

March 10, 2000

Alfred M. Pollard  
General Counsel  
Office of Federal Housing Enterprise Oversight  
1700 G Street, N.W., 4<sup>th</sup> Floor  
Washington, D.C. 20552

Re: Risk-Based Capital, proposed rule, RIN 2550-AA02

Dear Mr. Pollard:

The Mortgage Bankers Association of America (MBA) appreciates the opportunity to comment on the second Notice of Proposed Rulemaking on Risk-based Capital for Fannie Mae and Freddie Mac (Government Sponsored Enterprises which hereafter may be referred to collectively as the GSEs or individually as a GSE ).

MBA is a trade association representing about 3,000 members involved in all aspects of real estate finance. Members include national and regional lenders, mortgage brokers, mortgage conduits, and service providers. MBA encompasses residential lenders, both single-family and multifamily, and commercial lenders.

It is MBA s policy to support expanded liquidity for the secondary mortgage markets [through] the lowest possible risk-based capital standards for the GSEs and other federally regulated financial institutions consistent with safety and soundness for participating institutions, stability for the overall market, and minimum exposure to the American taxpayer. Fannie Mae and Freddie Mac are extremely important to this country s system of mortgage finance. Their ability to facilitate home ownership and the availability of rental housing is predicated upon their continued financial strength. Given the dramatic growth of their mortgage-backed securities and whole loan portfolios over the past several years, coupled with their increasing role in the debt markets as outstanding Treasury obligations diminish, it is incumbent upon the federal government to require, and each GSE to maintain, sufficient capital to meet reasonable standards of safety and soundness. In MBA s view, reasonableness entails that capital requirements be tied to risk.

Based upon our review of the proposed risk-based capital rule and our understanding of how the rule will operate, MBA has the following recommendations:<sup>1</sup>

---

<sup>1</sup> MBA's recommendations are based upon our review of the proposed rule, the analysis of a limited number of scenario runs provided by OFHEO, and information provided by those with whom OFHEO worked to reverse-engineer parts of the model, including the GSEs.

## Recommendations

### ***1. OFHEO should proceed to publish a final capital rule as promptly as possible.***

The Office of Federal Housing Enterprise Oversight ( OFHEO ) has the mission of regulating the GSEs as to safety and soundness pursuant to a very prescriptive statute. Congress, in the Federal Housing Enterprise Safety and Soundness Act of 1992 (the Act ), sets forth specific parameters for the risk-based capital standard for the GSEs. Looking at the proposed rule and stress test model in the context of other regulatory risk-based capital regimes, we can say that the dynamic stress test approach of the Act is superior to the static approaches of typical regulatory regimes. However, the rigidity of some aspects of the statutory standard may unnecessarily limit OFHEO s ability to deal with stress conditions that might arise in the future. In addition, the state of the art of risk management has matured significantly since passage of the Act, suggesting that the existing statutory regime may be less robust than newer, more refined economic approaches.

Notwithstanding any weaknesses in the statutory framework governing the rulemaking, MBA has concluded that the proposed model is consistent with the Act. We applaud OFHEO for the care, thought and attention that has gone into developing the stress test model and proposed rule.

Based upon our analysis, we have identified some modeling and process concerns that we believe should be addressed. We would advise that the modeling corrections be staged because we further believe that it is very important for a final risk-based capital rule to be put in place as promptly as possible. We recommend that the next step in the process be publication of a final rule rather than a re-proposed rule. Corrections to the model that may take a significant time to implement should be phased in as quickly as possible after publication of the final rule. Therefore, OFHEO should prioritize suggested revisions to the model. The issues that can be most easily resolved should be addressed first and a final rule published. Subsequently, other concerns can be addressed in an expeditious and orderly fashion (see Recommendation 2). To help assure that these other issues are addressed as rapidly as possible, OFHEO should publish a schedule for these later modifications as a notice in the *Federal Register* and develop a process for reporting their completion.

### ***2. The final capital rule needs to incorporate a process for dealing with new initiatives and changed circumstances.***

The benchmark loss experience is not tailored to subprime, home equity loans and other new products that are currently a relatively small portion of the GSEs books of business. It also does not reflect experience with entirely new products that might be developed. As subprime, home equity and other new kinds of lending present new kinds of risk, they need to be reflected in the capital calculation. Capital requirements for new products also needs to be considered in the larger context of an initiative s relevance to the GSEs statutory mission, a base level inquiry. Thus, there should be regular communication and careful coordination between OFHEO and HUD, the GSEs mission regulator.

In cases where a new product is found to be within a GSE's mission, the process for calculating capital should strike a balance between the need for OFHEO to protect against catastrophic losses that could be associated with higher risk new products and limited GSE experience with the new products. The process should also take into account the need for the smooth operation of the GSEs' businesses and the need for OFHEO to have sufficient flexibility to exercise effective oversight. OFHEO also should be able to take into account other changed circumstances, such as innovations in risk management tools.

One approach would be to incorporate into the final rule a process for its orderly evolution in response to changed circumstances, including the introduction of new products, or the growth of any product as a percentage of a GSE's entire book of business, or the refinement of risk management methodologies. Under this approach, OFHEO should, in the current rulemaking, designate a process for updating its capital adequacy models and creating new ones. A potential process could provide that all proposed changes to the model for a given period would be tested against the current model. If the proposed changes would lead to an increase in capital of less than some percentage, then the change could be effected without a formal public comment period; provided, the GSEs were given sufficient lead time, e.g., a year, to come into compliance. OFHEO would be able to withdraw or revise the proposed change during the waiting period. For changes that would have a greater impact, there could be a 90-day comment period and a two-year waiting period.

We provide the following example of how the foregoing process could be implemented. In the case of new products, OFHEO could request from the GSEs specific projections for the delinquency and defaults rates on the products by each vintage/cohort of the loans purchased. Any excess losses in these projections should be calibrated to the losses otherwise projected according to the OFHEO risk model and a risk-equivalent synthetic asset created, with an appropriate adjustment, either multiplicative or additive, as OFHEO deems appropriate, to the regular risk-based capital charge for credit risk. The subsequent performance of these credits should be compared periodically to the original projections and an appropriate surcharge added to the risk requirement if the GSE's cost projections underestimate the loss experience. Analysis would have to be undertaken over time as defaults tend to concentrate in the third and fourth years of a loan. This approach could be implemented without notice and comment if the proposed capital charge (excluding any surcharge) would be less than the regulatory trigger for notice and comment mentioned above.

***3. The process for determining required capital should give each GSE the ability to calculate to a reasonable degree of certainty the amount of capital required by the stress test at any given time.***

We believe the statute clearly contemplates the operation of a single model by OFHEO. However, it is only fair that a business entity be able to anticipate capital needs in an orderly, predictable way. We urge that OFHEO define a process for assuring that each GSE will be able to replicate the OFHEO model sufficiently to allow it to calculate a capital figure with a high degree of assurance that the result will closely mirror the results OFHEO will produce. We believe OFHEO should determine the required capital amount as a result of running data from the GSEs through its model to remain the final arbiter of whether a GSE meets its capital

requirement. Nonetheless, we acknowledge that, given the limited number of regulatees, the complexity of the items to be modeled and the complexity of the businesses involved, a high degree of collaboration between OFHEO and each GSE would be beneficial in determining required capital.

***4. Credit scores should be incorporated into the stress test model for single-family loans, either in the final rule, if OFHEO proposes to proceed directly to a final rule as we recommend above, or in a subsequent rulemaking if incorporation of credit scores would delay publication of a final rule.***

Adding credit scores to the risk bucketing process would help risk measurement considerably. The stress test analyzes each GSE's portfolio by placing loans in risk buckets having specific characteristics. The bucket approach, as opposed to analysis of individual loans, was used for modeling efficiency. 64 *Fed.Reg.* at 18090. To the extent a significant loan feature is not captured in a risk bucket, distortions in analysis may occur. The validity of prepayment and loss severity models would appear to benefit most from more refined bucketing through the use of credit scores.

Credit scoring was not a broadly available or widely used tool in the mortgage industry either during the period of the benchmark loss experience or during the late 1980s and early 1990s when the Act was written. However, a considerable body of research now exists, demonstrating that credit scores are highly reliable predictors of mortgage performance. Because of their predictive power relative to loan performance, the GSEs and other mortgage investors require the use of credit scores in the underwriting process and increasingly using credit scores in loan pricing. The statistical rating agencies also use credit scores in determining required credit supports for private label mortgage-backed securities.

The model's current bucketing approach for single-family loans is limited to product type (single-family or multifamily, fixed or adjustable interest rates, and loan term), original loan-to-value (LTV) ratio, interest rate, origination year, remittance cycle, and census division. Multifamily loans are similarly grouped with the additional classification for debt coverage ratio and program type.

In the model, as proposed, LTV is used as the primary risk factor for single-family loans. Although LTV has been a significant default predictor, it is much stronger when correlated with credit scores. Bucketing by reasonable bands of credit scores and LTV would allow more accurate risk classification and capitalization<sup>2</sup>. For example, the current bucketing system would not identify the performance of subprime loans. To the extent subprime loans are not captured via credit score, the stress test may significantly understate their risk. Similarly, higher quality

---

<sup>2</sup> We also believe it is appropriate to point out that the model currently uses unusually wide LTV risk buckets—loans are bucketed in ranges of 5 to 10 percent. According to accepted “best practices” in the risk management industry, ranges of 10 percent are rather large and tend to blur behavioral patterns. With wide groupings, capital would effectively be established as an average for the entire group. Thus, loans in the lower half of the LTV spread in any single group would tend to be overcapitalized relative to risk and loans in the upper half of the LTV group would tend to be undercapitalized relative to risk.

high credit score A loans may not receive the full benefit of their better performance if they are lumped together with subprime loans in an LTV bucket, particularly if the GSEs increase the magnitude of their subprime programs. Therefore, to more closely align capital with risk, we urge that OFHEO incorporate credit scores into the bucketing process.

**5. *MBA urges simplification of the model and correction of distortions related to multifamily risk.***<sup>3</sup>

**Complexity of model.** The model is overly complex in the number of variables used to model risks of multifamily loans and in the treatment of those variables. For example, the model includes prepayment assumptions on loans during the yield-maintenance period. Modeling prepayments in the pre-balloon period adds complexity with little effect on risk. Call protection in the form of yield maintenance and lockout provisions is uniformly used by the GSEs; should a loan prepay, the GSEs receive the equivalent to the lost income in the form of yield maintenance fees.

**Distortions.** The model also contains a number of distortions.

- a) OFHEO realizes that the benchmark period is an anomaly for multifamily loans, and has made a number of adjustments, particularly on default experience in the benchmark period. However, the model uses vacancy rates and percentage changes in rents from the benchmark period to update property financials (DCR and LTV) throughout the stress period. The benchmark period includes the early 1980s when many multifamily properties were built for the tax advantages they produced, not the positive cash flows. This resulted in significant over-supply of multifamily housing with resulting high vacancy rates and, often, negative changes in rents. The 1986 Tax Act fundamentally changed the economics of multifamily housing resulting in a high level of defaults. However, the overbuilding from the early 1980s caused vacancy and rent change anomalies that took many years to overcome. By using benchmark period vacancy rates and changes in rents, the risk of loans, post 1986 Tax Act, is distorted.
- b) We agree with OFHEO's statement that not all loans terminate at the balloon point. The model, however, requires that DCR and LTV values be sufficient to qualify for a new mortgage ( $LTV \leq .80$  and  $DCR \geq 1.20$ ). We believe that this distorts defaults by assuming that these loans are not extended. If the property has weak financials, lenders are unwilling to initiate foreclosure on loans that have been making payments. In fact, lenders are often reluctant to force a foreclosure unless a default is imminent, e.g.  $LTV > 100$  and  $DCR < 1.00$ .
- c) The loss severity rates used in the model are excessively high, largely due to the limited data on which they are based. The experience of both GSEs as well as data published in several academic studies provide support for this comment. We

---

<sup>3</sup> Neither MBA nor its contractor was able to recreate the model and OFHEO was unable to run multifamily scenarios for MBA prior to the end of the comment period. Our comments, thus, are limited to analysis of the assumptions used by OFHEO as articulated in the rule.

recommend that the actual experience of both companies, and perhaps other financial institutions, be taken into account to set a more realistic rate.

**Haircuts.** Excessively severe haircuts for counterparty risk are a generic problem with the rule [see Recommendation 7, subpart (f)], but have the potential to impact the Fannie Mae DUS program specifically. The DUS program is Fannie Mae's primary multifamily origination channel and is Fannie Mae's primary channel for multifamily affordable housing finance. Fannie Mae's DUS lenders retain first loss exposure on originated mortgages. This retained exposure is a critical element in assuring the credit quality and performance of the mortgages. The success of this approach is reflected in Fannie Mae's experience. Over the 12-year history of the program, DUS mortgages have performed measurably better than non-DUS mortgages.

The proposed rule assumes a "BBB" equivalent standard for unrated counterparties. The haircuts, specifically at the BBB level, cause a substantial overcapitalization for credit risk in comparison to financial market standards. In the main, Fannie Mae's DUS lenders are smaller privately held companies that have not been rated and, thus, fall into this category. This overcapitalization creates disincentives and could lead to pricing changes and/or reduction in demand, thereby negatively affecting the supply of multifamily and affordable housing finance.

***6. MBA urges OFHEO to treat Fannie Mae's counterparty exposure to its DUS lenders as a separate category apart from generic counterparty risk.***

The DUS program is Fannie Mae's primary origination channel for multifamily finance. Fannie Mae is the largest provider of multifamily finance in the nation, with total originations in 1999 of \$12.4 billion. The GSE multifamily finance programs in the main benefit lower to middle income Americans. Specifically, Fannie Mae provided \$1.6 billion in multifamily affordable housing finance in 1999. To the extent that the OFHEO rule requires capital in excess of that necessary to cover reasonable risks, it could negatively influence Fannie Mae's interest and willingness to lend in this area, thereby affecting supply.

The generic assignment of counterparty risk in the model does not take into account the many standards and safeguards imposed by Fannie Mae on its DUS lenders to assure coverage for their ability to meet risk-sharing obligations. These include:

- Net worth minimums tied to portfolio growth
- Liquidity standards
- Specific liquidity reserves maintained with a trustee
- Loan loss reserves
- Rigorous oversight and risk monitoring
- Access to servicing portfolio value

The MBA recommends that OFHEO specifically consider DUS counterparty risk separately from other forms of counterparty risk in the proposed rule.

**7. *MBA has identified a number of other modeling concerns that we discuss below.***

Although the following items are grouped together and discussed last, we regard them as highly significant. Our research has identified other issues; the topics we address in this letter represent our major concerns.

**a. Netting of interest rate risk against credit risk**

The proposed rule does not separately estimate capital requirements for interest rate risk and credit risk. Because these risks can be offsetting within a given stress test scenario, the OFHEO model methodology results in the netting of such risks when computing required capital. This approach, which is not currently a well-accepted risk-adjusted capital allocation methodology, obscures the ability to analyze the issues separately and could allow the GSEs to overcompensate for one factor to cover the other. For example, out-of-the money options could cover both forms of risk without revealing their sources. It appears to us that OFHEO has discretion under the Act to avoid the netting approach. Therefore, we believe the proposed approach for calculating capital should be adjusted.

**b. General application of calibration and factors to all products**

The model applies benchmark data derived from 30-year fixed rate mortgages to all products. Reviewing scenario runs obtained from OFHEO, we found that the capital calculations based on the benchmark data appear to overemphasize risk in shorter maturity products and misallocate risk across the LTV spectrum. This means that the model overcapitalizes for 15- and 20-year products, which have proportionally lower risk characteristics, overcapitalizes for high LTV loans, and undercapitalizes for low LTV loans.

We believe OFHEO has sufficient discretion under the statute to adjust the model to correct these flaws and should do so. Capital requirements should be aligned accurately with risk. Otherwise, the model could operate to disincent the GSEs from performing their mission. For example, to the extent the GSEs are erroneously constrained by capital requirements from purchasing 97 percent LTV loans and incented to purchase low LTV loans, the model would be unreasonably interfering with the GSEs mission to facilitate the availability of affordable housing. This result must be avoided.

**c. Prepayment assumptions**

**Effect of data including assumable mortgages, turnover rates.** Single-family prepayment assumptions are too low in the up-rate and down-rate stress tests. With regard to the up-rate scenario, the model was estimated using data that included assumable mortgages although today s conforming conventional mortgages are not assumable. Also recent research suggests that there is a 5 percent turnover rate in homes as people move, but the proposed rule incorporates a turnover rate of only 3 percent.

**Structural industry changes stimulating prepayments.** Also, as for both the up-rate and down-rate scenarios, since the period of the benchmark loss experience, many new factors have been introduced that tend to increase prepayment speeds generally. However, these are not taken into account in the model. They include the introduction of premium priced loans, whereby closing costs and/or points are folded into the mortgage rate; automated underwriting systems; expedited title searches for refinances; and other process innovations that are removing friction from the mortgage process. Another change is the dramatic increase in the use of mortgage brokers whose incomes are linked to loans originated and who vigorously pursue refinances. The easier it is to refinance or obtain a new purchase mortgage, the faster existing loans will be paid off. It appears under the statute that OFHEO has discretion to take these new factors into account.

Prepayments also should be calculated based upon house prices increasing at normal historical levels. This would entail, in part, adjusting housing prices to correct for an understatement of inflation in the model.

#### **d. House price calculations**

**Single-family home price volatility assumptions.** These assumptions are unreasonable due to unstable coefficients. They result in a 40% differential capital requirement for loans in the North Central Region as opposed to the Mid-Atlantic Region. This result is untenable. The model should not influence a GSE to purchase loans based on the location of the property in one region of the country or another. The capital model cannot operate in a manner that undermines the basic mission of the GSEs to even out disparities across the nation in the availability of mortgage credit. A solution would be for all new loans with the same risk characteristics, e.g., LTV, product type, to have the same capital requirement. Then, as the loans age, performance should govern with capital treatment determined by whether the region has strong or weak house price inflation.

**Procyclical bias.** Also, the model has a built-in highly volatile, procyclical effect as a result of the mark-to-market adjustment of home prices using OFHEO's Home Price Index. This procyclical effect would disincent or limit the GSEs from buying or securitizing mortgages at the very time their market support would be most needed. The capital requirement is based on LTV, with more capital required for higher LTV loans and less for lower LTV loans. LTV is based upon house price. The rule will require a GSE to hold less capital during boom times when the home price index is high than it will when the house price index is low, at the bottom of a cycle. Capital will be lower during the boom because the higher house price index will lower the LTVs. These will correspondingly increase during a downturn, thereby increasing capital. However, it has been documented that in geographic areas that have experienced home price declines, the declines have been preceded by home price inflation. Thus, under the rule as proposed, if there is a sharp, sudden reduction in property values, the GSEs could have a sudden need to increase capital just when they might have problems doing so. A capital rule should be a stabilizing factor and should operate to build up capital in good times to serve as a cushion for more difficult times. The model operates to a contrary effect and would, therefore, impinge upon the achievement of the GSEs' mission as currently structured.



One solution could be to apply a two-year moving average of the House Price Index in place of the HPI at loan origination and the HPI just before the start of the stress test. Another would be to adjust the model to take into account economic conditions (both interest rate level as well as overall business cycle) and scale the stress test accordingly.

**Exclusion of important data.** The model incorporates an assumption on the decline in house price values that is less severe than the actual decline in house prices that occurred in the West South Central Region. This is true in large part because the House Price Index excludes the value of defaulted loans. Also, the index excludes 2-4 family homes which could be important in other regions, such as, New England. The effects of not accurately reflecting house price declines are to understate capital and to introduce a bias in favor of low LTV loans. The latter arises because, under the stress test, low LTV loans experience a significant capital charge only when house prices decline sharply.

**e. Severity rate adjustments**

The model treats severity rates as broad averages applied to all loans. However, actual severity rates are typically driven by a number of factors, including servicer, geography, original loan classification, and property disposition abandoned, inhabited, time and maintenance. The broad averages are not constant over time because severity rates have improved since the benchmark loss experience period, reflecting changes in servicing practices, such as the introduction of standardized loss mitigation procedures and highly predictive, credit score-based automated systems for activating loss mitigation procedures.

MBA believes persistent, structural changes in practice should be taken into account in the model. The Act provides, in connection with the credit risk scenario, that a GSE is required to maintain capital to withstand default loss stress conditions on a national scale reasonably related to those that occurred in the benchmark loss experience. 12 U.S.C. Sec. 1361. In the Senate Report to the Act, it is explained that the statute uses the term reasonably related to allow OFHEO to take into account, on the basis of sound empirical analysis to the extent possible, other factors that could affect default losses [including] the potential liability of third parties, mortgage age, premium or discount status, changes in bankruptcy laws, ***lender servicing standards***, [and] the credit quality of mortgage insurers. Senate Report, 102-282, May 15, 1992 at p.20 (emphasis added). OFHEO also is permitted to take into account other significant changes in the business environment for the GSEs. *Id.*

In light of the foregoing, it would appear appropriate for the model's severity rate assumptions to be adjusted (discounted), particularly given the data problems associated with the benchmark loss experience (limited data availability and so forth). Even if, in a future stress scenario, loss severity would increase over present levels, it would appear highly unlikely to fall to the levels of the benchmark loss experience.

**f. Counterparty risk; haircuts, single-family**

Relative to the use of mortgage insurance as a credit enhancement, the proposed rule provides overly severe haircuts. First, the haircuts make a markedly larger distinction between AA-rated

mortgage insurers and those rated AAA. than currently exists in the market, while treating those BBB and below no differently. To the extent the capital rule would incent the GSEs to favor loans from AAA mortgage insurers over those from AA insurers, the model could have the perverse consequence of increasing risk by increasing the GSEs concentration risk.

We find the proposed treatment of AA-rated mortgage insurers anomalous. In defining legal investments for life insurance companies, pension funds, and other investors, Congress, in the Secondary Mortgage Market Enhancement Act of 1984, conferred parity on highly rated private label mortgage-backed securities (both AAA or AA) with securities issued by Ginnie Mae, Fannie Mae and Freddie Mac. Given the public interest in protecting the holders of interests in pension funds and life insurance policies, the fact that Congress did not distinguish between AAA and AA-rated entities appears significant. Similarly, in two proposed recourse rules published in the 1990 s, the federal financial institution regulators attempted to give private label MBS with the two highest rankings (AAA and AA) the same risk-based capital treatment as MBS issued by Fannie Mae and Freddie Mac. This change has not become final because it was part of a larger, highly complex rulemaking. Certainly, the two ratings denote differences in credit strength, but the differences do not appear sufficiently compelling to warrant OFHEO s proposed distinction in this context, especially given the contrary precedent referenced above.

**g. Net operating loss carryback**

The model should be adjusted to use a 2-year net operating loss carryback (rather than the 3-year carryback specified in the model) to conform the model to current tax laws.

**h. Interest rate risk modeling**

Although the Act constrains the model, OFHEO has made some design choices as to interest rate risk that may tend to understate risk and lead to undercapitalization. For example, i) the model uses mean losses rather than worst-case losses; ii) only parallel shifts in the yield curve are considered to the exclusion of such other real world events as humped or inverted yield curves; and iii) losses are not considered across a *series* of basis point shifts (the implications of iii) are discussed separately below).

We believe that, in particular, the failure to use worst-case losses results in a significant understatement of risk. That is, our analysis suggests both basis point shifts and percentage point shifts in the up- and down-rate scenarios would establish less than a desired level of capital for AA and AAA-rated institutions. In analyzing certain scenario tests that OFHEO ran (interest rate shifts of between 30 percent and 90 percent), we learned that there is a linear relationship between the changes in interest rate and required capital for lower interest rate volatility (risk). The higher the interest rate shift, the greater amount of capital required. Therefore, the model s reliance on mean losses appears to underestimate capital for interest rate risk in comparison to economic models. Also raised are questions concerning the completeness of the OFHEO model because it does not take into account non-linear yield curve shifts. This is of particular concern because they are not outside the realm of reasonable expectation. In fact, at the time this comment letter is being written, such a phenomenon exists in the market.

**i. Interest rate risk; residual risk**

The model computes required capital for the interest rate stress test under extreme interest rate scenarios without directly addressing the impact of lesser deviations. Examining only a single shift at the extreme, however, limits the understanding of characteristics imbedded in the portfolio that emerge at lower rate shifts. Moreover, without other guidance, the GSEs could meet the interest rate risk test by purchasing far out-of-the-money options at relatively low cost. These would not, however, offer adequate protection against the lesser rate scenarios. Because the model does not cover these circumstances, the model itself does not provide the certainty and transparency that the Act seems to have intended.

We recommend that OFHEO address this issue specifically by stating in the final rule that it will run the stress test at a range of basis point shifts to assure that the GSEs have sufficient capital to meet lesser, included interest rate movements in the statutory standard.

**j. Generation of non-Treasury interest rates**

The models used for deriving non-Treasury interest rates are very complicated and may result in significant fluctuations in the capital requirement for reasons unrelated to risk. Instead of using the Autoregressive Integrated Moving Average (ARIMA) models, OFHEO could more simply calculate the non-Treasury rates as a ratio or spread to a particular Treasury rate or use moving averages of historical rates for COFI and perhaps PRIME.

**k. Operating expenses**

**Double-counting of operating risk.** Operating risk is commonly defined as the volatility in residual earnings (losses) associated with sources that are not directly associated with credit risks and market risks. It is typically represented as changes in operating expenses and other business expenses (including taxes). The Act imposes a 30 percent surcharge on the amount of capital required by the stress test to cover operations and management risk. The within-firm operating expenses for the quarter before the stress test are used to model operating expenses in the stress test. Because OFHEO's model describes all cash flows within a GSE, including operating expenses, the model by definition has established an operating risk inclusion over and above the 30 percent charge, such that the model double counts at least some operating risks. Accordingly, we believe an adjustment should be made to avoid the double-counting.

**Assumption that operating expenses decline during the stress period.** The model assumes that operating expenses will decline in proportion to the decline in the size of a GSE's mortgage portfolio over the 10-year stress period. If operating expenses will remain in the cash flows, we recommend that the model be adjusted to assume that operating expenses will remain constant over the stress period.

The assumption that operating expenses will decline appears inconsistent with the experience of a sample of stressed banks. It has been found that operating expenses typically rise during the first six months to one year (and sometimes longer) of a crisis or stress situation. First, banks often add additional resources or require special efforts to support crisis decision-making. During

Alfred M. Pollard

March 10, 2000

Page 12

this period, standard operations often remain unchanged. Several months to several years are often required to establish the depth of the business cycle and the new portfolio structure leading to the reduction in expenses. It could be anticipated that a GSE might engage a considerable number of consultants, hire additional staff, and take other defensive actions to help mitigate the effects of a stress period while continuing operations.

Secondly, it has been found that stress scenarios are often accompanied by additional failures. Systems often are stressed by increases in activity, interest rates, and other occurrences outside of current experiences. In addition, management and employees may make mistakes more frequently during times of economic stress and distress, further increasing operating expenses. In light of the foregoing, we recommend that the model not assume a decline in operating expenses but rather that operational savings as the portfolio diminishes will be offset by increasing costs to manage the remaining business.

\* \* \* \* \*

OFHEO has been engaged in a formidable effort to establish a capital stress test for Fannie Mae and Freddie Mac. Given the statutory constraints OFHEO has had to operate under, the proposed model represents a significant accomplishment. We believe it will be viable so long as the enumerated distortions are eliminated, and our other recommendations are adopted in an orderly fashion.

Sincerely,

Paul S. Reid, CMB