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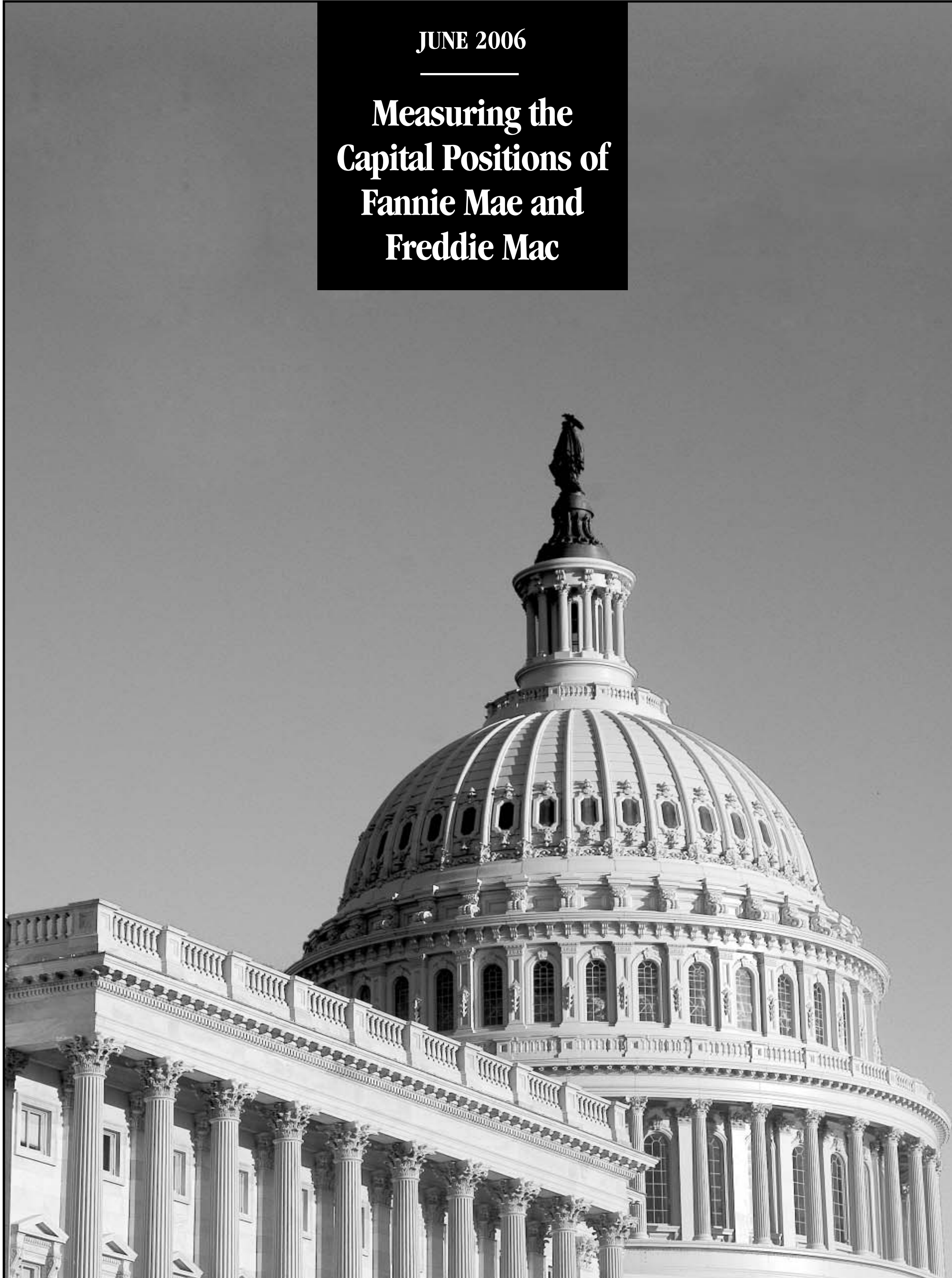

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Measuring the Capital Positions of Fannie Mae and Freddie Mac

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Preface

This Congressional Budget Office (CBO) paper, prepared at the request of the Chairman of the Senate Committee on Banking, Housing, and Urban Affairs, examines the implications for Fannie Mae's and Freddie Mac's capital of a recent proposal by the Financial Accounting Standards Board (FASB). The proposal would allow firms to account for most financial assets and liabilities on a current market (or "fair value") basis. In keeping with CBO's mandate to provide objective, impartial analysis, the report makes no recommendations.

David Torregrosa of CBO's Macroeconomic Analysis Division conducted the analysis under the direction of Marvin Phaup. Eric Wang, formerly of CBO, also made contributions. Andrew Gisselquist assisted with the preparation of the figures, and Linda Lewis Harris assisted with the preparation of the tables.

Douglas Hamilton, Mark Hadley, Arlene Holen, Wendy Kiska, Kim Kowalewski, Angelo Mascaro, Damien Moore, Robert Murphy, Benjamin Page, Robert Shackleton Jr., and G. Thomas Woodward, all of CBO, provided valuable insights. Useful suggestions were also made by Douglas Holtz-Eakin of the Council on Foreign Relations; Deborah Lucas of Northwestern University and a consultant to CBO; Wanda DeLeo, Patrick Lawler, Tom Lutton, Robert S. Seiler Jr., and Valerie Smith of the Office of Federal Housing Enterprise Oversight; Michael Gibson and Wayne Passmore of the Federal Reserve Board; W. Scott Frame and Larry Wall of the Federal Reserve Bank of Atlanta; Ron Feldman of the Federal Reserve Bank of Minneapolis; Wendolyn Comes of the Federal Accounting Standards Advisory Board; Jack Reidhill of the Federal Deposit Insurance Corporation (FDIC); Michael Fratantoni of the Mortgage Bankers Association; and Robert Wilkins of FASB. In addition, staff members of Fannie Mae and Freddie Mac provided information and assistance, as did Jeffrey Mahoney of FASB and Ross Waldrop of the FDIC. (The assistance of external reviewers implies no responsibility for the final product, which rests solely with CBO.)

Christine Bogusz edited the paper, and Loretta Lettner proofread it. Maureen Costantino prepared the report for publication and designed the cover, and Lenny Skutnik printed copies of the paper.

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Summary

Recently, the Financial Accounting Standards Board (FASB) proposed giving firms a broadly applicable option to account for most of their financial assets and liabilities on a fair value basis—that is, using either current market prices or estimates of prices that would be paid were there market transactions. That proposal could affect measures of capital for financial firms, including those whose debt is explicitly or implicitly guaranteed by the federal government, such as insured banks and government-sponsored enterprises (GSEs). Because taxpayers are potentially at risk for losses in GSEs that exceed capital, the federal government specifies minimum and risk-based levels of capital for those institutions. Improving measures of capital could increase the effectiveness of such regulations in protecting taxpayers.

Capital is the net worth of a firm, measured for accounting purposes as the difference between estimates of what the firm owns (its assets) and what it owes (its liabilities). Capital represents the ability of a firm to absorb losses and pay off creditors without external assistance and is thus an important measure of a firm's soundness.

Two of the largest financial firms in the United States are Fannie Mae and Freddie Mac, GSEs for mortgage finance, and both would be affected by changing the rules for capital reporting. Both Fannie Mae and Freddie Mac invest heavily in mortgage-backed securities (MBSs) and use various derivatives as hedges to limit their exposure to changes in interest rates. FASB's proposal would affect the accounting for such hedges. Although Fannie Mae's and Freddie Mac's levels of capital are regulated by the Office of Federal Housing Enterprise Oversight (OFHEO), the capital measures OFHEO uses are based on audited financial statements and thus would be affected by FASB's proposal.

The principal accounting measure of capital is defined by generally accepted accounting principles (GAAP). That measure appears on balance sheets prepared using accounting standards established by FASB. The current GAAP-based measure of capital that the housing GSEs must report on their balance sheets is based on a mix of valuation measures for assets and liabilities. Some measures are reported at fair value, and other measures are reported at historical cost. The GAAP-based measure of capital is also the starting point for developing a measure of regulatory capital, which OFHEO monitors for compliance with federal capital requirements. Summary Table 1 shows the current GAAP-based, regulatory, and fair value measures of capital for Fannie Mae and Freddie Mac.

FASB's proposed accounting change is based on the rationale that fair values for firms' financial assets and liabilities provide more accurate and timely information than measures based on historical cost. In addition, the proposed change would simplify the accounting standards. Simplifying the accounting for hedges would be particularly useful to firms that hold derivative positions, such as Fannie Mae and Freddie Mac. Finally, the proposed fair value option could improve the accuracy and timeliness of reported capital compared with current accounting measures, especially for Fannie Mae and Freddie Mac.

FASB's proposed fair value option does not require that firms use estimated market values for all of their financial assets and liabilities. One reason is that fair values would be difficult for many firms to estimate, especially firms whose financial assets are not traded in active markets. The proposed rule would permit firms to select those balance-sheet items to be reported at fair value, and different firms might choose to apply fair value to different assets and liabilities. However, allowing the enterprises to implement fair value measures selectively could diminish the timeliness and accuracy of capital measures.

Summary Table 1.

Alternative Accounting Measures of Fannie Mae's and Freddie Mac's Capital Ratios

(Percentage of assets)

	2000	2001	2002	2003	2004	2005
Fannie Mae						
Regulatory capital	3.08	3.15	3.16	3.41	n.a.	n.a.
Fair value capital	3.02	2.78	2.41	3.09	n.a.	n.a.
GAAP-based capital	3.09	2.26	1.84	2.22	n.a.	n.a.
Freddie Mac						
Regulatory capital	3.52	3.15	3.85	4.11	4.40	4.46
Fair value capital	3.42	2.84	3.02	3.39	3.87	3.82
GAAP-based capital	3.75	3.06	4.16	3.92	3.95	3.37

Source: Congressional Budget Office based on data from the Office of Federal Housing Enterprise Oversight, Fannie Mae, and Freddie Mac.

Notes: n.a. = not available; GAAP = generally accepted accounting principles.

Fannie Mae will restate its results for the January 2002 through June 2004 period. It has not issued financial statements since the second quarter of 2004.

Freddie Mac's 2005 data have not been audited.

Fair value capital is expressed as a percentage of fair value assets. Other capital measures are expressed as a percentage of GAAP-based assets.

If FASB's fair value option is adopted, OFHEO may wish to consider requiring Fannie Mae and Freddie Mac to use fair value measures for all of their financial assets and liabilities for certain regulatory reporting purposes. That requirement would not be burdensome for Fannie Mae and Freddie Mac because virtually all of their assets and liabilities are traded in active markets. Fannie Mae and Freddie Mac have also disclosed fair value balance sheets since 1992. However, if policymakers decide that OFHEO should use that fair value capital measure as the measure of regulatory capital for meeting minimum capital standards or for triggering prompt corrective actions, then the Congress may need to consider revising the statute that defines regulatory capital.

Increases or decreases in a firm's stock market capitalization can also provide an early signal of financial change, which may provide additional information to OFHEO about the financial health of the enterprises. For that reason, OFHEO may wish to consider using changes in market capitalization as an early warning of GSEs' financial distress.

Measuring the Capital Positions of Fannie Mae and Freddie Mac

Introduction

The Federal National Mortgage Association (Fannie Mae) and the Federal Home Loan Mortgage Corporation (Freddie Mac) are government-sponsored enterprises (GSEs) whose primary purpose is to facilitate the flow of funds from bond markets to retail lenders for home mortgages. The enterprises are private financial institutions. They have special market status, however, because their charters are perceived to imply a federal guarantee of their debt.[1]

Although there is no explicit government guarantee, investors presume that the GSEs' obligations are protected from the risk of default because, in a number of ways, Fannie Mae and Freddie Mac are treated differently from private entities under federal law. The enterprises' securities are exempt from registration requirements under the Securities Act of 1933 and are eligible for unlimited investment by most federally insured banks and thrift institutions. In addition, the GSEs' earnings are exempt from state and local income taxes. The federal government is a potential source of external assistance to the enterprises—each enterprise has a $2.25 billion line of credit at the U.S. Treasury. Moreover, there is a precedent for federal aid to GSEs, such as that provided to the Farm Credit System, a GSE, following the farming financial crisis of the mid-1980s. Furthermore, investors may take into account the policy objective of containing systemic risk—that is, the risk that the failure of a GSE might adversely affect the stability of the financial system and the economy.[2]

Because of investors' perceptions of an implied guarantee, the GSEs are able to issue debt at interest rates only slightly above the rates for Treasury securities and in practically unlimited amounts. The GSEs use their borrowed funds to buy mortgages from lenders. Those mortgages are then either held for investment or converted into mortgage-backed securities (MBSs), which are sold to investors with a guarantee of timely interest and principal payment from the enterprises.[3] Those activities expose the enterprises—and, hence, taxpayers, through the implied federal guarantee—to potential risk. (When the government assumes credit risk, that risk is borne by tax-

1. See Congressional Budget Office, *Federal Subsidies and the Housing GSEs* (May 2001), *Effects of Repealing Fannie Mae's and Freddie Mac's SEC Exemptions* (May 2003), and the statement of Douglas Holtz-Eakin, Director, Congressional Budget Office, *Aligning the Costs and Benefits of the Housing Government-Sponsored Enterprises,* before the Senate Committee on Banking, Housing, and Urban Affairs (April 21, 2005); W. Scott Frame and Lawrence J. White, "Fussing and Fuming over Fannie and Freddie: How Much Smoke, How Much Fire?" *Journal of Economic Perspectives*, vol. 19, no. 2 (Spring 2005), pp. 159-184; and Andreas Lehnert, Wayne Passmore, and Shane Sherlund, *GSEs, Mortgage Rates, and Secondary Market Activities,* Finance and Economics Discussion Series No. 2005-7 (Board of Governors of the Federal Reserve System, January 2005), available at www.federalreserve.gov/pubs/feds/2005/200507/200507pap.pdf.

2. For an analysis of the enterprises' systemic risk, see Office of Federal Housing Enterprise Oversight, *Systemic Risk: Fannie Mae, Freddie Mac, and the Role of OFHEO* (February 2003), available at www.ofheo.gov/media/archive/docs/reports/sysrisk.pdf. Also see Robert A. Eisenbeis, W. Scott Frame, and Larry D. Wall, *An Analysis of the Systemic Risks Posed by Fannie Mae and Freddie Mac and an Evaluation of the Policy Options for Reducing Those Risks,* Working Paper 2006-2 (Federal Reserve Bank of Atlanta, April 2006); and Gary H. Stern and Ron J. Feldman, *Too Big to Fail: The Hazards of Bank Bailouts* (Washington, D.C.: Brookings Institution, 2004).

3. Mortgage-backed securities are created when mortgages are packaged, or "pooled," and sold as securities. The pooled mortgages are generally of the same type (fixed rate or adjustable rate), have fairly similar interest rates, and have the same term to maturity (for example, 15 years, 20 years, or 30 years).

payers or beneficiaries of federal programs.)[4] Some of the financial rewards of the implied guarantee flow through to borrowers in the form of lower mortgage rates, but shareholders and other stakeholders of the GSEs also benefit.

Capital—the difference between the value of a firm's assets and the value of its liabilities—indicates the ability of a firm to survive losses and pay off its creditors without external assistance. Because taxpayers are potentially at risk for losses that exceed the GSEs' capital, the Office of Federal Housing Enterprise Oversight (OFHEO) requires that the enterprises meet specified capital standards (see Appendix A). Compliance with the standards is gauged by the firms' level of regulatory capital, the measurement of which is based on generally accepted accounting principles (GAAP), with some modifications imposed by OFHEO.

A recent proposal from the Financial Accounting Standards Board (FASB) could improve measures of capital and, thus, the measurement of taxpayers' current exposure to risk. That proposal would give firms increased opportunities to report assets and liabilities at fair values rather than historical values. According to the working draft of the proposed rule, "Fair value is the estimated price that would be received for an asset or paid to transfer a liability in a current transaction between marketplace participants."[5] If implemented, that new standard could affect the level of capital reported by all firms, including Fannie Mae and Freddie Mac.

The Role of Capital in Federally Insured Institutions

Capital is an approximate measure of the net worth of a firm, or the value of assets remaining after debts and other liabilities have been paid. It is important to creditors, shareholder-owners, and potentially to taxpayers.[6] Shareholders are the source of equity capital. They provide the initial funds to organize a company and acquire the assets needed for start-up. Over time, retained earnings and new equity issues provide the bulk of equity capital, while creditors contribute funding through the purchase of a company's bonds and other liabilities.

The ratio of a firm's capital to its outstanding assets is important to creditors because capital affects their exposure to credit risk and, consequently, that ratio affects the rate of interest a firm must pay on its debt. Specifically, as capital per dollar of assets increases, the credit risk to bondholders and the required rate of interest on bonds and other debt decreases, although other risk-based factors also affect the required rate of interest on bonds.

For shareholders, the capital of a firm is an indicator of the value of their stake in the enterprise. High ratios of capital to assets may be disadvantageous to equity investors because such high ratios may indicate that the company has not used all of its opportunities to borrow to acquire income-earning assets. If the return on assets is greater than the rate paid on debt, shareholders' income increases with leverage (that is, the ratio of borrowing to equity). But very high leverage, combined with even relatively modest volatility in asset values, can expose owners to the possibility of sharp declines in the value of their entire investment in a firm.

When the federal government guarantees some or all of the liabilities of a firm, capital and unguaranteed liabilities provide a buffer between the firm's potential losses and taxpayers' exposure to risk. Government regulators thus are usually authorized to impose on insured financial institutions minimum and risk-based requirements for the level of capital they must hold. Ideally, the reported measure of capital as defined by those requirements should be as close to the actual, current economic value as is possible.

Alternative Measures of Capital

Capital is measured in several different ways. One key difference among measures is in their use of historical values (the prices paid for assets when acquired or the prices

4. In essence, taxpayers are equityholders in the government's financial activities. See Congressional Budget Office, *Estimating the Value of Subsidies for Federal Loans and Loan Guarantees* (August 2004), p. 4.

5. That definition is subject to revision. All of FASB's definitions of fair value clearly exclude valuations based on fire sales. See Financial Accounting Standards Board, "Statement of Financial Accounting Standards No. 15X: Fair Value Measurements" (working draft, October 21, 2005), paragraph 5, p. 2.

6. For additional analysis of the role of capital, see Edward J. Kane, "Three Paradigms for the Role of Capitalization Requirements in Insured Financial Institutions," *Journal of Banking and Finance*, vol. 19, no. 3-4 (June 1995), pp. 431-459.

Table 1.

Freddie Mac's Simplified GAAP-Based Balance Sheet, as of December 31, 2005

(Billions of dollars, unaudited)

Assets	
Retained portfolio	
Mortgage loans	61.4
Mortgage-related securities	
Held to maturity[a]	0
Available for sale	638.5
Trading	8.9
Other	0.6
Subtotal	648.0
Total retained portfolio	709.4
Cash and investments	67.8
Derivative assets	7.1
Other	21.9
Total assets	**806.2**
Liabilities and Stockholders' Equity	
Liabilities	
Debt securities	748.8
Derivative liabilities	0.6
Other	28.7
Total liabilities	778.1
Minority interests in consolidated subsidiaries	0.9
Stockholders' equity	
Preferred stock	4.6
Retained earnings	31.6
Other	1.1
Accumulated other comprehensive income	
Available-for-sale securities	-2.5
Cash flow hedge relationships	-6.3
Subtotal	-8.8
Treasury stock	-1.3
Total stockholders' equity (GAAP measure of capital)	27.2
Total liabilities and stockholders' equity	**806.2**

Source: Congressional Budget Office based on data from Freddie Mac.

Note: GAAP = generally accepted accounting principles. Numbers may not add up to totals because of rounding.

a. Freddie Mac is temporarily barred from using the held-to-maturity classification.

received for debt when issued) rather than the current actual or estimated market values. Alternative measures may also differ in their treatment of unrealized gains and losses and in the assets and liabilities they include. Those differences have become more noteworthy with the implementation of FASB's accounting standard for derivatives in 2001.

For Fannie Mae and Freddie Mac, three accounting measures of capital are relevant to an assessment of FASB's proposed fair value option: the current GAAP-based measure of capital, regulatory capital, and fair value capital. All three measures aim to report the accumulated net position of a firm on the basis of transactions that have occurred by the reporting date.

In addition to those measures, the market value of outstanding equity shares provides a continuous measure of investors' views of the current value of a firm and of its future performance. Although market participants are influenced by reported accounting information, the market value of a firm is also affected by factors not included in a firm's general-purpose financial statements, including the value of any government guarantee of the firm's liabilities, the value of the firm as an ongoing entity, and the expected results of anticipated future transactions.

The appropriate level and measure of capital depends on the purpose of the measure. This report explicitly views capital and assessments of its adequacy from the perspective of taxpayers who are potentially liable for repaying the debts of the GSEs conditional on the firms' insolvency. From that perspective, capital is the buffer between a firm's losses and costs to taxpayers that protects against unanticipated shocks to the financial position of the GSE. For that purpose, fair value capital defined as the difference between a firm's assets and liabilities, with both valued at observed or estimated market prices, is an accurate and timely measure of the margin of safety. Fair value capital is superior for this purpose to other capital measures that are based on a mix of market values, estimated market values, and historical values. For other purposes, measures of capital other than fair value may be superior, but an assessment of those measures for their intended purposes is beyond the scope of this report.

Current GAAP-Based Capital

The GAAP-based measure of capital (stockholders' equity) reported on a firm's balance sheet is the residual remaining after deducting balance-sheet liabilities from balance-sheet assets. (See Table 1 for a simplified GAAP-

Table 2.

Comparing Accounting Treatments Under Different Measures of Capital

Balance Sheet Entry	Measure of Capital		
	GAAP-Based	Regulatory	Fair Value
Mortgage-Backed Securities			
Held to maturity	Historical cost	Historical cost	Fair value
Available for sale	Fair value	Historical cost	Fair value
Trading	Fair value	Fair value	Fair value
Debt Obligations	Historical cost	Historical cost	Fair value
Derivatives	Fair value	Fair value	Fair value
Fair Value Hedges	Fair value[a]	Fair value[a]	Fair value
Cash Flow Hedges	Fair value[a]	Historical cost	Fair value

Source: Congressional Budget Office.

a. Fair values are permissible only if those hedges are "highly effective."

based balance sheet for Freddie Mac.) Under current standards, GAAP-based valuations of assets and liabilities are based on a mix of historical cost and fair values (see Table 2). Historical values are used because GAAP is largely transactions-based. That is, the accounting system records and uses the prices at which transactions were conducted. That method has the advantage of using information that is verifiable. But historical measures of the value of assets and liabilities may not be reliable indications of current value, which is the relevant measure for investors, creditors, and regulators. Another feature of GAAP is that some unrealized gains and losses from changes in the market value of assets or liabilities are reported in income and capital, but others are not recognized until they are realized.

GAAP-based balance sheets do not include all potential claims and obligations of a reporting firm. For example, obligations that may arise in the future from credit guarantees issued by a firm are not liabilities. Rather, they are regarded as contingent claims and reported in notes to the financial statements. That treatment is significant for Fannie Mae and Freddie Mac, which have more than $2 trillion in guaranteed mortgage-backed securities outstanding. Those securities are contingent claims.[7]

Regulatory Capital

Regulatory capital is defined in specific laws and regulations. (See Appendix A for regulatory capital requirements for Fannie Mae and Freddie Mac.) Regulatory capital may differ from the GAAP-based measure of stockholders' equity. For Fannie Mae and Freddie Mac, regulatory capital excludes some gains and losses from changes in market prices on assets that have not yet been realized by the sale of those assets.[8] Thus, the enterprises' regulatory capital currently relies less on fair value measures than GAAP-based capital does.

Regulatory capital for Fannie Mae has exceeded GAAP-based capital since 2001 because the firm's GAAP-based

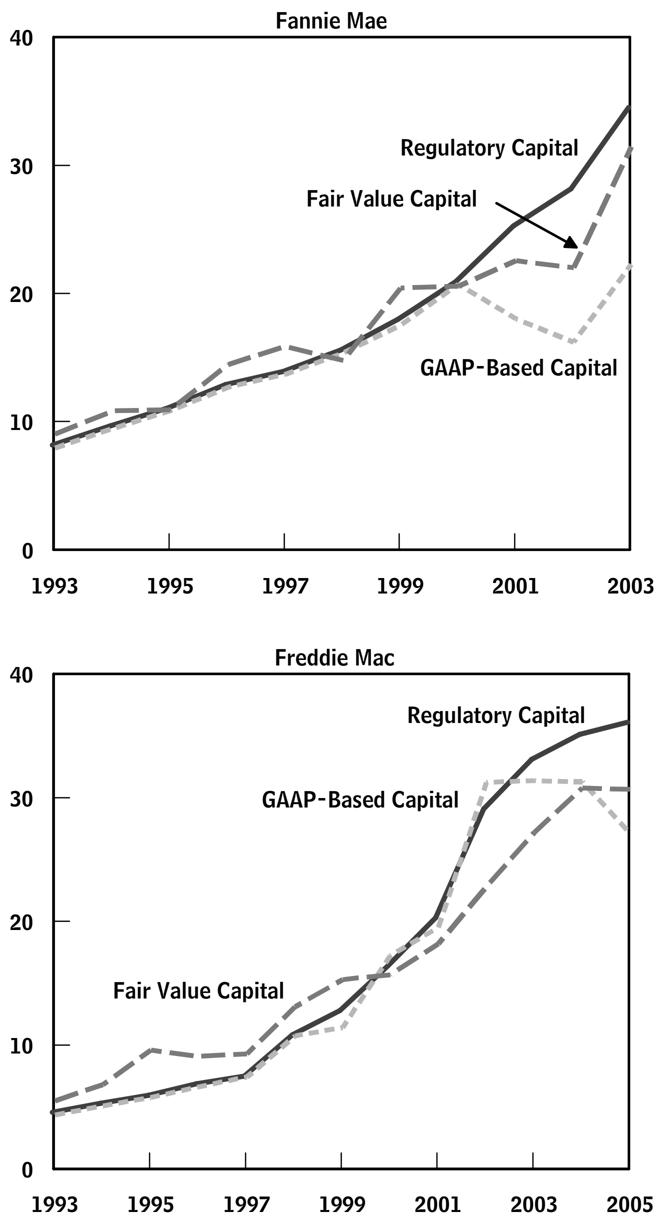
7. Even though the volume of outstanding guarantee commitments does not directly affect the GSEs' reported liabilities and capital, the minimum capital regulations require Fannie Mae and Freddie Mac to hold 45 cents of additional capital for each $100 of outstanding guarantee commitments.

8. Specifically, regulatory capital excludes a component of GAAP equity known as "accumulated other comprehensive income" (AOCI). That component of equity capital accounts for unrealized gains and losses on MBSs that are classified as "available for sale" and cash flow hedges (both discussed in the main text of the paper) that are reported first on the balance sheet and then flow through to the income statement in later periods. The AOCI balance can be positive (net gains) or negative (net losses). However, regulatory capital includes some unrealized gains and losses on derivatives and securities classified as "trading."

Figure 1.

Fannie Mae's and Freddie Mac's Capital Positions

(Billions of dollars)



Source: Congressional Budget Office based on data from Fannie Mae, Freddie Mac, and the Office of Federal Housing Enterprise Oversight.

Note: Fannie Mae is restating its income and capital for the 2002–June 2004 period and has not yet issued financial statements for subsequent periods. Freddie Mac's 2005 data have not been audited. GAAP = generally accepted accounting principles.

capital, on balance, has recognized more unrealized losses than gains (see the top panels of Figures 1 and 2). However, Fannie Mae's upcoming restatement of income and capital could change that pattern.[9] For Freddie Mac, regulatory capital has been greater than GAAP-based capital in four of the past six years (see the bottom panels of Figures 1 and 2).[10]

Fair Value Capital

FASB requires firms to disclose where practical the fair value of their financial assets and liabilities. Fannie Mae and Freddie Mac have gone further than most firms have done by disclosing fair value balance sheets since 1992.[11] In principle, fair value accounting attempts to measure all financial assets and liabilities at actual or estimated market values, thus providing a more current value of capital

9. Fannie Mae is restating its results for the January 2002-June 2004 period. In addition, the firm has stated that its previously audited financial statements issued for 2001 are unreliable but are not being restated. Both income and capital will be affected by the restatements, which must be completed before Fannie Mae can resume issuing its quarterly and annual statements on a current basis. Fannie Mae currently expects to recognize net cumulative after-tax losses of $10.8 billion as of December 31, 2004. (That estimate is subject to change as a result of its continuing accounting review.) No restatement is expected prior to the second half of 2006. See Fannie Mae, "Form 12b-25 Notification of Late Filing with the Securities and Exchange Commission" (March 13, 2006), p. 8-14, available at www.fanniemae.com/media/pdf/newsreleases/W18441_1621_E2.pdf. Since that report was issued, Fannie Mae has uncovered additional accounting errors, but it has not updated its estimated loss. See Fannie Mae, "Form 12b-25 Notification of Late Filing with the Securities and Exchange Commission" (May 9, 2006), p. 7-8, available at www.fanniemae.com/media/pdf/newsreleases/W20890_2156_C_sub.pdf.

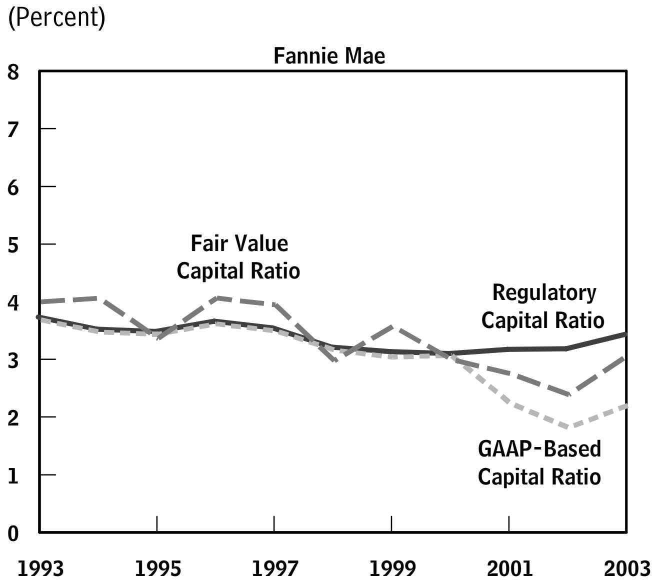
10. Freddie Mac has completed its restatement for 2000 through 2002. In that restatement, income was increased by a net cumulative amount of $4.4 billion for 2000, 2001, and 2002, and $0.6 billion for periods prior to 2000. Regulatory capital increased by $1.8 billion in 2000, $0.8 billion in 2001, and $5.2 billion in 2002. GAAP-based capital was also up, by $6.7 billion in 2002. See Freddie Mac, "Freddie Mac Announces Restatement Results" (press release, McLean, Va., November 21, 2003); available at www.freddiemac.com/news/archives/investors/2003/restatement_112103.html.

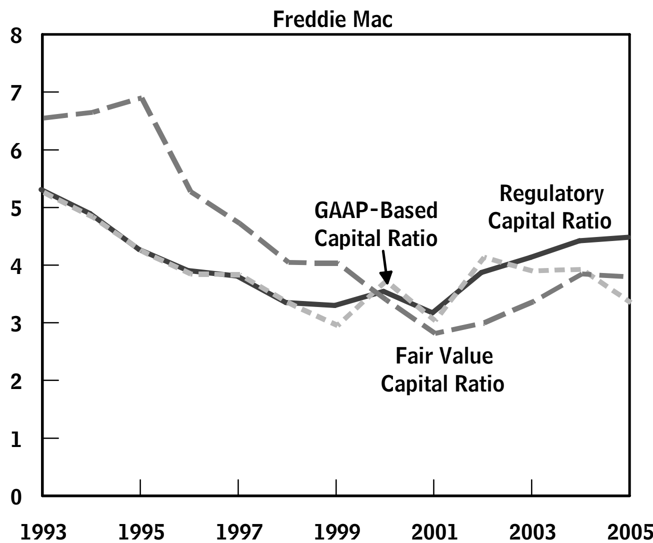
11. Financial Accounting Standards Board, "Statement of Financial Accounting Standards No. 107: Disclosures About Fair Value of Financial Instruments" (Norwalk, Conn.: Financial Accounting Standards Board, December 1991).

Figure 2.

Fannie Mae's and Freddie Mac's Ratios of Capital to Assets

(Percent)





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

Notes: Fannie Mae is restating its income and capital for the 2002–June 2004 period and has not yet issued financial statements for subsequent periods. Freddie Mac's 2005 data have not been audited. GAAP = generally accepted accounting principles. Regulatory capital is defined by the Office of Federal Housing Enterprise Oversight, and its ratio is expressed as a percentage of GAAP-based assets. The fair value capital ratio is expressed as a percentage of the fair value measure of assets. GAAP-based capital is expressed as a percentage of GAAP-based assets.

than is provided by historical values.[12] Doubts about the quality of fair value measures center mainly on their reliability, because managers have some discretion in estimating fair values when price quotes from markets are unavailable.

One of the GSE bills before the Congress would require that the enterprises release fair value statements quarterly.[13] Although Freddie Mac and Fannie Mae issue those statements in their annual reports as notes to their financial statements, only Freddie Mac issues them quarterly. Recent releases have been delayed, however, because of the enterprises' continuing accounting problems.[14] Fair value capital can be above or below GAAP-based capital depending on the net effects of measuring both assets and liabilities at estimated market values. Differences between fair value and GAAP-based capital can be persistent and significant. In recent years, fair value capital has been below regulatory capital (see Figure 1). Moreover, Freddie Mac's fair value capital declined slightly in 2005, but its regulatory capital increased. Sources of volatility in fair value measures of capital include changes in interest

12. The fair value balance sheet reports the capitalized value of expected MBS guarantee fees (minus expected credit losses) on mortgage-backed securities. The value of those fees will change when interest rates and expected mortgage prepayment rates change. In contrast, the guarantee asset (and credit obligation) recognized on the GAAP-based balance sheet represents the present value of the guarantee fees that are expected at inception of the guarantee. On the GAAP-based balance sheet, the asset is recorded as the fee income is received.

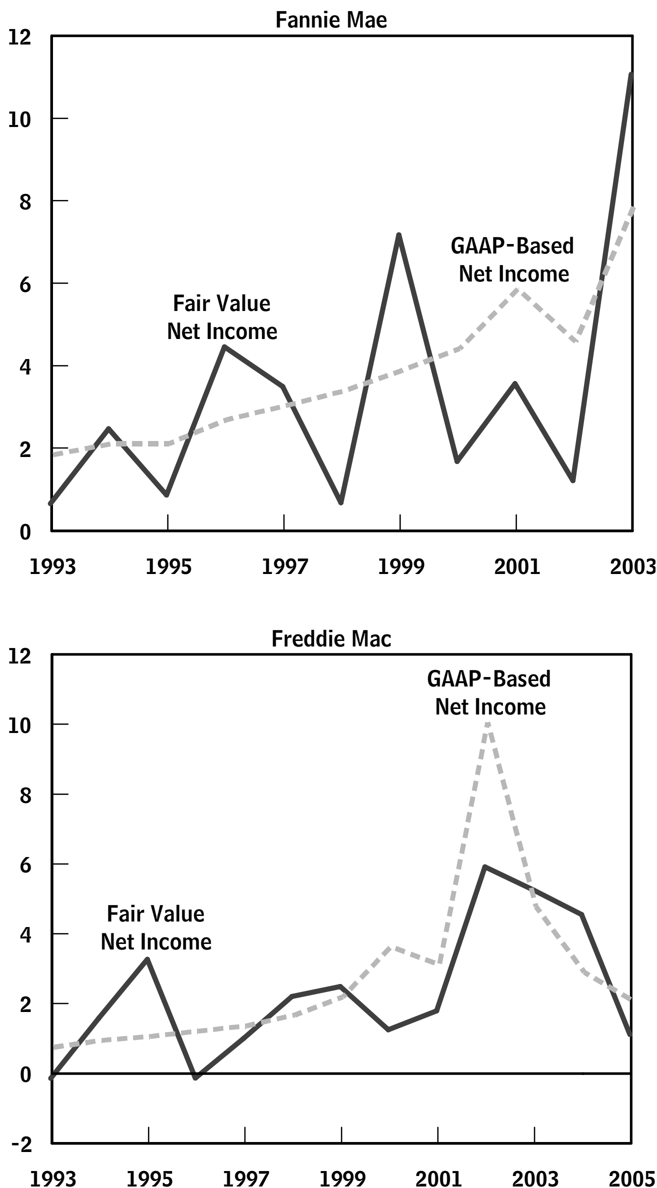
13. S. 190, the Federal Housing Enterprise Regulatory Reform Act of 2005, as approved by the Committee on Banking, Housing, and Urban Affairs (July 28, 2005).

14. Freddie Mac revised its income for the first half of 2005. That revision delayed the release of the year-end statement for 2005 and disclosures of updated fair value balance sheets. See Freddie Mac, "Freddie Mac to Revise Reported Net Income for First and Second Quarters of 2005" (press release, McLean, Va., November 8, 2005), available at www.freddiemac.com/news/archives/investors/2005/20051108_earnings.html. For Freddie Mac's unaudited financial results for 2005, see Freddie Mac, "Freddie Mac Reports 2005 Financial Results" (press release, McLean, Va., May 30, 2006), available at www.freddiemac.com/news/archives/investors/2006/2005er.html. Fannie Mae expects to complete its financial restatement by the end of 2006. See the statement of Daniel H. Mudd, president and chief executive officer, Fannie Mae, before the Senate Committee on Banking, Housing and Urban Affairs, June 15, 2006.

Figure 3.

Fannie Mae's and Freddie Mac's Net Income

(Billions of dollars)



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

Note: Fannie Mae is restating its income and capital for the 2002–June 2004 period and has not yet issued financial statements for subsequent periods. Freddie Mac's 2005 data have not been audited. The fair value net income represents the change in the fair value of net assets adjusted for capital financing activities, including the payment of dividends and the issuance or repurchase of stock. GAAP = generally accepted accounting principles.

rates and mortgage-to-debt spreads, and changes in the fair value of guarantee fees on MBSs.[15]

Estimates of fair value income can be imputed from the change in fair value net position in consecutive statements after adjusting for capital financing transactions, such as payments of dividends and purchases or sales of stock. The fair value income measure is a more consistent and perhaps more relevant measure of income than current GAAP for many firms, particularly financial institutions. Fannie Mae's fair value income for recent years shows more volatility than its reported GAAP-based income, which is being restated; Freddie Mac's fair value income shows less volatility than its GAAP-based income (see Figure 3).[16]

Market Value of Stock

In addition to the accounting measures, the equity markets provide a continuous estimate of the net value of a publicly traded firm (market capital, which is the number of shares of stock outstanding multiplied by the current price). Market capital is a comprehensive estimate of the market's perception of the net worth of a firm, including off-balance-sheet assets and liabilities, intangible assets, and expected future earnings and earnings growth. Changes in the market values of assets and liabilities are incorporated in market capitalization as soon as information becomes available. Because market capitalization is a more forward-looking measure, it will not equal fair value capital.

In the case of Fannie Mae and Freddie Mac, market capitalization also includes the value of the implied federal guarantee.[17] The implied guarantee raises the value of the GSEs' MBS guarantees and, thus, the guarantee fees that the GSEs are able to charge. In addition, the implied fed-

15. For a discussion of these and other factors affecting fair value capital, see Freddie Mac, "Information Supplement" (release, McLean, Va., May 30, 2006), pp. 23-27, available at www.freddiemac.com/investors/infostat/pdf/supplement_053006.pdf.

16. For a similar comparison for commercial banks, see Leslie D. Hodder, Patrick E. Hopkins, and James M. Wahlen, "Risk-Relevance of Fair Value Income Measures for Commercial Banks," *Accounting Review* (April 2006), available at http://papers.ssrn.com/paper.taf?abstract_id=810925.

17. See W. Scott Frame and Lawrence J. White, "Charter Value, Risk-Taking Incentives, and Emerging Competition for Fannie Mae and Freddie Mac," *Journal of Money, Credit, and Banking* (forthcoming).

eral guarantee raises the value of the GSEs' debt and thus generates a wider spread between the rate GSEs pay on their debt and the rates they earn on their assets. The capitalized value of the expected interest rate spread between assets and liabilities multiplied by the projected portfolio volume contributes to the market value of the firms along with anticipated net returns on guarantees of MBSs.

Advantages and Disadvantages of Alternative Measures of Capital

Of the various accounting measures of the GSEs' capital, fair value capital, based on the observed or estimated current market values of assets and liabilities, is potentially the most useful for monitoring the magnitude of the financial cushion that protects creditors and taxpayers. One advantage of fair value capital relative to currently defined GAAP and regulatory capital is that it reflects more accurately in net worth any changes in asset and liability values since assets were acquired or liabilities incurred.

The regulatory measure of capital for Fannie Mae and Freddie Mac—which excludes some unrealized gains and losses—is less up to date than the currently defined GAAP-based measure, and the reporting firm can manage it by timing the realization of gains (or losses) on its holdings of MBSs. For example, selling some securities that have appreciated in value since acquisition while continuing to hold securities that have depreciated in value will increase a firm's regulatory capital, even though the timing of the realization of such gains and losses may be irrelevant to the financial condition of the firm.

Market value is the most volatile measure of a firm's capital. Increases or decreases in that value can provide an early signal of financial change.[18] Because market value is so strongly affected by market expectations, however, there is considerable noise in that measure of capital. In addition, the market value of a GSE includes the value of the implicit guarantee of debt, which increases with financial distress but provides no safety cushion between GSEs' losses and claims on taxpayers.[19] The increasing value of the implied guarantee as a GSE nears insolvency could offset declines in the economic value of its portfolio. A GSE thus could have a larger market value than the market value of its financial assets less debt, as was the case when Fannie Mae was insolvent on a mark-to-market basis in the early 1980s.[20] Partly for those reasons, regulators have traditionally focused on accounting measures rather than market values to determine the net worth of the GSEs.

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18. For example, equity valuations responded to a spike in Fannie Mae's duration gap, which greatly exceeded its target range, in September 2002. (The duration gap measures the difference in the sensitivity of portfolio assets and liabilities to changes in interest rates. The enterprises disclose that information on a monthly basis.) See Deborah Lucas and Robert L. McDonald, "An Options-Based Approach to Evaluating the Risk of Fannie Mae and Freddie Mac," *Journal of Monetary Economics*, vol. 53, no. 1 (January 2006), pp. 155-176. Also see Andreas Lehnert and Wayne Passmore, "Comment on: 'An Options-Based Approach to Evaluating the Risk of Fannie Mae and Freddie Mac,' " *Journal of Monetary Economics*, vol. 53, no. 1 (January 2006), pp. 177-182. For background information on the options-based approach, see Peter Crosbie and Jeff Bohn, "Modeling Default Risk" (white paper, Moody's KMV Company, December 18, 2003), available at www.moodyskmv.com/research/whitepaper/ModelingDefaultRisk.pdf.

19. One analyst estimates that roughly 40 percent to 80 percent of the GSEs' market value is from subsidies provided by their charters. See Wayne Passmore, "The GSE Implicit Subsidy and the Value of Government Ambiguity," *Real Estate Economics*, vol. 33, no. 3 (September 2005), pp. 465-486.

20. Congressional Budget Office, *Controlling the Risks of Government-Sponsored Enterprises* (April 1991), p. 129. That report used estimates from the Department of Housing and Urban Development.

The Effects of the Fair Value Option on Current Accounting Standards

On January 25, 2006, FASB issued a proposal, "The Fair Value Option for Financial Assets and Financial Liabilities."[21] The rule change that FASB proposes would give all firms the option to account for most of their financial assets and liabilities on a fair value basis.[22] Under the proposal, changes in fair value would be recognized in earnings and capital each quarter, which is not consistently required under current accounting standards. For Fannie Mae and Freddie Mac, the proposed change could—depending upon the enterprises' use of the option—increase the use of fair values in their financial reports.[23]

FASB offered several justifications for its proposal.[24] First, fair values for financial assets and liabilities provide more relevant and timely information than historical measures. Second, the proposal would simplify the existing accounting for hedged assets and liabilities, which is highly complex and has contributed to the restatement of earnings by many financial firms, including Fannie Mae and Freddie Mac. Allowing firms to use fair values provides flexibility and avoids imposing fair values on financial assets and liabilities that may be hard to value accurately. Third, the proposal would reduce volatility in income and capital that occurs under current GAAP with its mix of measures and that may not be representative of the economics of the activities. For example, not all economic hedges will qualify for special hedge accounting under current GAAP.

21. Financial Accounting Standards Board, Proposed Statement of Financial Accounting Standards, "The Fair Value Option for Financial Assets and Financial Liabilities Including an Amendment of FASB Statement No. 115" (exposure draft, No. 1250-001, January 25, 2006), available at www.fasb.org. Both Fannie Mae and Freddie Mac submitted comment letters to FASB that support the concept of a fair value option with some suggested changes to the proposal. Those letters are available at www.fasb.org/ocl/1250-001/39110.pdf and www.fasb.org/ocl/1250-001/39195.pdf.

22. The International Accounting Standards Board has a similar standard in place.

23. The proposed fair value option is not as stringent as the current required disclosures under FAS 107, which requires all financial assets and liabilities to be disclosed at fair value where practical in the notes to a firm's financial statements. However, FAS 107 does not apply to GAAP-based balance sheets.

24. Financial Accounting Standards Board, "The Fair Value Option for Financial Assets and Financial Liabilities Including an Amendment of FASB Statement No. 115," pp. 7-8.

How Current Accounting Standards for Fixed-Income Securities Would Be Affected by the Fair Value Option Proposal

Financial Accounting Standard 115 (FAS 115), which governs the valuation of fixed-income securities held as assets, permits three ways of valuing otherwise identical mortgage-backed securities on the basis of management's intent to hold or sell those securities (see Table 2).[25]

- MBSs categorized as "held to maturity" (an indication of intention) are recorded on the balance sheet at historical cost rather than at current fair value. Earnings and capital are unaffected by changes in those securities' fair value.[26]
- MBSs categorized as "trading" are carried at fair value, and changes in their valuation are reflected in income and capital as they occur.[27]
- MBSs categorized as "available for sale," which are typically those the GSEs intend to hold for an unspecified period, are recorded at fair value on the balance sheet. Unrealized (by sale) gains and losses in their fair

25. Financial Accounting Standards Board, "Statement of Financial Accounting Standards No. 115: Accounting for Certain Investments in Debt and Equity Securities" (Norwalk, Conn.: Financial Accounting Standards Board, May 1993).

26. More specifically, securities that are held to maturity are carried at amortized cost—that is, the cost is adjusted over time for the amortization of premiums or discounts paid.

    Fannie Mae and Freddie Mac have temporarily lost use of the "held to maturity" classification because of violations of FAS 115. See Baker Botts, LLP, *Report to the Board of Directors of the Federal Home Loan Mortgage Corporation: Internal Investigation of Certain Accounting Matters, December 10, 2002-July 21, 2003* (July 22, 2003), pp. 35-41; Office of Federal Housing Enterprise Oversight, *Report of the Special Examination of Freddie Mac* (December 2003), pp. 27-29; Fannie Mae, "Form 12b-25 Notification of Late Filing with the Securities and Exchange Commission" (November 10, 2005), p. 6, available at www.fanniemae.com/media/pdf/newsreleases/f12b25111005.pdf; and Paul, Weiss, Rifkind, Wharton, & Garrison, LLP, and Huron Consulting Group, *A Report to the Special Review Committee of the Board of Directors of Fannie Mae: Executive Summary* (February 23, 2006), p. 13, available at http://download.fanniemae.com/execsum.pdf.

27. This category is available for all MBSs regardless of whether management intends to sell them in the near term.

value are not reported on the income statement but are instead reported as a component of stockholders' equity (accumulated other comprehensive income) on the balance sheet (for an example, see Table 1).

FASB's fair value option would not eliminate the three classifications nor require that all financial assets be valued at fair market; it only provides an increased opportunity to do so and thus to value assets more uniformly. If FASB adopts the fair value option, firms will still be able to use the three classifications and apply different valuations to similar assets.

How Current Accounting Standards for Hedges Would Be Affected by the Fair Value Option Proposal

Many firms, including Fannie Mae and Freddie Mac, use financial derivatives to hedge risks (see Appendix B). In 2001, FASB decided that fair value is the relevant measure for derivatives and it imposed FAS 133, which requires that firms report derivatives on a fair value basis on their GAAP-based balance sheet.[28] The hedge provisions in FAS 133 are designed to match the timing of the income effects of the changes in the fair value of the derivative and the hedged position. However, firms can report their hedged debt positions (as distinct from the derivatives) on a fair value basis only if they meet certain requirements. If the position being hedged cannot be reported at fair value, the change in the fair value of the derivative will not be offset by any change in the historical value of the hedged position. In that case, the use of hedges will increase the volatility of the firm's reported income and capital, even though the intent and result may be to reduce risk.

Under FAS 133, the hedged item may be reported at fair value only if the transaction qualifies as a "highly effective" hedge. Specifically, the effectiveness test requires that the offsetting changes in the value of the derivative and the changes in the fair value of the hedged item be in the range of 80 percent to 125 percent at the inception of the hedge. Periodic testing of the hedge's actual effectiveness is also required.

If, for example, the fair value of an interest rate derivative rose by $1 million while the fair value of a debt position being hedged fell by $1.3 million because of a change in interest rates, that hedge would fail to meet the effectiveness test.[29] (The value of the debt fell by more than 125 percent of the change in the value of the derivative.) The derivative would still be reported at fair value (plus $1 million), but the debt issue would have to be reported at its historical cost (no change in value). Fannie Mae and Freddie Mac have both experienced difficulties meeting the requirement that hedges be "highly effective."

The fair value option would give firms the benefits of hedge accounting without imposing the effectiveness test. Instead, the fair value option would allow both sides of the hedge to be reported at fair value without regard to the size of the offsetting effects.[30]

FAS 133 imposed another complication for hedge accounting. It requires firms to hedge individual assets or liabilities one by one, even though the relevant risk is the volatility of the entire portfolio. The GSEs seek to manage their interest rate risk, which can arise from a mismatch in terms to maturity between their mortgage portfolios (assets) and bonds (liabilities) that finance those assets or the prepayment options on their mortgage port-

28. For derivatives, fair value is the replacement value and is determined by discounting projected cash flows to their present value. Before FAS 133, swaps and other derivatives that did not require upfront payment were off-balance-sheet items that firms disclosed in the notes to their financial statements. See Financial Accounting Standards Board, "Accounting for Derivative Instruments and Hedging Activities: FASB Statement No. 133 as Amended and Interpreted—Incorporating FASB Statements Nos. 137 and 138 and Certain Statement No. 133 Implementation Issues as of December 10, 2001" (Norwalk, Conn.: Financial Accounting Standards Board, 2001).

29. The effectiveness test excludes changes in fair value that are not attributable to the risk being hedged. For example, if an entity was hedging interest rate risk, changes in the fair value of the security from changes in credit risk or exchange rate risk would be excluded from the measurement. Moreover, changes in fair value from risks that were not being hedged might not be recognized on the income or balance sheet until realized.

30. If firms used the fair value option rather than existing hedge accounting treatment under FAS 133, then the entire change in the fair value of the hedged position would be reported in their income and capital, not just the change attributable to the risk being hedged. Use of the fair value option, therefore, could result in more volatility in firms' reported income and capital, although that volatility would be more reflective of the economic variability of earnings and capital. It would be a firm's choice to use the fair value option.

folio that are not matched by bond call options.[31] Unexpected changes in interest rates can lead to changes in the market value of the firm's equity unless the portfolio is hedged. Under FAS 133, a GSE can take hedge positions that reduce the risk of its portfolio and then identify an asset or liability that is most correlated with the hedge. But the requirement to match an asset or a liability with a derivative raises the cost of hedging and may limit the type of hedges that can be used. FASB's fair value option eliminates the need for linkages between the derivative and the hedged position and expands the types of hedges that can be used. Thus, the fair value option may lower the firms' cost of hedging.

Implications of the Fair Value Option for the GSEs' Capital Regulation

FASB's fair value option is consistent with the federal objective of maintaining the financial safety and soundness of the GSEs and would simplify some of the more complex features of current accounting procedures for Fannie Mae and Freddie Mac.[32] The proposal could also increase the accuracy and timeliness of Fannie Mae's and Freddie Mac's reported capital while providing an opportunity to improve OFHEO's capital regulation of the enterprises.[33] To achieve the maximum benefit from adoption of the standard, however, OFHEO may need to supplement it with a requirement that Fannie Mae and Freddie Mac apply it to all of their financial assets and liabilities for certain regulatory reporting purposes. Because the definition of regulatory capital is specified in statute, if policymakers decide that OFHEO should use a measure that incorporates fair value, the Congress may wish to alter the statute.

Implications for Fannie Mae and Freddie Mac

Adoption of FASB's fair value option would pose few problems for the enterprises, because nearly all of their assets and liabilities are financial and most trade on organized exchanges. For example, almost 90 percent of Freddie Mac's assets (its mortgage-backed securities, cash, and other investments) and more than 95 percent of its liabilities (its debt issues) trade in liquid markets.[34] Thus, fair values for the debts and securities can be taken from quoted market transactions. Estimates for other holdings, such as mortgages, can be based on comparable transactions in the market.

The fair value balance sheets that the enterprises disclose include the net present value of expected guarantee fees for their existing book of business as an asset and the estimated amounts of guarantee losses as a liability.[35] Those positions, which represent most of the GSEs' credit risk, may be more difficult to value because the enterprises do not buy credit protection and the guarantees are not traded.[36]

Furthermore, fair value estimates of the enterprises' derivatives—a combined $1.5 trillion notional value at the

31. Dwight Jaffee, "The Interest Rate Risk of Fannie Mae and Freddie Mac," *Journal of Financial Services Research*, vol. 24, no. 1 (2003), pp. 5-29.

32. Before the fair value option was introduced, some analysts had advocated using fair value measures for regulatory purposes. For example, see Dwight Jaffee, "On Fannie Mae Accounting" (presentation at the American Enterprise Institute, October 28, 2004). For a discussion of how fair value capital can improve prompt corrective actions by OFHEO, see W. Scott Frame and Lawrence J. White, "Regulating Housing GSEs: Thoughts on Institutional Structure and Authorities," *Economic Review* (Federal Reserve Bank of Atlanta, second quarter of 2004), pp. 87-102. Also see John Barnett, "Accounting Concerns at Fannie Mae" (presentation at the American Enterprise Institute, April 5, 2004).

33. For example, Freddie Mac's restatement of its income had relatively little effect on its fair value balance sheet. That restatement raised its reported fair value net assets from $17.7 billion to $18.3 billion in 2001. In contrast, the value of its GAAP-based capital increased by $4.3 billion in 2001with the restatement. See Freddie Mac, "Restatement Results," Appendix III (November 21, 2003), p. 8, available at www.freddiemac.com/investors/restatement/pdf/appendix3_112103.pdf.

34. Measuring the enterprises' holdings of mortgage revenue bonds on a fair value basis could pose some difficulties. Those bonds are generally issued by state or local housing authorities and the proceeds are used to fund mortgage loans to individuals. Mortgage revenue bonds are highly customized transactions, which once sold at issuance rarely trade in the secondary market. Thus, current market prices may not be available. OFHEO reports that the enterprises held just over $30 billion of mortgage revenue bonds in 2004, but those holdings represent only a small share of their retained portfolios.

35. In contrast, the GAAP-based balance sheet reports the present value of the guarantee fees expected at inception as an asset. The fair value computation does not capture the value of new business that would probably replace the prepayments as they occurred. For those and other reasons, the fair value of net assets is not the market's valuation of the enterprise as an ongoing concern.

36. For an explanation of how market inputs can make valuation of the guarantee assets and liabilities more transparent, see Freddie Mac, "Information Supplement," pp. 26-28.

Box 1.

Tailoring Fair Value Estimates of Derivatives

The Office of Federal Housing Enterprise Oversight's investigation of Freddie Mac's accounting procedures reveals how a firm can reduce the volatility of its earnings by selecting the best interpretation for recognizing its income and expenses from among alternative accounting treatments. The enterprise's estimates of the fair value of its swaptions provide one example.[1] (A swaption allows, but does not require, a firm to trade a stream of payments at a fixed interest rate for payments at a variable rate on the same notional amount of principal over a certain period.)

Where quoted prices for financial instruments are not available, Financial Accounting Standard 107, "Disclosures About Fair Value of Financial Instruments," sets up a hierarchy of valuation methods. To value swaptions, which are not traded on exchanges, generally accepted accounting principles (GAAP) require firms to use standard financial models, with the key inputs based on market transactions. Market estimates of volatility, a key input to the pricing of swaptions, were available from vendors and were routinely used by Freddie Mac for most estimates.

Investigations concluded that in one instance, however, Freddie Mac violated the requirements of the accounting standard by substituting its own assumptions of historical volatility for the market's current reading of volatility for the swaptions. The enterprise did so to reach a predetermined result—namely, to offset a $730 million gain from the transition to Financial Accounting Standard 133, according to the investigations. That manipulation affected the enterprise's GAAP-based and fair value balance sheets. Freddie Mac has taken several steps that are intended to improve internal controls over the valuation of its financial instruments.[2]

1. See Office of Federal Housing Enterprise Oversight, *Report of the Special Examination of Freddie Mac* (December 2003), p. 32; and Baker Botts, LLP, *Report to the Board of Directors of the Federal Home Loan Mortgage Corporation: Internal Investigation of Certain Accounting Matters, December 10, 2002- July 21, 2003* (July 22, 2003), pp. 43-47.

2. See Freddie Mac, *2004 Annual Report*, pp. 22-29 and 97-98, available at www.freddiemac.com/investors/ar/pdf/2004 annualrpt.pdf.

Box 2.

Possible New Disclosures for the GSEs' Fair Value Estimates of Derivatives

If the Financial Accounting Standards Board's fair value option is adopted, the Office of Federal Housing Enterprise Oversight (OFHEO) could enhance the option's usefulness by requiring Fannie Mae and Freddie Mac to disclose how they estimate the fair value of derivatives. Although the disclosures would not prevent the government-sponsored enterprises (GSEs) from "managing" their earnings and capital, they would make it easier for investors and regulators to detect any violations, thereby improving the enterprises' safety and soundness.

OFHEO also could require the GSEs to separate their derivatives whose values are based on models from those whose values can be taken from quotes in liquid markets and from dealers. If the estimates from the models changed because of adjustments to the model or its assumptions, then the GSEs could be required to disclose what the fair value estimates would have been using the previous model or assumptions. When appropriate, regulators also could require that the enterprises justify any changes that they make to their models, and they could verify that the new model better estimates fair value.

end of 2004—generally cannot be taken directly from organized market exchanges and instead must be estimated. Given that latitude, managers may be able to identify only a range of likely values and may have incentives to assign "preferred" values to those items that would smooth reported earnings and capital.[37] According to OFHEO, both Fannie Mae and Freddie Mac had numerous accounting violations largely because management wished to report smooth earnings' growth to investors.[38] (See Box 1 for an example of how Freddie Mac tailored its fair value estimates for certain derivatives under GAAP.) OFHEO could take some steps to guard against that potential, however (see Box 2).

Relative to current GAAP-based balance sheets, fair value balance sheets for the enterprises have advantages as an indicator of financial safety and soundness.[39] The major risk that the enterprises face is interest rate risk, and fair value balance sheets reflect changes in value from interest rate fluctuations more quickly and evenly than any alternative method of accounting. Fair value accounting is also consistent in using estimated market values for both sides of the balance sheet. Consequently, there is no need for special hedge accounting provisions or designations based on management's intent. Although reporting liabilities at fair value could mislead investors in some firms, that drawback is not likely to apply to Fannie Mae and Freddie Mac as long as the implied federal guarantee remains (see Box 3).

Implications for Improved Regulation of Safety and Soundness

For the purpose of improving the safety and soundness of the GSEs, FASB's proposed standard leaves some gaps that could be supplemented by additional changes in statute and OFHEO's regulations. The standard permits firms to choose whether to report fair value on a contract-by-contract basis, meaning that fair values could be used for some holdings but not for others, even when those holdings were similar securities.[40] For example, Fannie Mae and Freddie Mac could choose to account for some MBSs on a fair value basis and others on a historical cost basis. Alternatively, the firms might hedge 60 percent of their portfolio and still report the unhedged portion at historical cost, which would diminish the timeliness and accuracy of the measure of capital and allow the firms to use the standard to manage their reported earnings and capital. If the Congress decides that the fair value capital measure should be used as the measure of regulatory capital for meeting minimum capital standards or for trigger-

37. Misuse and abuse of fair value estimates of energy and other commodity-trading contracts, derivatives, and other investments played a major role in Enron's accounting scandals. For a critique of fair value accounting, see George Benston and others, *Following the Money: The Enron Failure and the State of Corporate Disclosure* (Washington, D.C.: Brookings Institution Press, 2003); and George J. Benston, "Fair-Value Accounting: A Cautionary Tale From Enron," *Journal of Accounting and Public Policy* (forthcoming).

38. Office of Federal Housing Enterprise Oversight, *Report of the Special Examination of Fannie Mae* (May 2006), *Report of Findings to Date: Special Examination of Fannie Mae* (September 17, 2004), and *Report of the Special Examination of Freddie Mac* (December 2003).

39. Joerg-Markus Hitz, *The Decision Usefulness of Fair Value Accounting—A Theoretical Perspective*, Working Paper No. 05/2005 (Cologne, Germany: University of Cologne, Cologne Working Papers on Banking, Corporate Finance, Accounting, and Taxation, July 2005), available at www.wiso.uni-koeln.de/workingpapers/bcfat/2005/04-2005-cologne-wp.pdf. Also see Securities and Exchange Commission, Division of Corporate Finance, Office of Economic Analysis, Office of the Chief Accountant, "Report and Recommendations Pursuant to Section 401c of the Sarbanes-Oxley Act of 2002 on Arrangements with Off-Balance Sheet Implications, Special Purpose Entities, and Transparency of Filings by Issuers" (staff report, 2005), pp. 110-115.

40. Once the accounting decision has been made for a specified contract at initial election, however, it is irrevocable. The rationale for making the decision irrevocable is that changing the election after initial recognition would result in losses or gains in earnings after those losses and gains had occurred. See Financial Accounting Standards Board, "The Fair Value Option for Financial Assets and Financial Liabilities Including an Amendment of FASB Statement No. 115," paragraph A8, p. 10.

Box 3.

Estimating Fair Values for Liabilities

One possible objection to the Financial Accounting Standards Board's (FASB's) fair value option is the counterintuitive effects that credit impairments can have on a firm's balance sheet and income statement.[1] Under fair value accounting, if a firm's creditworthiness declines, the fair value of its debt obligations will also fall. (Investors demand higher yields on impaired debt.) The decline in the value of outstanding debt would boost the firm's net income in the current period—just as a rise in the value of assets raises income, so will a fall in the value of liabilities—which could conceal losses in operating income and make comparisons across firms less meaningful.

One implication of using fair values to estimate liabilities is that a firm's balance sheet could not report negative net worth, because the fair value of its debts would approach zero if the firm had no chance of repaying those debts. (Instead, the firm would report capital of zero.) However, that reporting would correctly reflect the fact that shareholders can lose no more than the capital they have invested in the firm. (That is why a firm's market capitalization cannot drop below zero.)

1. One FASB board member argued that most users of financial statements would not expect deterioration of a firm's own creditworthiness (and the resulting revaluation of its debt securities) to affect its operating performance. See Financial Accounting Standards Board, Proposed Statement of Financial Accounting Standards, "The Fair Value Option for Financial Assets and Financial Liabilities Including an Amendment of FASB Statement No. 115 (exposure draft, No. 1250-001, January 25, 2006), paragraph A 26, p. 15.

Under the fair value option, changes in a firm's creditworthiness would be reflected in the fair values of its liabilities so that the estimates reflect the value that would be observed in a market exchange. However, the fair value proposal also would require firms to disclose the difference between the fair value carrying amount and the principal amount the firm is contractually required to pay, as well as the reasons for the fair value changes in their debts and how those changes affected reported earnings. Thus, users of financial statements, including regulators, would have the relevant information about the relationship between current values and required cash payments.[2]

Reflecting creditworthiness in fair value measures for liabilities may not be particularly relevant for the measure of Fannie Mae's and Freddie Mac's capital. As long as investors perceive an implied federal guarantee on the enterprises' debt, there can be no significant impairment. However, the Office of Federal Housing Enterprise Oversight would need to consider this measurement issue for regulatory capital purposes.[3]

2. Ibid., paragraphs A9-A14, pp. 10-12.

3. The Basel Committee on Banking Supervision concluded that national supervisors should exclude those gains and losses from regulatory capital. See Basel Committee on Banking Supervision, "Supervisory Guidance on the Use of the Fair Value Option for Financial Instruments by Banks" (Basel, Switzerland: Bank for International Settlements, June 2006), available at www.bis.org/publ/bcbs127.pdf.

ing prompt corrective actions, then the Congress may need to consider revising the definition of regulatory capital to require consistent application of the standard to all of the GSEs' financial assets and liabilities.[41] Alternatively, it could give OFHEO the discretion to make such changes. The information provided by those fair value measures would not replace OFHEO's stress tests, which determine risk-based capital.

OFHEO could take additional steps to make fair value measures for Fannie Mae and Freddie Mac more reliable and comparable for purposes of safety and soundness. First, to make the enterprises' balance sheets more comparable, it could provide guidance on measuring fair values for derivatives and guarantee fees and examine the enterprises for compliance. Second, to improve the timeliness of capital reporting, OFHEO could require that fair value statements be released more frequently during periods of economic stress, when losses might escalate. Third, OFHEO could require greater disclosures about the factors contributing to period-to-period changes in the firms' reported capital.

41. FASB's proposal would allow firms to select the fair value option for existing financial assets and liabilities, rather than just newly recognized balance-sheet items. One implication is that firms could select the fair value option for their securities that were available for sale and held to maturity. FASB decided that the reclassification of those securities would result in a cumulative-effect adjustment of retained earnings, and the amount should be separately disclosed. Ibid., paragraph A20, p. 13.

APPENDIX

A

Capital Requirements for Fannie Mae and Freddie Mac

By law, Fannie Mae and Freddie Mac must meet the higher of two regulatory capital requirements: minimum and "risk based." The minimum capital requirement is 2.5 percent of their assets, which largely consist of mortgage-backed securities (MBSs) and whole mortgage loans, plus 0.45 percent of their off-balance-sheet obligations, which consist primarily of credit guarantees on the MBSs sold to investors. The Office of Federal Housing Enterprise Oversight (OFHEO), the federal regulator of the firms' safety and soundness, also requires both government-sponsored enterprises (GSEs) to hold an additional 30 percent capital surplus (above their minimum levels of capital) to protect against the uncertainty that currently surrounds their operating performance. That provision temporarily raises the firms' capital requirements to 3.25 percent of assets and 0.585 percent of the MBSs guaranteed by the GSEs but held by investors.

The risk-based capital standards are intended to ensure that Fannie Mae and Freddie Mac can survive a sustained period of economic distress. The Federal Housing Enterprises Financial Safety and Soundness Act of 1992 specifies that the risk-based capital requirement be calculated to withstand two hypothetical stress tests. Both tests cover a period of 10 years. In one test, interest rates rise by 75 percent over a 12-month period and then remain at that level for the remaining nine years. In the other test, rates fall by 50 percent. In each test, the rate change is generally capped at 600 basis points (6 percentage points). Both tests have a credit risk component: real estate prices fall throughout the country by 11 percent during the first five years of the stress period and then recover to their initial level during the last five years.[1] Fannie Mae and Freddie Mac must hold capital sufficient to survive the worst of those stress tests plus an extra 30 percent of capital to cover operational risk.[2] Under the law, the enterprises are required to hold capital equal to the minimum requirement or the risk-based requirement, whichever is larger.

The risk-based capital requirement has been significantly lower than the 2.5 percent of assets plus 0.45 percent of off-balance-sheet obligations for both Fannie Mae and Freddie Mac since the risk-based standard was adopted in 2002. For example, as of December 31, 2005, Freddie Mac's risk-based capital requirement was $11.3 billion, while its minimum capital requirement was $25 billion (see Table A-1).[3] As a result, the risk-based standard has had no effect on increasing the capital requirements of the two firms.

1. OFHEO determined that rate of decline on the basis of the provision in law requiring a rate observed in an area containing 5 percent of the population with the highest rates of default and credit losses for the GSEs during a period of at least two years.

2. The requirement of 30 percent additional capital for operational risk is a permanent feature of the risk-based standard and thus will not be removed once the uncertainty surrounding the GSEs' accounting ends.

3. Office of Federal Housing Enterprise Oversight, "OFHEO Announces Fourth Quarter 2005 Minimum and Risk-Based Capital Classification for Fannie Mae and Freddie Mac" (press release, Washington, D.C., March 31, 2006), available at www.ofheo.gov/media/pdf/capclass33106.pdf.

Table A-1.

Regulatory Capital Requirements for Fannie Mae and Freddie Mac, as of December 31, 2005

(Billions of dollars)

Requirement	Fannie Mae	Freddie Mac
Minimum Capital	28.46	24.99
Minimum and 30 Percent Surplus	37.00	32.49
Risk-Based Capital	12.64	11.28
Actual Capital	**38.14**	**36.33**

Source: Congressional Budget Office based on data from the Office of Federal Housing Enterprise Oversight.

Notes: Fannie Mae submits estimated financial information because its accounting practices remain under review by OFHEO. The results are subject to revision during its restatement process.

Freddie Mac's capital position is also based on the firm's best estimates of its financial position, as represented by its management. The results have not been audited.

In this table, regulatory capital refers to core capital, which is defined as common stock, perpetual noncumulative preferred stock, paid-in capital, and retained earnings.

Both enterprises currently meet the capital standards because their regulatory capital exceeds both the minimum amount with a 30 percent surplus (required by OFHEO to cover management and operations risk) and the risk-based level.

Many analysts are skeptical of the robustness of the risk-based capital standard, and several proposals before the Congress would allow OFHEO to raise the minimum required level of capital.[4,5] The types of shocks included in the stress tests are narrow in scope, and the tests assume that Fannie Mae and Freddie Mac stop conducting new business at the outset of the stress period.[6] The assumption of no new business is consistent with the stress tests' objective of assessing the GSEs' ability to survive on the basis of what they have done prior to the onset of the stress period rather than what they might do in the future. However, their responses to financial stress will play a significant role in the probability and severity of failure.[7]

Capital's role as a buffer against taxpayers' losses makes declining capital a natural trigger for regulatory intervention.[8] The housing GSEs are subject to specified structured intervention by regulators to avoid insolvency if capital falls below required amounts. OFHEO uses four classifications of capital adequacy: adequately capitalized; undercapitalized (the minimum level of capital is met but the risk-based level is not); significantly undercapitalized (fails to meet both minimum and risk-based levels but meets the "critical capital level" of 1.25 percent of on-balance-sheet assets and 0.25 percent of off-balance-sheet obligations); and critically undercapitalized (no requirements are met).[9] The aggressiveness of the regulatory intervention increases as capital adequacy falls through those classifications. If capital falls below the required minimum, OFHEO can require prompt corrective action, which includes limitations on the growth of the

4. Analysts recognize that risk-based capital tests can be manipulated, or "arbitraged," by the financial institutions in a number of ways that may not be observable. See W. Scott Frame and Lawrence J. White, *Emerging Competition and Risk-Taking Incentives at Fannie Mae and Freddie Mac*, Working Paper No. 2004-4 (Federal Reserve Bank of Atlanta, February 2004), available at www.frbatlanta.org/filelegacydocs/wp0404.pdf.

5. Two bills before the Congress, S. 190 (the Federal Housing Enterprise Regulatory Reform Act of 2005) and H.R. 1461 (the Federal Housing Finance Reform Act of 2005), would give OFHEO the authority to raise the capital standards, although the bills differ considerably in many of their provisions. See Mark Jickling, *Government-Sponsored Enterprises (GSEs): Regulatory Reform Legislation*, CRS Report for Congress RL32795 (Congressional Research Service, updated October 27, 2005).

6. For an analysis of how the risk-based capital test might be strengthened, see Dwight Jaffee, "The Interest Rate Risk of Fannie Mae and Freddie Mac," *Journal of Financial Services Research*, vol. 24, no. 1 (August 2003), pp. 5-29; and Dwight M. Jaffee and Gerd M. Welke, "The Risk-Based Capital Test for Fannie Mae and Freddie Mac" (December 10, 2003, version of a paper prepared for the Allied Social Science Association meeting, San Diego, Calif., January 2004), available at http://faculty.haas.berkeley.edu/jaffee/Papers/JWGSEPaper04.pdf.

7. See Congressional Budget Office, *The New-Business Assumption in the Risk-Based Capital Rule for Fannie Mae and Freddie Mac* (Letter to Paul S. Sarbanes, Chairman, Senate Committee on Banking, Housing, and Urban Affairs, January 3, 2003). Other analysts argue that the new-business assumption would be speculative and could determine whether the enterprises passed or failed the risk-based capital requirement; see General Accounting Office, *OFHEO's Risk-Based Capital Stress Test: Incorporating New Business Is Not Advisable,* GAO-02-521 (June 2002).

8. See George J. Benston and George C. Kaufman, "FDICIA After Five Years," *Journal of Economic Perspectives*, vol. 11, no. 3 (Summer 1997), pp. 139-158.

9. W. Scott Frame and Lawrence J. White, "Regulating Housing GSEs: Thoughts on Institutional Structure and Authorities," *Economic Review,* vol. 89, no. 2 (Federal Reserve Bank of Atlanta, second quarter of 2004), pp. 87-102.

Appendix Box 1.

OFHEO's Powers of Resolution

In ensuring the safety and soundness of the government-sponsored enterprises (GSEs), the Office of Federal Housing Enterprise Oversight (OFHEO) can use its powers of conservatorship, if necessary, to take control of an insolvent firm and attempt to operate it on a financially sound basis. Other regulators of safety and soundness have a more powerful tool at their disposal—receivership.[1] Bank regulators, for example, can appoint a receiver to oversee a failed institution. A receiver has the power to reorganize a bank or liquidate it and pay off creditors on the basis of the priority of their claims under law. With only conservatorship powers, OFHEO lacks the authority to liquidate an enterprise and thus lacks the option of allowing the GSEs' debt holders to incur a loss. That constraint strengthens the perception of an implied federal guarantee. Several proposals before the Congress that would change how the GSEs are regulated would give OFHEO the power to appoint a receiver.[2]

1. See Richard Scott Carnell, "Handling the Failure of a Government-Sponsored Enterprise," *Washington Law Review*, vol. 80 (2005), pp. 565-642; statement of Richard S. Carnell, Fordham University School of Law, *Improving the Regulation of Fannie Mae, Freddie Mac, and the Federal Home Loan Banks*, before the Senate Committee on Banking, Housing, and Urban Affairs (February 10, 2004); and Robert A. Eisenbeis, W. Scott Frame, and Larry D. Wall, *Resolving Large Financial Intermediaries: Banks Versus Housing Enterprises*, Working Paper No. 2004-23a (Federal Reserve Bank of Atlanta, October 2004), also available in *Journal of Financial Stability*, vol. 1, no. 3 (April 2005), pp. 386-425.

2. Two bills before the Congress, S. 190 (the Federal Housing Enterprise Regulatory Reform Act of 2005) and H.R. 1461 (the Federal Housing Finance Reform Act of 2005), address that concern and others. The bills' receivership provisions differ. See Mark Jickling, *Government-Sponsored Enterprises (GSEs): Regulatory Reform Legislation*, CRS Report for Congress RL32795 (Congressional Research Service, updated October 27, 2005).

GSEs' assets, restrictions on their payment of dividends, and required adoption of plans to restore capital. If capital falls below a critical level—about one-half of the minimum amount—OFHEO must classify the enterprise as critically undercapitalized and may place the firm into conservatorship before it becomes insolvent. In that case, a conservator runs the institution as a going concern and attempts to strengthen or restore solvency. (The effectiveness of regulatory intervention may also depend on OFHEO's power to resolve an insolvency; see Appendix Box 1.)

APPENDIX

B

Qualifying for Hedge Accounting Treatment Under FAS 133

One of the rationales behind the Financial Accounting Standards Board's (FASB's) fair value option is to offer firms the benefits of hedge accounting without the complex accounting required by Financial Accounting Standard (FAS) 133. In general, Fannie Mae and Freddie Mac, as well as other large financial institutions, seek to hedge their balance sheets rather than particular transactions, but FAS 133 does not allow portfolio hedging to receive hedge accounting treatment.

If certain requirements, which are fairly stringent, are met, however, FAS 133's special hedge accounting does allow both the hedge and the changes in fair value of the hedged position attributable to the hedged risk to be reported at fair value.[1] Any derivative designated as a hedge must be linked for accounting purposes to a specific asset or liability (or a portfolio of similar assets or liabilities) on the balance sheet (that is, the hedged item) with contemporaneous documentation of the hedged relationship, meaning identification of the hedged item, the hedging instrument, and the nature of the hedge. The hedge must also be "highly effective." Thus, the economics of a hedging relationship may not be reflected in its accounting, which may result in excess volatility in firms' reported income and capital measures.

1. Firms generally do not hedge all of their risks. For example, the hedged risk could be "the risk of changes in the overall fair value of the entire hedged item; the risk of change in its fair value attributable to changes in the designated benchmark interest rate; the risk of changes in its fair value attributable to changes in the related foreign currency risk; or the risk of changes in its fair value attributable to both changes in the spread over the benchmark interest rate with respect to the hedged item's credit sector at inception of the hedge (referred to as credit risk)." See Financial Accounting Standards Board, "Statement of Financial Accounting Standards No. 133: Accounting for Derivative Instruments and Hedging Activities" (Norwalk, Conn.: Financial Accounting Standards Board, June 1998), paragraph 21.

Use of Derivatives and Hedges by Government-Sponsored Enterprises

If Fannie Mae and Freddie Mac hedged their balance sheets perfectly, a change in interest rates would have the same effect on their assets and their liabilities, so their net worth would be unaffected. Although the enterprises do not fully hedge their portfolios against interest rate risk (because doing so would be expensive and would reduce opportunities for profits), they do try to lock in the spreads between the yields on their portfolio holdings and their debt issues for small changes, but not necessarily large changes, in interest rates. (Fannie Mae and Freddie Mac also leave most of their credit risk unhedged.)

Hedging is complicated by prepayment risk on the enterprises' mortgage holdings. When interest rates fall, the market value of fixed-rate securities rises. However, borrowers are more likely to prepay their mortgages when rates fall, so the enterprises may realize no market gains and instead must reinvest the proceeds at the lower rates. Predicting prepayment rates is difficult because borrowers do not always maximize their potential gains.

Fannie Mae and Freddie Mac use a range of derivative instruments—including options, swaptions, and interest rate caps—to help hedge their portfolios. Derivatives are financial instruments whose promised payoffs are derived from the value of something else.[2] Options are the right, but not the obligation, for the holder to buy, borrow, or sell a financial instrument at a stated price in the future.

2. Under its definition of derivatives, FASB also includes a firm's commitments to purchase mortgage loans and purchase or sell mortgage-backed securities. For a general analysis of companies' use of derivatives, see Rene M. Stulz, *Should We Fear Derivatives?* Working Paper No. 10574 (Cambridge, Mass.: National Bureau of Economic Research, June 2004).

For example, the enterprises might use interest rate options to control the cost of future borrowing. Swaptions are the option to trade a stream of fixed-rate interest payments for variable-rate payments on the same notional amount of principal. The enterprises use interest rate caps to limit their exposure to rising interest rates on variable-debt instruments.

Derivatives can also be used to effectively turn short-term debt into long-term debt and noncallable debt into callable debt. Callable debt gives the enterprise the right to redeem the issue at a specific price after a specified date. (Because the call option is embedded in the security, the accounting for callable debt is not changed by FAS 133. Callable debt is generally reported on a historical cost basis.) The enterprises use callable debt as a refinancing tool to offset mortgage prepayments.

Fair Value Hedges

Under generally accepted accounting principles (GAAP), derivatives are always reported at fair value. Fair value hedge accounting under FAS 133 allows the enterprises to also report the position being hedged at fair value on their income statement, so both sides of the hedge are valued in the same way. For example, if a GSE used a pay-fixed, receive-floating interest rate swap to hedge a fixed-rate mortgage, a rise in interest rates would lower the fair value of the mortgage but raise the fair value of the swap.[3] If the hedge was perfect, income and thus capital would be unaffected by changes resulting from interest rate fluctuations.

Cash Flow Hedges

Cash flow hedges smooth income.[4] A cash flow exposure under FAS 133 is the risk that a change in price will cause a change in expected future cash flows. For example, Fannie Mae and Freddie Mac use interest rate swaps to transform short-term debt into long-term debt. (That transformation can allow the enterprises to reduce their funding costs.) Changes in the fair value of derivatives classified as cash flow hedges are initially reported on the balance sheet but not on the income statement because the change in value has not been realized; however, changes in their value flow into the income statement over the life of the hedged transactions to match the timing of the cash flows on the hedged position. If a cash flow hedge was perfect, fair value changes would be offsetting, so that income would be stabilized over the life of the hedge.[5] Without special accounting treatment, the gains and losses on the derivatives would be reported earlier in earnings than the gains and losses on the hedged transactions, which are realized over time.

Testing for Effectiveness

FAS 133's hedge accounting treatment is available only for "highly effective" hedges. Effectiveness measures the extent to which changes in the fair value of a derivative are matched with changes in the fair value or cash flow of a hedged item. The enterprises must test the hedged relationship for effectiveness at the inception of the hedge and on an ongoing basis at least every quarter, unless the relationship meets the requirements of the short-cut method or the critical terms of the hedging instrument and hedged item match such that there will be no question of ineffectiveness in the hedge relationship. FASB did not specify how strong the statistical correlation between the measures needs to be in order to count as "highly effective." According to the Securities and Exchange Commission, the dollar offset ratio between the hedge instrument and the hedged item should range from 80 percent to 125 percent to qualify for hedge accounting treatment.[6] The ineffective portion, or the unmatched amount of the change, must be recorded in earnings. To meet those and other criteria, the enterprises must main-

3. A pay-fixed, receive-floating swap means that the GSE has agreed to pay a predetermined fixed rate of interest on a set notional amount and receive a floating rate of interest tied to a specific index that resets periodically. For example, the GSE and a counterparty—often a money center bank—might agree to swap payments on $10 billion (the notional amount). The GSE also faces risk that the counterparty might default on the swap.

4. Financial Accounting Standards Board, "Accounting for Derivative Instruments and Hedging Activities: FASB Statement No. 133 as Amended and Interpreted—Incorporating FASB Statements Nos. 137 and 138 and Certain Statement No. 133 Implementation Issues as of December 10, 2001" (Norwalk, Conn.: Financial Accounting Standards Board, 2001), p. 187, paragraph 371.

5. Cash flow hedges do not smooth GAAP-based capital. The fair value change in the derivative reported in equity capital generally will not match the cash flow changes of the hedged position in a given period. Regulators, however, exclude the unrealized changes in the fair value of derivatives qualifying as cash flow hedges when measuring capital for the purposes of determining a firm's safety and soundness.

6. Office of Federal Housing Enterprise Oversight, *Report of Findings to Date: Special Examination of Fannie Mae* (September 17, 2004), p. 102.

tain extensive documentation and perform numerous calculations.

The lack of testing for effectiveness by the GSEs has resulted in the enterprises' loss of hedge accounting treatment for most of their derivatives. Fannie Mae asserted that its hedge relationships were perfectly effective due to the matching of critical terms, although investigations determined that in certain instances not all of the critical terms matched. In those instances, Fannie Mae should have reported the ineffective portion in its earnings or abandoned the hedge accounting option.[7]

Asserting effectiveness is particularly problematic in the case of derivatives being redesignated into new hedging relationships. Redesignations of hedges typically occur when firms rebalance their portfolios following interest rate changes. But when the existing derivatives are redesignated, they generally fail to meet an explicit requirement of FAS 133—the derivative must have a fair value of zero when the new hedging relationship is established.[8]

From a risk-management perspective, the GSEs are concerned about how well-hedged their entire book of business is, but FAS 133 requires linking derivatives to a particular security. An internal investigation of Freddie Mac's accounting practices by the law firm Baker Botts concluded that "management believed that FAS 133 should be 'transacted around' because it did not reflect the economic fundamentals of the company's business."[9] The enterprise's basic objection was that the standard required marking the derivatives to fair market value but did not allow the debt that was being hedged to be reported at fair value except under restrictive conditions. In 2004, Freddie Mac discontinued all of its cash flow hedge accounting relationships and a significant portion of its fair value hedge accounting relationships because they failed to meet the effectiveness tests.[10] By allowing portfolio hedging and dropping the effectiveness test, FASB's fair value proposal would be particularly advantageous to the enterprises and other financial institutions.

7. See Paul, Weiss, Rifkind, Wharton, & Garrison, LLP, and Huron Consulting Group, *A Report to the Special Review Committee of the Board of Directors of Fannie Mae* (February 23, 2006), pp. 8-10, p. 102, and pp. 118-128, available at http://download.fanniemae.com/report.pdf. Also see Office of Federal Housing Enterprise Oversight, *Report of the Special Examination of Fannie Mae* (May 2006), available at www.ofheo.gov/media/pdf/FNMSPECIALEXAM.pdf.

8. That requirement is in paragraph 65 of FAS 133. See Office of Federal Housing Enterprise Oversight, *Report of Findings to Date: Special Examination of Fannie Mae* (September 17, 2004), p. 90.

9. Baker Botts, LLP, *Report to the Board of Directors of the Federal Home Loan Mortgage Corporation: Internal Investigation of Certain Accounting Matters, December 10, 2002-July 21, 2003* (July 22, 2003), p. 34.

10. Freddie Mac, *Annual Report* (2004), pp. 30-31 and 199-201.