

**Federal Home Loan Mortgage Corporation**  
**8200 Jones Branch Road**  
**McLean, Virginia 22102**

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## ***This Report of Examination is strictly CONFIDENTIAL***

This Report of Examination (ROE) has been made by the Division of Enterprise Regulation within the Federal Housing Finance Agency (FHFA) and is designed for use in the supervision of the enterprise. This copy of the ROE is the property of FHFA and is furnished to the enterprise examined solely for its confidential use. The contents of this ROE are strictly confidential and may not be disclosed to anyone not directly associated with the enterprise. Disclosure of the ROE or its contents by any of the enterprise's directors, officers, employees, lawyers, auditors, or independent auditors, without authorization by FHFA, will be considered a violation of 12 CFR §1703.8 and subject to criminal penalties under 18 U.S.C. § 641.

The information contained in this ROE is based on the books and records of the enterprise, statements made to the examiners by directors, officers, and employees, and information obtained from other sources believed to be reliable and presumed by the examiners to be correct. The examination is not an audit and should not be construed as such. Neither the examination nor the ROE relieves the directors of their responsibility for providing for adequate audits of the enterprise.

### ***Examination Authority and Scope***

This Report of Examination contains the results and conclusions of FHFA's 2008 annual examination of the Federal Home Loan Mortgage Corporation (called Freddie Mac, or the enterprise) performed under section 1317(a) of the Federal Housing Enterprises Financial Safety and Soundness Act of 1992 as amended (12 USC § 4517(a)). FHFA's annual examination program assesses the enterprise's financial safety and soundness and overall risk management practices. The framework FHFA uses to report examination results and conclusions to the board of directors and Congress is known as GSEER, which stands for *Governance, Solvency, Earnings, and Enterprise Risk* (Enterprise Risk comprises credit, market, and operational risk management).

### **2008 Examination Scope**

In 2008, we dedicated significant resources to analyzing the enterprise's levels and trends in asset quality and their effect on loan loss reserves, earnings and capital adequacy. Once the Director appointed FHFA as conservator, examination activities shifted to monitoring rapidly changing market conditions, management actions and their effect on the enterprise's risk profile and condition.

Other examination activities during 2008 assessed actions of the board of directors, quality of executive management, enterprise-wide risk management and audit functions, accounting estimates and their effect on capital, key model performance, loan delinquency and foreclosure management, counterparty exposure, liquidity and interest

rate risk profiles and risk management practices, the internal control environment, and risks in information technology, data quality, and business continuity.

## Rating

**Freddie Mac's composite rating is *critical concerns*.** Enterprises with critical safety and soundness concerns exhibit severe financial, nonfinancial, operational or compliance weaknesses. Enterprises with this rating require more than normal supervision to ensure deficiencies are addressed. Definitions for all composite ratings can be found in FHFA's *Supervision Handbook*.

FHFA first communicated this rating at midyear, which was a contributing factor to the appointment of FHFA as conservator. The appointment of FHFA as conservator, combined with Treasury financial support, Federal Reserve actions, and new management at the enterprise have stabilized the enterprise's condition. While the critical concerns rating at yearend reflects the fact that the enterprise is not capable of currently operating without government assistance, FHFA also acknowledges the strides the Freddie Mac board, management, and staff have made under conservatorship to help stabilize the enterprise and maintain its ongoing support of the secondary mortgage market.

## Examination Conclusions

The enterprise exhibits critical safety and soundness concerns primarily due to the weak housing market, resulting in severe financial weaknesses that worsened to unprecedented levels during 2008. The combination of certain risk management decisions prior to the conservatorship, coupled with continued financial market deterioration, contributed to net losses and eroded capital. Weakened earnings and market conditions led to difficulties in raising capital and issuing long-term debt, which contributed to the Director's decision to appoint FHFA as conservator.

In recent years (prior to 2008), management expanded product eligibility to include nontraditional mortgage products, particularly Alt-A and interest-only mortgages, which the enterprise categorized as "untested mortgage products." Moreover, the enterprise failed to require originators to adequately assess borrower capacity and suitability. These decisions, coupled with deterioration in the economy and house prices, led to escalating increases in delinquencies, foreclosures and credit expenses, on top of \$53 billion of mark-to-market losses in the private-label securities portfolio.

Market illiquidity significantly increased risks in market risk management. The fragile state of the enterprise long-term debt markets before conservatorship revealed weaknesses in management's liquidity strategies, and the volatility of the mortgage market reduced the reliability of hedging decisions. Uncertain model results led to high realized levels of interest rate risk relative to the enterprise's common economic capital.

Operational risk is a critical concern. Internal control weaknesses continue to require remediation and information technology and related architecture require modernization. The enterprise is largely dependent on a manual internal control environment. Substantial work remains to resolve these issues.

Accounting policies and estimates which are inherently high risk given current market conditions continue to be a significant supervisory concern. Under previous management, we found that the enterprise had taken a less than conservative approach in the application of GAAP, which in our view was not in line with safety and soundness fundamentals with regard to OTTI and the implementation of the fair value option.

### **Financial Performance**

Historically large net losses in 2008 resulted from a confluence of significant fair value losses, escalating credit-related expenses, and a large partial valuation allowance for deferred tax assets. The earnings outlook for 2009 is poor. The enterprise's return to financial health may well require major financial restructuring, given the following factors:

- The likelihood of net losses in the near term.
- The possibility of more losses on the private-label securities portfolio.
- The potential increase in dividend liability from further net losses and unrealized losses on securities, which would increase the senior preferred stock draw.

### **Asset Quality**

The enterprise's credit performance is expected to remain stressed for the next one to two years due to rapidly growing credit losses and the increasing concentrations and exposure to counterparties with declining financial capacity. Management has taken steps to strengthen underwriting standards and other practices to reduce losses. However, these improvements only partially mitigate the increasing losses.

In early 2008, credit risk models substantially under-predicted credit losses. During 2008, key credit applications in guaranty fee pricing and automated underwriting were substantially updated, improving performance. Unfortunately, these improvements came too late, after hundreds of billions of dollars in risky loans had been acquired or guaranteed.

### **Internal Controls**

Improvements in the internal control structure have reduced the likelihood of operational failures relating to the financial reporting process. However, reliance and sustainability of the control environment is challenged by the large number of manual controls. Work remains to improve information technology systems, remediate known control weaknesses and to address the external auditor's comments on the design of internal controls.

PricewaterhouseCoopers did not express an opinion on the effectiveness of internal controls over financial reporting (ICFR) because the enterprise was unable to complete its assessment of the effectiveness of ICFR as of yearend 2008. Without an independent opinion, there is uncertainty about the overall control environment at Freddie Mac.

### **Summary**

The enterprise has: (1) management and a board working with the conservator to stabilize the enterprise; (2) depleted capital but a substantial backstop from the U.S. Treasury; (3) losses from unprecedented credit expenses arising from loan losses and declines in the value of securities; (4) rapidly growing credit losses and the declining financial capacity of counterparties; (5) high market risk from reduced liquidity, interest rate risk limits and significant model risk leading to the need for on-top adjustments in hedging; and (6) heightened operational risk from growing transaction volumes in defaulted loan processing, combined with recent management, and organizational changes.

### **MATTERS REQUIRING ATTENTION**

The following key matters highlighted in this report require strong management and board oversight:

#### **Governance**

- Work in cooperation with the conservator to recruit and retain qualified senior executive officers to ensure that management is strengthened, and ensure appropriate management succession planning.
- Adopt and implement corporate strategies and business plans that reflect the enterprise's conservatorship status as well as the dramatic changes in the enterprise's financial condition and the mortgage finance industry.
- Continue to develop a framework for management reporting to the board that, among other things, draws attention to internal and external conditions that potentially threaten the achievement of approved corporate objectives.

#### **Credit Risk**

- Ensure that weaknesses in the process for determining single family loan loss reserves are addressed under the ownership of an independent risk management function. Specifically:
  - The LLR governance framework should be more structured to fully support the process and methodology.
  - Senior management should implement a process that is more responsive to issues cited by internal audit and enterprise risk.
  - The single-family LLR documentation should be improved so that third-party readers are able to fully understand the mechanics of the methodology.

- Revise current private-label securities policies to provide meaningful, enforceable limits with defined oversight roles and responsibilities for the enterprise risk officer (ERO), improve monitoring of the private-label securities portfolio and develop a risk mitigation plan.

### **Market Risk**

- Revise the liquidity management plan for 2009, along with appropriate policies and procedures, to reflect current market conditions. (Under stress, Freddie Mac could not convert its high quality collateral to cash through repurchase agreements or sales.)
- Improve efficiency and address independence in producing the manually intensive cash management reports.
- Reduce the convexity and volatility Board limits and identify an effective replacement denominator for common economic capital that improves the resulting equity-at-risk metric.

### **Operational Risk**

- Oversee progress in improving core systems and architecture, promptly comply with Section 404 of the Sarbanes Oxley Act, remediate known control weaknesses, address the external auditor's comments on the design of internal controls and continue to making progress in improving data quality.
- Ensure sufficient staffing to allow for the frequent updating of key risk models, pricing models, and the development of loss mitigation/property disposition models.
- Enhance the models used for loss reserving to make them more comprehensive and less reliant on management judgment.

## **Governance**

**FHFA rates governance as *critical concerns*.** This rating reflects the significant challenges faced by the new board of directors and management to address complex governance issues in the midst of significant industry upheaval. The board and management have demonstrated their willingness to address governance issues in a timely manner. However, the complexity of the issues and other complicating factors may impede or delay their efforts.

### **Board of Directors**

The conservator issued orders in November and December 2008 that appointed a new board of directors, established four board committees, and described the board's authorities in conservatorship. The chairman and chief executive officer have worked with the conservator and executive managers to stabilize the enterprise and to implement corrective measures that are intended to restore the enterprise's long-term viability.

However, the enterprise's need to strengthen management and improve its financial condition, along with the prevailing economic environment, poses major challenges to the Board at this juncture.

The enterprise's long-term interests are served by a strong, stable, and deep management team. Consistent with the conservator's delegation of authority to the board, FHFA is committed to working closely with the board to achieve that goal. In addition, given the enterprise's crucial role in repairing and strengthening the mortgage finance industry, the board should ensure that management translates formal and informal guidance provided by the FHFA into actionable business plans and implements those plans.

The board has successfully re-established the committee infrastructure and other processes necessary to fulfill the board's responsibilities, and has made substantial progress in a short period of time. The board should also continue to enhance its practices as appropriate to address the heightened demands of the current environment and enterprise responsibilities.

Given the extreme demands on the board, it is important that management reporting practices draw attention to high-risk, high-impact matters that deserve board attention, and allow the board to make efficient use of its time. In addition, the board plays a crucial role in ensuring the prompt remediation of MRAs and known control deficiencies. Specifically, management reporting should facilitate the board's monitoring of the status of management's efforts to remediate those matters, a process that is well underway.

## **Management**

The enterprise faces significant challenges in its efforts to strengthen management as well as the need to address turnover and the substantial number of vacancies in key officer positions. During the prior twelve months, numerous incumbents resigned or were removed from their positions, including the following: chief executive officer, chief business officer, chief financial officer, treasurer, senior vice president for investments and capital markets, senior vice president for operational risk, and general auditor. While some of these changes were necessary responses to past management problems, turnover and vacancies on this scale create significant disruption in enterprise processes, and contribute to the uncertainties inherent in the enterprise's condition. Further, government limitations on executive compensation could pose further challenges in retaining and recruiting senior executives and other well-qualified managers and employees.

During 2008, FHFA terminated the Consent Order because the enterprise addressed the last remaining issue of separating the chairman and chief executive officer positions. In addition, the enterprise improved processes and met standards in closing its books, enabling its registration with Securities and Exchange Commission.

Corporate policy and risk management practices should be revised as necessary to be consistent with the objectives of the conservatorship, guidance received from the conservator, and related enterprise strategies.

The chairman, chief executive officer, and other enterprise officers have been evaluating and implementing changes to organizational and committee structures, reporting lines, and reporting practices as part of the enterprise's restructuring process..

### **Enterprise Risk Management**

Enterprise-wide risk management is generally effective, with opportunities for improvement. The enterprise's risk oversight framework facilitates an integrated evaluation of market risk, credit risk, operational risk, and model risk. The separate sections of this report of examination that address market risk, credit risk, and operational risk identify specific examination concerns, such as limit-setting and enforcement, exposure measurement, policy development, and staffing.

### **Internal Audit**

Tim Kenny became senior vice president and general auditor of the enterprise in July 2008. He joined the enterprise in September 2007 as vice president and served as interim general auditor from May 2008 until July 2008. Kenny appears to have established constructive working relationships with senior officers. The audit department is on track to complete the approved 2008 audit plan, and the Board approved the 2009 audit plan.

The audit committee of the board has been re-established and is fully functioning. The conservator's December 2008 order appointed the audit committee members. The order appointed Christopher S. Lynch to chair the Audit Committee. Linda B. Bammann, Carolyn H. Byrd, and Robert R. Glauber were appointed to serve on the committee. On January 23, 2009, the Audit Committee approved a new committee charter, and the committee has been addressing key matters.

There has been a significant expansion of the audit department's coverage, resources, and budget: and the department's resources appear to be adequate to fulfill its planned activities for 2009. However, FHFA is monitoring the effect of significant personnel changes on the department. The average level of experience among enterprise auditors is eight years, and the average number of years auditing the enterprise is three. Approximately 53 percent of the department staff has public accounting experience. The enterprise has co-sourcing arrangements in place with KPMG and Ernst & Young to supplement its full-time staff and technical expertise as appropriate to ensure that audit teams have the skills and technical qualifications necessary for any given audit. FHFA will be closely monitoring this issue in 2009.

Audit reporting is effective. The internal audit department adequately documents its findings, the support for its findings, and management's corrective action. During 2008 Ernst & Young performed a third-party quality assurance review. The review found that the department meets the standards adopted by the Institute of Internal Auditors.



## **Compliance**

As noted above, the audit committee has been reconstituted and is fully functioning. FHFA's primary focus is on the committee's ability to rapidly develop a deep understanding of the complex issues within its authority. Three of the four committee members are new to the board of directors, and the demands on the committee are substantial.

The enterprise's compliance program is effective. However, our limited field work was not sufficient for FHFA to issue definitive opinions in several areas of the division's compliance-related activities. Those areas include adequacy of documentation defining roles and responsibilities for identifying, assessing, advising on, monitoring, and reporting on enterprise-wide compliance risk, and the quality of reports on the division's risk assessment activities and results to the board's audit committee and senior managers.

The chief compliance officer leads the enterprise's remediation committee (the CEO chairs the committee), which was formed, in part, to ensure that senior management within the enterprise create and implement action plans to resolve material weaknesses, significant deficiencies, audit findings, FHFA matters requiring attention, and other identified deficiencies. To date, the committee has been an effective forum and has enhanced the level of management discipline applied to remediation efforts and results.

## **Accounting**

Accounting policies and estimates, which are inherently high risk given current market conditions, continue to be a significant supervisory concern. These areas are discussed below.

PricewaterhouseCoopers did not express an opinion on the effectiveness of internal controls over financial reporting (ICFR) because the enterprise was unable to complete its assessment of the effectiveness of ICFR at the end of 2008. An integrated audit is planned for 2009, as required by the Securities and Exchange Commission and Sarbanes-Oxley Act.

During the first half of the year, FHFA noted a serious reluctance on the part of the enterprise to recognize certain declines in value of non-agency mortgage-backed securities as other-than-temporary impairments (OTTI) despite clear signals from the markets and the rating agencies<sup>1</sup>. Further, from a safety and soundness perspective, FHFA raised significant concerns regarding the implementation and judgments made in

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<sup>1</sup> The value of a security is impaired when its fair value falls below its carrying value on the books. When this occurs, an assessment must be made to determine whether the impairment is other than temporary. If an impairment is determined to be other than temporary, the decline in value must be recognized by writing the book

management's other than temporary impairments (OTTI) assessment. While recognizing that an OTTI assessment requires management judgment, FHFA raised questions regarding the consistency between the enterprise's OTTI assessment and its written policies. FHFA also found inconsistencies between Fannie Mae and Freddie Mac in their assessments of OTTI. To address these findings, FHFA issued several notices of matters requiring attention to the enterprise. FHFA issued a framework of minimum standards for conducting OTTI assessments to both enterprises on August 28, 2008<sup>2</sup>. Subsequently, FHFA found that Freddie Mac made significant progress in implementing the standards and addressing issues needing attention.

The enterprise adopted FAS 159, *The Fair Value Option for Financial Assets and Financial Liabilities*, in part to mitigate the interest rate changes in the guarantee asset. In adopting this strategy, it recognized a transition adjustment, which increased retained earnings and regulatory capital as of January 1, 2008 by \$1 billion. The enterprise applied the option principally to securities that had unrealized gains, although the portfolio of eligible securities had vastly more unrealized losses. FHFA believes that a more appropriate application of the Fair Value Option (FVO) in the context of safety and soundness would have resulted in a more balanced selection and would have resulted in a smaller regulatory capital benefit in the transition. In order to provide a minimum safety and soundness threshold for the application of GAAP and to establish some consistency in approach between the two enterprises, FHFA issued FVO guidance, *Standards for Enterprise Use of the Fair Value Option*, to both enterprises in April 2008. At issuance, the enterprise was not in compliance with the guidance, but has since made progress in complying with the guidance.

Our review of reserves for credit default and guarantee costs revealed the following:

- Accounting policies in this area are in accord with GAAP.
- Management has initiated steps to enhance the reserve analysis and reporting process, including improvements in the reporting regarding the impacts of management's assumptions and decisions on the reserve calculation.
- Earlier in the year, weaknesses were noted both in the process and in some management judgments made to calculate reserves in light of the uncertainties surrounding market conditions. Examples are the significant assumptions made in connection with the amount of defaulted loans that could be put back to the originators on the basis of failures of representations and warranties and the capping of the reserve amount related to performing loans. FHFA believes a more conservative approach would have been more consistent with safety and soundness.
- There is a large difference between the GAAP-based reserves and other measures of credit loss. Differences between the different measures should be expected because GAAP reserves are calculated on an "incurred loss to date" basis, while in contrast total future expected losses are calculated on an "entire life of the transaction" basis. FHFA believes that regular reconciliation of the GAAP reserves to other measures of expected credit loss will inform and enhance the

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<sup>2</sup> The August letter was superseded by an updated letter on December 4, 2008.

GAAP reserve process, especially in this rapidly changing economic environment.

The enterprise first established a valuation allowance of \$14.1 billion, or 54% of the \$26 billion deferred tax assets (DTA), for the third quarter of 2008 because it was not certain it would be able to earn sufficient future taxable income needed to realize DTA.

The enterprise consulted with the Securities and Exchange Commission (SEC) to affirm the method it used to calculate the DTA valuation allowance because there is variation in practice across commercial enterprises. The SEC did not object to the enterprise's method. However, at the SEC's suggestion, both Fannie Mae and Freddie Mac sent a joint letter to the Financial Accounting Standards Board (FASB) to request that the FASB provide clarification of the accounting in this area for the benefit of users of financial statements.

A proposed change by FASB to FIN 46(R), *Consolidation of Variable Interest Entities*, would result in the consolidation of millions of mortgages currently in off-balance sheet trusts. The systems changes required to comply with the proposed amendments are of such magnitude that it appears to us unlikely that the enterprise will be able to implement the amendments in a controlled fashion by the January 1, 2010 effective date.

## **Solvency**

**The rating for capital is suspended.** FHFA's Office of Capital Supervision formally classifies capital adequacy quarterly in accordance with Subtitle B of the Federal Housing Enterprises Financial Safety and Soundness Act of 1992 and with the requirements set forth in FHFA's minimum and risk-based capital regulations. The enterprise is required by federal statute to meet both minimum and risk-based capital standards to be classified as adequately capitalized. Through the second quarter of 2008, Freddie Mac remained subject to an OFHEO-directed capital requirement imposed by a letter of agreement that was subsequently modified in March 2008.

On September 6, 2008, the FHFA Director appointed FHFA as conservator of the enterprise. Subsequently, the Director suspended capital classifications for the conservatorship period. The Director made this determination based on the fact that the purpose of the classifications—prompt corrective action—is moot during conservatorship, and because the capital, or GAAP net worth, position of the enterprise would be supported by the U.S. Treasury's Senior Preferred Stock Purchase Agreement.

The action to place the enterprise into conservatorship is supported by the Treasury agreement, which ensures the enterprise will maintain a positive net worth through Treasury's commitment to provide up to \$200 billion of capital. The Treasury agreement required, as an initial consideration for Treasury's commitment, that the enterprise issue

Treasury \$1 billion in senior preferred stock and a warrant for 79.9 percent of common stock<sup>3</sup>.

FHFA classified Freddie Mac as adequately capitalized for year-end 2007 and also for the first quarter of 2008. Freddie Mac actually fell below the OFHEO-directed requirement in November 2007 but was able to issue \$6 billion of preferred stock in December to come back into compliance before the end of that quarter. Although Freddie Mac met all FHFA capital requirements for the second quarter of 2008, the Director used his discretionary authority to classify Freddie Mac as undercapitalized for that quarter, citing concern about the sufficiency of capital given the continuing mortgage market downturn during July and August.

Freddie Mac had announced its intention to raise additional capital following a March 2008 agreement with FHFA, but by late summer it was clear that the enterprise's efforts to raise private capital had failed. Risk to capital increased dramatically during this period because of increasing projected credit losses, which directly affected capital through reduced current and future earnings. Freddie Mac's inability to raise capital during the summer of 2008 was a significant contributing factor in the Director's decision to appoint a conservator for the enterprise.

FHFA did not classify Freddie Mac's capital for the third quarter 2008. Under the terms of the Treasury agreement, a draw on the Treasury commitment of \$13.8 billion was required in November 2008 to eliminate Freddie Mac's negative balance of GAAP stockholders equity as of the end of the third quarter. A deferred tax asset partial valuation allowance of \$14.1 billion, along with significant credit and mark-to-market losses, accounted for the substantial drop in capital during the third quarter. Another draw on the Treasury commitment of \$30.8 billion will be needed to eliminate the negative balance of GAAP stockholders equity as of year end, again caused by continuing significant credit losses and negative mark-to-market adjustments, and an additional deferred tax partial valuation adjustment.

FHFA noted improvements in the capital plan and forecasting process in general during 2008: however, actual forecasts proved highly inaccurate because of unprecedented market conditions. Freddie Mac is making improvements in its income forecasting processes, along with enhanced credit and market stress scenarios. Additionally, it remains essential that the capital plan incorporate a discussion of the fair value of equity and progress on its economic capital model. Since the appointment of a conservator, Freddie Mac's efforts to further develop its economic capital model stalled, in part because of employee turnover.

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<sup>3</sup> A draw on the Treasury commitment effectively increases the liquidation preference up from the initial \$1,000 per share on the 1 million shares of issued senior preferred stock.

## Earnings

The rating for earnings is **critical concerns**. Freddie Mac reported a historic annual net loss of \$50.1 billion.

Figure 1.

Freddie Mac Annual Earnings (\$ billions)

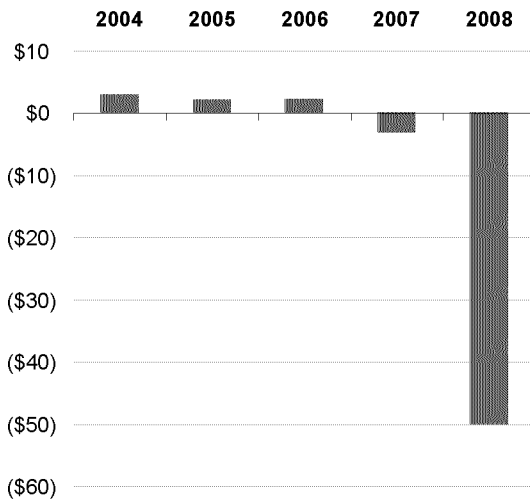
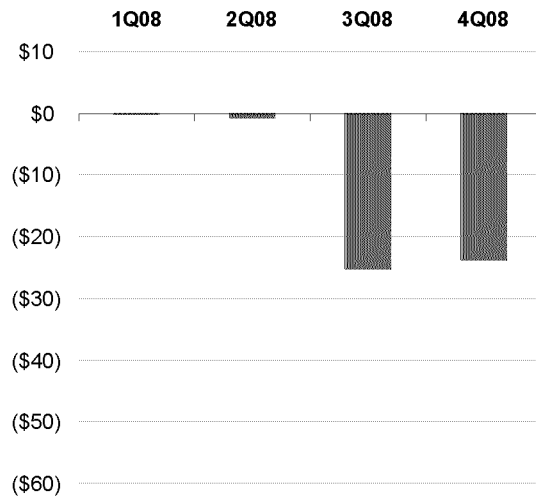


Figure 2.

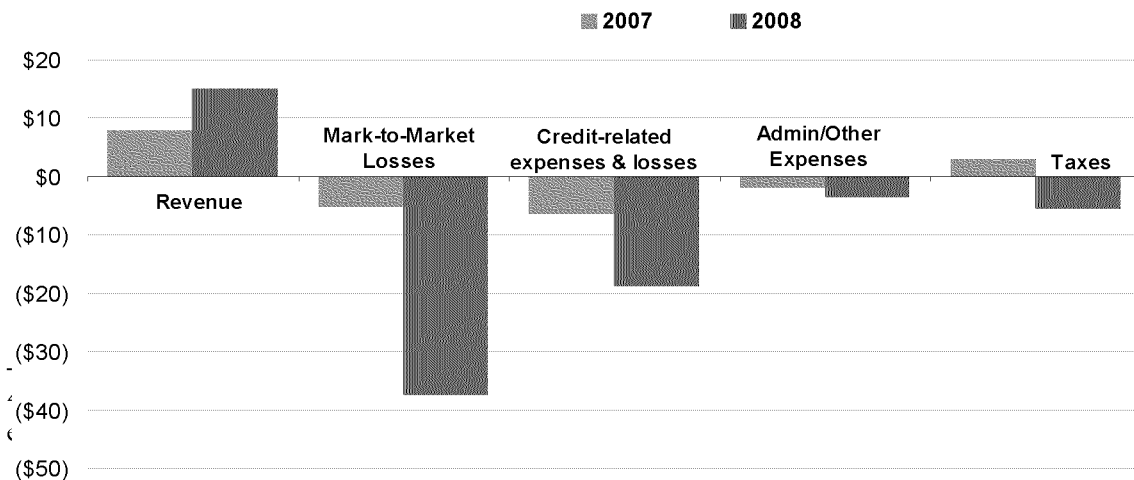
Freddie Mac Quarterly Earnings (\$ billions)



Poor in the first half of the year, financial results deteriorated even more sharply to record levels in the second half of the year as the downturn in housing, mortgage, and credit markets accelerated. The plunging market adversely affected key market drivers, yielding high mark-to-market losses, credit-related expenses and losses<sup>4</sup>, and high taxes in 2008, as compared to the previous year.

Figure 3.

Freddie Mac Annual Earnings Detail (\$ billions)

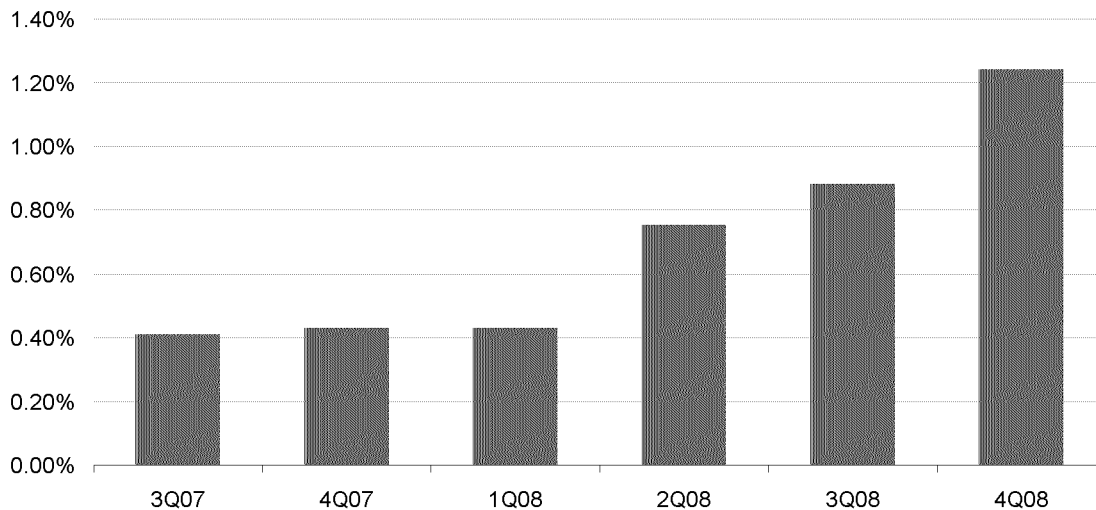


## Revenue

Revenue was a bright spot for earnings in 2008. Freddie Mac reported increases in revenue from both the investment portfolio business and the credit guarantee business.

**Figure 4.**

### Freddie Mac Net Interest Yield



Net interest income increased to \$6.8 billion from \$3.1 billion in 2007. Much of this increase can be attributed to a steeper yield curve, as well as increases in the proportion of short-term to long-term funding, along with short-term funding rates that were further below LIBOR than normal.

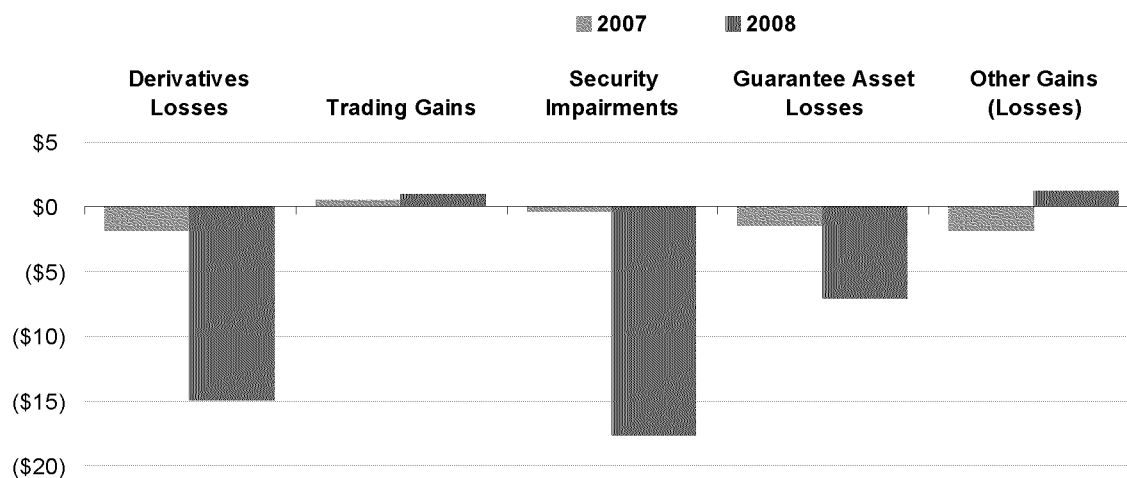
Management and guarantee income increased to \$3.4 billion from \$2.6 billion in 2007 primarily due to an increase in the average balance of guaranteed PCs. In addition, significant decreases in mortgage interest rates in the second half of the year increased expected prepayments, which accelerated the recognition of guarantee income deferred fees. Income flowing from the guarantee obligation more than doubled to \$4.8 billion from \$1.9 billion as declines in house prices triggered the acceleration of the amortization of the guarantee obligation.

### Mark-to-market Losses

Mark-to-market losses grew significantly in 2008, reducing earnings by \$37.5 billion in 2008, compared to \$5.1 billion in 2007.

**Figure 5.**

**Freddie Mac Mark-to-Market Losses Detail (\$ billions)**



Mark-to-market losses on derivatives, that are used to hedge mortgage investments, were substantial in the second half of the year, driven by historic declines in interest rates, which also drove losses on the guarantee asset. Interest rates declined across the yield curve during the year after the Federal Reserve lowered the target for the federal funds rate and increased its direct purchases of debentures and mortgage-backed securities. Rates fell sharply in the fourth quarter as investors retreated to the safety of Treasury securities in the face of massive declines in major stock indices and dimming prospects for a rapid economic recovery.

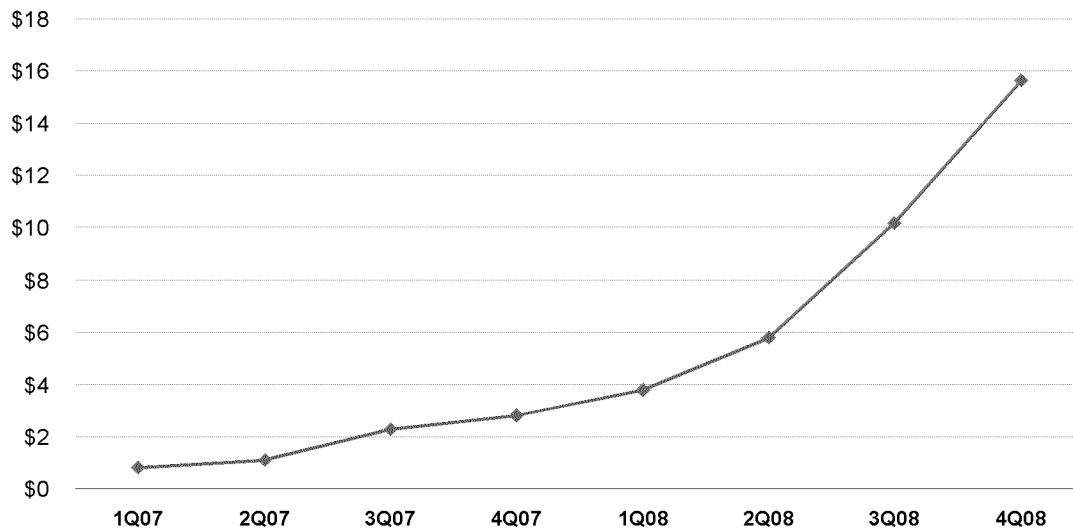
Market values of private-label mortgage-backed securities held by the enterprise in their retained portfolios plummeted during the year. As a result, Freddie Mac incurred substantial levels of other-than-temporary impairments on these securities. Declining security market values also drove a substantial increase in unrealized losses on available-for-sale securities, reported in shareholders' equity but not in earnings. Realized and unrealized losses on non-agency securities totaled \$53.1 billion in 2008.

**Credit-related expenses and losses**

Increasing unemployment rates and declining house prices contributed to higher delinquency and default rates on mortgages and increased the severity of credit losses. Accordingly, Freddie Mac increased its loan loss reserves substantially during the year to reflect higher expectations of credit losses. The provision for loan losses escalated during the year as a consequence of building the loan loss reserve.

**Figure 6.**

**Freddie Mac Credit Loss Reserve (\$ billions)**



The market downturn resulted in more properties entering foreclosure, increasing foreclosure-related expenses. Credit losses from purchases of delinquent loans increased as the values of the underlying properties dropped. These factors led to much higher credit-related expenses and losses compared to the previous year. Freddie Mac reported credit-related expenses and losses in earnings of \$18.7 billion in 2008, compared to \$6.4 billion in 2007.

**Provision for Federal Income Taxes**

In 2007, Freddie Mac recorded a benefit for federal income taxes, which increased earnings. But in 2008, Freddie Mac incurred substantial provisions for federal income taxes because it established a partial valuation allowance for deferred tax assets during the third quarter of 2008.

The decision to establish the valuation allowance to reduce deferred tax assets was based on management's conclusion that Freddie Mac was not likely to generate sufficient future taxable income to realize the full amount of its deferred tax assets. Freddie Mac recognized a valuation allowance of \$14.1 billion in the third quarter of 2008, representing the portion of deferred tax assets deemed unrealizable. Freddie Mac also discontinued recognizing tax benefits related to increases in deferred tax assets for losses incurred in earnings. Consequently, Freddie Mac reported a provision for federal income taxes of \$5.6 billion in 2008, as compared to an income tax benefit of \$2.9 billion in 2007.



## Summary

In 2008, net losses and unrealized losses on available-for-sale securities eliminated shareholders' equity and led Freddie Mac to draw \$44.6 billion under the Treasury Senior Preferred Stock Purchase Agreement.

## ***Enterprise Risk - Credit Risk Management***

**Credit Risk is rated *critical concerns*.** This is based on rapidly growing credit losses, including \$53 billion of mark-to-market losses in the private-label securities portfolio, and declining financial capacity of mortgage insurers and financial guarantors. Market pressures are expected to stress Freddie Mac's credit performance for the foreseeable future. Moreover, the weakened financial condition of several counterparties and the consolidation of some seller/servicers continue to increase counterparty concentration and exposure. Like many other mortgage investors, Freddie Mac did not anticipate the substantial and sustained nationwide decline in the house prices and the realized lack of creditworthiness of many recent homebuyers

Freddie Mac has taken steps to strengthen underwriting standards and other practices to reduce losses. However these improvements only partially offset increasing losses from worsening markets. Steps initiated by Freddie Mac include:

- **Chief Credit Officer:** A chief credit officer leads Freddie Mac's credit risk management efforts including credit policy, counterparty credit risk management, and loss forecasting. The FHFA November 2008 targeted examination found the process for determining the single-family loan loss reserve to be inadequate. It will take time to determine whether changes being made will be effective.
- **Corporate Credit Risk Committee:** The corporate credit risk committee, established in December 2008, sets credit boundaries for all risk-taking activities, credit loss forecasting, counterparty risk review, credit risk model review, and the review of overall analytics and performance monitoring risk reports. It will take time to determine if this committee is effective.
- **Lender Contracts:** Lender contracts have been changed to give Freddie Mac the ability to change contract terms and react to market conditions much faster. This minimizes adverse selection by lenders.
- **Underwriting and Pricing Changes:** Stronger credit policies and higher pricing for adverse loan characteristics mean higher quality loans purchased by Freddie Mac. For example, Freddie Mac's new credit policies severely limit the purchase of "untested mortgage products." Purchase of such products, which include Alt-A and option ARMs with deferred or negative amortization, low or no income

documentation, and other high risk attributes, declined significantly from a high of \$31.8 billion during 2005 to \$241 million in 2008.

Freddie Mac also is developing a plan to strengthen its credit management reporting, including reporting information on portfolio and purchase information, performance results and asset disposition, top counterparty exposure detail, credit loss drilldown, profitability and return analysis, segment earnings, forecasts, and a comparison of actual versus planned performance.

### **Single-Family Credit**

Single-family credit risk is high and continuing to increase. Rising levels of housing supply continue to lower house prices resulting in growing levels of serious delinquency and real estate owned (REO). Credit-related expenses, consisting of provision for credit losses and REO operations expense were \$6.0 billion for the third quarter of 2008, compared to \$1.4 billion for the third quarter of 2007.

The fourth quarter 2008 loan loss reserve and credit loss forecast show sharply rising credit losses over time. During that quarter, management recommended a single-family loss reserve of \$15.6 billion, compared to \$2.8 billion for the same quarter in 2007, a more than five-fold increase reflecting the deterioration in the credit markets.

Year-over-year serious delinquency rates were nearly 2 ½ times the previous year's performance level. The 2007 year-end serious delinquency rate was 0.76 percent compared with the 2008 year-end rate of 1.83 percent. (These rates include performance from the structured transaction ["T-deal"] portfolio.) The 2006 and 2007 book years are significantly contributing to the rising serious delinquency rates, representing about two-thirds of all serious delinquent loans. Moreover, the 2006 and 2007 book years comprise 71 percent of the losses at year end 2008.

Alt-A mortgages remain leading contributors to serious delinquency rates and credit losses. The portion of the single-family portfolio characterized as Alt-A is responsible for 49 percent of total credit losses at year end 2008.

Freddie Mac's quality control group (QC) is endeavoring to keep up with the unprecedented volume of nonperforming loans requiring review. The monthly quality control sample increased from 10,000 loans to 13,000 loans in the third quarter of 2008; nonperforming loans represented 75 to 80 percent of the total monthly sample. QC has added 65 full-time equivalent employees. However, the additional resources are not sufficient to handle current quality control volumes, as evidenced by the following:

- Approximately 22 percent of the nonperforming quality control sample is past review deadlines.
- QC has not improved its capability to do automated management reporting and trending. The quality control automated system, *Quantum*, is designed for data

tracking but does not include management reporting functionality. As a result, the quality control department must combine data from other databases and manual processes to generate quality control reporting.

- Quality control repurchase demands have outpaced seller/servicer' ability to review repurchase demands. Outstanding repurchases increased from \$1.8 billion in the second quarter of 2008 to \$2.8 billion in the third quarter of 2008. The timeline from QC review until the repurchase is resolved can take up to 12 months, driven by the overall loan performance which continues to worsen, and seller/servicers who are slow to repurchase loans that do not meet Freddie Mac's underwriting criteria. Freddie Mac has taken proactive steps to meet this challenge including the addition of staff to assist QC in their efforts.
- State regulatory changes and conservator requests lengthen foreclosure timelines and foreclosure laws limit Freddie Mac's ability to dispose of properties, but allow borrowers to stay in their homes. Freddie Mac's risk increases and credit losses increase as the holding period for non-performing loans is extended.
- Freddie Mac is approving, settling and booking record levels of mortgage loan workouts and related foreclosure avoidance activities. Freddie Mac management has been working closely with FHFA, the U.S. Treasury, FDIC and other constituents to design and implement new initiatives for streamlining modifications and preventing foreclosures.

The November 2008 targeted examination found that Freddie Mac's loan loss reserve accounting policies are in accordance with GAAP. However, the surrounding processes for determining the single-family loan loss reserve is rated Critical Concerns. Matters requiring attention include enhancements to the enterprise's governance framework, re-engineering of credit-related information provided to the board, issue tracking, insufficient loan loss reserve documentation, updated assessments of operational and model risk, and the need to benchmark reserves against other large financial institutions.

#### **Counterparty Credit**

Counterparty risk has increased as several counterparties face capital and liquidity challenges. The financial weakness of counterparties on which Freddie Mac relies on for credit enhancements, loan repurchases, portfolio servicing, default asset management and loss mitigation continue to cast doubt on the full collectability of potential obligations, thereby creating an unsafe and unsound condition for transacting business. For example:

- Recent acquisitions have increased concentration risk among seller/servicers, which is compounded by the reduced number of eligible counterparties. Freddie Mac's top five customers account for over 68 percent of Freddie Mac's business.
- Freddie Mac estimates that over the last 6 months there have been about 60 voluntary terminations of Seller/Servicers, and approximately 11 others have been terminated by Freddie Mac.

- The weakened condition of mortgage insurers (MIs) has hindered the mortgage market recovery. Changes to their underwriting standards have left many borrowers unable to refinance high-cost or unsuitable mortgages because of the decline in home prices (although the implementation of recently announced streamlined refinance initiatives by the enterprise may relieve this problem).
- In 2008, the rating agencies significantly downgraded all major MIs. As of December 31, 2008, top MI ratings ranged from A+ to BBB+
  - One MI, Triad, is in runoff mode.
  - Using internally created analytical models, counterparty risk management identified capital shortfalls in stress scenarios for almost all MIs and requested remediation plans from them.
  - Of Freddie Mac's \$66.3 billion in risk-in-force coverage from MIs, the total exposure is approximately \$8.6 billion.
- Uncertainty exists with the financial guarantors reflecting capital adequacy and substantial performance volatility associated with their concentrated exposure to structured assets and stressed mortgage risk.
- The bankruptcy of Lehman Brothers in September 2008 resulted in Freddie Mac having to write down more than \$1 billion of a \$1.2 billion short-term unsecured investment with that institution.

Freddie Mac has taken steps to mitigate its counterparty risks by increasing due diligence and risk assessments for high risk counterparties and decreasing limits when appropriate. Management has recently formed a steering team to identify and raise issues relating to counterparty risk.

### **Multifamily**

In 2008, Multifamily credit risk increased as credit losses increased due to rising capitalization rates and property level expenses, as well as slower rent growth in certain areas.

- Increasing expenses and capitalization rates combined with slower rent growth may lead to a decline in apartment values. Capitalization rates have increased by 23 basis points since December 2007 (6.27 percent to 6.50 percent) and management expects additional increases of 150 basis points over the next few years.
- The multifamily portfolio is experiencing growth in its high risk and critical watch-list together with incremental increases in the sixty/ninety day delinquent loan and REO population. Because the total multifamily portfolio is also growing, the percent of the portfolio on the critical and high watch-list remained at 0.5 percent. Multifamily delinquencies and credit losses are forecasted to increase in 2009 through 2011 from their historical lows. At year end 2008, the serious delinquency rate was only 0.01 percent.

Freddie Mac has begun to address these concerns by strengthening underwriting standards and pricing of multifamily products. Freddie Mac also is developing a loss mitigation plan to address growing delinquencies and REO, and expects to mitigate future losses by raising prices but staying focused on helping the market stay liquid.

The Centerline transaction review, performed in late 2007, highlighted weaknesses in multiple critical areas, including: governance, internal controls, credit risk and model risk. During 2008, management continued to address deficiencies noted by FHFA in the 2007 Centerline transaction. Full compliance is anticipated by the end of 2009.

### **Private-Label Securities**

Mark-to-market losses in the non-agency securities portfolio of more than \$53 billion (including impairment expense of \$16.6 billion) during 2008 and continued home price depreciation of the collateral underlying the private-label portfolio are the primary sources of our concerns.

A combination of continued unprecedented spread widening in mortgage assets along with deteriorating performance in nontraditional, potentially riskier products, including subprime, Alt-A, Option-ARM and commercial mortgage-backed securities, resulted in significant mark-to-market losses. Most of these securities losses were recorded in the stockholders equity portion of the balance sheet (*i.e.*, accumulated other comprehensive income). Mark-to-market gains of almost \$1 billion were offset by other than temporary impairment losses exceeding \$17.7 billion, which were recognized in earnings.

The following management practices represent weaknesses:

- Policies for private-label securities and commercial mortgage-backed securities lack meaningful and enforceable limits and oversight roles and responsibilities for the enterprise risk officer (ERO). ERO lacks the authority to force securities sales and limit purchases based on pre-purchase analysis.
- Freddie Mac has limited reporting capability to monitor historical trends of its portfolio and compare it to industry averages. Moreover, Freddie Mac has only two staff members in Investments & Capital Markets to perform the credit analysis on a \$120 billion private-label residential mortgage-backed securities portfolio. However, the fourth quarter 2008 report to the Credit Committee showed significant improvement.
- In 2008, Freddie Mac did not sell any of its \$43 billion private-label securities portfolio rated below investment grade and did not create a

policy or strategy to unwind this position as prices and performances deteriorated. The deteriorating performance resulted in \$53 billion in mark-to-market losses in 2008. Freddie Mac must develop a management policy that includes appropriate escalation procedures for loss mitigation.

## ***Enterprise Risk - Market Risk Management***

**Market risk is rated *critical concerns*.** The rating is based on the following: (1) the continued fragile state of the agency long term-debt market; (2) extreme volatility of market interest rates and the mortgage basis; (3) unprecedented model risk arising from Freddie Mac's market risk models that reduced the reliability of its interest rate risk estimates; (4) multiple risk limit exceptions; and (5) a significant number of management weaknesses.

### **Liquidity and Funding Risks**

The continued fragile state of the agency debt market and the lack of an effective liquidity policy that reflects current market realities drive our concerns. Liquidity and funding risk remains high and continue to represent a critical risk to Freddie Mac as the market for Freddie Mac bullet and callable long-term debt deteriorated during 2008 through late November. Market access to long-term debt was virtually closed until after the Federal Reserve's announcement in late November that it would purchase up to \$100 billion of agency debt securities, which improved the tone of the agency debt market in December 2008.

As a result, Freddie Mac is more exposed to discount note roll-over risk with short-term debt representing a greater portion of the debt funding mix. The ratio of short-term debt to total debt has increased to 52% at year end 2008, significantly exceeding management's guidelines. In addition, at FHFA's request, Freddie Mac stopped efficiently exercising in-the-money options on callable debt during the third quarter of 2008 because of the uncertainty of issuing long-term debt to replace it.

Freddie Mac is heavily reliant upon the Treasury Department for its GSE credit facility to provide secured funding in an emergency. This facility is scheduled to end at yearend 2009. The enterprise has tested most of the operations but cannot complete the testing of its emergency plan without an actual draw from the Treasury Department.

The following management practices represent weaknesses:

- Freddie Mac needs to revise its liquidity management plan for 2009, along with appropriate policies and procedures, to reflect current market conditions. Under stress, Freddie Mac could not convert its high quality collateral to cash through repurchase agreements or sales.

- Cash management reporting is manually intensive and should be independent of the cash investment function and the funding desk. In response to requests from FHFA, Freddie Mac has improved its cash forecasting processes. However, the preparation of associated reports is not fully automated, requiring the use of EUCs and manual steps including cutting and pasting data from other sources. In 2008 the reports were prepared by non-independent front office staff.
- At the end of 2008, Freddie Mac had about \$9.8 billion of illiquid assets in its liquidity portfolio. These securities are not in a trading account which adds to our concerns. Most of these securities should not be treated as a source of liquidity, particularly those with a weighted average life longer than one year.
- Market Risk Oversight should improve its oversight of liquidity management and reporting to include a clear, specific and timely process for reviewing and analyzing cash management and liquidity reports.

## **Interest Rate Risk Management**

Issues in interest rate risk management stem from unprecedented volatility in the mortgage markets during 2008, a resulting high degree of model uncertainty arising from Freddie Mac's term structure, current coupon and prepayment models that reduced the accuracy of risk measurement and certain management practices, such as board and management limit breaches arising from declining common economic capital. During 2008, severe credit, market, and liquidity events critically impeded Freddie Mac's risk measurement and hedging capabilities. Additionally, the highly volatile mortgage basis had a profound impact on duration and volatility, making models and risk measurement results less reliable and hedging decisions less effective. Freddie Mac exceeded its market value of equity limits on a daily basis during much of the fourth quarter of 2008, largely driven by declining, or negative, economic common equity estimates.

The following management practices represent weaknesses:

- Given Freddie Mac's declining common economic capital, Freddie Mac had multiple board and management interest rate risk limit breaches. Management must identify an effective replacement denominator for common economic capital that improves the resulting risk metrics. Until a suitable replacement is identified and approved by FHFA, the board and management must lower the volatility and convexity limits for 2009.
- In late November Freddie Mac identified a significant error in its volatility metric. Normally, this volatility metric is within a range of \$50 million to \$150 million for a 10 basis point shock to the volatility surface and the November estimate of volatility was almost double the normal estimate. The root causes of this measurement error of volatility risk arise from a calibration

issue of the term structure model, unusually low short-term rates and volatile market moves.

- Freddie Mac uses over-the-counter derivative products and has substantial and increasing counterparty exposure. Freddie Mac must create a strategy to reduce derivative counter-party exposure and periodically identify opportunities to reduce counterparty exposure by unwinding or otherwise eliminating existing positions. Freddie Mac should continue to explore expanded use of exchanges and/or central clearing houses for interest rate swaps and swaptions. In addition, market volatility during the fourth quarter 2008 led to limited market access and several instances where Freddie Mac could not execute swaps transactions necessary to completely rebalance.

We also found the following management practice helped mitigate some of our critical concerns:

- Freddie Mac proactively managed its high degree of model risk and used temporary on-top adjustments to proactively manage risk exposures. However, Freddie Mac must improve governance over on-top adjustments and ensure that executive management understands the use of on-top adjustments prior to corrective model implementation.

## **Portfolio Management**

During 2008, Freddie Mac's ability to manage the investment portfolio was adversely impacted for a number of reasons. Early in 2008, Freddie grew the portfolio significantly. However the inability to raise additional regulatory capital slowed Freddie Mac's portfolio purchases in mid-2008. In addition, long-term debt spreads increased and impeded the ability to add mortgage backed securities profitably. Post-conservatorship, Freddie Mac increased its portfolio by \$50 billion.

## ***Enterprise Risk - Operational Risk Management***

**Operational risk management is rated *critical concerns*.** Structural, management, and organizational changes at Freddie Mac along with employee uncertainty concerning job security and lower morale have contributed to the increased operational risk profile. Additionally, operational risk was heightened during the year as growing transaction processing volumes for defaulted loan processing increased the potential for internal control problems and manual processing errors. However, Freddie Mac achieved certain milestones, allowing its registration with the Securities and Exchange Commission and the lifting of the consent order.

## **Information Technology**



While Freddie Mac has made improvements in Information Technology (IT), significant risks in IT remain. The enterprise made some progress in improving (IT) governance processes, functions, and activities during 2008. However, much work remains to be accomplished. Freddie Mac's legacy technology systems are inflexible and therefore are not easily adaptable in providing automated changes to support changing business needs. Legacy systems are out-of-date, costly and time-consuming to support. As a result, Freddie Mac continues to rely on manual processes, work-arounds, and data hand offs to accommodate changing business needs and to handle volume fluctuations. This decreases efficiency and increases the risk of processing errors and the quality of data.

Progress related to several key information technology governance processes is as follows:

- Freddie Mac continues to face the challenge of building an effective and sustainable information security program. The Information Security Officer position was vacant during the third and fourth quarters of 2008. Although a new security officer was hired in January 2009, management extended timetables for remediation work on these significant deficiencies until later in the year.
- Freddie Mac implemented an effective System Development Life Cycle (SDLC) process during 2008. In addition, Freddie Mac launched an internal quality review function to validate that systems under development follow the SDLC requirements. Freddie Mac's internal audit reviewed the SDLC design and controls and did not discover any critical or major issues. However, outside of the operations and technology group, a standard governance process for developing software tools (including for example models, applications and end user computing applications) is not used. In some areas of the enterprise these tools are developed through following a well-designed process but in other areas a governance process is not followed. The lack of rigor in the development of these tools continues to result in errors that impact Freddie Mac's decision-making, reporting, and reputation.
- Freddie Mac has made progress establishing an out-of-region warm site for disaster recovery. Risks remain high for business recovery until the most critical business processes have been tested at the alternative location. Testing is scheduled to be completed in March 2009.

### **Data Quality**

Data quality has been a longstanding issue at Freddie Mac. Although the enterprise did make efforts to better manage data and measure its quality, progress had been slow and uneven. In 2007, Freddie Mac began to adopt data management approaches that were grounded on industry standards and best practices. The enterprise continued to build the foundation of a strong data management program in 2008, including:

- The publication of data management policies and standards in line with best practices in the industry.
- Development of an enterprise-wide data model and dictionary.
- Implementation of key reference data services
- Centralized responsibility for key shared data assets.

The enterprise is currently developing the capacity to measure and report on the quality of its data and has taken the first steps in integrating data reviews into the application development process. The progress, although real and significant, remains fragile and reversible. There are still significant cultural, technical, organizational and business issues that need to be overcome in order for Freddie Mac to continue to progress. Some benchmarks that FHFA will be looking for in 2009 as indicators of continued progress are:

- Business managers who consider data quality issues and metrics in their business decisions.
- Use of Freddie Mac's data models and dictionary in the development of new applications and databases.
- An expanded data review function within the application development process.
- New applications that include data correction functionality and a reduction in the number and size of the data corrections executed through direct access to the underlying data.

### **Internal Controls**

Improvements in the control structure have reduced the likelihood and severity of operational failures related to financial reporting processes. Work remains to address operational risks including remediation of known control weaknesses, addressing the external auditor's comments on the design of internal controls and updating business processes and control documentation for automation and business process changes. During 2008, Freddie Mac registered with the Securities and Exchange Commission.

As a result of this registration, at yearend 2009 Freddie Mac is required to comply with Section 404 of the Sarbanes Oxley Act, and management and the external auditor must report on the effectiveness of the enterprise's internal control over financial reporting. It will be necessary for management to remediate existing control weaknesses and conduct internal testing of the effectiveness of the enterprise's internal controls and procedures related to financial reporting in order to do so.

The enterprise was unable to complete a comprehensive management assessment of the effectiveness of internal control over financial reporting as of yearend 2008. Therefore, an independent opinion by PricewaterhouseCoopers on the effectiveness of internal control over financial reporting (ICRF) was not issued. Delays in completing business process documentation work, addressing the external auditor's comments on control designs related to business processes, and incomplete remediation of Freddie Mac's

information technology general controls all contributed to the decision that an integrated audit was not possible for 2008. Without an independent opinion, there is uncertainty about the enterprise's overall control environment.

### **Operational Risk Management Oversight**

The operational risk management division satisfactorily informs management about the level and types of operational risks present at Freddie Mac. In 2008 Freddie Mac further developed the operational risk program, with particular progress made on loss data collection, baseline risk assessments, and scenario analyses. However, the resignation of the senior vice president of enterprise operational risk oversight during the third quarter of 2008 slowed progress on the program. A search to fill the position is underway, but at year-end, a replacement had not been hired. Given the current operating environment at the enterprise, prompt replacement of the senior vice president is critical to the effectiveness of the operational risk management division going forward.

### **Model Risk and Management**

At the start of 2008 many of Freddie Mac's key credit models and other analytics, such as its underwriting home price forecast, and guaranty fee costing analytics, were outdated or tended to understate credit risk. During the course of the year, management made substantial progress to update and improve these models. Unfortunately, these improvements came too late, after the enterprise had bought or guaranteed hundreds of billions of dollars in "untested mortgage products." While the models in place at the beginning of 2008 indicated that guaranty fees were insufficient to cover the estimated credit risk, and the assets were acquired anyway, the more conservative models that were later deployed sent a stronger message that returns were inadequate.

Unprecedented conditions in the mortgage market during the year posed significant risk to prepayment and interest rate models. During the year, Freddie Mac attempted to capture changing borrower behavior by updating key prepayment models several times, and the models performed reasonably well as a result of the updates.

- Market dislocations challenged interest rate models throughout the year. Freddie Mac's mortgage propagation model did not perform well during the year, exhibiting error well outside management thresholds. In addition, technical implementation issues repeatedly delayed a new mortgage rate propagation model, which was deployed at the end of the year. Management relied on on-top adjustments for the last four months of the year to compensate for the known issues with the mortgage propagation model.
- An environment of historically low interest rates and extreme volatility also challenged Freddie Mac's two-factor term structure model. The model violated

management performance tracking thresholds for most of the year. An improvement to the current model was implemented at the end of the year, but a new term structure model is not expected to be ready for production until early 2009.

The national credit crisis underscores the need to frequently reevaluate credit valuation models, including prepayment, default, loss severity, and loss forecasting models. At the start of the year, credit models substantially under predicted credit losses. Over the course of the year key credit applications, such as *DefCap*, which is the guaranty fee costing application, and *Loan Prospector* (LP), used for automated underwriting, have been substantially updated by Freddie model developers. For example, the new *DefCap* model deployed in December 2008 raised model estimated credit costs by 8 percent for high quality conventional loans. While some of this change is due to increasingly adverse market conditions, much of the change is the result of changes in the guaranty fee models. The downturn in the housing market has also spurred the effort to build models for the back end of the credit process, such as the “early indicator” model. Freddie Mac must be prepared to maintain adequate staff devoted to all phases of credit model development.

The following are the areas where Freddie Mac has been actively monitoring and enhancing the models, which have become less reliable in the face of the rapidly deteriorating credit markets:

- *DefCap* version 7.4.8, used for guaranty fee pricing through most of 2008, was outdated. In December 2008, Freddie Mac implemented *DefCap* version 8.1.1. The default model used in *DefCap* V8.0 is still out-of-date. Freddie Mac made only limited changes to the version 7.4.8 default equation. Changes to the default model are under development.
- Model developers at Freddie Mac have updated the severity model in the new version of *DefCap*.
- *Autoval*, which Freddie Mac uses to estimate the fair value of real estate owned (REO) properties for charge-offs, is performing significantly below performance thresholds for valuation volatility. Managers are planning to adjust the model.
- The process for establishing loan loss reserve amounts is not automated, requiring many manual processes. Management is currently working on methodology, data collection remediation and controls.
- Management is working on methodology, data collection, and remediation plans for End User Computing (EUC) and controls.
- Loss mitigation models and property disposition tools have not been updated for several years. As a result, the models are not very accurate in the current market environment. Freddie Mac is currently working to replace *Workout Prospector II* and *Loss Mitigation Workstation*. Freddie Mac is also developing an application to analyze the Streamlined Modification Program and related initiatives.
- In October 2008, Freddie Mac deployed its first model to analyze loan level cash flow of private-label securities. The model will aid management in determining whether

Freddie Mac is likely to receive projected cash flows from private-label securities being held to recovery.

The model audit function within Freddie Mac's internal audit (IA) group is not sufficiently staffed. The function should at least employ sufficient staff with the skills and backgrounds to adequately evaluate the reliability of Freddie Mac's independent model validation function. Further, IA should periodically monitor model risk exposures and regularly attend senior management meetings covering model risk. The group has committed to increasing staffing and periodically monitoring model risk exposures in 2009.