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Financial Services

Proposed Capital Requirements for Fannie Mae and Freddie Mac

The Federal Housing Finance Agency (FHFA) has proposed a new regulatory capital framework for Fannie Mae and Freddie Mac (the Enterprises). This proposed framework includes a new risk-based capital requirement and new alternative leverage requirements for the Enterprises.

In issuing this proposed rule, FHFA has stated that it is not taking a position on housing finance reform, and that the proposed rule should not be viewed as a step toward recapitalizing and releasing the Enterprises from conservatorship. In fact, the proposed rule would not be applied to the Enterprises as long as they remain in conservatorship.

Nonetheless, the proposed rule provides transparency into FHFA's views about the appropriate level of capital for the Enterprises, and this rule, when finalized, would position FHFA to impose new capital standards on the Enterprises, or their successors, whenever the conservatorship ends. Also, in the preamble to the proposed rule, FHFA states that it will expect the Enterprises to use the assumptions about capital that are embedded in the new risk-based capital requirement in making pricing and other business decisions.

The Minimum Capital Requirements Are Set to Withstand a Repeat of the Financial Crisis

The proposed capital framework is intended to enable the Enterprises to have sufficient capital to continue operating after a stress event comparable to the recent financial crisis. The risk-based capital requirements proposed in the rule are based on unexpected losses (stress losses minus expected losses) over the lifetime of mortgage assets. The proposed requirements were developed using historical loss data, including loss experience from the recent financial crisis. FHFA acknowledges, however, that the operations of the Enterprises have changed since the crisis. After the imposition of the conservatorship, the portfolio business of the Enterprises has been reduced and the guarantee business has assumed a greater role. The portfolios of the Enterprises have reduced by more than 60%, and the fees charged for single-family guarantees have increased from 22 basis points in 2007 to 57 basis points in 2016. Also, since 2013, the Enterprises have transferred US$61 billion in single-family credit risk to private investors through credit risk transfer structures. While this is a sizable dollar amount, it constitutes only 3.4% of the US$1.8 billion in mortgage credit risk assumed by the Enterprises in that period.

The proposal draws upon the Basel capital framework applicable to large banks, but takes a much more granular approach to measuring the risk of mortgage assets than the Basel standardized approach of a 50% risk weight for all mortgage assets regardless of product features or terms. This more granular approach involves consideration of various risk factors, counterparty risk and the benefits from credit risk transfers. The FHFA believes that this more granular approach to assessing the risk of mortgage assets represents "a substantial step forward" in articulating the relative risk levels of mortgage loans and quantifying appropriate capital levels for those risks.

The alternative leverage requirements proposed in the rule are intended to serve as a backstop to the risk-based capital requirements, which can be pro-cyclical because they will fluctuate based upon changes in home prices. The proposed risk-based capital requirements incorporate mark-to-market loan-to-value (LTV) ratios for loans held or guaranteed by the Enterprises. Therefore, as home prices increase, the LTVs would fall, and the Enterprises could release capital. Conversely, if home prices decrease, the LTVs would increase, and the Enterprises would be required to hold more capital against loans and guarantees. Also, FHFA notes that because they are based upon models, the risk-based capital requirements may not fully capture the risk of new products. The proposed minimum leverage requirements would serve as a capital floor that mitigate against the impact of fluctuations in housing prices and the model risk inherent in the risk-based capital requirements.

In the preamble to the proposed rule, FHFA states that it does not want to set the minimum leverage ratio too high because any leverage ratio is risk insensitive, and could cause the Enterprises to forgo lower-risk assets in favor of those with higher risks because the same capital charge would apply for either asset. Yet, FHFA acknowledges that the 2.5% leverage alternative would become the binding constraint for one or both of the Enterprises in 2018 or 2019 if home prices continue to increase, unemployment trends continue, and the credit quality of new acquisitions by the Enterprises remains at historically high levels.

Impact of the Proposed Framework on Historical Losses

Had this proposed capital framework been in effect in 2007, FHFA calculates that the risk-based capital requirements would have exceeded the cumulative losses of both Enterprises since 2008. Fannie Mae's cumulative losses since the start of 2008 equal US$167 billion, and the proposed risk-based capital requirement would have resulted in capital of US$171 billion. Freddie Mac's cumulative losses since the start of 2008 equal US$98 billion, and FHFA calculates that the proposed risk-based capital requirement for Freddie Mac would have been US$110 billion.

Impact of the Proposed Framework on Current Operations

Applying the proposed risk-based capital requirement to the assets of the Enterprises as of September 30, 2017, would result in a combined risk-based capital requirement of US$180.9 billion (US$115 billion for Fannie Mae and US$65.9 billion for Freddie Mac). This total amount of risk-based capital equates to a combined 3.2% capital requirement (3.43% for Fannie Mae and 2.96% for Freddie Mac). Approximately three quarters of this risk-based requirement would be associated with the risk of single-family loans, guarantees and securities.

If the 2.5% alternative leverage requirement had been in effect on September 30, 2017, the combined minimum leverage capital requirement for the Enterprises would have been US$139.5 billion (US$83.8 billion for Fannie Mae and US$55.6 billion for Freddie Mac). In comparison, as of September 30, 2017, the bifurcated alternative would have resulted in a combined minimum leverage capital requirement of US$103 billion or 1.9% of assets (US$72 billion would have been for the trust assets of the Enterprises and US$32 billion for non-trust assets). Fannie Mae's share of the US$103 billion would have been US$60 billion and Freddie Mac's share would have been US$43 billion.

The Proposed Leverage Alternatives

Prior to the conservatorship, the Enterprises were subject to a statutory minimum leverage capital requirement equal to 2.5% of on-balance sheet assets and 0.45% of off-balance sheet obligations. This statutory leverage requirement, which still exists in law, consists of "core capital," which is defined as common stock, retained earnings, and outstanding non-cumulative perpetual preferred stock. In 2008, when Congress established the FHFA, it gave the new agency the authority to increase the minimum leverage ratio above the levels specified in law, which FHFA is now proposing to do.

FHFA is proposing two alternative minimum leverage ratios for the Enterprises, which it calls the 2.5% alternative and the bifurcated alternative. The 2.5% alternative would require each Enterprise to maintain a core capital amount equal to 2.5% of assets. The bifurcated alternative would require each Enterprise to maintain core capital equal to 4% of non-trust assets and 1.5% of trust assets. The asset base for both of these alternatives would be the total assets of an Enterprise, as determined in accordance with GAAP, including off-balance sheet guarantees related to securitization activities. In the bifurcated alternative, trust assets would be defined as Fannie Mae mortgage-backed securities or Freddie Mac participation certificates held by third parties. Non-trust assets would be total assets of an Enterprise minus trust assets.

The 2.5% alternative was derived from five separate analyses that produced minimum leverage requirements ranging from 2.2% to 2.8%. Thus, the 2.5% requirement represents the midpoint of those analyses, which included an assessment of the 4% leverage ratio applicable to banks adjusted for the relative risk of the Enterprises' businesses.

The bifurcated alternative is intended to differentiate between the greater funding risks associated with the Enterprises' non-trust assets and the minimal funding risks of their trust assets. The 1.5% charge for trust assets is based upon empirical losses experienced by the Enterprises during the financial crisis. FHFA states that this requirement also is calibrated to be comparable to the proposed post-credit risk transfer credit risk capital requirements for Enterprise single-family and multifamily portfolios as of September 30, 2017. The 4% charge for non-trust assets is based upon the 4% leverage requirement for banks.

The Proposed Risk-based Capital Requirement

Prior to the conservatorship, each Enterprise was required to hold risk-based capital tied to a stress test, which called for the Enterprises to survive a 10-year period of large credit losses and movements in interest rates. The risk-based capital requirement in the proposed rule would replace that approach with capital charges based upon the credit risk, market risk, and operational risk associated with the Enterprises' business. The proposed risk-based capital requirement also would impose an "on-going concern" capital buffer charge.

The Operational Risk Charge

The proposed rule would impose an operational risk charge of eight basis points on the Enterprises. For assets and guarantees with credit risk, the eight basis points would be multiplied by the unpaid principle balance of the asset or guarantee. For assets with market risk, the eight basis points would be multiplied by the market value of the asset, and for assets and guarantees with credit and market risk, the eight basis points would be multiplied by the unpaid principal balance of the asset.

FHFA derived the eight basis point charge by applying the Basel II Basic Indicator Approach for measuring operational risk to the operations of the Enterprises. The Basic Indicator Approach requires banks to hold capital equal to 15% of the average positive gross income relative to total assets over the previous three years. FHFA applied this formula to three years of gross income of each Enterprise from 2014 and 2016 to arrive at the eight basis point amount.

The Going-concern Buffer

FHFA is proposing a going-concern buffer of 75 basis points as part of the risk-based capital requirement. For assets and guarantees with credit risk, this buffer would be multiplied by the unpaid principal balance of the asset or guarantee. For assets or guarantees with market risk, the 75 basis points would be multiplied by the market value of the asset or guarantee, and for assets or guarantees with both credit and market risk, the 75 basis points would be multiplied by the unpaid principal balance of the asset or guarantee.

This buffer is based upon the results of the Dodd-Frank Act Stress Test (DFAST) for the Enterprises under the severely adverse scenario. It reflects the difference between the amount of capital needed to meet a 2.5% leverage ratio at the end of each quarter of the simulation of the severely adverse DFAST scenario compared to the aggregate risk-based capital requirement.

The Risk-based Requirements for Single-family Loans, Guarantees, and Related Securities

The total risk-based capital requirement for single-family loans, guarantees, and related securities held by the Enterprises would be a combination of the operational risk and on-going concern capital requirements, and credit risk and market risk capital charges, described below.

The Credit Risk Capital Requirement for Single-family Whole Loans and Guarantees

The credit risk capital requirement for whole loans and guarantees held by the Enterprises would be derived from a series of "look-up" tables that are incorporated in the proposed rule. These tables are intended to provide consistency and transparency to the capital calculation, as opposed to internal models, or even an FHFA-specified model. The tables are based upon estimates of credit risk capital from the Enterprises' internal models and FHFA's models. However, the preamble to the proposed rule provides only limited insight into the assumptions built into the tables (e.g., the credit risk capital requirement is focused on "unexpected" losses rather than expected losses; it calculates losses over the life of a loan rather than some shorter time frame; and it does not consider revenues or the tax deductibility of losses).

Using the look-up tables, the credit risk capital requirement for specific loan segments are derived through a multistep calculation, as follows:

1. Loan Data – An Enterprise first would identify the loan data needed for the calculation using a look-up table that includes 26 different data inputs. These inputs include factors such as the applicable debt-to-income (DTI) ratio, loan level credit enhancement, streamlined refinance, interest-only, age, loan purpose, etc.
2. Loan Segment – An Enterprise then would assign each loan to one of five different loan segments: (1) new origination loans; (2) performing seasoned loans; (3) non-modified re-performing loans (RPL); (4) modified RPLs; or (5) non-performing loans (NPL).
3. Base Credit Risk – Next, the Enterprise would determine the "base credit risk capital requirement" for each loan, by segment, using a look-up table.
4. Risk Factors – After determining the base credit risk capital for a loan, an Enterprise would apply various risk factor multipliers to the base credit risk capital requirement to determine each loan's "gross credit risk capital requirement." Look-up tables identify these risk factors (such as loan purpose, occupancy type, property type, number of borrowers, etc.) and place a value on them. The values used in the multipliers were determined by FHFA staff analysis in consideration of Enterprise models results and business expertise.
5. Credit Enhancement -- Loan-level credit enhancement multipliers then would be applied to the gross credit risk capital requirement based upon the existence of participation agreements, repurchase agreements, recourse and indemnification agreements, and mortgage insurance. These multipliers would reduce an Enterprise's gross credit risk capital requirement, and are found in look-up tables that distinguish between type of loan and give non-cancellable mortgage insurance greater credit than cancellable mortgage insurance.
6. Counterparty Haircut – An Enterprise would apply a haircut to the credit enhancement based upon counterparty risk to arrive at a "net credit risk capital requirement" for each asset. The counterparty haircut is found in yet another look-up table that takes into account the financial strength of the counterparty and the counterparty's level of concentration in mortgage credit risk. The Enterprises would rate the financial strength of the counterparties based upon their counterparty risk management frameworks and would assign a "high" or "not high" mortgage concentration risk to the counterparties. In calculating the haircut, FHFA has used a modified version of the Basel Advanced Internal Ratings (IRB) approach that includes an "asset valuation correlation multiplier," which distinguishes between counterparties with a high exposure to mortgage credit risk and more diversified counterparties.
7. Aggregate Credit Risk Capital Requirement – The credit risk capital requirements for all assets would be aggregated to arrive at an "aggregate net credit risk capital requirement."
8. Credit Risk Transfers – Finally, the aggregate net credit risk requirement would be reduced by giving credit for any credit risk transfer structure. This requires a calculation of the risk exposure under the different tranches of the credit risk transfer. This calculation is analogous to the Simplified Supervisory Formula Approach (SSFA) in the Basel III capital rules for banking organizations.

The Market Risk Capital Requirement for Single-family Whole Loans

FHFA is proposing that the Enterprises could use different calculations for measuring the market risk based on loan type and its performance status. Single-family whole loans that are re-performing and non-performing would be subject to a 4.74% capital charge, which FHFA says reflects the average of the Enterprises' internal model estimates. The capital charge for new single-family originations and performing seasoned single-family loans would be determined by an Enterprise's internal market risk model. In the preamble to the proposed rule, FHFA notes that, in contrast to a fixed capital charge, the use of internal models for setting the capital charge for new and performing loans would allow the Enterprises to differentiate market risk across multiple characteristics, such as amortization term, vintage, and mortgage rates.

The Market Risk Capital Requirement for Single-family Securities

FHFA also is proposing that the Enterprises use internal models to set the capital charge for Enterprise- and Ginnie Mae-guaranteed single-family mortgage-backed securities. In the preamble to the proposed rule, FHFA states that using internal models for this market risk would allow the Enterprises to account for risk factors that affect spreads and spread durations. At the same time, FHFA acknowledges that using internal models lacks transparency and can result in different capital requirements across the Enterprises for similar exposures. Therefore, FHFA also states that the Enterprises could rely on internal models only when market risk complexity is "sufficiently high" that using a single point estimate or spread duration would be inadequate.

The Risk-based Requirements for Private-label Securities

The Enterprises hold private-label securities in their portfolios and guarantee these securities. The credit risk capital requirement for these securities would be determined using the SSFA methodology in the Basel III capital rule for banking organizations. This methodology would impose high capital requirements on subordinated risky tranches of a securitization relative to more senior positions that are less subject to credit losses. The market risk capital charge for PLS would be the product of the PLS spread duration, as determined by an Enterprise's internal models, and a 265 basis point "spread shock" factor. FHFA states that this factor is based upon estimates provided to the agency by the Enterprises. The operational risk charge and on-going concern charge for PLS would be the standard charges described above (eight basis points and 75 basis points, respectively).

The Risk-based Requirements for Multifamily Whole Loans, Guarantees and Related Securities

Like the risk-based requirement for single-family loans, guarantees, and related securities, the risk-based requirement for multifamily loans, guarantees, and related securities held by the Enterprises would be based upon a set of look-up tables that are incorporated into the proposed rule, including a table of risk multipliers. Also, like the risk-based capital requirement for single-family loans and guarantees, the capital requirement would include adjustments based upon credit risk transfers and counterparty risk.

The proposed rule divides multifamily loans and guarantees into two categories: Multifamily Fixed Rate Mortgages and Multifamily Adjustable Rate Mortgages. The look-up tables for the credit risk associated with these two categories are based upon two underlying multifamily loan characteristics: an acquisition debt-service-coverage ratio (DSCR) and acquisition LTV. (The DSCR is the ratio of property net operating income to the loan payment.) In the look-up tables, the credit risk requirement for an Enterprise increases as DSCR decreases and as LTV increases. In other words, an Enterprise generally will be required to hold more capital for multifamily whole loans and guarantees with a low DSCR and a high LTV than for a multifamily loan or guarantee with a high DSCR and low LTV.

FHFA states that the risk multipliers applied to multifamily loans and guarantees represent "common" characteristics that increase or decrease the riskiness of a particular loan or guarantee. They include multipliers related to payment performance, interest-only, loan term and loan size.

In calculating the capital relief associated with credit risk transfers, the proposed rule distinguishes between transfers that involve loss sharing agreements and securitizations. In a loss sharing structure, the Enterprises must apply a counterparty haircut to the credit risk transfer using a modified version of the Basel Advanced IRB approach that takes into account the credit worthiness of the counterparty. In a securitization structure, the Enterprise would calculate the capital relief based upon an analysis of the levels of subordination involved and the portion of the tranches owned by private investors or covered by a loss sharing agreement.

The market risk capital requirement for multifamily whole loans, guarantees, and securities held in portfolio would be the product of a defined credit risk spread shock and the spread duration on the loans, guarantees, and securities. The spread on the duration of the loans, guarantees, and securities would be calculated by the Enterprises' internal models. For whole loans and guarantees, the value of the defined credit risk spread shock would be 15 basis points. For Enterprise- and Ginnie Mae-guaranteed multifamily mortgage-backed securities, the value of the defined credit risk spread shock would be 100 basis points. In the preamble to the proposed rule, FHFA states that an Enterprise could use its own model to calculate the spread shock if the credit risk spread shock defined in the rule would "inadequately" represent the exposure's underlying multifamily market risk.

Multifamily loans, guarantees, and related securities otherwise would be subject to the operational risk capital requirement and the on-going concern capital buffer.

The Risk-based Requirement for Commercial Mortgage-backed Securities

Commercial mortgage-backed securities held by an Enterprise that are not guaranteed by the Enterprise or Ginnie Mae would be subject to a combined credit risk and market risk capital requirement of 200 basis points. FHFA states that this requirement is based upon internal model estimates of the Enterprises. These securities also would be subject to the operational risk capital requirement and the on-going concern buffer.

The Risk-based Requirements for Other Assets and Exposures

Deferred Tax Assets

The proposed rule would impose a risk-based capital requirement on deferred tax assets (DTAs) that would offset the DTAs included in an Enterprise's core capital in a manner consistent with the Basel III treatment of DTAs. Basel III limits the amount of DTAs that may be included in bank capital because the loss absorbing capability of DTAs can vary based upon the value of the DTAs. To achieve comparability with the Basel III approach, FHFA is proposing that the risk-based capital requirement for DTAs be the sum of: (1) 100% of DTAs that arise from net operating losses and tax credit carryforwards, net of any related valuation allowances and net of deferred tax liabilities (DTLs); (2) 100% of DTAs arising from temporary differences that could not be realized through net operating loss carrybacks, net of related valuation allowances and net of DTLs that exceed 10% of adjusted core capital; (3) 20% (8% x 250%) of DTAs arising from temporary differences that could not be realized through net operating loss carrybacks, net of related valuation allowances and net of DTLs that do not exceed 10% of adjusted core capital; and (4) 8% of DTAs arising from temporary differences that could be realized through net operating loss carrybacks, net of related valuation allowances and net of DTLs.

Municipal Debt

The proposed rule would impose a 760 basis point market risk capital requirement on municipal debt issued by state and local governments. Municipal debt also would be subject to the operational risk charge and the on-going concern capital buffer charge.

Reverse Mortgages and Reverse Mortgage Securities

The proposed rule would impose a 500 basis point market risk capital requirement on reverse mortgages and a 410 basis point market risk capital requirement on reverse mortgage securities. These charges are based upon Fannie Mae's internal models because Freddie Mac does not hold reverse mortgages. These assets also would be subject to the operational risk charge and the on-going concern capital buffer charge.

Cash and Cash Equivalents

The proposed rule would assign a zero credit risk and market risk capital requirement on cash and cash equivalents. These assets also would not be subject to the operational risk capital requirement or the on-going concern capital buffer.

Single-family Rentals

The risk-based capital requirement for single-family rentals would be the same as the risk-based capital requirement for multifamily whole loans and guarantees. In other words, the charge would be based upon a look-up table that is aligned to the debt-service-coverage-ratio and the LTV for the asset.

The Risk-based Requirement for Unassigned Activities

The proposed rule would require an Enterprise to notify FHFA in the event the Enterprise plans to develop or engage in any new product or activity that does not have an explicit risk-based capital requirement. An Enterprise must include a proposed capital charge in the notice, and could rely upon the proposed treatment on an interim basis if FHFA does not provide the Enterprise with a notice of a required treatment in time for the Enterprise to prepare its quarterly capital report.

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