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March 10, 2000

Mr. Alfred Pollard
Office of Federal Housing Enterprise Oversight
1700 G Street, NW, 4th Floor
Washington, DC 20552

RegComments@OFHEO.gov

Re: Notice of Proposed Rulemaking on Risk-Based Capital, RIN 2550-AA02

Dear Mr. Pollard:

Fannie Mae submits this information in response to the Request for Comments on the above referenced Notice of Proposed Rulemaking, 64 Federal Register 18,083 (April 13, 1999). The submission consists of the attached comment letter and Appendices I through V. An electronic version of the complete submission also will be filed with your office for ease of reference.

Sincerely,

Thomas E. Donilon

Attachment

FannieMae

Fannie Mae's Comments on the Risk-Based Capital Requirement Proposal of the Office of Federal Housing Enterprise Oversight

64 Fed. Reg. 18,083-18,300 (April 13, 1999)

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EXECUTIVE SUMMARY

Fannie Mae submits these comments on the April 13, 1999 Notice of Proposed Rulemaking (NPR 2)[1] by the Office of Federal Housing Enterprise Oversight ("OFHEO"), proposing the second part of its rule to implement a risk-based capital standard for Fannie Mae and Freddie Mac.[2] NPR 2 implements certain provisions of the Federal Housing Enterprises Financial Safety and Soundness Act of 1992 (the "1992 Act")[3] that mandated adoption of a risk-based capital standard using a stress test.

Fannie Mae strongly supports a stress-test approach to determining risk-based capital. Such an approach is forward-looking and considers all risks faced by the companies. Because a stress-test methodology reflects the cumulative impact of each risk it measures, it is also appropriately stringent. Fannie Mae has managed to a version of the risk-based capital stress test since the enactment of the 1992 Act.

This risk-based capital rulemaking is one of the most important of the last decade for the housing industry. The goal of the standard is to ensure that Fannie Mae and Freddie Mac remain financially strong while enabling the companies to continue achieving their housing mission. Specifically, the risk-based capital standard should accurately determine, in a timely manner, the capital required to cover the companies' economic risks without unnecessarily impeding their ability to meet their housing finance mandates. The standard also should provide incentives for Fannie Mae to continue to adopt best practices in risk measurement, monitoring, and management. While the standard governs the capital that Fannie Mae must hold, homeowners, lenders, homebuilders, realtors and others in the housing industry will feel its impact. For this reason, it is critical that the final rule be properly specified.

In evaluating the proposed standard, three principal criteria have guided our work:

Operational workability. The regulation should enable accurate and timely calculation of risk-based capital requirements, and Fannie Mae and Freddie Mac must be able to incorporate the final regulation into their business planning processes.

Ability to accommodate innovation. The regulation should encourage and accommodate ongoing innovation in the mortgage finance system by enabling Fannie Mae and Freddie Mac to know with reasonable certainty the capital treatment of new activities in a timely manner.

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[1] 64 Fed. Reg. 18,083-18,300 (April 13, 1999)(to be codified at 12 C.F.R. § 1750.1 et seq.)(hereinafter "NPR 2").

[2] Because Fannie Mae had to try to reverse-engineer the proposed rule to develop codes and was not able to replicate the results that OFHEO had obtained, our comments are based on what we believe to be the proposal's implications.

[3] The 1992 Act is Title XIII of the Housing and Community Development Act of 1992, Pub. L. No. 102-550, 106 Stat. 3672 (1992)(codified at 12 U.S.C. §§ 4501 et. seq.). Section 1361 establishes the risk-based capital standard.

Linking capital to risk. As OFHEO itself states,[4] the regulation should tie capital to risk. Total risk-based capital should not only reflect the economic risk of Fannie Mae and Freddie Mac as a whole, but also incremental risks for activities at the margin.

An important overlay to these three principles is the consistency of NPR 2 with the requirements of the 1992 Act. Throughout these comments, Fannie Mae points out specific areas in which we believe NPR 2 does not comport with the letter or spirit of the 1992 Act. In addition, our comments demonstrate how our recommendations or alternative approaches would be consistent with the 1992 Act.

OFHEO's work to date represents significant progress in carrying out its difficult statutory mandate. As proposed, however, OFHEO's capital regulation would not meet the three criteria outlined above. We briefly summarize our areas of concern below and suggest ways in which we believe that OFHEO, building upon its extensive effort in this proposal, could make the necessary changes to produce a final risk-based capital regulation that would meet these fundamental criteria.

Operational Workability. The proposal does not include a workable process for applying the stress test and classifying Fannie Mae and Freddie Mac quarterly, based on the stress test results. In addition, the proposal does not have a workable way of allowing each company to know, or manage to, its capital requirement. Without such a realistic, workable process, the risk-based capital regulation cannot operate to serve its regulatory function.

OFHEO could define a process requiring Fannie Mae and Freddie Mac to apply the OFHEO-specified stress test, as detailed in the final regulation, and to report to OFHEO their results quarterly, along with starting-position data. This approach parallels OFHEO's current practice with respect to the minimum capital standard and is similar to the approach of other regulators to the reporting and capital requirements of regulated financial institutions.

Accommodating innovation. The NPR 2 preamble states that the proposal is sufficiently flexible and complete to allow application of the stress test to new products, investments, instruments and activities. As drafted, the proposal does not meet this standard because it creates a lengthy "waiting period" for certainty in capital treatment. Each company should be able to apply the principles in the regulation—subject to OFHEO's independent review for reasonableness—pending OFHEO's publication of an amendment to incorporate the treatment of the activity as a specific provision of the regulation.

Tying capital to risk. NPR 2 details a comprehensive stress test, but many of the underlying assumptions or modeling methods fail to link the required capital to the true economic risk that the companies face. The failure to tie capital to risk can have unintended effects. For example, low-downpayment mortgages and mortgages from certain regions could become less available and more expensive. The two companies could be disincented to share risk with third parties. Certain asset-liability management strategies that reduce risk and lower the cost of mortgage

[4] NPR 2 at 18,088.

finance could be discouraged. In sum, failure to tie capital to risk will compromise the safety-and-soundness purpose of the rule while, at the same time, impeding the ability of the companies to fulfill their missions.

Fannie Mae therefore recommends a number of technical, yet important, changes to tie the capital requirement to risk. Such changes are necessary to ensure that the risk-based capital regulation supports regulatory assessment of the safety and soundness of each company, provides incentives for good risk management, and assures the mission capability of each company.

Section I gives an overview of the areas in which NPR 2 fails to meet the goals outlined above. Section II and the Technical Appendices detail each of the specific risk alignment issues. Section III discusses the impact on various sectors of the housing market of failing to address these concerns.

Finally, as detailed in Section IV, the recommended changes related to each of the three areas described above are well within the letter and spirit of the 1992 Act, and within OFHEO's legal authority. Changes along the lines of the recommendations would more closely align OFHEO's capital standards with the best practices for effective capital supervision widely endorsed in the community of financial institution supervisors.

We look forward to working with OFHEO to achieve an effective and efficient final risk-based capital requirement.

SECTION I: GENERAL ANALYSIS AND RECOMMENDATIONS

1. Background: The risk-based capital standard presents an opportunity to align capital with risk

Fannie Mae and Freddie Mac are congressionally-chartered, privately owned companies whose sole business is to support housing by making a secondary market in residential loans for both single family and multifamily mortgages. In updating Fannie Mae's and Freddie Mac's charters in the 1992 Act, Congress recognized that the companies "currently pose low financial risk of insolvency,"[5] and have an "affirmative obligation to facilitate the financing of affordable housing for low- and moderate-income families."[6]

Congress also determined, however, that because the companies' ability to perform their mission is important to providing housing and to the nation's economy, "more effective Federal regulation" was needed to further reduce the companies' low risk of failure.[7] The 1992 Act therefore established a minimum capital level for the companies, created OFHEO as a safety and soundness regulator, and directed OFHEO to adopt a final risk-based capital regulation by December 1, 1994.[8] Based on the statutory specifications, Fannie Mae implemented its own version of the test in 1993, and since that time has been managing to it.

As stated in the statute, the risk-based standard requires each company to hold enough capital to withstand a highly stringent 10-year stress period, characterized by unprecedented interest-rate movements and credit losses occurring simultaneously. Based on statutory language, the main components of the test for interest-rate and credit risk are as follows:

- The stress test period is 10 years.
- The test evaluates two scenarios of combined and extreme interest-rate and credit stress (a rising interest-rate scenario and a declining interest-rate scenario). The more stringent of these two scenarios determines required risk-based capital.
- The test assumes that interest rates increase or decrease by up to 600 basis points over one year, and remain constant at this new level for the remaining 9 years of the test.

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[5] 12 U.S.C. § 4501(3). In 1992, both companies held substantial amounts of capital based on internal risk models. In the early 1990s, several government studies, including assessments by OMB and CBO, concluded that in a Great Depression-like scenario, "taxpayer exposure is close to zero." CBO stated that Fannie Mae and Freddie Mac "are relatively well capitalized...subject the government to a low level risk of loss...and appear to be well managed and to operate efficiently." Controlling the Risk of Government-Sponsored Enterprises, Congressional Budget Office, April 1991, p. xxviii.

[6] 12 U.S.C. § 4501(7).

[7] 12 U.S.C. § 4501(2).

[8] 12 U.S.C. §§ 4511, 4611, 4612.

- The test assumes that severe credit conditions, based upon the worst historical regional credit loss experience, apply nationwide.
- The stress test is applied to the existing book-of-business only; no new business is assumed except that associated with outstanding mortgage commitments.

The basic structure of the stress-test risk-based capital standard is very stringent. The combined interest-rate and credit conditions outlined in the statute are unprecedented; they are well in excess of historical experience. The risk-based capital standard also requires a 30 percent add-on for management and operations risk (OFHEO calculated this add-on to equal an extra $4.1 billion in capital as of June 30, 1997). Thus, total risk-based capital equals 130 percent of the capital required for interest-rate and credit risk.

This formula is uniquely rigorous in the arena of capital regulation, and affords an unprecedented level of assurance regarding safety and soundness. It provides an empirical model designed to assess the institution's survival while accounting for the full range of risks bearing on its operations. A method of implementation that combines the model's rigor and comprehensive risk assessment with operational simplicity and transparency would provide a substantial advance over the types of capital assessment most commonly found today for other regulated financial firms.

In this respect, OFHEO has noted that it views the credit stress component alone as equivalent to an "AA+" standard. The sizeable 30 percent management and operational risk add-on could push the effective rate to the highest AAA level.[9]

Based upon analysis done by IPS Sendero and First Manhattan Consulting Group, the typical bank or thrift that is deemed to be well capitalized would need 60-75 percent more capital in order to survive the rigors of a stress test comparable to that envisioned in the OFHEO model.[10] Banks and thrifts are subject to federally established capital minimums using both a leverage ratio (capital as a percent of non-risk weighted assets) and a "risk-based" ratio (capital as a percent of risk-weighted assets).[11] However, bank capital requirements are not based upon the quantification of risk under protracted stressful interest-rate and credit

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[9] OFHEO's Chief Economist stated to Congress in 1999 that: "When we compared the results of our proposal for selecting the benchmark time and place three years ago, we looked at very carefully what different rating agencies assume for different credit ratings; and we judged that the period that we had identified by the process that we were proposing looked to be about a AA-plus level of credit stress, looking at a number of rating agencies. Certainly not as tough as Moody's AAA scenario, but a tough scenario." OFHEO's Proposed Risk-Based Capital Regulation: Hearings before the House Subcommittee on Capital Markets, Securities and Government Sponsored Enterprises, 106th Cong. at 78, 1999, (Statement of OFHEO Chief Economist Patrick Lawler, available on the Internet at http://commdocs.house.gov/committees/bank/hba56835.000/hba56835_0.htm).

[10] "Risk-Based Capital and the Thrift Industry: Implication of Risk-based Capital Stress Test Requirements," IPS Sendero, February 1999, and "Applying the OFHEO Capital Tests to Bank and Thrift Peer Groups," First Manhattan Consulting Group, December 1999.

[11] See, e.g., OCC Risk-Based Capital Standards 12 C.F.R. §§ 3.1-3.21; Appendix A to Part 3 (1999).

conditions, using historical data to establish stress scenarios. Rather, their regulatory risk-based minimums derive from arbitrary formulas using only four highly simplistic credit risk categories.[12]

Bank supervisors agree on the need for substantial changes to those formulas. Commenters have noted that such prescriptive standards look backward and focus on past performance of portfolios (they are lagging indicators of health); do not adequately contemplate or measure all types of risk; are extremely complex; allow banks to engage in regulatory capital arbitrage; and impose a "one-size-fits-all" standard on sophisticated institutions operating in technologically advanced markets.[13]

In his remarks to the Federal Reserve Bank of New York's *Conference on Capital Regulation in the 21st Century*,[14] Federal Reserve Chairman Greenspan bluntly commented on the shortcomings of the current risk-based capital standards developed by the Basel Committee and the comparative benefit of having banks use their own models for risk assessment:

> "Despite the attempt to make capital requirements at least somewhat risk-based, the main criticisms of the Accord, at least as applied to the activities of our largest, most complex banking organizations, appear to be warranted…. First, the formal capital ratio requirements, because they do not flow from any particular insolvency probability standard, are, for the most part, arbitrary... Second, the requirements account for credit risk and market risk, but not explicitly for operating [risk] and other forms of risk that may be important. Third, except for trading account activities, the capital standards do not take account of hedging, diversification, and differences in risk management techniques, especially portfolio management… These deficiencies were understood even as the Accord was being crafted… In recent years, the focus of supervisory efforts in the United States has been on the internal risk measurement and management processes of banks. This emphasis on internal

[12] See A New Capital Adequacy Framework, Consultative Paper, Basel Committee on Banking Supervision, Basel Committee (1999)(hereafter "Basel II"); available on the Internet at www.bis.org/publ/bcbs50.pdf. The Basel Committee on Banking Supervision is a committee of banking supervisory authorities established by the central bank governors of the Group of Ten countries in 1975. It consists of senior representatives of bank supervisory authorities and central banks from Belgium, Canada, France, Germany, Italy, Japan, Luxembourg, the Netherlands, Sweden, Switzerland, the United Kingdom and the Untied States. The G-10 countries adopted the first risk-based capital accord in 1988, entitled International Convergence of Capital Measurement and Capital Standards, Basel Committee on Banking Supervision, Basel Committee (1988); available on the Internet at www.bis.org/publ/bcbs04a.pdf. U.S. bank and thrift regulators then adopted their own codifications of the 1988 Basel agreement.

[13] See, e.g., Remarks by Federal Reserve Board Governor Janet L. Yellen, "Recent Developments in the Financial System," Jerome Levy Economics Institute of Bard College, September 16, 1996, at 12.

[14] Alan Greenspan, "The Role of Capital in Optimal Banking Supervision and Regulation," Proceedings of a Conference—Financial Services at the Crossroads: Conference on Capital Regulation in the 21st Century, *Economic Policy Review*, Federal Reserve Bank of New York (October 1998) at 165. Also available on the Internet at www.federalreserve.gov/boarddocs/speeches/1998/19980226.htm ("Greenspan Remarks to NY Fed").

> processes has been driven partly by the need to make supervisory policies more risk-focused in the light of the increasing complexity of banking activities. In addition, this approach reinforces market incentives that have prompted banks themselves to invest heavily in recent years to improve their management information systems and internal systems for quantifying, pricing and managing risk." [15]

Many of these concerns were echoed in the Basel II capital proposal issued in June 1999. This document repeatedly underscores the need for reforms to halt regulatory arbitrage based on credit-risk benchmarks unrelated to actual economic risk. The issuing regulatory authorities acknowledge that because of this problem, a bank may use the form of a transaction "to achieve a risk-based capital ratio that is nominally high but which may obfuscate capital weakness in relation to the actual economic risks inherent in the bank's portfolio." [16]

Fannie Mae strongly supports a stress test approach to determining risk-based capital. A stress test approach provides a comprehensive risk assessment and, because it reflects the cumulative impact of each risk it measures, it is appropriately stringent. In point of fact, as the discussion above shows, the use of a stress test for Fannie Mae and Freddie Mac will provide a level of comprehensive risk assessment and stringency not currently applied to other financial institutions.

2. Three critical improvements should be made to enhance the proposed risk-based capital regulation

This risk-based capital rulemaking is one of the most important rulemakings of the last decade for the housing industry. The goal of the standard is to ensure that Fannie Mae and Freddie Mac remain financially strong while enabling the companies to continue achieving their housing mission. Specifically, the risk-based capital standard should accurately determine the capital required to cover Fannie Mae's and Freddie Mac's economic risks in a timely manner. In addition, the standard also should provide incentives for Fannie Mae and Freddie Mac to continue to adopt best practices in risk measurement, monitoring, and management. While the standard governs the capital that Fannie Mae and Freddie Mac must hold, homeowners, lenders, homebuilders, realtors and others in the housing industry will feel its impact. For this reason, it is critical that the final rule be properly specified.

Over the past eleven months Fannie Mae has completed an extensive review of the OFHEO risk-based capital proposal. We have worked with three expert risk management consulting firms in this process.[17] Our review has included work with OFHEO to identify errors in the

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[15] Id.

[16] Basel II at 36.

[17] Ernst & Young, a leading provider of assurance and advisory business services, has significant experience with the risk-management and regulatory issues currently affecting the financial services industry; First Manhattan Consulting Group, a leading strategic management consulting firm with significant experience in helping financial

proposed regulation, as well as to resolve differences between the proposed regulation and the OFHEO model used to calculate capital requirements. Because OFHEO did not publish its model, Fannie Mae worked to approximately replicate the behavioral (prepayment, default, etcetera) models included in the OFHEO proposal**.** We have been unable to reproduce the capital calculations for Fannie Mae that appeared in the proposed regulation.

Within these limitations, we have tried to assess the proposal and its effects. To be sure, the risk-based capital proposal advanced by OFHEO reflects a significant amount of work on a very challenging task. Development of a risk-based capital standard is extraordinarily difficult given the complex and dynamic nature of Fannie Mae and Freddie Mac's business and of the mortgage and financial markets. The proposed framework of estimating mortgage default, prepayment, and loan-loss severity functions, and then using these functions in conjunction with an historic benchmark of credit losses, is basically sound. However, our review has identified three important areas that must be addressed for the final regulation to become an efficient and effective standard for Fannie Mae and Freddie Mac. In subsequent pages, we provide more extensive review of our areas of concern and suggest ways in which OFHEO, building upon its significant work on this proposal, could make the necessary changes to produce a workable final risk-based capital regulation.

The three areas of overriding concern are:

A. MAKING THE PROPOSED REGULATION OPERATIONALLY WORKABLE[18]

Because of its excessive complexity and massive data and infrastructure requirements, the proposal is not operationally workable. Under the proposed regulation, Fannie Mae and Freddie Mac could not expect to know their capital requirements in either an accurate or timely manner. Nor would Fannie Mae and Freddie Mac be able to anticipate future capital requirements. Indeed, we believe that accurate, timely quarterly capital determinations by OFHEO itself would be impossible.

Without a practical, workable process for calculating or anticipating capital requirements, the risk-based capital regulation cannot serve its regulatory purpose. We do not believe that the proposal includes a practical process for applying the stress test and classifying Fannie Mae and Freddie Mac quarterly, based on the stress test results.

The need for a workable process for calculating capital requirements is evident. Since NPR 2 was issued nearly a year ago, Fannie Mae and Freddie Mac have worked extensively, including with OFHEO, in an attempt to replicate the model, run the proposed test and reproduce the capital results set forth in the proposed regulation. We have

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institutions develop systems to measure and manage risk; and Oliver Wyman & Co., a leading consulting firm on issues related to the linkage of risk and capital and risk management.

[18] See Appendix V-1 for issue briefs on operational workability by Ernst & Young, First Manhattan Consulting Group and Oliver Wyman & Co.

successfully replicated some of the behavioral models (e.g., the prepayment and default models) but we have been unable to reproduce the capital calculations on our June 1997 book of business as published in the proposal and we continue to have interpretation issues that impact the capital requirements by billions of dollars.[19] We understand that Freddie Mac has had similar difficulty.

One factor contributing to this problem is the underlying complexity of the behavioral and interest-rate models specified in the proposed regulation. Most of the difficulty arises in relation to the use and handling of the massive amounts of instrument-level data each company has provided to OFHEO, and in applying these data to the behavioral models to project cash flows and accounting statements. The regulation requires the exchange, management, and application of data on hundreds of thousands of different instruments and contracts to the behavioral and interest-rate models in the stress test. Improper treatment of any one of these instruments could cause capital requirements to be off by hundreds of millions of dollars. Ongoing errors and reconciliation will be a persistent consequence of a proposal that requires transferring this degree of instrument-level detail.

And while Fannie Mae and Freddie Mac are engaged in a similar business, they define many elements that describe their business in different ways. Calculation of a capital number for both companies would first require receipt and then interpretation of the nuances of hundreds of thousands of data elements from both Fannie Mae and Freddie Mac. Even if done with the utmost efficiency, this would be a time-consuming process. Additionally, the companies continually update their technology and database structures.

Without a workable process for calculating capital requirements on a timely basis and enabling the regulated entities to estimate and plan for future capital requirements, even behavioral and interest-rate models and stress-test assumptions that perfectly relate capital to risk cannot be used to set regulatory capital requirements. The quarterly classification must be completed in less than a quarter, and that cannot be accomplished if the process turns into a never-ending exchange of data and reconciliation of preliminary results.

We would recommend that, following the end of each quarter, Fannie Mae and Freddie Mac would apply the OFHEO stress-test model, as fully specified in the regulation, to their respective data and file quarterly reports with OFHEO of their performance under the OFHEO model and any other information OFHEO considered necessary, including starting-position data.[20]

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[19] Fannie Mae has raised the issue of replicability of capital numbers with OFHEO on several occasions. We understand OFHEO's position to be that replication is not necessary for meaningful comment under the Administrative Procedure Act ("APA") and that OFHEO intended the written words of NPR 2 to be sufficient for APA, as well as 1992 Act, purposes. Fannie Mae does not have notice of any other model, document or other item pertaining to OFHEO's risk-based capital test. These comments necessarily are based on NPR 2 only. See NPR 2 at 18,087.

[20] NPR 2, as written, contemplates such a process; "Each Enterprise shall file with the Director a risk-based capital report each quarter, or at such other times as the Director requires." NPR 2 § 1750.12(a), at 18,218. A possible

We would expect OFHEO to use its full regulatory powers, including examination, and its own application of the stress test, to verify that Fannie Mae's and Freddie Mac's application of the stress test correctly reflected the specifications in the final regulation, and that the data being applied to the stress test and reported to OFHEO were accurate. On-site OFHEO examiners already review Fannie Mae's and Freddie Mac's data capabilities, technology and business infrastructure. OFHEO has ample authority to assure itself of the accuracy and reliability of these data. This approach is similar to the approach taken by regulators of banks and thrifts when dealing with their reporting and capital requirements,[21] and parallels the approach OFHEO employs for determining compliance with the minimum capital standard.

Adopting this overall approach would greatly improve the operational workability of the proposed regulation by harnessing Fannie Mae's infrastructure and other capabilities under the full authority of OFHEO, through both its specification of the final stress test model in regulation and its examination authority. It would also enable Fannie Mae to anticipate and plan for future capital requirements, reducing the likelihood of an added costly capital uncertainty surcharge that would adversely affect our ability to manage our business and continue to achieve our housing mission.

B. IMPROVING THE PROPOSED REGULATION SO THAT IT ACCOMMODATES INNOVATION

In its preamble, OFHEO states that the proposal is sufficiently flexible and complete so that the stress test can be applied to new products, investments, instruments and activities, and by so doing sufficiently addresses and accommodates innovation.[22] We do not believe that the proposal meets this standard.

The proposed regulation erects substantial barriers to this critical need for flexibility and market responsiveness at a time when the pace of change and innovation in mortgage

alternative would be for OFHEO to require that Fannie Mae and Freddie Mac apply the OFHEO-specified stress test as set forth in the final regulation, using the company's data and reporting infrastructure—OFHEO properly distinguishes between the stress test (the many behavioral and interest-rate models) and the stress test infrastructure (the company data and financial reports). NPR 2 at 18,089. In addition to the frequency of submissions, the elements that comprise the reports to be submitted to OFHEO should be the same for each company, unless in OFHEO's judgment specific circumstances require otherwise. Consistency in reporting criteria would facilitate the monitoring of Fannie Mae's and Freddie Mac's performance against the stress test-model and will provide a readily available basis of comparison of each company's performance. No later than 45 days after the end of each quarter Fannie Mae and Freddie Mac would be required to provide to OFHEO capital calculations for both the up and down stress-test scenarios, a decomposition of each capital number by major risk factor, and an explanation of change from the prior period. In addition, they would provide the data employed to calculate required capital. OFHEO would make the final determination of Fannie Mae's and Freddie Mac's capital classification and publicly release this information. OFHEO would classify Fannie Mae and Freddie Mac based on the capital results generated by Fannie Mae and Freddie Mac applying the OFHEO stress-test model, unless OFHEO determines that such application of the stress test was inconsistent with the regulation.

[21] See, e.g., Regulatory Reporting Standards for OTS-regulated Thrifts, 12 C.F.R. § 562.2(b)(3)(1999).

[22] NPR 2 at 18,088.

finance is rapid and accelerating. Fannie Mae and Freddie Mac must have the flexibility to react swiftly to change and continually innovate, to execute effectively their housing mission and to provide the products and services needed by their customers. Moreover, to deliver these products and services to customers while preserving the safe and sound status of the company, Fannie Mae and Freddie Mac must be able to employ innovative risk-management methods.

Even if the proposal is substantially simplified, it does not construct a way to take account of new products and innovative practices in a timely manner. Although practices for the management of credit risk, like loss-mitigation techniques that reduce loss severity and credit scores that better predict borrower behavior, have been in the marketplace for quite a while, they are not yet reflected in the proposed model. Nor is there clear capital treatment for numerous underwriting experiments that are all targeted initiatives aimed at increasing homeownership. Future generations of products and services similarly should be made available to the market quickly, and, thus, the rule should provide a method to address the uncertainty as to their capital treatment.

To improve the flexibility of the proposed model, OFHEO could implement a process that directs Fannie Mae and Freddie Mac to determine the interim treatment for products and activities not recognized in the final regulation. Each company would be required to reasonably apply, adapt or combine the regulation's approaches, historical information, and industry best practice, with the full review of OFHEO for reasonableness.

This process would increase the flexibility of the proposed regulation so that it can reflect change, aligning it with current business best practices. It would encourage mortgage-product and risk-management innovations, without compromise to fundamental safety and soundness standards, which are further enhanced by the 30 percent capital surcharge for management and operations risk. This recommendation enhances safety and soundness by enabling innovations to be rapidly incorporated into capital calculations and the final risk-based capital regulation.

C. IMPROVING THE LINK BETWEEN CAPITAL AND RISK IN THE PROPOSED REGULATION

Consistent with the statute, OFHEO, Fannie Mae, and Freddie Mac have common objectives in properly linking risk to capital. As stated by OFHEO's then-Acting Director Mark Kinsey in describing OFHEO's objectives to Congress:

> "[T]he capital standard needs to recognize and reward appropriate management of risk. The proposed rule would encourage the companies to manage risk effectively because higher risk is associated with higher capital requirements, and vice versa. It also is intended to discourage regulatory capital arbitrage. By tying capital very closely to risk, our proposal should

> discourage efforts to restructure transactions simply to receive a lower regulatory capital treatment even though the risk has not changed."[23]

Additionally, OFHEO has stated that the regulation should reflect industry practice. Then-Acting Director Kinsey described the rule development process by noting that OFHEO had surveyed mortgage insurance companies, rating agencies, and other large financial institutions "to discover how they look at and measure risk. The result of all this effort is that our risk-based capital rule implements familiar and broadly accepted techniques for how the market and the industry evaluate mortgage risk."[24] Minimizing the differences between the regulatory and business treatment of stress-test elements is key to ensuring that the incentives provided to Fannie Mae and Freddie Mac by the risk-based standard align with the interests of Congress and U.S. taxpayers.

We have measured the rule by that appropriate standard and, while it meets it in some instances, it does not in many others. In many instances, the proposal's underlying assumptions for determining risk-based capital requirements, modeling methods, and specifications fail to link required capital to the economic risk that Fannie Mae and Freddie Mac face. Many of the technical elements of the proposal do not realistically reflect the economic risks of the business and are inconsistent with industry and market practice. Others do not realistically reflect Fannie Mae's and Freddie Mac's business operations. The final regulation should be specified so that it accurately measures these important aspects of interest-rate and credit risk.

Left uncorrected, these problems will result in regulatory incentives that are contrary to economic or market incentives, thus discouraging good risk management and skewing business practices in a way that is detrimental to participants in the housing finance system and that undermine Fannie Mae's and Freddie Mac's housing mission. The failure to link capital to risk in these areas can also have unintended deleterious effects. Low-down payment mortgages and mortgages from certain regions could become less available and more expensive. The companies would be less likely to disperse risk and share it with third parties. Certain asset-liability strategies that reduce risk and lower the cost of mortgage money would be discouraged. Unless an improved link between capital and risk is established in the final regulation, there will be strong incentives to manage risks in a manner not consistent with actual safety and soundness, leading to distortions in the relative prices and availability of certain mortgage products.

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[23] Statement of Mark Kinsey, Acting Director, Office of Federal Housing Enterprise Oversight, before the Subcommittee on Capital Markets, Securities, and Government-Sponsored Enterprises, U.S. House of Representatives, May 12, 1999, available on the Internet at http://www.ofheo.gov/docs/testimony/mktestim.pdf ("Kinsey Testimony").

[24] Remarks of Mark Kinsey, Acting Director, Office of Federal Housing Enterprise Oversight, before Mortgage Bankers Association's National Secondary Market Conference, April 12, 1999, available on the Internet at http://www.ofheo.gov/docs/speeches/mk_mba_419.pdf.

Set forth in the next section are 20 specific elements of the risk-based capital proposal in which risk and capital are not properly aligned. We analyze each issue and respectfully offer specific solutions, as well as methods for simplifying the proposed regulation so that it is more operationally workable and easier for the public to understand, where appropriate. We also attach in an appendix further supporting materials and analyses for many of the items, including analyses from expert risk-management consulting firms that support our findings.

Our analysis and recommendations notwithstanding, it is possible that a general re-examination of the proposed regulation might still yield even more favorable results. We would be most pleased to work with OFHEO toward that end if OFHEO chooses to pursue such a course of action.

SECTION II: ANALYSIS OF, AND RECOMMENDATIONS FOR, SPECIFIC STRESS-TEST ELEMENTS

We organize our review of specific elements in the stress-test model in the subsequent pages in the following manner:

1. *Stress Test Economic Environment*

- ***A. Yield curve specification***
- ***B. Non-treasury interest rates (spreads)***
- ***C. Special risk premium on Fannie Mae and Freddie Mac debt***
- ***D. Home price volatility***
- ***E. Home price scenario (inflation offset)***

2. *Mortgage Performance*

- ***A. Single-family mortgage default***
- ***B. Single-family mortgage severity***
- ***C. Single-family mortgage prepayment***
- ***D. Multifamily mortgage default and prepayment***
- ***E. Multifamily mortgage loss severity***

3. *Counterparty Credit Risk ("haircuts")*

4. *Company Operations*

- ***A. Refunding***
- ***B. Reinvestment***
- ***C. Operating expenses***
- ***D. Capital distributions***
- ***E. Tax rates and rules***
- ***F. Mortgage Commitments***

5. *Other Technical Comments*

- ***A. Non-interest earning assets***
- ***B. Risk-based capital calculation***
- ***C. Accounting items and conventions***
- ***D. Other items***

1. Stress Test Economic Environment

A. YIELD CURVE SPECIFICATION[25]

Proposal. The proposed regulation specifies that the shape of the Treasury yield curve during the stress period would be flat in the up-rate scenario and would have a positive slope in the down-rate scenario. For example, in the up-rate scenario, the 10-year Treasury yield is assumed to be identical to the one-month Treasury yield for the last nine years of the stress period. In the down-rate scenario, the 10-year Treasury yield is systematically higher than the one-month Treasury yield.

Identified problems. The proposed rule's yield-curve specification is not reasonably related to historical experience and produces changes in some interest rates that are well in excess of the movements specified in the 1992 Act.

OFHEO is directed by the 1992 Act to establish yield curves that "…are reasonably related to historical experience…."[26] The yield-curve specifications in the proposed regulation, however, are overly extreme, especially in the rising rate scenario, and are historically unprecedented. Thus, they are not "reasonably related to historical experience."

The Act specifies two distinct components for the interest-rate test—a rapid change in the 10-year constant maturity Treasury (CMT) rate over the first year followed by no change in that rate for the succeeding nine years. OFHEO's yield-curve specifications address only the rapid changes in rates, not the subsequent and much longer period of no change. Instead, OFHEO specifies the same yield curve for the period of changing rates and the period of constant rates. This is contrary to the theoretical and historical evidence and is, thus, inconsistent with the Act.

In addition to overstating the capital requirement for fixed-maturity assets and liabilities, the extreme specification of the yield curve in the proposed regulation also influences mortgage performance in the stress test**.** The effect of the unrealistic yield curve specified by the proposed model is to slow down prepayments in the up-rate scenario by more than the rate of change in the level of interest rates would justify, thus overstating the actual economic risk the companies face.

The proposed rule's yield-curve specification is also extreme in that it introduces stress well outside the bounds of that specified in statute. A flat yield curve specification in the up-rate test will almost always cause the maximum interest-rate move specified by Congress actually to be the *minimum* amount by which the most important interest rates increase in this test. For example, in the June 1997 stress test in the proposed rule, the 10-year CMT rate increases by 495 basis points—the maximum rate stress given the 10-year

[25] NPR 2 section 3.3.3.3, at 18,233-4.

[26] 12 U.S.C. § 4611(a)(2)(D).

CMT yield at the time—yet the 3-month CMT increases 638 basis points and remains at that level for nine years due solely to the rule's yield curve specification.

The rule's specification is inconsistent with the 1992 Act**.** The yield curves in the up-rate scenario are not reasonably related to historical experience**.** As a result, the proposed model can be expected to calculate a capital requirement in the up-rate scenario that is larger than is warranted given the actual risk.

Proposed solution. The yield curve specification in the rising interest-rate scenario should be modified so that, after the first year in the stress scenario, it transitions to a yield-curve slope consistent with long-run historical averages**.** Specifically, the rule should adopt an upward slope of 80 to 90 basis points (the spread between the 6-month Treasury and the 10-year CMT) after the first year in the up-rate stress environment**.**

B. NON-TREASURY INTEREST RATE SPREADS[27]

Proposal. The proposed rule employs a method for determining yields in the stress period on non-Treasury instruments and indexes, such as the London Interbank Offering Rate (LIBOR) and the Federal Home Loan Bank Eleventh District Cost of Funds (COFI) by applying 19 separate time series models, one for each interest rate. These models project spreads on non-Treasury instruments as proportional, percentage spreads over Treasury instruments with the same maturities.

Identified problems. The models for projecting non-Treasury interest rates in the proposed regulation are overly complicated and could often result in arbitrary and inconsistent stress-period interest-rate movements. As a consequence, the resulting capital requirement would fluctuate significantly for reasons unrelated to risk.

The proposed rule's method for projecting non-Treasury interest rates in the stress test does not reflect historical experience well, introduces unnecessary complexity into capital requirements, and can produce erratic changes in capital requirements. The proposed rule uses ARIMA models to project 19 different interest rates for the 10-year stress scenarios. The interest-rate-spread models are inconsistent in structure, are estimated over different time periods, and rely upon incorrect data, leading to unstable rate relationships. In addition, the unnecessary complexity of the mechanism in the proposed rule adds to the difficulty the companies would have in incorporating the proposed regulation into their capital-management and compliance systems**.**

The proposed regulation's approach of modeling spreads in proportion to underlying Treasury instruments means that all spreads widen when interest rates increase and narrow when rates decrease. As a result, the proposal overstates default risk premiums in the up-rate stress scenario and understates them in the down-rate stress scenario. Such proportionality in spread movements also runs counter to theoretical and empirical evidence**.**

[27] NPR 2 section 3.3.3.4, at 18,234-6.

Proposed solution. Interest-rate spreads should be modeled as fixed basis point add-ons to the underlying Treasury instruments. The spreads should be calculated as simple 3-year moving averages (identical to one of the statutory requirements for calculating the 10-year Treasury rate) of each interest rate relative to Treasury rates over the stress period. In addition, 25 basis points should be added to the fixed-rate-mortgage spreads in the down-rate test and subtracted from fixed-rate-mortgage spreads in the up-rate test to reasonably reflect, and be consistent with, the dynamics of the mortgage market in the stress scenario. Spread estimates should be based upon reliable and well-accepted industry data sources.

C. SPECIAL RISK PREMIUM FOR FANNIE MAE AND FREDDIE MAC DEBT[28]

Proposal. The proposed regulation assesses a penalty of 50 basis points on projected Fannie Mae debt-issuance costs beginning in month thirteen of the stress test and continuing throughout the stress period.

Identified problems. The assumption that only Fannie Mae and Freddie Mac and no other entities face an extra 50 basis point debt cost creates an artificial capital distinction between raising funds through bullet debt and interest-rate swaps that is inconsistent with the relative risks of the two funding sources. This treatment will create an incentive for Fannie Mae and Freddie Mac to rely disproportionately on other sources of long-term debt, for reasons completely unrelated to actual risk, and will supply disincentives to employ tools that reduce economic risk.

The risk premium is arbitrary in that it applies only to Fannie Mae and Freddie Mac and not to any other financial institutions. It is assumed that Fannie Mae and Freddie Mac debt rates are affected by the stress period—a nationwide economic stress—but not LIBOR, fed funds or prime rates. The 50 basis point risk premium cannot be said to reflect the economic realities of the stress period if it applies only to the two companies. The inconsistency of this aspect of the rule is most glaring given the haircuts specified elsewhere in the proposed regulation. The rule's haircut levels are based on the assumption that other financial institutions are defaulting at a rate in excess of Depression-era rates, yet the rule assumes the relative borrowing rates of those institutions are not affected. Even the more economically rational haircuts Fannie Mae is proposing in this comment letter suggest severe overall economic conditions that would be inconsistent with a risk premium applicable only to Fannie Mae and Freddie Mac debt**.** Fannie Mae and Freddie Mac finish the stress test with billions of dollars of capital on their balance sheets, yet they are the only institutions whose debt costs are affected by the stress conditions.

The debt premium is also arbitrary in that it is not specifically tied to any risk measure of Fannie Mae and Freddie Mac, such as regulatory capital status during the stress period. Both Fannie Mae and Freddie Mac meet their minimum capital requirements for virtually the entire 10-year stress period, even under the hypothetical and unrealistic assumption that they do no new business during this time. In fact, when Fannie Mae earnings do turn

[28] NPR 2 section 3.3.3.5, at 18,236.

negative during the stress period, it is in no small part due to the 50 basis point debt cost penalty.

Finally, the special debt penalty applied to Fannie Mae and Freddie Mac represents an additional stress that is not specified in the 1992 Act and is not reasonably related to historical evidence. Even in the stressful periods of the early-1980s—when Fannie Mae was considerably less strong financially than it is today—spreads on other instruments widened relative to Treasury securities more than spreads on Fannie Mae debt (or, in other words, Fannie Mae's debt spreads narrowed relative to all other non-Treasury instruments).

Proposed solution. The final rule should treat Fannie Mae and Freddie Mac debt costs in the same manner as it does other non-Treasury interest rates—without the addition of any risk premium. At a minimum, if the final rule maintains the concept of a risk premium, such premiums should be phased-in in the same manner as credit "haircuts," and should be applied to all non-Treasury instruments.

D. HOME PRICE VOLATILITY[29]

Proposal. The proposed regulation uses quadratic equations in mortgage age for house price volatility in order to determine the dispersion of home prices**.** Specifically, there are nine different equations, one for each of the nine U.S. Census Divisions. The proposed rule also calls for quarterly updates of the coefficients in these quadratic equations.

Identified problems. The proposed specification of home price volatility in the rule creates numerous problems in achieving consistency with the underlying intent of the 1992 Act, operational practicality, and linking capital to risk.

First, the proposal discriminates across regions of the country, which is inconsistent with the 1992 Act's recognition of Fannie Mae's and Freddie Mac's mission of promoting access to mortgage credit throughout the country.[30] The capital requirement for a new mortgage in one region could be over 40 percent higher than a comparable mortgage from another region, even though the underlying risk characteristics of the two mortgages are identical. This feature of the regulation would also discourage regional diversification at the companies, in contrast to the safety and soundness objective of the 1992 Act.

Second, the proposed quarterly updates to volatility result in Fannie Mae and Freddie Mac being unable to anticipate and plan for future capital requirements, thus contributing to the regulation's lack of operational practicality. This model uncertainty limits the companies' ability to achieve their housing mission by forcing them to hold excess capital for a reason that is unrelated to interest-rate, credit or operations risk.

[29] NPR 2 section 3.5.2.3.2.3, at 18,243-45.

[30] 12 U.S.C. § 1716(4).

Finally, the proposed approach results in loss experiences that will be inconsistent with the benchmark experience.[31] The house price path employed in the proposed rule is from the West South Central Census division between 1983 to 1993. The use of volatility measures from other time periods and regions would then be inconsistent with the benchmark loss experience**.** Actual losses are a function of both the level and the volatility of home prices**.** The historical 10-year results depend upon the interplay between the two variables.

Proposed solution. The final rule should include a stable approach to estimating home price volatility that is constant across geographic regions and linked to the benchmark loss experience. Specifically, we recommend that the quadratic volatility coefficients employed in the final rule be equal to those estimated from the West South Central Census division over the 1983 to 1993 period and remain unchanged over time. This recommended modification would result in a simpler rule, and it also will eliminate regional differences in regulatory capital treatment that are contrary to Fannie Mae's and Freddie Mac's charters and missions.

E. HOME PRICE SCENARIO—INFLATION OFFSET[32]

Proposal. The proposed regulation adjusts the home price index used in the stress scenario by an amount equal to the increase in the 10-year CMT yield that is more than 50 percent greater than the average yield in the preceding nine months. Such an adjustment is only included during the final five years of the projected stress period (years 6 through 10).

Identified problems. The proposed rule understates and defers the recognition of home price inflation in a protracted high interest-rate and inflation environment. Our interpretation of the intent of the inflation adjustment in the 1992 Act is that credit losses in the up-rate stress test should be lower than credit losses in the down-rate test—at least when interest rates increase by more than 50 percent—owing to the assumed higher rate of inflation. However, the proposed rule's benign inflation adjustment, as well as its delay in recognizing the adjustment until the last five years of the stress period, contributes to up-rate credit losses that are comparable to, if not higher than, down-rate credit losses.

The mild inflation adjustment also is counterfactual. Studies have shown that inflation would increase by 75 percent to 100 percent of the increase in the 10-year CMT specified by the 1992 Act.[33] Studies have also shown that home prices at least keep pace with, if not exceed, inflation in a stress environment.

Proposed solution. OFHEO should conform more explicitly to the statutory requirement by adjusting the timing and magnitude of the home price inflation consistent with the up-

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[31] The "benchmark loss experience" is defined by OFHEO in "Risk-based Capital Notice of Proposed Rulemaking," 61 Fed. Reg 29,592 (June 11, 1996) at 29,593 ("NPR 1").

[32] NPR 2 sections 3.4.2 and 3.4.3, at 18,236-37.

[33] See Appendix III.1.D.

rate stress test to more realistically reflect economic risk. Specifically, the inflation adjustment should begin as soon as the 10-year CMT yield rises above its average yield of the preceding nine months. Additionally, the amount of the adjustment should reflect at least 75 percent of the increase in interest rates, and not just the component in excess of a 50 percent increase in the 10-year CMT.

2. Mortgage Performance

A. SINGLE-FAMILY MORTGAGE DEFAULTS[34]

Proposal. The proposed rule's approach to projecting mortgage performance (i.e., defaults, severity of loss and prepayments) involves three steps:

i. estimation of econometric models of mortgage performance using a wide range of historical data from Fannie Mae and Freddie Mac;
ii. adjustments or corrections to the estimated statistical models to attempt to provide a reasonable relationship to the benchmark loss experience; and
iii. application of the adjusted models to starting Fannie Mae and Freddie Mac mortgage portfolios.

Identified problems. In step (i) of the proposed approach, OFHEO estimated its econometric models based on Fannie Mae and Freddie Mac data on mortgages that were originated throughout the United States from 1979 to 1993, and observed through the end of 1995. These estimated econometric models are essentially sound, and the level of detailed econometric modeling of loan performance is unmatched among risk-based capital regulations of other financial institutions. The estimated econometric models should remain intact and unchanged. However, changes in steps (ii) and (iii) are necessary in order to make the risk-based capital standard operational, more reflective of risk, and consistent with the 1992 Act[35] as well as Fannie Mae's and Freddie Mac's housing missions.

The single-family default models used in the proposed regulation yield default rates that are higher than the benchmark experience for low-downpayment loans. The method of calibrating to the benchmark loss experience in the proposed rule results in disproportionately larger increases in the default rates on low-downpayment loans than on high-downpayment loans. It is especially important to rectify the proposed model bias against low downpayment loans in light of the fact that the regulation fails to consider widespread changes in underwriting practices since the early 1980s when the benchmark loans were originated. These improvements have resulted in greatly limiting the number of low downpayment loans made to either investors or self-employed borrowers, as well as those carrying low documentation requirements. Thus, proposed default rates for low-downpayment loans, already higher than the benchmark experience, are also considerably

[34] NPR 2 sections 3.5.2.3.2.9, at 18,248 and 3.5.3.3, at 18,251-18,259.

[35] See, e.g., n. 38 infra.

higher than would reasonably be expected today during a severe credit-stress event. Fannie Mae commented on these and other data concerns in response to NPR 1 and provides further elaboration in the benchmark-loss-experience section in Technical Appendix III.2.C.

The proposed regulation also produces implausible volatility in default rates because of the manner in which it specifies so-called "burnout." Burnout occurs when borrowers retain their mortgages during periods when there are clear financial benefits to refinancing. Failure to refinance may indicate the existence of other, unspecified credit-related stress, such as failure to meet income requirements. Consequently, loans with burnout typically have higher levels of conditional defaults, as is reflected in the proposed regulation. However, the proposed regulation's specification of burnout can cause exceptionally large and sudden increases in conditional default rates on new loans—as much as 400 percent—in the first quarter that burnout is detected. This volatility is implausible, even for a stress environment, calling into question the overall specification.

Proposed Solution. To better align risk and required capital for low-downpayment loans, the model should use an adjustment factor that is historically more accurate than the one proposed by OFHEO for loans with LTV ratios in excess of 80 percent. This will align the default rate projections for low-downpayment loans with historical experience.

In order for the burnout effects on default to be applicable only after protracted credit-related stress, OFHEO should clarify that burnout can only start after eight quarters into the stress period. In addition, the regulation should smooth the impact of burnout on default, to make more realistic the jump in default rates observed in the quarter when burnout is first recognized. For example, OFHEO could smooth out the effects over two years, reflecting 1/8 of the impact in the first quarter that burnout is detected, 1/4 in the second quarter, 3/8 in the third quarter, and so on until the impact of burnout is fully reflected in default rates**.** This change would preserve the long-term burnout effect but mitigate its short-term volatility.

B. SINGLE-FAMILY MORTGAGE LOSS SEVERITY[36]

Proposal. The proposed loss severity model has two basic components: (1) estimates of the sales proceeds—and therefore the losses—on foreclosed properties, and (2) estimates of the Fannie Mae and Freddie Mac costs for disposing of foreclosed properties. The property loss calculation is based on econometric estimates of sales proceeds as a function of home prices and their volatility. The property loss model is then calibrated to the benchmark loss experience, while estimates of the disposition expenses are based on national averages.

Identified problems. The proposed rule's method for calculating property loss is extremely complicated**.** This approach is unique to the proposed regulation and is not used

[36] NPR 2 section 3.5.3 at 18,251-60.

elsewhere in academic research or industry practice. Moreover, the econometric model explains very little of the behavior of property losses and hence does not adequately capture risk.

Proposed solution. The final rule should simplify the calculation of the property-loss and expense components of loss severity. Rather than using the complicated property loss equation, the final rule should adopt a loss calculation that extracts property loss estimates from the benchmark directly, and then uses those loss estimates in the stress test. Estimates of the funding costs for foreclosed properties should also be simplified. These changes will allow the risk-based capital standard to be a better reflection of risk to Fannie Mae and Freddie Mac while ensuring consistency with the 1992 Act.

C. SINGLE-FAMILY MORTGAGE PREPAYMENTS[37]

Proposal. The proposed regulation employs a prepayment model that is estimated similarly to the default model. However, no calibration is used to relate stress-period prepayment rates to those of the benchmark region.

Identified problems. The 1992 Act mandates that "characteristics of the stress period …such as prepayment levels…be those determined…on the basis of available information to be most consistent with the stress period."[38] In addition, the specification of prepayments contrasts with the proposed regulation's approach for estimating stress-period defaults, in which there is an attempt to calibrate the default models so they reproduce the benchmark experience. Annualized prepayment speeds produced from the proposed model are 5 to 10 percent CPR faster than the benchmark experience.

A separate problem with the estimated prepayment model is that the proposed prepayment speeds in the up-rate environment are understated for two reasons. The first is that most mortgages outstanding in the early 1980's were assumable or contained due-on-sale clauses that were not enforced. Thus, historical prepayment rates are understated compared to those that would be expected today in a similar, stressful environment because due-on-sale clauses are now universally enforced.

The second reason for the understated prepayment speeds in the up-rate test is that OFHEO estimated its prepayment equation based upon mortgage origination data from 1979 through 1993 and prepayment outcomes from 1979 through 1995. With the exception of 1979 to 1981, interest-rate behavior throughout this time period was analogous to the down-rate environment. Thus, OFHEO's up-rate prepayment estimates are the result of model extrapolations estimated primarily in a down-rate environment, which make them unreliable for the up-rate scenario. Consequently, the estimates of prepayment rates in the up-rate scenario should be adjusted to reflect the conclusions of

[37] NPR 2 section 3.5.2 at 18,241.

[38] 12 U.S.C. § 4611(b)(2).

studies by experts on housing mobility. These studies[39] suggest prepayment rates about 1.5 percentage points higher than the proposed rule's current specification in the up-rate scenario.

Proposed solution. The final rule should calibrate the prepayment rates derived from the model to those of the benchmark experience in order to conform to the intent of the 1992 Act. After calibrating prepayment speeds to the benchmark, the final rule should adjust the up-rate prepayment rates to achieve total terminations (defaults plus prepayments) of no less than 5.5 percent per year. This will make prepayment rates consistent with industry expectations in a stressful, high-rate environment and will reflect the enforceability of due-on-sale clauses.

D. MULTIFAMILY MORTGAGE DEFAULTS AND PREPAYMENTS[40]

Proposal. OFHEO's proposed regulation uses a series of seven econometric models (two for estimating defaults and five for estimating prepayments) to determine required risk-based capital for the multifamily business segment. The proposed rule is based on Fannie Mae and Freddie Mac mortgage performance data from 1983 to 1995.

Identified problems. The proposed regulation employs a complicated statistical standard for multifamily defaults and prepayments that has numerous business and conceptual problems:

i. The proposed rule's methods are overly complex and rely on questionable data. Much of the data used to develop the multifamily default specifications is derived from acquisitions by Fannie Mae and Freddie Mac in the later 1980s. Today's underwriting, risk management, data collection, and performance management practices are very different from those in the 1980s. The poor data underlying the proposed rule are used to produce very specific multifamily models that are highly questionable and are not recognized by industry practitioners.

ii. The proposed rule does not link predictions of the multifamily model to an observable benchmark region loss experience. Instead the multifamily stress experience is defined by specified stress property value and cash flow paths applied to the default and prepayment models. While cash flow paths have been selected to represent economic conditions prevalent in the benchmark region, there is no similar link for property values during the stress test. Instead property values are determined through a complex interaction of stress interest rates and cash flows in a weak model of capitalization rates. The results may bear little relationship to property values in the benchmark region. In addition, the proposed rule has not referenced external industry standards used by multifamily lenders or investors. As a result of the weak empirical base, the rule's specifications are too sensitive to

[39] See Appendix III.2.D

[40] NPR 2 section 3.5.4.3.6.1.2, at 18,275-6.

characteristics such as seasoning and loan-to-value ratios that are updated with cap rate indexes.

iii. Prepayment speeds, particularly for the yield maintenance period of multifamily loans, are excessive. The proposed model produces unstable results, and capital well beyond the level suggested by the risk of the business in various environments. In addition, yield maintenance payments are completely ignored as a source of income.

iv. The proposal does not consider the current methods employed by the companies to mitigate risk in the multifamily business through active asset management, lender supervision, and risk sharing.

Proposed solution. OFHEO should simplify the multifamily default and prepayment models, removing unnecessary volatility and producing capital results more in line with economic risk. Multifamily defaults should be based upon LTV and debt service coverage (DSC) ratios observed at origination and on changes in measured DSC ratios through time. Default rates should be roughly consistent with the levels in the proposed regulation, and they should be similar in both the up- and down-rate environments and across seasoning categories**.** Prepayments should be very low not only in the up-rate scenario but also within yield maintenance periods in both the up- and down-rate scenarios. Prepayments during the down-rate scenario should be no more than 2 percent per month for loans beyond their yield maintenance periods.

E. MULTIFAMILY MORTGAGE LOSS SEVERITY[41]

Proposal. The proposed regulation models multifamily mortgage loss severity using statistical models and data from real estate owned (REO) properties originated before 1991 by Freddie Mac.

Identified Problems. The major problems with the proposed rule's specification of multifamily loss severity relate to poor data and losses resulting from fraud. The data used to support the specifications in the proposed rule are extremely limited (based on 705 Freddie Mac REO properties disposed over the period 1991-1996.) Further, the severity rates proposed in the regulation fail to reflect the improvements in severity that accompanied the major changes in multifamily underwriting practices not only by Freddie Mac in 1991, but also by Fannie Mae in 1988. Thus, the loss severity rates in the proposed rule, ranging from 60 to 70 percent in the up-rate stress scenario, are significantly overstated.

Proposed solution. The regulation should use a constant severity rate that reflects the broader experience of both companies and is based upon a more reasonable expectation of recovery from sale of properties. A 40-45 percent loss severity rate is more consistent with the companies' experience in difficult economic climates and is within the range assumed by rating agencies and other studies of multifamily properties.

[41] NPR 2 section 3.5.5, at 18,277-80.

3. Counterparty Credit Risk ("Haircuts")[42]

Proposal. The proposed regulation accounts for the credit risk on mortgage credit enhancements, derivative contracts, and securities such as corporate, municipal, and mortgage-related securities. The regulation does this by subjecting contractual cash flows received from counterparties during the stress test to "haircuts" (or reductions) based on the credit rating of the counterparty. The haircut at the end of the 10-year stress test is 10 percent for AAA-rated firms, 20 percent for AA-rated firms, 40 percent for A-rated entities, and 80 percent for both BBB and unrated counterparties**.** Thus, at the end of the stress period, Fannie Mae receives credit for only $0.20 of each $1.00 of credit enhancement from a BBB or unrated entity—and many of the company's small-lender partners are unrated.

Identified problems. The proposal fails to link capital to economic risk. It does not explicitly model the risk exposure in specialized credit-enhancement contracts and it assumes that counterparties default at rates far out of proportion with the stress-period environment, industry practice, and historical experience. Furthermore, it assumes a public rating is a proxy for true counterparty risk even though cross collateralizations may exist. Finally, the rule treats all unrated entities as BBB when no rating exists regardless of their true risk exposure. The proposal would practically preclude Fannie Mae and Freddie Mac from relying on counterparties to reduce risk, and would make it prohibitively expensive to purchase securities for either investment or liquidity purposes.

The credit haircuts specified in the proposed regulation are excessive in both their magnitude and timing. They bear no statistical relationship to the underlying risks they supposedly reflect, and the proposed regulation provides scant justification for their specification. Moreover the rules are exclusively default-based and fail to take into account any "recovery" values. This results in proposed haircuts that are not only substantially in excess of the default experience of the worst 10 years in the post-1970 period, but also appear to be 300 percent to 700 percent greater than the loss experience of investment grade bonds in the Great Depression. This is excessive.

Recovery values can take on different forms. For direct investments in nonmortgage assets, it is the securities' liquidation values. For mortgage credit enhancements it includes capturing ongoing payments that Fannie Mae is legally entitled to such as borrowers' mortgage insurance payments, Multifamily Delegated Underwriting and Servicing (DUS) fees and reserves, and mortgage servicing rights. The proposed rule should model the economic risk associated with each form of credit enhancement and correctly link capital to its corresponding risk.

The proposed haircut specification makes unattractive investment in mortgage revenue bonds, a very important tool used by the companies to effect their affordable housing missions. Mortgage revenue bonds are subject to the same haircuts even though risk-based capital is

[42] NPR 2 section 3.6, at 18,280-18,283.

charged separately against much of their underlying collateral, primarily agency and government loans.

Finally, with respect to derivative contracts, the proposed rule does not adequately consider the effect of collateral agreements and other counterparty controls, which Fannie Mae and Freddie Mac employ to effectively eliminate credit risk in such contracts. As a result, the proposed haircuts make the use of derivatives unattractive in issuing synthetic debt and in hedging portfolio risk. The final rule needs to be structured so as to ensure that the company can continue to use derivatives as a component of sound risk management.

Proposed solution. In all areas of credit enhancement, the regulation should result in capital corresponding to true economic risk. Any aggregation of loans by the regulator for the purpose of determining the value of credit enhancements should be done consistent with the underlying terms of the credit enhancement contract. Spread accounts, for example, the value of which vary with time, should be modeled consistent with their contractual terms rather than assessed the arbitrary 100 percent haircut assumed in the current proposal. In the case of the size and timing of haircuts, the proposal should be adjusted to be more in line with historical loss experience. It should also consider economically valid recovery values that would be associated with security defaults and counterparty nonperformance. Specifically, the raw default based haircuts should be 3.0 percent for AAA counterparties, 4.0 percent for AA entities, 8.0 percent for A credits, and 12.0 percent for BBB and unrated firms. Our recommendation is conservative based on historical corporate bond default rates over the benchmark time period and are reasonable relative to the performance of bond defaults in the Great Depression.

Recovery values should be accounted for in the final rule. In the case of mortgage insurance and other risk-sharing agreements, where the borrower purchases credit enhancement and Fannie Mae has access to these premium payments in the event of counterparty failure, the rule should include borrower premium payments as proceeds to the company to absorb future losses. In the instance of recourse to a seller/servicer, the rule should include mortgage-servicing rights. For rated securities, a recovery value of 50 percent is recommended, which is consistent with rating agency experience.

With respect to rated securities such as mortgage revenue bonds, which are collateralized by agency or government loans, these instruments should not be subject to any haircut because capital already is held against the underlying mortgages in the stress test. Also, with regard to derivative contracts, we recommend simplifying the proposal to capitalize such contracts in accordance with OFHEO's rules for minimum capital. Since the primary risks on derivatives are operational risks, the combination of minimum capital and the 30 percent management and operations add-on more than adequately covers the risks on these contracts.

Finally, the basis of any haircut is the credit rating, so that if capital is to correspond to risk, then the rating must be an accurate representation of true counterparty exposure. To that end we recommend the use of the companies' own classification procedures, subject to OFHEO oversight, when fewer than two ratings are available.

4. Company Operations

A. FANNIE MAE AND FREDDIE MAC REFUNDING[43]

Proposal. The proposed regulation assumes that cash shortfalls are funded with six-month discount notes with an interest rate equal to the Fannie Mae borrowing rate plus 2.5 basis points.

Identified problems. The proposed rule greatly overstates the risks of Fannie Mae and Freddie Mac portfolio activities by failing to reflect reasonable company or industry practice in the specified refunding rule. The assumption that Fannie Mae and Freddie Mac refund with only short-term debt as interest rates increase is contrary to even the most basic elements of their risk management strategies and will result in artificial capital requirements.

Fannie Mae manages its businesses to maintain a target asset-liability duration gap to mitigate interest-rate exposure. Both management and on-site OFHEO examiners closely monitor these risk-management practices. Absent active management, the mortgage portfolio's duration gap will inevitably move beyond board of director-approved risk limits in each of the two stress-path scenarios. Established policy would therefore require corporate managers to actively engage in a host of rebalancing strategies to maintain risk exposures within prescribed limits. Refunding primarily with debt blends of either long or short duration is one of the key means of managing this interest rate-risk. The current proposal's refunding rule totally ignores these formal risk-management policies and techniques. In fact, the requirement that all refunding needs be met with short-term discount notes effectively assumes that Fannie Ma and Freddie Mac deliberately act to significantly increase risk in the rising-rate scenario. As a result, the proposed regulation severely overstates risk-based capital requirements in the up-rate stress test.

Additionally, an artificial limitation on the ability of Fannie Mae and Freddie Mac to prudently refund during the stress period creates an incentive to rely on a disproportionate amount of longer-term debt when funding mortgage purchases. This would be inconsistent with sound risk management.

Proposed solution. The regulation should adopt a simplified refunding rule that does not exacerbate risk, especially in the up-rate stress scenario. The rule should be a conservative reflection of company practice: a blend of longer-term debt in the rising-rate scenario and a blend of shorter-term debt in the declining-rate scenario**.**

B. FANNIE MAE AND FREDDIE MAC REINVESTMENT[44]

Proposal. The proposed regulation assumes that surplus cash generated by Fannie Mae during the stress scenario is invested in one-month maturity assets that yield the six-month Treasury rate.

[43] NPR 2 section 3.10.3.1 at 18,297.

[44] Id.

Identified problems. The proposed regulation is inconsistent with realistic practice and creates distortions in economic risk. Fannie Mae has never invested in a one-month Treasury instrument that carries a six-month Treasury rate. Indeed, such instruments do not exist in the marketplace.

Proposed solution. We recommend an assumption that excess cash generated in the stress scenario be invested in one-month fed funds, which is a widely available investment rate. In addition, this would be consistent with Fannie Mae and industry practice while introducing essentially no credit risk into the stress test.

C. COMPANY OPERATING EXPENSES[45]

Proposal. The proposed regulation ties operating expenses to portfolio size in a proportion equal to that observed in the quarter prior to the start of the stress period.

Identified problems. The capital charges associated with operating expenses in the proposed regulation are inconsistent with the 1992 Act's requirement to apply the stress test assuming no new business activity. Well under half of each company's cost structure is currently devoted to the maintenance and support of existing book-of-business balances. Thus, sizable downward adjustment from current baseline operating expense "running rate" levels is required in order to project stress test operating costs that are both reasonable and consistent with a "no-new-business" environment.

The proposed regulation's method for determining operating expenses also results in operating costs that differ dramatically between up-rate and down-rate scenarios. This disparity inaccurately depicts our cost structure and therefore distorts risk. A large portion of the cost associated with maintaining and servicing existing company balances is relatively fixed, and thus would be largely unaffected by dissimilar mortgage liquidation rates in the two stress-test scenarios. While the proposed rule claims that adoption of a variable cost approach provides a "reasonable approximation" of company stress-test expenses, our analysis shows that risk-based capital requirements in the up-rate stress path can be as much as $2 billion higher than the down-rate scenario due solely to this treatment.

The proposed rule's approach of tying stress-test operating expenses to the quarter immediately preceding the start of the stress test also introduces volatility in the capital requirement that is unrelated to risk. Quarterly operating expenses often vary due to seasonal factors or one-time events. Further, these one-time events often involve process or system enhancements that serve to improve risk-management capabilities. While the proposed rule projects forward the cost of these investments over the full ten-year stress period (raising capital requirements by some multiple of the actual cost), it captures no corresponding reduction in expenses as a result of these investments. Such treatment effectively penalizes innovation.

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[45] NPR 2 section 3.10.3.4, at 18,297.

Proposed solution. Annual stress-test operating expenses should be divided into fixed and variable cost components associated with servicing only the existing book-of-business. Based upon a review of historical costs tied to support of existing business volumes, variable costs should be applied as a 2.0 basis point annual charge against projected mortgage portfolio balances. Corresponding fixed costs range between 1.5 and 2.0 basis points of total beginning balances. Because some of these costs would disappear in a business wind-down scenario, fixed costs should be set equal to 1.5 basis points of beginning stress test balances and held constant at that annual dollar level throughout the ten-year stress period. To avoid discouraging innovation, the regulation should adopt the recommended fixed and variable cost levels as constant parameters not subject to quarterly change.

While this recommendation may increase capital required in the down-rate scenario, the effective capital charge for operating expenses would be roughly equivalent across the two interest-rate stress paths. The resulting overall level and symmetry provide a far more accurate depiction of our cost structure and establish more appropriate risk-management incentives. Such treatment supports the accepted view that administrative expense should not be treated as an element of risk-based capital. Indeed, no other financial institution's risk-based standard considers these costs at all.

D. CAPITAL DISTRIBUTIONS[46]

Proposal. The proposed regulation assumes that Fannie Mae and Freddie Mac pay preferred dividends at the stated preferred stock coupon rate as long as they meet their minimum capital requirement after each payment. The regulation also proposes that common stock dividend payments be paid as long as the companies meet their minimum capital requirement after each payment but in no case for more than the first four quarters of the stress period. Common dividends are equal to the greater of the dollar amount of dividends paid in the quarter immediately preceding the stress test, or the product of the average dividend payout rate for the most recent four quarters multiplied by earnings in the current quarter.

Identified problems. The proposed regulation assumes that Fannie Mae and Freddie Mac would continue to pay preferred dividends and deplete capital reserves throughout the stress period even though they may be deemed "undercapitalized" from a risk-based capital perspective during that period. This is arbitrary and serves to increase rather than reduce risk. As a prudent regulator concerned with safety and soundness, OFHEO would undoubtedly reject dividend approval requests from a company deemed "undercapitalized" for more than a few quarters. Additionally, Fannie Mae and Freddie Mac themselves would likely curtail these payments, consistent with the terms of the preferred stock, as erosion in the core capital base became apparent.

[46] NPR 2 section 3.10.3.2, at 18,297.

Another shortcoming of the proposed treatment is the reliance upon Fannie Mae's most recent year's common dividend payout rate for purposes of projecting common dividend payments during the stress test. Such a limited historical look-back period means that any special one-time distribution would not only make risk-based capital requirements overly volatile, but also make them change in ways unrelated to economic risk.

Proposed solution. All stress test capital distributions, including preferred stock dividends, should terminate at the end of the first year. This treatment most closely aligns dividend payouts to both regulatory capital classifications and Fannie Mae economic incentives. The regulation should also employ a common dividend payout ratio based upon the average of Fannie Mae's payout rates during the most recent three-year period in order to avoid unnecessary volatility in capital requirements.

E. TAX RATES AND RULES[47]

Proposal. The proposed regulation applies an effective Federal income-tax rate of 30 percent when calculating the monthly provision for income tax expense. The tax rate remains unchanged throughout the stress period. The proposal allows net operating losses to be carried back three years and forward fifteen years to calculate allowable tax refunds.

Identified problems. The use of an effective, rather than statutory, tax rate is appropriate given Fannie Mae's involvement in certain tax-advantaged activities, such as tax-exempt mortgage revenue bonds and affordable housing projects. However, specification of a fixed effective rate fails to relate quarterly risk-based capital requirements to changes in Fannie Mae's business profile and, thus, its economic risk. Variation in the actual effective tax rate directly reflects these changes. Indeed, the proposed rule's static 30 percent rate is already at variance with more recent experience. The average Fannie Mae effective tax rate for the 1997 to 1999 calendar years is approximately 28 percent, although this number could rise or fall with ongoing business activity.

The proposed regulation's treatment of net operating losses is inconsistent with current tax law.

Proposed solution. Rather than specify a fixed effective rate that fails to reflect changes in Fannie Mae's business profile, the regulation should use an effective rate based upon actual recent experience. Specifically, the stress test should apply an effective tax rate equal to that actually incurred by each company for the most recent three-year calendar period.

The proposed regulation should conform to legislation enacted into law in 1997 regarding the use of net operating losses for the purposes of determining tax liability. Carry-back and carry-forward periods are now two and twenty years, respectively.

[47] NPR 2 section 3.10.3.5, at 18,297-8.

F. MORTGAGE COMMITMENTS[48]

Proposal. The proposed regulation considers all mandatory and optional commitments outstanding at the beginning of the stress period as obligations that require capital. The entire dollar volume of combined commitments is assumed delivered and swapped for MBS during the first 3 months in the down-rate stress test. In the up-rate stress test, 75 percent of outstanding commitments are delivered and swapped for MBS over the first 6 months of the stress period.

Identified problem. The proposed regulation does not properly differentiate between mandatory and optional commitments. As a result, the rule misrepresents the risks posed by Fannie Mae's commitment mix and therefore improperly measures capital requirements. Unlike mandatory commitments, optional commitments specify no fixed fee nor impose any delivery obligation on the seller. Contract terms are generally longer and may extend to a year or more. Though proportions vary across time, optional commitments generally comprise between one-third and two-thirds of all commitments outstanding. The proposed regulation's assumed delivery percentages and timing patterns are more reflective of mandatory commitment performance.

With no real penalties for nonperformance, the "fill rate" on optional commitments is always less than their outstanding dollar amount. While difficult to predict, commitment deliveries in the stress scenarios will certainly fall below the norm. Mortgage origination volumes in the up-rate test would quickly decline. Further, many loans in lender pipelines would likely no longer meet Fannie Mae underwriting guidelines due to borrower distress or falling home price values. As a result, these loans could not be delivered under the terms of the optional commitment.

It is important that this part of the proposed regulation be modified. Mortgage commitments are important in promoting both mortgage market liquidity and affordable housing activities. Seller/servicers heavily rely on commitments to secure mortgage pipeline financing, and originators generally use longer-term optional commitments for innovative low- and moderate-income mortgage products where initial demand is uncertain. The proposed regulation's failure to properly recognize behavioral differences among commitment types may unnecessarily restrict the widespread use of optional commitments.

Proposed solution. The specified fill rate and delivery pattern for combined outstanding commitments should properly reflect the mix of contract terms and related behavior. Given the significant credit stress in the risk-based capital stress test, the final regulation should set overall commitment deliveries in the down-rate test at 75 percent of outstanding commitment volumes and extend the delivery period to six months. In the up-rate test, where the bulk of optional commitments will likely go unexercised, the

[48] NPR 2 section 3.2, at 18,229-31 and Tables 3-7, 3-8, and 3-9.

commitment fill rate should be set at no more than 50 percent with deliveries assumed to take place over the first 12 months.

5. Other Technical Comments

A. NON-INTEREST EARNING ASSETS[49]

Proposal. The regulation as proposed provides for most non-earning assets to convert to cash by the end of the first year of the stress period. Certain non-earning assets, such as low-income housing tax credit investments and fixed plant, are assumed to remain constant at beginning-of-stress-period levels over the entire ten-year horizon.

Identified problems. The proposed exclusion of certain non-interest earning assets from cash conversion is very problematic. It creates substantial capital charges for these items and distorts economic risk.

Investments in low- and moderate-income housing partnerships are held constant over the entire ten-year stress period; they are not converted to cash balances. The funding required to support these non-earning assets in the stress test creates a significant financial burden, particularly in the up-rate stress scenario. Fannie Mae investment in affordable housing partnerships has become a vital housing mission activity. We estimate that the regulation's proposed treatment of these low-income housing investments would produce capital requirements well in excess of 50 percent, severely penalizing our activity in this important area.

Balances of fixed assets such as buildings and furnishings/equipment are also improperly held constant over the entire stress period. The proposed regulation fully captures depreciation expense related to these items in the historical base used to project monthly operating expenses. Consequently, fixed assets should amortize off the balance sheet during the stress period. The funding required to carry these balances for the duration of the stress period adds significant cost and artificially increases required capital.

Proposed solutions. The regulation should include an approximate method for enabling Fannie Mae to recapture the economic value of investments in affordable housing partnerships through a sale to other tax-paying entities. Specifically, the regulation should assume that housing partnership investments are liquidated or sold at current amortized cost values in a straight-line manner over the first six months of the stress period. This would eliminate the artificial burden the regulation attaches to the participation in these investments.

The regulation should also allow fixed asset balances to decline in line with existing depreciation schedules. We recommend adoption of a requirement that these assets amortize on a straight-line basis over a 5-year period as a conservative measure of Fannie

[49] NPR 2 section 3.10.3.6.2, at 18,298-9.

Mae's actual historical experience. This treatment is logically consistent with how the regulation already treats these assets in projecting monthly operating expenses and would tie capital associated with these assets more closely to their risk.

B. RISK-BASED CAPITAL CALCULATION[50]

Proposal. The proposed regulation adopts a present value approach to calculate required risk-based capital. The present value of a stress-period month's capital surplus or deficit is calculated using either a short-term borrowing or reinvestment yield as the discount rate.

Identified problems. The proposed regulation's adoption of a present value approach to calculate the requisite risk-based capital requirement is contrary to the earnings-based nature of the stress-test simulation model, which is required by the 1992 Act. The statute's explicit definition of capital as that "determined in accordance with generally accepted accounting principles"[51] requires that OFHEO base the risk-based capital calculation solely on the maximum amount of GAAP capital consumed during the stress period.

Beyond this inconsistency is the practical implication of the proposed approach. The present value approach will penalize a company that maintains positive stress test capital and benefit a firm that might show a deficit.

Consider the stylized example of two firms, each with a $10.0 starting total capital base. Assume that at some point during the stress test, one firm's total capital falls to a minimum level of plus $3.0, while the other records a low of negative $3.0.

Assuming an average 7 percent discount rate and a related present value discount factor of 2.0, the present value of these minimum stress test capital levels becomes plus $1.5 and negative $1.5. With the 30 percent management and operations risk add-on, corresponding risk-based capital requirements would then be (10-1.5) x 1.3, or $11.0, and (10-(-1.5)) x 1.3, or $15, respectively.

On the other hand, absent discounting and applying the 30 percent add-on for management and operations risk, the resulting risk-based capital requirement for the former would be (10-3) x 1.3, or $9.1, while the latter's would be (10-(-3)) x 1.3, or $16.9.

These comparisons are summarized in the following table:

[50] NPR 2 section 3.12, at 18,299-30.

[51] 12 U.S.C. § 4502(4).

Example: Required Risk-Based Capital,
With or Without Present Value Discounting

Capital Status	With Present Value Discounting of NPR 2	Without Present Value Discounting
Required Capital for Company Passing the RBC Stress Test	**$11.0**	**$9.1**
Required Capital for Company Failing the RBC Stress Test	**$15.0**	**$16.9**

Consequently, the use of a discounted capital approach raises the adequately capitalized company's requirement by $1.9 while, at the same time, lowering by a similar amount the risk-based standard for the company that fails the stress test—discounting raises the required capital for a company that passes the stress test while it lowers it for a company that fails the test.

Proposed solutions. The rule should base the amount of required risk-based capital solely on the maximum amount of GAAP capital consumed during the stress period. This "capital consumed" approach will ensure consistency with the statute and lead to capital requirements that are intuitive and correspond to actual risk.

C. ACCOUNTING ITEMS AND CONVENTIONS[52]

Proposal. The proposed rule articulates a detailed list of accounting conventions for use in modeling specific categories of financial instruments and activities. The regulation defines total capital as comprised solely of the four core capital components cited in the 1992 Act plus the general loss allowance.[53]

Identified problems. The proposed regulation does not uniformly adhere to GAAP in describing the procedures to use for generating projected monthly balance sheets and income statements during the stress period. Instead, the proposal attempts to codify unique accounting rules for every instrument and activity that flows through the pro-forma financial statements. This unpredictable and highly detailed approach means that Fannie Mae will not be able to readily determine the risk-based capital implications for a new type of structure or activity not identified in the current rule's list.

The regulation's reliance upon a 1992 statutory definition of 'total capital' that no longer meets current GAAP standards will lead to incorrect recognition of the true amount of capital consumed during the stress test. Both FAS115[54] and FAS133[55] require a portion of

[52] NPR 2 section 3.10.3.6, at 18,298-99.

[53] 12 U.S.C. § 4502(18) also allows the Director, by regulation, to include in the definition of "total capital" any other amounts from sources of funds available to absorb losses, as appropriate.

[54] Financial Accounting Standards Board Statement of Financial Accounting Standards 115, Accounting for Certain Investments in Debt and Equity Securities, May 1993.

unrealized market value gains or losses shown on the balance sheet to be recorded in a new stockholders' equity account known as "other comprehensive income" (OCI). The regulation proposes that FAS115/133 unrealized gains or losses be recorded as income during the first month of the stress test. By not recognizing OCI as a component of total capital, this treatment artificially creates or destroys capital since no offsetting entry to the OCI account is possible. The affected securities' cash flows are recognized into earnings over the stress horizon—effectively double-counting the first month's realized gain or loss.

Proposed solutions. The final regulation should adopt, as it is OFHEO's discretion to do, a more generalized approach toward accounting methods that establishes basic guidelines for projecting stress-test performance of relevant financial transactions. We believe that the proposed rule should conform to statutory intent and in virtually all cases require application of current GAAP treatment as the overall implementation principle. This statement of general principle will allow Fannie Mae and Freddie Mac to better anticipate the capital requirements attached to financial market innovations.

The final risk-based standard should remove unrealized gains/losses and restate affected beginning balance sheet items on an amortized-cost basis. The latter is most consistent with the regulation's proposed "held-to-maturity" framework.

Similarly, future FAS133 unrealized gains/losses that may be booked to retained earnings should be rolled back. In practice, these fair value gains or losses reverse themselves as the number of remaining contract payments decline and the maturity date approaches. With no stress-test mechanism proposed for updating market values, it is clearly irrational to carry forward a constant market value adjustment in retained earnings and, at the same time, model related stress period cash flows. Resulting risk-based capital requirements would not tie capital to risk.

D. OTHER ITEMS

In Appendix III.6.D through III.6.H, we include a series of additional technical enhancements that will improve the regulatory link between risk and capital.

[55] Financial Accounting Standards Board Statement of Financial Accounting Standards 133, Accounting for Derivative Instruments and Hedging Activities, June 1998.

SECTION III: UNLESS MODIFIED, THE PROPOSED RBC REGULATION COULD HAVE SERIOUS ADVERSE EFFECTS ON THE MARKETPLACE

There are numerous adverse implications of the proposed regulation on our business and the industry. We enumerate some of the more significant ones in this section, as follows.

1. *High-LTV Loans*

The regulation imposes disproportionately high capital requirements on high-LTV loans, which will impair our ability to serve those borrowers with limited resources. High-LTV, or low-downpayment, lending is critically important to Fannie Mae's affordable housing initiatives and outreach to first-time homebuyers. During 1999 alone,

- 56 percent of the low-downpayment loans acquired by Fannie Mae assisted borrowers with below area-median income;
- 33 percent of the low-downpayment loans acquired by Fannie Mae assisted borrowers in under-served areas;
- 20 percent of the low-downpayment loans acquired by Fannie Mae assisted minority borrowers; and
- 44 percent of the low-downpayment loans acquired by Fannie Mae assisted first-time homebuyers.

Clearly, a reduction in Fannie Mae's ability to support high-LTV lending would be felt by those most in need of the support Fannie Mae provides.

2. *Credit Enhancement Haircuts*

The proposed regulation applies discounts, or "haircuts," to payments received from mortgage insurers and/or lenders providing credit enhancement to Fannie Mae. The haircuts are based solely on default, not actual loss, experience and are substantially in excess of the experience not only of the worst 10 years in the post-1970 period, but even that of the Great Depression. By the end of the stress period, every dollar of insurance or credit enhancement from a AAA-rated firm is valued in the OFHEO model at $0.90 whereas it is only valued at $0.80 if it is provided by an AA entity. If the credit provider is unrated, as are many of our smaller lenders and those involved in multifamily lending, every $1 of enhancement or insurance is valued at only $0.20 by the end of the stress period.

The proposed treatment of credit enhancements and haircuts has a number of profoundly adverse implications:

- Innovation in both single-family and multifamily products, so dependent on creative risk-sharing, will be stymied because NPR 2 puts such a low value on credit enhancement;

- High-LTV loans, a cornerstone of Fannie Mae's affordable housing initiatives, will be far more costly because the cost of haircuts is disproportionately high for low-downpayment loans;

- The proposed regulation provides an incentive to concentrate credit-enhancement activity with only those few institutions with AAA ratings because the capital effect associated with lower-rated insurance providers is so large. For example, a high-LTV loan with BBB insurance will require about 35 percent more in capital support than a comparable AAA-insured loan. Since diversification across multiple insurers has the beneficial effect of reducing aggregate risk exposure, the impact of the regulation as proposed may be to increase rather than reduce risk;

- Fannie Mae's DUS program for mutifamily loans—one of the most important vehicles for providing affordable multifamily housing—will be impaired because of the exceptionally onerous haircuts specified in NPR 2. The DUS program accounts for almost half of Fannie Mae's multifamily portfolio and has dramatically outperformed other non-risk-sharing multifamily programs in terms of delinquencies and losses. However, because the regulation as specified will impose such a high penalty on loss sharing (each dollar of risk-sharing with an unrated DUS lender would be valued at only $0.20), the program would be severely negatively impaired;

- Lenders in underserved communities are often unrated banks. The proposed counterparty treatment of these entities will restrict access to the secondary market for these vital community partners; and

- The proposed haircuts will make it prohibitively expensive to purchase securities for either investment or liquidity purposes. This will limit the supply of mortgage credit, and raise mortgage rates, in periods of tight money.

3. Spread Accounts

NPR 2, as currently specified, heavily penalizes credit enhancement techniques that have no institutional risk but vary in amount with time, such as spread accounts. The proposed regulation values only the current balance. This effectively discounts all future balances by 100 percent. Spread accounts have been an attractive vehicle for enhancing Community Reinvestment Act and affordable housing products, such as Fannie Mae's Self-Help Community Advantage initiative. Thus, the regulation as proposed will raise the cost of homeownership to low- and moderate-income borrowers.

4. Multifamily Business

The cost of multifamily business will increase dramatically under NPR 2. The capital requirements are extremely volatile and do not reflect the actual risk of the multifamily business. Because Fannie Mae is the largest single investor in multifamily loans in the country, excessive, uncertain capital requirements would be disruptive to the market for affordable

apartment units. Almost 95 percent of Fannie Mae's multifamily business supports our affordable housing initiatives.

The proposed model imposes a very high penalty on loss-sharing arrangements from DUS lenders. This unique and effective lender relationship accounts for over 40 percent of Fannie Mae's $50 billion multifamily portfolio. Penalties on payments from unrated lenders are particularly harsh, beginning immediately in the stress scenario and increasing to 80 percent by the end of the ten-year test. NPR 2, if implemented as written, will make the DUS loss-sharing paradigm uneconomic.

5. Mortgage Revenue Bonds

Mortgage revenue bonds are an increasingly important vehicle for channeling funds to affordable housing initiatives, both single family and multifamily. Fannie Mae now holds more than $10 billion of mortgage revenue bonds and estimates that these bonds have supported the purchase of homes by 150,000 first-time homebuyers and 25,000 affordable apartments. The capital treatment in the proposed regulation is significantly at odds with the actual economic risk involved in holding these securities. The proposed regulation often hits mortgage revenue bonds with capital charges twice. It reduces payments received on mortgage revenue bonds based upon their credit rating—even AAA-rated securities are subject to a 10 percent reduction in value by the end of the stress period. Additionally, the regulation already requires capital for Fannie Mae mortgage-backed securities if they serve as collateral underlying the mortgage revenue bond.

When the underlying collateral is Freddie Mac or Ginnie Mae securities, the capital impact is still severe. If Fannie Mae were to hold Ginnie Mae securities, we would not be required by NPR 2 to hold capital for credit risk. However, when these instruments support the payment stream of a rated mortgage revenue bond, the cash flows are discounted in an extreme manner.

Capital treatment inconsistent with actual economic risk will greatly discourage continued investment in mortgage revenue bonds and the important role that the company has played in supporting this market at all times.

6. Low Income Housing Tax Credits

The treatment of low-income housing tax credits will make it expensive to invest in the partnerships from which they are generated. During the stress period, the proposed regulation fails to amortize, or convert to cash, equity investments in partnerships that generate low-income housing tax credits. The funding required to support these assets in the stress test creates a significant financial burden, particularly in the up-rate environment.

Fannie Mae investment in affordable housing partnerships that generate tax credits has become a vital housing mission activity that will grow in importance. As with mortgage revenue bonds, Fannie Mae plays a leadership role in this segment of the housing market. The company has invested, or committed to invest, almost $3 billion in tax-credit projects

generating more than 130,000 housing units. The regulation's proposed treatment threatens to negatively impact company activity in this critical area.

7. Mortgage Market Liquidity in All Housing Cycles

Fannie Mae's ability to support the market, and to provide liquidity when most needed, would be constrained by the numerous technical specifications in NPR 2 that fail to accurately relate capital to risk. When economic conditions worsen, risks will increase and more capital will be required. This is to be expected. However, the numerous miss-specifications overstate this pro-cyclical effect and could cause potentially serious consequences for the nation's housing market. Under the current proposal, for example, a movement in rates of only 200 basis points in either direction could increase capital requirements by as much as $4 billion. As a result, Fannie Mae's ability to support the market, and to provide liquidity when most needed, will be constrained, with potentially serious consequences for the housing market.

SECTION IV: RECOMMENDED CHANGES ARE CONSISTENT WITH TRENDS IN MODERN FINANCIAL INSTITUTION REGULATION AND FULLY COMPATIBLE WITH OFHEO'S STATUTORY MANDATE

As stated throughout these comments, three main principles have guided our review of OFHEO's NPR 2: (i) operational workability; (ii) preservation of innovation; and (iii) linking capital to risk. As described in Sections I and II, we believe certain technical and procedural changes to NPR 2 should be made—in some cases, in order to conform to the letter and the spirit of the 1992 Act. With regard to issues of operational workability and preserving innovation, we believe our suggested recommendations are fully consistent with OFHEO's mandate as described in the 1992 Act and OFHEO has legal authority to implement them.

Adoption by OFHEO of the recommended changes regarding operational workability and innovation would have substantial advantages. Such an approach would appropriately blend the companies' resources in experience, business expertise, and infrastructure with the examination skills of OFHEO to achieve an efficient, workable risk-based capital test that would maintain safety and soundness and best enable the companies to fulfill their housing mission. Most importantly, this approach would align business and regulatory objectives by allowing the companies to use the risk-based standard as a business planning and risk-management tool and would promote, rather than restrict, innovation.

1. Consistency with the 1992 Act

Section 1361(a) of the 1992 Act requires OFHEO to establish, by regulation, a "risk-based capital test" for Fannie Mae and Freddie Mac. The statute does not specify the approach OFHEO must take to develop and implement the test. In keeping with its statutory oversight role, OFHEO should issue a risk-based capital standard that effectively supervises the companies, but does not **control** their day-to-day operations.

A close examination of the statutory provisions of the 1992 Act, its accompanying legislative history and presidential directives on agency rulemaking provide more than ample legal support for OFHEO's adoption of changes to NPR 2 that would promote operational workability and preserve innovation.

Moreover, based on the statutory language, legislative history and the precedents described below, there is a strong argument that the 1992 Act provides legal support for adoption by OFHEO of a completely different approach to a risk-based capital standard for the company than embodied in NPR 2. Under an "internal models" approach, for example, OFHEO would specify only the key parameters of the stress environment set in statute. The companies would build these stress parameters into their own capital adequacy models and specify all remaining assumptions to their own standards. OFHEO would supervise the implementation of the stress parameters to ensure they were done properly.

Despite its legal and policy merits, we are not recommending that OFHEO adopt such an internal models approach. Even if OFHEO adopts the changes proposed by Fannie Mae, the framework for regulation established by NPR 2 would remain in place.

OFHEO would establish all stress-test assumptions, modeling techniques and other factors via the rulemaking process.

Rather, after reviewing and testing OFHEO's model as specified in NPR 2 for almost a full year, we believe that the companies can implement **OFHEO's model** with the reasonable technical changes described above in Sections I and II and in the technical appendices. This approach will achieve OFHEO's stated objective of ensuring consistency in application of the risk-based capital standard and transparency of the regulation to the public. However, issues of operational workability and appropriate accommodation of innovation must be solved before the standard can begin to operate in the manner Congress intended in 1992—to ensure the safety and soundness of Fannie Mae and Freddie Mac while maintaining their important housing mission.

Our analysis of the 1992 Act and other precedents show that OFHEO has more than ample legal authority to make the changes needed to achieve these objectives.

A. ANALYSIS AND LEGISLATIVE HISTORY OF THE 1992 ACT

Section 1361 of the 1992 Act requires the Director of OFHEO to "by regulation, establish a risk-based capital test under this section for the [companies]. When applied to [a company], the risk-based capital test shall determine the amount of total capital for the [company] to maintain positive capital" during a 10-year "stress period."[56] Section 1361(a) identifies specific assumptions that OFHEO must take into account in establishing the risk-based test, such as credit risk, interest-rate risk, new businesses and products, and "other activities."

The legislative history of the 1992 Act shows that it was the intent of Congress, specifically the intent of the Senate and House Banking Committees, that the risk-based capital test contain substantial detail with regard to the factors listed in the statute, but permit the Director of OFHEO to choose the best methodology for an effective test.[57]

The House Report to the 1992 Act states that in developing the risk-based capital test, "the Director will have to make many decisions concerning methodology and assumptions," and provides that the Director should use "any methodology...generally recognized by experts as valid."[58]

Similarly, the Senate Report, while noting the "fairly detailed framework for capital regulation" stated that the Director may use "orders or guidelines" to implement the risk-based capital test. The Senate Report further explicitly states that the: "provisions of this title...leave the Director with considerable flexibility in setting many key parameters... **The result should reflect an appropriate balance that provides strong protection for**

[56] 12 U.S.C. § 4611(a).

[57] See, e.g., H.R. Rep. No. 102-206 (1991), at 64-69; Sen. Rep. No. 102-282 (1992), at 19-23.

[58] H.R. Rep. No. 102-206, at 65.

taxpayers, but does not unnecessarily inhibit the enterprises from performing their important public responsibilities."[59]

Finally, the House Report states that OFHEO's risk-based capital regulatory emphasis should involve "examination and monitoring" with company cooperation, and be "conducted in a manner which does not unreasonably interfere with the normal decision-making and business activities of the enterprises."[60] A flexible approach to operations issues and innovation clearly accomplishes this directive.

This language offers ample discretion for OFHEO to make the modest procedural changes we have proposed. Indeed, OFHEO's staff have acknowledged that the 1992 Act legally provides flexibility to the Director: "[W]e have reviewed the legislative history and found that it confirms Congress' intent to provide the Director with considerable flexibility in setting many key parameters of the stress test… Section 3.11 of the proposed regulation, which deals with the treatment of new products, is an example of how OFHEO has used this flexibility."[61] Fannie Mae is here suggesting different ways in which OFHEO could use the flexibility it is given under the statute to achieve its stated objectives for the risk-based capital test, respecting both OFHEO's supervisory mandate and Congressional intent that OFHEO meet that mandate in a manner that does not unreasonably interfere with the businesses of the companies. Requiring Fannie Mae and Freddie Mac to use OFHEO's model to calculate the results of the capital test modeled by OFHEO in its regulation, would result in the application of a single test to both companies within the meaning of the 1992 Act.

B. FARM CREDIT ADMINISTRATION ("FCA") RISK-BASED CAPITAL PROPOSAL[62]

The risk-based capital statutory framework for the Federal Agricultural Mortgage Corporation ("Farmer Mac") is virtually identical to the statutory risk-based capital framework established by the 1992 Act. The FCA made a legal finding that the statute accorded that agency sufficient authority to adopt an approach that permits flexibility in operational, as well as other, areas. Moreover, under the same statutory construct requiring the risk-based capital test adopted by OFHEO to be sufficiently specific to enable individuals other than the regulator to apply the test in the same manner, FCA believes that its flexible risk-based capital approach meets that legal standard. Subject to verification and oversight, FCA proposes to combine regulator prescription of some model

[59] Sen. Rep. No. 102-282, at 19 (emphasis added).

[60] H.R. Rep. No. 102-206, at 64-65

[61] Memorandum from A. Dewey, General Counsel, OFHEO, to Mark Kinsey, Acting Director, OFHEO, December 10, 1998, at 3. While Fannie Mae supports this particular legal finding, the company expresses, for the record, its disagreement with the overall legal conclusions expressed in the December 10, 1998 OFHEO memorandum.

[62] Farm Credit Administration, "Federal Agricultural Mortgage Corporation: Risk-Based Capital Requirements," 64 Fed. Reg. 61,740-61,764 (1999)(to be codified at 12 U.S.C. § 650.20-650.31)(proposed Nov. 12, 1999) ("Farmer Mac Risk-Based Capital Proposal").

elements, with substantial reliance on Farmer Mac to actually run and report test results, as well as develop other key elements of the stress test model. It should particularly be noted in this regard that, in a very real sense, the statutory provisions for Farmer Mac's risk-based capital regulation served as the model for the OFHEO structure, enacted by Congress only one year later in 1992.

2. Operational Workability

A. OFHEO HAS ALREADY ESTABLISHED A PRECEDENT FOR OPERATIONAL WORKABILITY THROUGH ITS MINIMUM CAPITAL REGULATION

Fannie Mae and Freddie Mac already apply the concepts of operational workability outlined above to the calculation of minimum capital. The 1992 Act requires OFHEO, in addition to establishing a risk-based capital standard, to determine the minimum capital level and classification of Fannie Mae and Freddie Mac not less than quarterly.[63] The minimum capital standards are based on ratios that are applied to on- and off-balance sheet items. On April 15, 1994, Aida Alvarez, the Director of OFHEO, formally requested that Fannie Mae perform the initial calculation of its minimum capital levels, consistent with the then-interim capital methodology adopted by OFHEO, stating that this process would "expedite the process for future quarters."[64] The final minimum capital regulation issued by OFHEO did not alter this practice and, to date, this operational process has worked very well in providing capital reports to OFHEO on a timely basis which OFHEO uses to determine the capital classification of both Fannie Mae and Freddie Mac.

NPR 2 contains proposed regulatory language for "Procedures and Timing"[65] at proposed section 1750.12 that is virtually the same as the procedural language adopted by OFHEO's final minimum capital regulation.[66] Therefore, OFHEO has already provided in NPR 2 the framework necessary to adopt the operational workability recommendations made in this comment letter.

Further, the companies already have in place the technology, infrastructure and extensive staffing to support the recommendations on workability, both in terms of business systems and day-to-day experience. OFHEO could leverage these resources to speedily and reliably implement an operationally workable risk-based capital process. This infrastructure includes comprehensive proprietary risk-management models, as well as models that can generate capital requirements on their businesses.

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[63] 12 U.S.C. § 4612.

[64] Letter from Aida Alvarez, Director, OFHEO to James A. Johnson, dated April 15, 1994.

[65] NPR 2 at 18,218.

[66] See 12 C.F.R. Part 1750, 60 Fed. Reg. 35,607 (July 8, 1996).

B. OTHER SAFETY AND SOUNDNESS REGULATORS REQUIRE REGULATED FINANCIAL INSTITUTIONS TO PERFORM OPERATIONAL TASKS

As noted in Appendix II, the federal bank and thrift regulators have delegated to those firms the operational task of computing the required level of capital, and the agencies use those calculations to assess capital compliance each quarter.

C. OPERATIONAL WORKABILITY REQUIRES STABILITY

One of the central issues to operational workability is stability in the final rule. This concept is also central to OFHEO's statutory mandate to establish a risk-based capital rule that is transparent.

Stability will be needed to ensure that the regulation is operating properly and that OFHEO and all other affected parties have a sufficient period of adjustment that will be necessary in implementing such a complex regulation. If OFHEO changes the adopted regulation (except to correct clear errors), for example by changing the behavioral model coefficients, through re-estimation or re-weighting of data, and/or the underlying equations of which the coefficients are a part, such changes could significantly impact the amount of capital Fannie Mae must hold. This result cannot be avoided even if OFHEO publishes changes to the underlying equations or the coefficients for public comment in a piecemeal fashion, because any change to the final regulation could dramatically impact other aspects of the regulation and, in turn, the required capital amounts generated by the model.

Fannie Mae strongly urges OFHEO to adopt in its final rule a "standstill" period during which no changes will be made to the final regulation. This period logically should correspond to the timeframe during which OFHEO incorporates "new business" into the regulation as required by statute.

At a minimum, Fannie Mae believes that any changes to the final risk-based capital regulation would require notice and comment of the entire regulation under the Administrative Procedure Act ("APA"). Public comment on the entire regulation, as opposed to just those parts proposed for change, is necessary because any change to the underlying equations or coefficients could have a substantial domino effect on the way the final rule operates as a whole.

3. Ability to Innovate Must be Preserved

A. PRESIDENTIAL DIRECTIVES SPECIFICALLY FOCUS ON PRESERVATION OF INNOVATION IN AMERICAN BUSINESS

The President has specifically directed that agency rulemaking be made more efficient by becoming more interactive. In the Presidential Memorandum entitled "Directive on Regulatory Reinvention Initiative," dated March 4, 1995, President Clinton instructed the head of each agency and department to "**move from a process where lawyers and bureaucrats write volumes of regulations to one where people work in partnership**

to issue sensible regulations that impose the least burden without sacrificing rational and necessary protections."[64] Executive Order No. 12866, entitled "Regulatory Planning and Review," requires all agencies submitting "significant rules" (which includes OFHEO's risk-based capital regulation) to OMB for approval to provide:

i. an analysis of how the rule promotes efficient functioning of the economy and private markets;
ii. an assessment of the costs of administering the regulation to the Government and to businesses;
iii. an analysis of any adverse effects on the efficient functioning of the economy [and] private markets; and
iv. "[a]n assessment, including the underlying analysis, of costs and benefits of potentially effective and reasonably feasible alternatives to the planned regulation, identified by the agencies or the public..."[65]

In interpreting the statutory mandate, it is also appropriate to look at the 1993 Executive Order for Regulatory Review promulgated by the President and the 1995 Presidential Directive ordering federal departments and agencies to conduct a page-by-page review of their regulations to eliminate or revise regulations. These presidential documents provide guidance that is particularly helpful when considering the impact of regulation on the innovative capacities of highly sophisticated financial institutions. In part, these documents provide direct statements of intention or pose a series of questions to consider when formulating a regulation as follows:

- "[A]gencies should assess all costs and benefits of available regulatory alternatives…and select those approaches that maximize net benefits…unless a statute requires another approach."

- "[A]gencies shall...specify performance objectives, rather than specifying the behavior or manner of compliance…"

- Regulations should consider "**incentives for innovation, consistency, predictability, the costs of…compliance [and] flexibility.**"

- Whether the proposed regulation would have any unintended costs or create any counterproductive private incentives;

- Whether its intended goal could be achieved in more efficient, less intrusive ways.

[64] Directive on Regulatory Reinvention Initiative, March 4, 1995, available in 1995 WL 119,383, at 3.

[65] Executive Order No. 12866 at section 6(a)(3)(C)(emphasis added), 58 Fed. Reg. 51,735 (Sept. 30, 1993). OFHEO states in NPR 2 at 18,217 that "It is difficult to estimate precisely the particular benefits and costs associated with the risk-based capital requirement."

B. OFHEO'S PROPOSAL EFFECTIVELY CREATES A PRIOR-APPROVAL REQUIREMENT

Fannie Mae appreciates OFHEO's acknowledgement in including section 3.11 in NPR 2 that the risk-based capital regulation must be flexible enough to accommodate innovation. However, section 3.11 of NPR 2 effectively creates a prior-approval requirement that could be very broadly interpreted to apply to every new product or initiative introduced by Fannie Mae. The result likely could be less innovation and costly waiting periods before any initiative can be brought to the market. Fannie Mae therefore believes that OFHEO's proposal as currently drafted does not comport with the objectives OFHEO itself has set for the regulation.

Section 3.11 requires OFHEO to establish "appropriately conservative treatment" of any innovation for which there is no reasonable timeframe for computing a quarterly capital calculation. Such conservative treatment is to continue "until such time as sufficient information is made available to justify an alternative treatment, which may be subsequently incorporated as a specific provision in this Appendix."[67] Further, NPR 2 states: "Procedurally, the Enterprises are expected to notify OFHEO of proposals related to new products, investments or instruments before they are purchased or sold or as soon thereafter as possible..."[68]

Such a procedure is not consistent with OFHEO's stated goal of flexibility or with Fannie Mae's mission to develop products to benefit affordable housing. As described above, Congress did not intend for OFHEO to manage the day-to-day business operations of Fannie Mae or Freddie Mac. Under this regime, Fannie Mae will not be able to anticipate its capital requirements with reasonable certainty on a wide range of initiatives. OFHEO may well not finalize the capital treatment on a product or initiative for months after it goes to market. The proposal as currently drafted also appears to give OFHEO incentives to adopt the most conservative capital treatment possible initially and then to continue such treatment permanently.

OFHEO testified before Congress that OFHEO would be able to determine capital requirements for "new programs" instituted by Fannie Mae within the 45-day period during which the Secretary of HUD must consider a prior approval request for a "new program."[69] While Fannie Mae understands that such may be the case for "new programs" submitted to HUD, the majority of new products and innovations introduced by Fannie Mae do not constitute "new programs" under the 1992 Act or HUD's regulations. In fact, as the result of vigorous comment on the issue in 1995, HUD adopted final regulations that make clear that part of Fannie Mae's mission is accomplished through its ability to innovate for the benefit of low- and moderate-income homebuyers. In the preamble to its final regulations, HUD stated:

[67] NPR 2 at 18,299.

[68] Id.

[69] Kinsey Testimony, supra n. 23, at 4.

> "The provisions of the proposed rule which sought to implement this authority met with strong objections from the GSEs and others. In light of the comments...the provisions have been significantly revised to assure that (1) the program review process is not unnecessarily burdensome; (2) ambiguity in the definition of terms cannot conceivably lead to required HUD approval of undertakings other than those reasonably recognizable as "new programs"; and "constructive innovations by the GSEs...will be neither delayed nor derailed by HUD review processes....Commenters... consistently argued that flexibility and the ability to move quickly to adopt new products were essential elements of the GSEs' contribution to affordable housing."[70]

Similarly, Fannie Mae urges OFHEO to adopt more flexible and rapid procedures with respect to innovation so that Fannie Mae may continue to carry out its mission with a level of certainty regarding capital requirements and without unnecessary regulatory delay.

C. RECENT FINANCIAL MODERNIZATION LAW AS A MODEL FOR PRESERVATION OF INNOVATION

The recently enacted Gramm-Leach-Bliley Act ("GLBA")[71] modernized the U.S. financial system. In addition to sweeping changes in the *types* of activities that can be conducted by banks, securities firms and insurance companies, Congress greatly streamlined the *process* under which financial institutions may engage in innovative activities.

This streamlined process reduces burden on financial institutions and fosters innovation by eliminating the "waiting period" for completion of regulatory paperwork. For example, financial holding companies regulated by the Federal Reserve Board may conduct any activity that is defined as financial in nature under the law or is incidental to such activities. A financial holding company that commences any activity pursuant to this legal authority must only provide a written notice to the Federal Reserve describing the activities no later than 30 days *after* commencing the activity. In addition, a financial holding company may self-certify to the Federal Reserve Board that it meets the requirement that all of its subsidiary depository institutions are well capitalized before engaging in any new activities.

To be consistent with trends set in the Financial Modernization Act, OFHEO should issue a final regulation that allows flexibility for the companies to engage in new activities and innovative initiatives, consistent with the requirements of their charters, without unnecessary delays in determining the amount of capital required for such activities. The goal of such a structure should be to allow the companies to continue to innovate, while preserving OFHEO's supervisory powers to ensure safety and soundness.

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[70] 60 Fed. Reg. 61,872 (December 1, 1995).

[71] Pub. L. No. 106-102, 113 Stat. 1338 (1999).

4. Other Financial Institution Regulators are Seeking Alternative Ways to Tie Capital more Closely to Risk

Bank regulators agree on the need to continually to develop more "incentive compatible" or "risk-focused" techniques to capital determination and supervision. Building on a growing base of research, banking regulators are engaged in a public discussion of options for supplementing and, to varying degrees, replacing the existing risk-based formula with more market-based, flexible approaches. In addition, supervisors of other government-sponsored companies within the last year have proposed capital tests based fully or partly on the use of stress-test models, but providing substantially greater flexibility for input by the regulated institutions to support the design and day-to-day operation of the models.

Many of the considerations that keep banking regulators from moving more quickly to change their approach to capital regulation—such as the number and diversity of the institutions they regulate, the wide range of risks the regulated institutions engage in, and the differing levels of sophistication at those institutions—do not apply here. OFHEO must apply a risk-based capital test only to Fannie Mae and Freddie Mac—two institutions at which OFHEO already has a very high level of examination resources in place—thus making adoption of the proposed changes much simpler.

As demonstrated in Section II above, NPR 2 does not adequately equate capital to risk. The following is a summary of some of the key statements by other safety and soundness regulators about the importance of tying capital to actual risk. We also have attached an overview of bank capital standards and the trends toward more risk-focused capital standards in Appendix II, entitled "Evolution of Bank Capital Standards." These precedents support far greater changes to NPR 2 than our recommendations in Sections I and II, supra. They therefore provide useful benchmarks as OFHEO considers the continuum of regulatory approaches that will successfully tie capital to the risks of a regulated institution.

A. FEDERAL RESERVE BOARD

In recent testimony before Congress, Chairman Greenspan stated:

> "The volume, sophistication and rapidity of financial dealings will inevitably lead to a supervisory emphasis on oversight of risk management of financial institutions and a marked scaling back of outmoded loan file and balance sheet surveillance. As we move into the twenty-first century, the remnants of nineteenth century bank examination philosophies will fall by the wayside. Banks, of course, will still need to be supervised and regulated.... My point is, however, that the nature and extent of that effort needs to become more consistent with market realities.[72]

[72] Testimony of Federal Reserve Board Chairman Alan Greenspan, "H.R. 10 and the Need for Financial Reform," before the Committee on Banking and Financial Services, U.S. House of Representatives, February 11, 1999, available on the Internet at www.federalreserve.gov/boarddocs/testimony/1999/19990211.htm.

In a similar vein, in 1999 guidance to domestic banking organizations, the Federal Reserve noted:

> "Over the past several years, supervisors have placed increasing emphasis on banking organizations' internal processes for assessing risks and for ensuring that capital, liquidity, and other financial resources are adequate in relation to the organizations' overall risk profiles. This emphasis has been motivated in part by the greater scope and complexity of business activities at many banking organizations, and in particular those activities related to ongoing financial innovation. **In this setting, one of the most challenging issues faced by bankers and supervisors is how to integrate the assessment of an institution's capital adequacy with a comprehensive view of the risks it faces. Simple ratios—including risk-based capital ratios—and traditional rules of thumb no longer suffice in assessing the overall capital adequacy of many banking organizations, especially large institutions and others with complex risk profiles such as those significantly engaged in securitizations or other complex transfers of risk.**[73]

The Federal Reserve's guidance further describes the fundamental elements of sound internal capital adequacy analysis:

- identifying and measuring all material risks;
- relating capital to the level of risk;
- stating explicit capital adequacy goals with respect to risk; and
- assessing conformity to the institution's stated objectives.

B. BASEL COMMITTEE ON BANKING SUPERVISION

In 1988, the Basel Accord established the risk-based capital structure currently in place for U.S. banking institutions. In June 1999, the Basel Committee issued for public comment a proposal ("Basel II") to replace the 1988 Accord. The proposal establishes "three pillars" for a new capital structure:

- minimum capital requirements;
- supervisory review of an institution's capital adequacy and internal assessment process; and
- market discipline, which will encourage high disclosure standards and enhance the role of market participants.

Basel II establishes a long-term goal of developing a flexible framework that more accurately reflects the risks to which banks are exposed. The Basle II proposal states the Committee's intention to examine further ways of making the capital-adequacy framework more risk sensitive and solicits comment on how to accomplish this goal.

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[73] Federal Reserve SR Letter 99-18, Assessing Capital Adequacy In Relation to Risk at Large Banking Organizations and Others with Complex Risk Profiles, July 1, 1999 (emphasis added).

C. FARM CREDIT ADMINISTRATION PROPOSED RULE ON RISK-BASED CAPITAL[74]

The Farm Credit Administration (FCA) is the regulator of Farmer Mac, a federally chartered entity providing a secondary market for agricultural real estate loans. In a proposal issued November 1999, the FCA outlined a plan to implement a risk-based capital test that is based on a stress test, and is subject to statutory provisions virtually identical to those governing OFHEO's obligation to establish a risk-based capital test for Fannie Mae and Freddie Mac.[75]

The FCA's stated goals underpinning its proposal are:

- to maintain consistency with the statute;
- maintain internal consistency;
- avoid creating inappropriate economic incentives;
- "aim for simplicity;" and
- reflect, to the extent practicable, Farmer Mac's current operating policies and practices.

The preamble to the FCA proposal states:

> "**Although the current Basle Accord and our risk-based capital framework significantly differ, both strive to equate risk with an appropriate capital requirement.** We note that the proposed direction of the Basle Committee suggests an increasing reliance and acceptance of econometric and statistical models for measuring credit and market risk and allocating capital. Additionally, we both advocate that proactive regulatory measures, such as our risk-based capital stress test, should be complemented by effective monitoring, supervision, and examination. For these reasons, we believe our risk-based capital framework is consistent with the current opinions of the Basle Committee."[76]

Thus, other financial institution safety and soundness regulators continue to move away from outdated methods of determining capital adequacy to a new regime under which the guiding principle is whether the institution has sufficient capital to reasonably ensure its solvency, given the nature and amount of risk it carries and the quality of its risk management. Despite the statutory and regulatory flexibility to do so, and despite calls for greater use of stress tests, no other federal regulator in the financial services field has adopted the complex approach taken by OFHEO in NPR 2 as a means to tie capital to risk.

[74] Farmer Mac Risk-Based Capital Proposal, supra n. 62.

[75] Compare 12 U.S.C. § 4611(a)-(b), (d), (e) and 12 U.S.C. § 2279bb-1(a)-(b), (d), (e).

[76] 64 Fed. Reg. 61,742 (emphasis added).

SECTION V: OVERALL CONCLUSIONS

OFHEO's NPR 2 contains a foundation for assuring that the public and policy makers gain the benefits Congress intended to flow from its rigorous statutory stress test. Yet changes in three key areas are critical to make the test operationally feasible for both OFHEO and the companies, to avoid market distorting incentives that could compromise Fannie Mae's housing mission, and to permit rather than stifle innovation. The procedural and technical changes we have recommended would achieve these goals, and better serve the public interests, without sacrificing the stringency and other benefits of OFHEO's work to date.

In terms of the choices made by other regulators regarding the most efficient and reliable means to implement model-based capital tests or other approaches to more accurately tie capital to risk, our suggested technical and procedural changes to NPR 2 are on the most conservative end of the continuum. We believe that these changes, although modest, will greatly improve the reliability, timeliness and consistency of capital testing each quarter. They will therefore provide greater assurance of the efficacy of the test to policy makers and others reviewing the test from a public interest perspective.

In addition, these changes will reduce the cost burden of implementation for OFHEO, allowing it to begin using the test in a shorter time frame than otherwise would be possible given the tremendous operational complexity embedded in NPR 2. OFHEO also has broad discretion to implement the changes recommended in this comment, and to provide multiple checks and balances on all the processes leading up to reporting, reconciliation, and auditing of capital results.

By making these changes, OFHEO can capitalize on its unique opportunity to demonstrate the benefits and practicality of model-based capital regulation. Adopting NPR 2 without these revisions will offer no demonstrable enhancement to safety and soundness, but surely will produce an operational and policy failure of significant proportions.

APPENDICES

APPENDIX I: JOINT POLICY STATEMENT WITH FREDDIE MAC

On April 13, 1999, the Office of Federal Housing Enterprise Oversight ("OFHEO") published for comment a proposed risk-based capital regulation for Fannie Mae and Freddie Mac. The two companies independently reviewed the proposal. We reached similar views, which we are sharing with other interested parties.

Background

In 1992, Congress passed legislation to modernize the regulatory structure for Fannie Mae and Freddie Mac (the "Federal Housing Enterprises Financial Safety and Soundness Act" or the "Act"). The Act created OFHEO and provided a framework for its regulation of Fannie Mae and Freddie Mac, the most innovative feature of which was a risk-based capital standard. The Act also set a minimum capital standard, and it granted OFHEO examination authority and other regulatory tools similar to those of the federal banking regulators to support and confirm its assessment of the financial safety and soundness of Fannie Mae and Freddie Mac and to address any regulatory concerns promptly.

Unlike the ratio-based capital standards for other regulated financial institutions, the risk-based capital standard requires Fannie Mae and Freddie Mac to hold sufficient capital to withstand 10 years of specific, severely adverse economic conditions. The statutory stress test incorporates both of Fannie Mae's and Freddie Mac's major risks (interest-rate and credit risk), and then adds another 30 percent to the capital requirement to account for management and operations risk. As a result, it is the toughest, most dynamic capital standard in the industry.

Fannie Mae and Freddie Mac strongly support a well-implemented capital standard as specified in the Act. In fact, both companies have used their own versions of stress tests for many years. Based on this experience, each company submitted extensive comments to OFHEO in earlier stages of the rulemaking process. In addition, the companies provided detailed information about their respective businesses and risk management systems as OFHEO developed the proposed regulation.

When it issues its final risk-based capital regulation, OFHEO will establish a capital standard for the two largest providers of mortgage funds to America's families. It is therefore vital to homebuyers, mortgage lenders, home builders, real estate professionals and others in the housing industry, as well as to Fannie Mae and Freddie Mac, that OFHEO's final risk-based capital regulation work well. We believe the Act established a sound approach for providing the assurance that Fannie Mae and Freddie Mac remain financially strong and continue to serve their important public missions.

Principles for Evaluating the Risk-Based Capital Regulation

Congress gave OFHEO a formidable task to implement state-of-the-art regulation. An effort of this importance requires considerable thought and development, which are reflected in the proposed regulation and the comment process. We believe that a well-implemented regulation would meet four key principles.

Consistency with the Act. The final regulation must be consistent with the Act.

Operationally workable. For the companies to effectively conduct their capital planning and comply with the regulation, they must be able to anticipate the amount of capital required by the stress test and incorporate it into their business processes. The proposal does not currently meet this essential test.

Accommodate innovation. The companies have long histories of introducing innovation that reduces costs and expands markets to new homebuyers and renters. To build on this track record, the companies must be able to anticipate the regulatory capital treatment of new activities and products. If the capital treatment applied to new mortgage or funding instruments is uncertain, it could stifle innovation that benefits America's families.

Capital tied to risk. The purpose of the risk-based capital standard is to tie capital to the actual risks the companies take as these risks change over time. A capital requirement that is too low would not provide assurance that the companies would remain financially sound; a capital requirement that is too high would impose unnecessary costs on the nation's families. One that requires sufficient capital to withstand such severe conditions – placing the companies among the strongest financial institutions in the world – enables the companies to continue to meet their vital missions.

The failure to tie capital to risk can have unintended effects. For example, low-downpayment mortgages and mortgages from certain regions could become less available and more expensive. The two companies could be less likely to share risk with third parties. Certain asset-liability management strategies that reduce risk and lower the cost of mortgage finance could be discouraged. In sum, a failure to tie capital to risk would impede the ability of the companies to fulfill their missions.

The companies will each provide OFHEO with complete comments on the proposed regulation. We outline some specific areas of focus below.

Single-Family Defaults and Severity

Stress period credit losses must be reasonably related to the worst regional experience. The single-family default and severity models project loss rates that are greater than those actually experienced in the benchmark region. This is due to data issues that each company discussed in its comments at an earlier stage of the rulemaking process. The effect is particularly large for low-downpayment mortgages, which could discourage such lending. A possible solution is to ensure that the "calibration constants" reflect the actual benchmark experience.

The single-family default and severity models project widely different loss rates for newly originated mortgages from different parts of the country, for reasons unrelated to differences in risks. For example, the capital requirement for a mortgage in one region could be 50 percent higher than a comparable mortgage from another region. This is due to projecting different house price volatilities for each region that do not reliably forecast differences in house price volatility. A possible solution is to subject mortgages to the same stress, regardless of region, by applying the volatility from the benchmark to all mortgages.

Single-Family Prepayments

The stress test subjects the companies to both increasing and decreasing interest rates, and the capital standard is based on the one that requires more capital.

Single-family prepayments are too low in the up-rate stress test. The model was estimated based on data that included assumable mortgages. A possible solution is to increase the up-rate prepayment rates to account for today's non-assumable conventional mortgages.

Single-family prepayments are too high in the down-rate stress test. A possible solution is to tie down-rate prepayments to benchmark prepayments.

House-Price Inflation in High-Rate Environments

The level of house-price inflation in the up-rate stress test is inconsistent with a sustained high-rate environment, making credit losses too high in the up-rate stress test. A possible solution is to account for the higher level of house-price inflation that would correspond to a high-rate environment.

Counterparty Haircuts

The proposal assumes that counterparties fail to meet their financial obligations to the two companies during the stress period at rates far out of proportion with the stress-period environment and with the treatment of mortgage credit risk. This would limit the companies' ability to rely on counterparties to reduce risk and would increase the cost of financing housing. A possible solution is to reduce the haircuts to reflect expected counterparty performance in the stress period and to be internally consistent with the treatment of mortgage credit risk.

Non-Treasury Interest-Rate Spreads

The models for projecting non-Treasury interest rates are overly complicated and could result in the capital requirement fluctuating significantly for reasons unrelated to risk. A possible solution is to simplify using historic averages.

Enterprise-Only Debt Penalty

The assumption that the two companies (and only the two companies) face an extra 50-basis-point cost of borrowing during the stress period is inconsistent with historical market spreads and with the possibility that a company may meet the minimum capital standard, and pay preferred stock dividends, well into the stress period. This could result in a preference for raising funds through bullet debt rather than using interest-rate swaps, which would increase the cost of funds used to purchase mortgages and the cost of hedging interest-rate risk. A possible solution is to eliminate the extra 50-basis-point cost of borrowing for the companies.

Funding with Short-Term Debt

The assumption that the two companies issue only short-term debt during the stress period, even as interest rates increase, is contrary to the companies' risk management strategies and could

result in higher capital requirements for less risky funding strategies. A possible solution is to adopt a refunding rule that better reflects established asset-liability management, and better captures the companies' actual risks.

Operating Expenses

The proposal's assumptions about the companies' operating expenses during the stress period should better reflect the companies' cost structures. As an example, the proposal would increase a company's capital requirement when it increased spending on research or risk-mitigation activity. A possible solution is to distinguish between the companies' fixed and variable costs.

Multifamily Prepayments, Defaults and Severity

The multifamily models are overly complicated and fail to capture the risk in these mortgages. A possible solution is to use simplified models that incorporate current data on debt-service coverage for defaults and eliminate prepayments during the yield-maintenance periods.

Stability of the Regulation

OFHEO has the ability to amend the final regulation to change the stress test, but we recommend it do so only when absolutely necessary. Changes to the specifications diminish the value of the stress test as a means of tracking changes in risk over time, and make it difficult for the companies to engage in capital planning. Additional observations about mortgage performance in normal times provide little new information about performance in stressful times.

Conclusion

This rulemaking is one of the most important of the last decade for the housing industry. While it governs the capital that Fannie Mae and Freddie Mac must hold, homeowners, lenders, homebuilders, real estate professionals and others in the housing industry will feel its impact. For that reason, it is critical that the final rule be consistent with the statute, be operationally workable, accommodate innovation and tie capital requirements to true economic risk.

Fannie Mae and Freddie Mac strongly support a well-implemented risk-based capital standard. A final regulation that meets the four principles could be a model for financial institution regulation. We look forward to working with OFHEO toward this end.

Fannie Mae **Freddie Mac**

APPENDIX II: EVOLUTION OF BANK CAPITAL STANDARDS

1. Historical Overview

With a host of failures and other supervisory problems in the 1980s, the banking regulators realized that they needed a more consistent and transparent approach to determining capital requirements. Previously, they had developed a view on whether an organization had sufficient capital on an individual basis, in the context of its peers (within asset size groups), while judgmentally adjusted for any notable, identified asset quality problems. Since then, they have evolved from rigid, one-size-fits-all ratios to standards that are more risk-based, taking into account both the risk taken by the organization and the ability of the organization to manage that risk.

Bank supervisors have leveraged risk management processes developed by senior management at regulated institutions, subject to periodic independent review and model validation and supervisory oversight during the examination process, to identify and measure material risks with particular focus on interest-rate risk and market (trading) risk, and to a lesser extent, other risks including operations risk.

At present, banks and thrifts generally are subject to two overlapping measures of capital: a minimum capital ratio and a risk-based capital ratio as well as supervisory oversight.[77]

a. Minimum Capital or "Leverage Ratio"

The "leverage ratio" or minimum capital standard generally requires banks to maintain a minimum "Tier 1" capital ratio (common stockholders' equity, non-cumulative perpetual preferred stock and retained earnings) equal to 4 percent of total consolidated assets.

b. Risk-Based Capital Standard

A bank's risk-based capital ratio is computed by dividing its total capital (Tier 1 capital plus Tier 2 capital, including subordinated debt up to 50 percent of Tier 1 capital) by its total risk-weighted assets. The required minimum risk-based capital ratio for banks is 8 percent. The risk calculation assigns all assets and off-balance sheet items to one of four broad categories of relative riskiness. For instance, most residential mortgages are assigned a risk weight of 50 percent so that the required capital is 4 percent of asset-sheet balances (i.e., balances x .05 x 0.08 = balances x 0.04).

c. Supervisory Oversight

Banks are subject to the supervisory standards of the Uniform Financial Institutions Rating System (UFIRS), which measures their performance against the six "CAMELS" factors: **C**apital Adequacy, **A**sset Quality, **M**anagement, **E**arnings, **L**iquidity, and **S**ensitivity to

[77] Thrift capital standards vary slightly from those imposed on banks, although, by statute, the standards for thrifts may be no less stringent than the standards imposed on national banks. See 12 U.S.C. § 1464(t)(1)(C).

Market Risk.[78] An institution is rated from 1 (strongest) to 5 on each factor and assigned an overall composite rating.

Banking agencies (the Federal Reserve, OCC, and FDIC) originally adopted the UFIRS in 1979. It was updated in December 1996 to focus examiners' attention on the risk exposures and management practices of banks. In announcing its adoption of the changes, the Federal Reserve said that the revisions reflected factors that, while not explicitly addressed by the original rating system, had routinely been considered by examiners in evaluating a bank's condition.[79] Changes included adding the "sensitivity to market risk" factor, explicitly recognizing the importance of the quality of market or interest-rate risk management.

The following table broadly categorizes the current approaches that regulators take to assessing capital adequacy—whether they take a prescriptive regulatory approach or a more individually-tailored supervisory approach. It is noteworthy that bank and thrift regulators generally adopt a supervisory approach to market and interest-rate risk.

Regulatory Approaches by Risk Dimension[80]

Regulator	Trading/Market	Interest Rate	Credit	Other
Fed	S	S	P	S
OCC	S	S	P	S
FDIC	S	S	P	S
OTS	S	S/P*	P	S

"S" = Supervisory; "P" = Prescriptive. *Based on size.

2. Recent Financial Institution Capital Reform Actions or Proposals

A. FARM CREDIT ADMINISTRATION PROPOSED RULE ON RISK-BASED CAPITAL[81]

The Farm Credit Administration is the regulator of Farmer Mac, a federally chartered entity providing a secondary market for agricultural real estate loans. In a proposal issued in

[78] SR 96-38 (SUP), Board of Governors of the Federal Reserve System (1996), available on the Internet at www.bog.frb.fed.us/boarddocs/SRLETTERS/1996/sr9638.htm.

[79] Id. at 1.

[80] See, e.g., OCC Minimum Capital Ratios; 12 C.F.R. §§ 3.6-3.11, Appendix A to Part 3 (risk-based capital for credit risk) and Appendix B to Part 3, subsec. § 3(a)(2)(i)(capital requirements for market or trading risk)(1999); Ernst and Young, "Implications of a Supervisory Approach to Risk-Based Capital," (prepared for Fannie Mae, July 1999).

[81] Farmer Mac Risk-Based Capital Proposal, supra n. 62.

November 1999, the FCA proposed a plan to implement a risk-based capital test that is based on a stress test, and contains statutory provisions virtually identical to those governing OFHEO's obligation to establish a risk-based capital test for Fannie Mae and Freddie Mac.[82]

Subject to verification and oversight, FCA proposes to combine regulator prescription of some model elements, with substantial reliance on Farmer Mac to actually run and report test results, as well as develop other key elements of the stress test model. In a very real sense, the statutory provisions for Farmer Mac's risk-based capital regulation served as the model for the OFHEO structure, enacted by Congress only one year later in 1992.

The proposal concludes that this approach best comports with the FCA's statutory mandate as set forth in the Food, Agriculture, Conservation, and Trade Amendments Act of 1991[83] for the FCA to establish a risk-based capital test for Farmer Mac. The FCA's stated goals underpinning its proposal are:

- to maintain consistency with the statute;
- maintain internal consistency;
- avoid creating inappropriate economic incentives;
- "aim for simplicity;" and
- reflect to the extent practicable Farmer Mac's current operating policies and practices.

The FCA proposal relies on combining inputs from both the regulator and regulated institution to run the model quickly, accurately and efficiently, and includes various steps to verify and assure compliance by Farmer Mac with the model over time. The key operating features are listed below, along with a brief comparison to NPR 2.

Regulatory Inputs

i. The regulator will provide basic specifications, assumptions and sensitivities, included in technical instructions and Excel spreadsheets, with options for Farmer Mac to use its own cash flow model and other inputs, as summarized below.

   In NPR 2, OFHEO exhaustively details all specifications, assumptions and sensitivities, with no use of internal cash flow models or other inputs of the companies.

ii. The regulator, during the one-year period following adoption of a final rule, will examine and verify Farmer Mac's implementation of the stress test to assure compliance with the regulations and regulator-mandated specifications;

   There is no corresponding provision in NPR 2.

[82] Compare 12 U.S.C. § 4611(a)-(b), (d), (e) and 12 U.S.C. § 2279bb-1(a)-(b), (d), (e).

[83] Pub. L. 102-237 (1991).

iii. The regulator will require that an independent party audit and verify Farmer Mac's stress test implementation every three years, to assure accuracy of financial data inputs and compliance with regulatory procedures.

There is no corresponding requirement for third party audit in NPR 2; the lack of instructions for many issues of data allocation and the lack of complete computer code for the basic model would preclude such audits indefinitely.

Farmer Mac Inputs

i. Allows Farmer Mac to report test results to the regulator after running the stress test internally (using a model built according to regulatory specifications).

NPR 2 currently contemplates that OFHEO will run the test; the regulated company must then attempt to replicate results and suggest reconciliation—a process that Fannie Mae has been unable to complete in 11 months since publication of NPR 2, even with extensive assistance from OFHEO.

ii. Allows Farmer Mac to use its own internal cash-flow generator system and programming to project cash-flows from all assets, liabilities, and off-balance sheet items, subject to prior concurrence by the regulator and compliance with procedures set out in the proposal's technical appendix. The regulator sets out certain assumptions that Farmer Mac must include in the model. Alternatively, Farmer Mac would use the Excel spreadsheet created by the regulator.

NPR 2 currently contemplates that all elements of the model will be prescribed exclusively by OFHEO.

iii. Allows the use of Farmer Mac's duration measures as inputs into the stress test to capture interest-rate-risk exposure (citing the advantage of being able to validate these through routine exams and the benefit of reduced complexity).

NPR 2 currently contemplates that OFHEO will make all such decisions.

iv. Allows Farmer Mac to use indices other than the 10-year CMT rate in the interest-rate-risk portion of the test, subject to FCA concurrence, as long as the relationship between such indices and the 10-year CMT are based on standard, widely used term-structure modeling relationships. Farmer Mac may use these relationships to compute the cost of new debt, yields on investments, and coupon rates on mortgages purchased or guaranteed by Farmer Mac. However, in any case, Farmer Mac's risk-based capital using the additional indices cannot be lower than if it used the only the 10-year CMT.

NPR 2 currently contemplates that OFHEO will make all such decisions.

v. Allows Farmer Mac to use its own actual prepayment experience in the cash flow model, or assumed prepayment rates, as input variables for generating balance sheet cash flows.

NPR 2 currently contemplates that OFHEO will make all such decisions.

B. FEDERAL HOME LOAN BANK ACT CAPITAL REQUIREMENTS

Title VI of the GLBA revised the capital requirements for the twelve Federal Home Loan Banks.[84] The FHLBanks are government-sponsored companies with a mission of supporting housing finance, which they have done, traditionally, mainly through making loans to member banks and thrifts, secured by residential mortgages and other types of collateral. Their regulator, the Federal Housing Finance Board (Finance Board) also recently has approved various pilot activities including direct mortgage investment.[85]

Like Fannie Mae and Freddie Mac, the FHLBanks must manage credit risk and interest-rate risk that derives from their activities. As of September 30, 1999, the FHLBanks had $365 billion in advances outstanding to members, and through the first three-quarters of last year issued $2.4 trillion in debt. The Finance Board has statutory safety and soundness duties that are very similar to those of OFHEO. Congress has stated in this regard:

"(A) Duties

Safety and soundness. The primary duty of the [Finance] Board shall be to ensure that the Federal Home Loan Banks operate in a financially safe and sound manner.

(B) Other duties

To the extent consistent with subparagraph (A), the duties of the Board shall also be–

(i) to supervise the Federal Home Loan Banks;

(ii) to ensure that the Federal Home Loan Banks carry out their housing finance mission; and

(iii) to ensure that the Federal Home Loan Banks remain adequately capitalized and able to raise funds in the capital markets."[86]

In the GLBA, congressional changes to the FHLBanks' capital structure combined both traditional "prescriptive" formulas (capital-to-asset ratio minimums) and the mandate for the Finance Board to develop a stress test as part of a risk-based capital benchmark. The GLBA mandates a credit-risk and a market-risk (including interest-rate risk) component. The latter is to be based on a stress test "established by the Federal Housing Finance Board that rigorously tests for changes in market variables, including changes in interest

[84] Pub. L. No. 106-102 § 608, 113 Stat. 1338 (1999).

[85] Notice of Pilot Mortgage Program Proposed by the Federal Home Loan Banks of Cincinnati, Indianapolis, and Seattle, 64 Fed. Reg. 44, 016 (published Aug. 12 1999).

[86] 12 U.S.C. § 1422a (1999).

rates, rate volatility, and changes in the shape of the yield curve."[87] In adopting the stress test, the Finance Board shall "take due consideration" of any risk-based test adopted by OFHEO for the other government-sponsored housing companies, but may adopt appropriate modifications to reflect differences in operations.[88]

In many respects, the GLBA mandate simply reconfirmed the policy choices reflected in an earlier rulemaking proposal by the Finance Board, in which it outlined a capital stress test. Under its proposed Financial Management and Mission Achievement (FMMA) regulation,[89] the Finance Board proposed requiring that each FHLBank maintain risk-based capital in an amount at least equal to the sum of its credit risk capital requirement, its market risk capital requirement and its operations risk capital requirement.[90]

In measuring its market- or interest-rate-risk capital requirement, the Finance Board proposed ***requiring*** the FHLBanks to use their own internal models in measuring market risk: "Each Bank ***shall*** use an internal market risk model that measures the market value at risk, from all sources of the Bank's market risks, of its holdings of on-balance sheet assets and liabilities and of off-balance sheet items, including related options."[91]

The proposed regulation gave individual Banks a choice of modeling methods, stipulating that the "Bank's internal market risk model may use any generally accepted measurement technique, such as variance-covariance models, historical simulations, or Monte Carlo simulations … provided that any measurement technique used must cover the Bank's material risks."[92]

As far as oversight is concerned, the FMMA proposal would have required:[93]

- Submission by each Bank of its model to the Finance Board, prior to its use, for certification and make any adjustments required by the Finance Board;

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[87] 12 U.S.C. § 1426(a)(3)(B).

[88] 12 U.S.C. § 1426(a)(3)(A)(ii).

[89] Federal Housing Finance Board, Financial Management and Mission Achievement, 64 Fed. Reg. 52,163-52,3210 (to be codified at 12 C.F.R. 917-980), (proposed Sep. 27, 1999), (hereafter "FMMA Proposal"). The Finance Board withdrew the proposed regulation to await congressional action on GLBA but Finance Board personnel have since maintained that the regulations required to carry out the capital provisions of GLBA would be substantially the same as proposed in FMMA. In a December 15, 1999, presentation at a conference sponsored by the Washington-based organization, Women in Housing and Finance, Finance Board Chairman Morrison stated that there would be no major surprises when the Finance Board issues post-GLBA proposals for capital requirements since the Finance Board's intentions were already telegraphed in the FMMA proposal.

[90] FMMA Proposal at 52,202.

[91] Id. at 52,204-5 (Emphasis added).

[92] Id. at 52,205. In allowing this choice, Finance Board proposed requiring certain guidelines for interest-rate and market price scenarios.

[93] Id.

- Annually, either an internal validation of the model carried out by personnel independent of those responsible for conducting business transactions for the Bank or by outside parties qualified to provide such validation; and
- Submission of the resulting validation for review by the Bank's board of directors and by the Finance Board.

In summary, the Congress and the Finance Board have both affirmed that an effective market-risk stress test for government-sponsored companies that invest in, and lend on the security of, mortgages is one that permits each individual Bank to specify and run the market-risk model. The Finance Board has concluded that it can carry out its primary duty to assure the safety and soundness of these companies by relying on the resources of the 12 FHLBanks, even though models would be differently specified and give different, though acceptable, results.

C. OFFICE OF THRIFT SUPERVISION THRIFT BULLETIN, TB 13A

On December 1, 1998, the Office of Thrift Supervision ("OTS") issued Thrift Bulletin (TB) 13a.[94] Under TB 13a, the OTS ***requires*** all institutions with assets of more than $1 billion to have their own internal *Net Portfolio Value* model to measure interest-rate risk, and to make the measurement each quarter.

Institutions with assets of between $300 million and $1 billion (156 institutions with $82 billion in assets at the end of September last year) have to file a detailed 11-page quarterly CMR (*Consolidated Maturity/Rate Report*). They have six weeks after the end of each quarter to report. OTS then inputs the data into its own Net Portfolio Value Model and prepares an individualized report for each institution that models that institution's sensitivity to changes in interest rates. The turnaround time for the OTS is typically 2-4 weeks.

An institution with less than $300 million in assets does not have to file a CMR report unless examiners determine that it is taking undue amounts of risk.

As noted above, TB 13a requires all institutions with assets of more than $1 billion to run their own NPV model. As of September 1999, there were 100 OTS-regulated thrifts with assets over $1 billion. Though only 9 percent of OTS-regulated thrifts by number, these institutions hold 80 percent (or $692 billion) of the assets of the industry. Thus, for institutions holding four-fifths of industry assets, OTS has determined that enhanced safety and soundness is fully consistent with reliance on 100 different models for the measurement of interest-rate risk.

Oversight of this process relies on several levels of supervision. The first level of supervision is provided by the institution's board of directors—"[E]ffective control of

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[94] Thrift Bulletin 13a, "Management of Interest-rate Risk, Investment Securities, and Derivatives Activities," 63 Fed. Reg. 66,351-66,375 (published Apr. 23, 1998).

interest-rate risk begins with the board of directors which defines the institution's tolerance for risk."[95] The board is required to set limits on the change in portfolio value for immediate, permanent and parallel movements of the term structure of interest rates of plus or minus 100, 200 and 300 basis points. For over-$1-billion-in-assets institutions, the institution measures the sensitivity each quarter using an internal model; OTS computes it for those with $300 million to $1 billion in assets.

Examiners include interest-rate risk in the supervisory process in two dimensions:

- They make judgments about the amount of risk determined through the modeling process; and
- They examine the quality of the institution's risk-management procedures, including the quality of board oversight and "**the extent to which the results of an institution's risk measurement system are used by management in making operational decisions.**"[96] Validating the adequacy of the model is part of this evaluation process. The practice that has arisen is that even those institutions required to measure risk through internal models submit data for the OTS to run through its model and they are, in practice, required to reconcile the OTS results with their own. Generally, if the OTS results show less, or about the same, sensitivity to interest rates as the internal model, the examiners will accept the internal model. If the OTS model detects greater sensitivity than the internal model, then examiners will require management to justify the differences.

All of this feeds back into the overall assessment of capital through the CAMELS rating system—of which the "S" refers to "***S***ensitivity to interest-rate or market risk." If an institution receives a less than an acceptable rating on the S, or any other vector of the CAMELS system, then it is subject to higher capital requirements (and, also, higher deposit insurance premiums).

OTS has, arguably, the most daunting task in measuring and supervising interest-rate risk of any federal regulator. If anything typifies the institutions it oversees, it is that they are mortgage portfolio lenders that are trying to fund (option-embedded) mortgages with (option-embedded) retail deposits.

Mortgages are notorious for the options that are embedded in them. Most investors that fund mortgages do so with either option-free debt (with the mortgage option otherwise hedged) or with favorable-option debt (that hedges the option on the funded asset). That includes Fannie Mae and Freddie Mac.

In contrast, thrifts (and some banks) that are primarily mortgage portfolio lenders funding their mortgage portfolios with deposits face the dual challenge of both managing the

[95] Id. at 66,362.

[96] Id. at 66,367 (emphasis added).

(unfavorable) option in the mortgage, and the equally unfavorable embedded options in deposits. To put it simply: If interest rates rise, mortgages stay on the books while deposits funding them are withdrawn. If rates fall, mortgages prepay while deposits funding the disappeared mortgages remain outstanding.

This is the highly complex risk scenario that OTS has had to deal with. But the agency is generally recognized as authoritative in handling this responsibility. Argumentation has centered round specific narrow issues rather than the overall structure that OTS has put in place. Thus, the big controversy for years has been the duration of core deposits—i.e., if interest rates rise significantly what percentage of low- and, basically, fixed-rate passbook accounts stay on the books.

But that is not something that OFHEO has to deal with. The maturity and optionality of company funding can more easily be simulated.

As outlined above, OTS has divided its regulatory charges into three groups: (1) those too small to have an explicit interest-rate-risk component in their capital requirements unless the examination process reveals otherwise; (2) medium-sized institutions for whom the agency has decreed a prescriptive approach; and (3) large institutions where an internal models/supervisory approach is used.

Leaving aside the first group as irrelevant to the modeling considerations for a RBC requirement, the treatment of the remaining two groups evidences an approach that is both resource-efficient, sensible and operationally practical. It recognizes that OTS cannot continually have examiners on site in over 250 institutions to monitor day-by-day interest-rate risk. But it can harness the infrastructure of many of these thrifts, and therefore provide timely risk assessments that management can use in day-to-day operating decisions. ***As far as the latter is concerned, it should be noted that all institutions subject to the measurement of interest-rate risk get the results within a quarter from the closing date—either because they do the measurement themselves or OTS returns the results to them in eight to ten weeks from quarter's end. Presumably, given OFHEO's stated view on the systemic importance of risk assessment for Fannie Mae and Freddie Mac, this is the sort of turn-around time that OFHEO should also set as its objective but, under NPR2, is unlikely to achieve.***

D. FEDERAL RESERVE BOARD

The Federal Reserve Board in the last year issued directives emphasizing the importance of risk assessments that leverage the internal risk monitoring capability of large sophisticated institutions:

i. June 1999 supervisory letter (SR 99-15):[97]

This letter bifurcates the FRB's supervisory approach by recognizing a new class of large complex banking organizations (LCBOs) and requiring unique risk assessments for them. The letter states:

> "As these processes develop and become more fully implemented, supervisors and examiners should also place increasing reliance on internal assessments of capital adequacy as an integral part of an institution's capital adequacy rating."

The Board justified its findings in several notable statements:

> "Because risk measurement and issues are evolving rapidly, at this stage it is neither possible nor desirable for regulators to describe in detail the precise contents of a structure of a sound and effective internal capital assessment process for large and complex institutions. Indeed, the attributes of sound practice will evolve over time, and will depend importantly on the individual circumstances of each institution."

The Board also recommended:

- More emphasis on risk management processes and less emphasis on traditional "snapshot" balance sheet assessments; and
- Quarterly re-evaluation of the LCBO's risk profile; regular contact with bank management regarding the bank's risk profile and risk management processes.

ii. July 1999 supervisory letter (SR 99-18):[98]

This letter provides examiner guidance on use of internal capital adequacy assessments by large banks and others with complex risk profiles. It applies to all banks engaged in securitization and credit-risk derivatives and substantially changes prior regulatory policy. It finds that all banks need to develop such tools starting immediately and that large banks should already have them in place. Examiners are directed to begin reviewing the results of internal models and place "increased reliance" on them in giving a bank its capital review under the CAMEL examination rating system.

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[97] SR 99-15 (SUP), Risk-Focused Supervision of Large Complex Banking Organizations, Federal Reserve Board, June 23, 1999, available on the Internet at http://www.bog.frb.fed.us/boarddocs/srletters/1999/SR9915.htm.

[98] SR 99-18 (SUP), Assessing Capital Adequacy in Relation to Risk at Large Banking Organizations and Others with Complex Risk Profiles, Federal Reserve Board, July 1, 1999, available on the Internet at http://www.bog.frb.fed.us/boarddocs/srletters/1999/SR9918.htm.

The directive anticipates that examiners would administer this new procedure in addition to reviewing whether the bank meets its required minimum regulatory ratios for minimum and risk-based capital requirements.

A sound internal capital adequacy analysis process must:

- identify and measure all material on- and off-balance sheet risks (credit risk, market risk, interest-rate risk, operational and other risks);
- relate capital to the level of measured risk and add a capital cushion;
- articulate explicit capital adequacy goals with respect to risk; and
- assess how well the stated objectives are met.

iii. Market-risk regulation[99]

For institutions with large trading accounts, bank regulators use such institutions' internal models to determine capital for market risk in their trading accounts. There is a capital "add on" to further protect these institutions. It is important to note that, in the context of the market rule, the agencies initially proposed to include an agency risk model as an alternative to use of the institution's own model. The regulators dropped this in the final rule because they concluded, after extensive testing of the standardized model with industry participants, that "institutions with significant exposure to market risk can most accurately measure that risk using detailed information available to the institution about its particular portfolio processed by its own risk measurement model." Recent questions about counterparty risk assessment have prompted regulators to call for improved "stress testing," not abandonment of this type of approach.

E. BASEL COMMITTEE ON BANKING SUPERVISION

In 1988, the Basel Accord established the risk-based capital structure currently in place for U.S. banking institutions. In June 1999, the Basel Committee issued for public comment a proposal ("Basel II") to replace the 1988 Accord. The proposal, open for comment until March 31, 2000, establishes "three pillars" for a new capital structure:

- minimum capital requirements;
- supervisory review of an institution's capital adequacy and internal assessment process; and
- market discipline, which will encourage high disclosure standards and enhance the role of market participants.

Basel II establishes a long-term goal of developing a flexible framework that more accurately reflects the risks to which banks are exposed. The Basel II proposal states the Committee's intention to examine further ways of making the capital adequacy framework more risk sensitive and solicits comment on how to accomplish this goal.

[99] Federal Reserve Board, "Risk-based Capital Standards: Market Risk; Joint Final Rule," 61 Fed. Reg. 47,351 (Sept. 1996).

On January 18, 2000, the Committee released two papers that add further detail to its proposal. One of the papers, entitled "Range of Practice in Banks' Internal Rating Systems," assesses the current state of banks' internal capital rating systems and processes. The Chair of the Basel Committee's Models Task Force noted in the press release accompanying this paper that

> "The Committee is...developing an evolutionary structure that moves rapidly toward basing credit risk capital requirements on a bank's internal ratings, to the extent that current bank and supervisory process will allow."

The Task Force found many differing approaches to internal risk assessment procedures at large banks, and is seeking public comment in identifying "best practices." William J. McDonough, Chairman of the Basel Committee and President and Chief Executive Officer of the Federal Reserve Bank of New York, stated:

> "The Committee is working hard to develop...an approach which is risk-sensitive, and which will provide incentives for banks to further improve credit risk measurement and management practices... Furthermore, the Committee will pay close attention to ensuring that the structure and requirements of the...approach *do not impinge upon banks' own well-established lending and credit risk management practices.*"[100]

On January 20, 2000, Standard and Poor's issued a press release giving formal reactions to the proposals made by Basel II. Standard and Poor's made the following comments:

> "Internal and external risk assessments are complementary components in the risk adjustment process. Internal risk assessments are vital to the risk management and economic capital management of financial institutions. External assessments, particularly ratings, are the common language of the capital markets and benefit liquidity and transparency... Regulators will need to create a review process that assures the integrity of internal systems if they permit regulatory capital self-determination."[101]

[100] Basel Committee on Banking Supervision, Press Release: "A New Capital Adequacy Framework, Supplementary Documents," Jan. 18, 2000.

[101] Standard and Poor's Press Release, "Standard and Poor's Responds to Basel Proposals," Jan. 20, 2000.

APPENDIX III: TECHNICAL ISSUES