard L. Fogel, GAO  
Page Two  
June 8, 1990

Third, we question the treatment of GSEs as analogous to banks for purposes of federal regulation and oversight. The government's interests in the safety and soundness of the banking sector, including the protection of federal deposit insurance funds and consumer confidence in the monetary system, would seem to be far more pervasive and direct than the interests at stake in protecting investors in GSEs.

Finally, we urge that you carefully consider the wisdom of developing separate risk-based capital rules for each of the different types of GSEs or allowing a federal regulator to create such rules in the absence of agreement on objective standards. After 17 years of exemplary risk management, the imposition of an outside regulator to monitor and evaluate the adequacy of Sallie Mae's capital does not appear justified. With full disclosure of the financial risks undertaken by GSEs, we believe investors are able to make better-informed judgments on investment risk in the context of current market conditions than regulators would under static guidelines.

We thank you for taking note of our views on this difficult and complex subject. The process of working together has been an educational one for us and we look forward to assisting you with the second part of your report.

Very truly yours,



Edward A. Fox  
President and  
Chief Executive Officer

# Comments From Connie Lee

Established by Act of Congress

COLLEGE CONSTRUCTION LOAN INSURANCE ASSOCIATION  
One Westin Center  
2445 M Street, N.W.  
Washington, D.C. 20037  
202/728-3411

Oliver R. Sockwell  
President and  
Chief Executive Officer

June 11, 1990

Mr. Craig A. Simmons, Director  
Financial Institutions and  
Market Issues  
U.S. General Accounting Office  
441 G Street, N.W.  
Room 5251  
Washington, D.C. 20548

Dear Mr. Simmons:

We have reviewed the draft report "Government Sponsored Enterprises: Government's Exposure to Risks" particularly the material contained therein concerning the College Construction Loan Insurance Association ("Connie Lee"). We agree with the representations of Connie Lee contained therein and offer our continued cooperation in the future.

Yours truly,

  
Oliver R. Sockwell

# Comments From Farmer Mac

## Farmer Mac

Federal Agricultural Mortgage Corporation  
Suite 200  
1667 K Street, N.W.  
Washington, D.C. 20006  
(202) 872-7700

June 6, 1990

Richard L. Fogel  
Assistant Comptroller General  
General Accounting Office  
Washington, D.C. 20548

Dear Mr. Fogel:

I would like to open this letter by expressing our appreciation to GAO for providing Farmer Mac the opportunity to review and comment on the revised draft of GAO's report on the study of GSEs. Although we did review the report generally we focussed our comments on the portions of it that specifically related to the Farmer Mac program. I would like to say that we generally found the discussion about Farmer Mac to be fair and accurate. We are pleased with your thoroughness and the objectivity that is reflected in the report.

In the paragraphs that follow, we have made a few minor suggestions about the Farmer Mac discussion that we believe will clarify certain aspects of the report and ask that you consider including our comments in the final version of the report. To facilitate your completion of the report our comments have been keyed to specific page numbers and paragraphs in the report.

Now on p. 20.

**Page 32 --** Change the last sentence in the paragraph at the top of the page to read: "However, Farmer Mac officials said that the authorizing statute for that program does not require SEC registration of any debt securities that it might issue." We believe that the statute is clear on this matter and does not require SEC registration of this type of instrument. We would be pleased to provide a legal interpretation if you so desire.

Now on p. 24.

**Page 39 --** The figure describing the operation of Farmer Mac omits reference to the fact that the securities issued by poolers and guaranteed by Farmer Mac must, by statute, be backed by a minimum ten percent cash reserve or subordinated class of securities. This structure for the Farmer Mac program is a very important element limiting the ultimate risk that Farmer Mac will take in connection with the guarantee it places on the mortgage-backed securities. We believe that this aspect of the program should be specifically identified in the figure.

Now on p. 25.

**Page 41 --** The first full sentence at the top of this page should be revised to read: "Farmer Mac will certify qualified financial institutions to act as poolers under the program. Certified poolers will buy mortgage loans from eligible originators, form loan pools and issue and sell Farmer Mac securities backed by the pools." As written, the report does not mention that poolers will purchase loans and form loan pools to back the securities being issued under the program. Our suggested change clarifies this point.

Appendix XII  
Comments From Farmer Mac

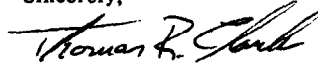
Now on p. 103.

**Page 180 --** The first sentence in the paragraph discussing Farmer Mac states that Farmer Mac does not have any regulatory capital requirements. We agree that there are no "regulatory capital requirements" on Farmer Mac at this time, but believe that the statement as presented does not completely describe the situation with regard to the implicit equity requirements on Farmer Mac resulting from the required senior/subordinated or reserve structure.

More specifically, the statute authorizing Farmer Mac requires that every pool be backed by a cash reserve or subordinated class of securities. This statutory provision creates an equity requirement with respect to each pool that is comparable to a 9 to 1 debt to equity (capital) requirement on Farmer Mac itself. That is, every pool will always be backed by a minimum of 10 percent equity. We believe that this statutory requirement should be factored in to the discussion of the existence of regulatory capital requirements in Farmer Mac's case. In our opinion, the statutory structure thereby creates a minimum of 10 percent equity for Farmer Mac at all times. This exceeds the capital requirements financial regulators, rating agencies and securities analysts use for banks, finance companies and other financial institutions. We would hope that the GAO report could be cognizant of this requirement.

Once again, I would like to thank you for providing us this opportunity to comment on the GAO report. We are pleased with the working relationship that has been developed with your staff and look forward to working with GAO on the second phase of this report. If there is further information that we can provide to you regarding my statements in this letter or if you have any questions about the Farmer Mac program generally, please do not hesitate to contact me by telephone.

Sincerely,



Thomas R. Clark  
Vice President - Corporate Relations

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# Major Contributors to This Report

---

**General Government  
Division, Washington,  
D.C.**

Richard L. Fogel, Assistant Comptroller General  
Craig A. Simmons, Director, Financial Institutions and Markets Issues  
Suzanne J. McCrory, Project Director  
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Edward J. DeMarco, Senior Economist  
Christine J. Kuduk, Economist  
Rodney S. Shaffer, Evaluator  
Mark D. Ulanowicz, Evaluator

---

**Accounting and  
Financial Management  
Division, Washington,  
D.C.**

Gregory L. Fletcher, Senior Accountant

---

**Resources,  
Community, and  
Economic  
Development Division,  
Washington, D.C.**

Linda S. Lootens, Evaluator





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