

AEI Center on Housing Markets and Finance

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November 16, 2018

Enterprise Capital Requirements

Federal Housing Finance Agency

Proposed: June 12, 2018

Comment Period Closes: November 16, 2018

Submitted: November 16, 2018

Docket No. 2018-14255

RIN: 2590-AA95

Dear Sir/Madam:

Re.: Enterprise Capital Requirements

Thank you for the opportunity to comment on FHFA's proposed Enterprise Capital Requirements. We recommend that FHFA make major changes to its proposed Enterprise Capital Requirements before final approval.

It would be a pleasure to discuss this recommendation further with you at your convenience, should you so desire. Thank you again for the chance to participate in this timely rulemaking.

Yours respectfully,

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Executive Summary

This proposal is important, despite its inapplicability to the GSEs in conservatorship, because it is intended to serve as guide to estimating capital costs in pricing new business activities and because it may serve as a guide to what is appropriate capital for similar post-conservatorship institutions.

Getting this right is of particular importance because the GSEs currently back nearly one half of the institutionally financed single family housing transactions in the US, and the last regulatory effort to establish appropriate capital levels for the GSEs ended in a spectacular failure, notwithstanding spending a decade-long regulatory effort to develop capital standards.

The proposed rule pays insufficient attention to the unique risks attendant to the mortgage guarantee business and the GSEs' outsized role in this business. Specifically, its binding, risk-based rules would not require enough capital to address another housing crisis of comparable magnitude to the most recent one, and its minimum leverage ratios would not be consistent with requirements for global systemically important banks (G-SIBs) given the *de facto* status of the GSEs as systematically important financial institutions (SIFIs). The result would be underpricing of risks and exacerbation of house price cycles.

Our recommended changes to the capital requirements, with a focus on single-family whole loans and guarantees, would result in additional risk-based capital of more than 200 basis points relative to FHFA's proposal and a minimum leverage ratio of 4 percent.

Specifically, we recommend the following changes:

Risk-based capital standards:

- Increase capital to address going-concern risk from 75 to at least 200 basis points (see item *i*).
- Increase capital to address operational risk from 8 to at least 25 basis points (see item *ii*).
- Increase capital to address model risk from 0 to at least 50 basis points (see item *iii*).
- Adopt a counter-cyclical approach to risk-based credit risk requirements following a simplified version of FHFA's 2012 proposal (see item *iv*).
- Increase risk-based standards to protect against both expected and unexpected credit losses compared to the proposal to cover only unexpected losses (see item *v*).
- Update models to more fully reflect changing impacts of risk characteristics under stress (see item *vi*).

Minimum leverage capital ratios:

- Modify the alternative leverage ratios from 2.5 percent or less to result in capital equal to at least 4 percent of assets, after deducting any DTA allocations, in order to be more comparable to global systemically important banks (see items *vii* and *viii*).

Sources of capital:

- Limit the use of preferred stock to meet either risk-based or leverage ratio capital standards (see item *ix*).

Introduction

This proposal is important, despite its inapplicability to the GSEs in conservatorship, because it is intended to serve as guide to estimating capital costs in pricing new business activities and because it may serve as a guide to what is appropriate capital for any similar post-conservatorship institutions.

Getting this right is of particular importance because the GSEs currently back nearly one half of the institutionally financed single family housing transactions in the US and the last regulatory effort to establish appropriate capital levels for the GSEs ended in a spectacular failure, notwithstanding spending a decade-long regulatory effort to develop capital standards.¹

This undertaking is made substantially more difficult by four characteristics unique to the business of guaranteeing mortgage risk:

- “Guaranteeing mortgages is unlike traditional insurance businesses such as fire and life, for which reliable experience or mortality tables may be developed.”² Experience has demonstrated that projected losses for the mortgage guaranty business may vary by as much as an order of magnitude between origination cohorts that are as close as 5 years apart.
- “[I]n a seller's market, when choice is restricted and the seller virtually dictates sales terms, more liberal credit is likely to be [capitalized] in price.”³
- The provision of credit tends to expand during the up phase of the housing cycle. In transitioning “from a buyer's to a seller's market, maximum terms become so commonly used they tend to be considered the minimum.”⁴ The expansion of credit tends to further inflate home prices, leading to an even larger correction when it occurs.
- Further, “[t]he sequence of [market cycle] events is fairly predictable, though the period of the phases of the cycle and the amplitude of the variations are not subject to dependable forecasting.”⁵

Clearly one should err on the side of caution.

Thus, our conclusion is that the proposed rule does not pay sufficient attention to the unique risks attendant to the mortgage guarantee business and the GSEs’ outsized role in this business. It would not require enough capital to address another housing crisis of comparable magnitude to the most recent one and would lead to underpricing of a variety of risks and exacerbation of house price cycles.

The proposal also fails to be consistent with requirements for global systemically important banks (G-SIBs) given the *de facto* status of the GSEs as systematically important financial institutions (SIFIs). As we found out in the last crisis, they are not only too big to fail, the housing finance market is too dependent on them. Their SIFI status may in fact create the very tail risk the proposed capital regime aims to avoid.

¹ “Both of these companies are adequately capitalized, which is our highest criteria,” FHFA director Lockhart stated in July 2008, two months before they were placed in conservatorship. <https://www.cnbc.com/id/25584136>

² Alger Commission Report, 1934

³ Fisher, *Financing Home Ownership*, NBER, 1951

⁴ Ibid.

⁵ Ratcliff, *Urban Land Economics*, 1949

We address several issues with the plan in greater detail below.

Risk-based Capital

i. The binding, risk-based, requirements are too low to maintain confidence during a crisis.

FHFA shows that capital required by the proposed rules, if applied to the GSEs in 2007, would barely have covered the losses they subsequently reported. The margin for Fannie Mae would have been \$3 billion. That would not have been sufficient for such systemically-critical institutions. Because of the GSEs' dominant role in housing finance, a loss of confidence in their safety and soundness could have dire consequences for mortgage and housing markets. That is why they were placed in conservatorship in 2008 and why the Treasury had to provide \$187 billion, while promising up to \$258 billion more if necessary. To avoid a recurrence, prudence dictates that capital standards for any similar future institutions must require capital sufficient at all times to maintain market confidence of their continued survival, even when times are at their worst. Given the difficulties in passing the Troubled Asset Relief Program (TARP) legislation in the fall of 2008, it would be a mistake to rely on an assumption that Congress would immediately supply any needed additional funds in a crisis.

Future loss estimates in a crisis will at some point almost certainly exceed substantially the final actual outcome. The case of Fannie Mae during the last crisis is instructive. In October 2010, FHFA publicly released its projection of Fannie Mae's cumulative Treasury draw through 2013, which was \$46 billion more than actually occurred, based on future house prices contained in Moody's then current baseline forecast scenario.⁶ The projection based on prices in Moody's "deeper second recession" scenario was \$141 billion more than actually occurred. Fortunately, the GSEs' Treasury backstop could have covered such losses. Even with that, investor concerns at the time that the backstop might not be adequate were partly responsible for interest rates on GSE MBS staying above rates on comparable GNMA MBS, though they were lower before the crisis.

The FHFA proposal addresses this issue in two ways. First it adopts a seemingly very conservative approach to credit risk capital. The requirements equal the difference between losses in a stress scenario and expected losses over the remaining lifetime of the loans, without consideration of guarantee fees earned. Unfortunately, that is a lot less conservative than it seems. FHFA estimates the lifetime losses on Fannie Mae's 2007 book of single-family loans at \$85 billion, but over the first four years of the housing recession (2008-2011) Fannie Mae took a cumulative \$155 billion capital hit for credit costs because they needed to build up a \$70 billion loss reserve that ultimately was not needed for the most part. That extra cost far exceeded the \$26 billion of credit-risk-related revenue during the same four years.⁷

Second, FHFA incorporates a "going concern" add-on to its estimate of potential lifetime loan losses. But this add-on is only 75 basis points, amounting to \$24 billion for Fannie Mae in 2017, and it would have been about the same in 2007. That would have appeared quite inadequate to investors when FHFA released its 2010 projections. Even in the fall of 2011, just before the GSEs turned profitable, FHFA's public projections showed additional Fannie Mae net losses in the worst scenario of \$103

⁶ FHFA, "Projections of the Enterprises' Financial Performance—October 2010.

⁷ FHFA, "Conservator's Report on the Enterprises' Financial Performance, Fourth Quarter 2011," pp.11-12. Fannie Mae increased its single-family loan loss reserves from \$3 billion at year-end 2007 to \$72 billion at year-end 2011.

billion.⁸ Investors would have avoided Fannie Mae securities if only \$24 billion were available to protect them.

At the time, even though Fannie Mae's Treasury backstop had an additional \$84 billion, and investor concerns about the adequacy of that amount led to the third amendment of the backstop agreement assuring much more if the worst case scenario came to pass. In the absence of such an agreement, presumably a capital requirement that would have provided an extra \$141 billion in capital to enable Fannie Mae to survive that scenario would have sufficed. Two factors argue that a lower amount might be reasonable now. First, much of the loan losses during the last recession were caused by loans that would not meet the GSEs' current underwriting standards. FHFA's requirement for Fannie Mae in 2017 under the proposed rules would be only \$115 billion compared with \$171 billion in 2007 if the rules had applied then, a reduction of about a third. That suggests that an adequate buffer for going concern issues could currently be comparably smaller than what might have been needed in 2007. Furthermore, the additional \$141 billion of potential losses beyond actual experience included \$45 billion of dividend payments to the Treasury. Those dividends would not be required in a future debacle if the GSE had sufficient capital on its own and did not need to borrow from the government. If one reduced the \$96 billion difference (\$141 billion less \$45 billion) between worst case and actual non-dividend losses in FHFA's 2010 worst case by 1/3, the remaining \$64 billion, or 200 basis points per dollar of currently acceptable assets, reflects adjustments for both factors. Given the systemic reliance placed on the GSEs, the going-concern buffer for such an institution ought to be at least that much. Otherwise, we could not count on them to continue to function in a crisis.

ii. Operational risks are not adequately addressed.

FHFA's add-on to cover operational risk is a scant 8 bps. For the two GSEs together, that amounts to \$3.7 billion for 2017. To give a little bit of context to that, consider that less than 12 years ago, Fannie Mae restated its earnings downward by \$6.3 billion because of accounting errors. Freddie Mac had errors of similar magnitude in the other direction. Considering that this category covers reputational risk as well—consider costs faced by Wells Fargo recently—anything less than 25 basis points for the GSEs institutions seems puny.

iii. Model risks are not adequately addressed.

FHFA claims that model risk is contained in the ongoing concern provision. But, as discussed above, that amount is seriously deficient for covering ongoing concern issues alone. Model risk is far too important to be neglected. Accurately accounting for known risks is difficult enough, and no model can do it perfectly. Even more important, though, our extensive history with risk-based capital for both GSEs and banks has demonstrated that any such rule will eventually become out-of-date as firms discover and develop new products with new risks either not known or not considered important enough to deal with at the time the rule is promulgated. The risk-based rule for the GSEs in 2007 was designed a decade earlier. It contained no provisions for loans with little or no documentation, or for loans with low credit scores, because those were not important credit issues for the GSEs at the time.

While there is no question the current books are safer, the proposed loan-level risk-based approach to capital requirements adjusts for changes in the attributes of the current portfolio of active loans. On the

⁸ FHFA, "Projections of the Enterprises' Financial Performance—October 2011.

other hand, it has historically been difficult to anticipate new types of credit easing that might in the future take the place of the “unacceptable categories,” or to amend rules fast enough to keep up with market changes. Somehow, this time is always different. In the early 2000s, the GSEs argued using 1980s data to judge risks was misleading because underwriting had become so much better. Then they started ramping up risks using new loan features unaccounted for in the existing risk models. Such change is probably inevitable.

For example, the GSEs recently expanded the range of DTIs they will accept from 45 to 50 percent. The proposal makes no distinction between DTIs of 45 and 50 percent, rating anything in the 41-50 bucket as 20 percent riskier than DTIs between 25-40 percent. But, the multiplier for the bucket appears to be based on actual experience of loans in the bucket, all of which were at the low end. Thus, newly acceptable high DTI loans are probably significantly under-capitalized in the proposal.

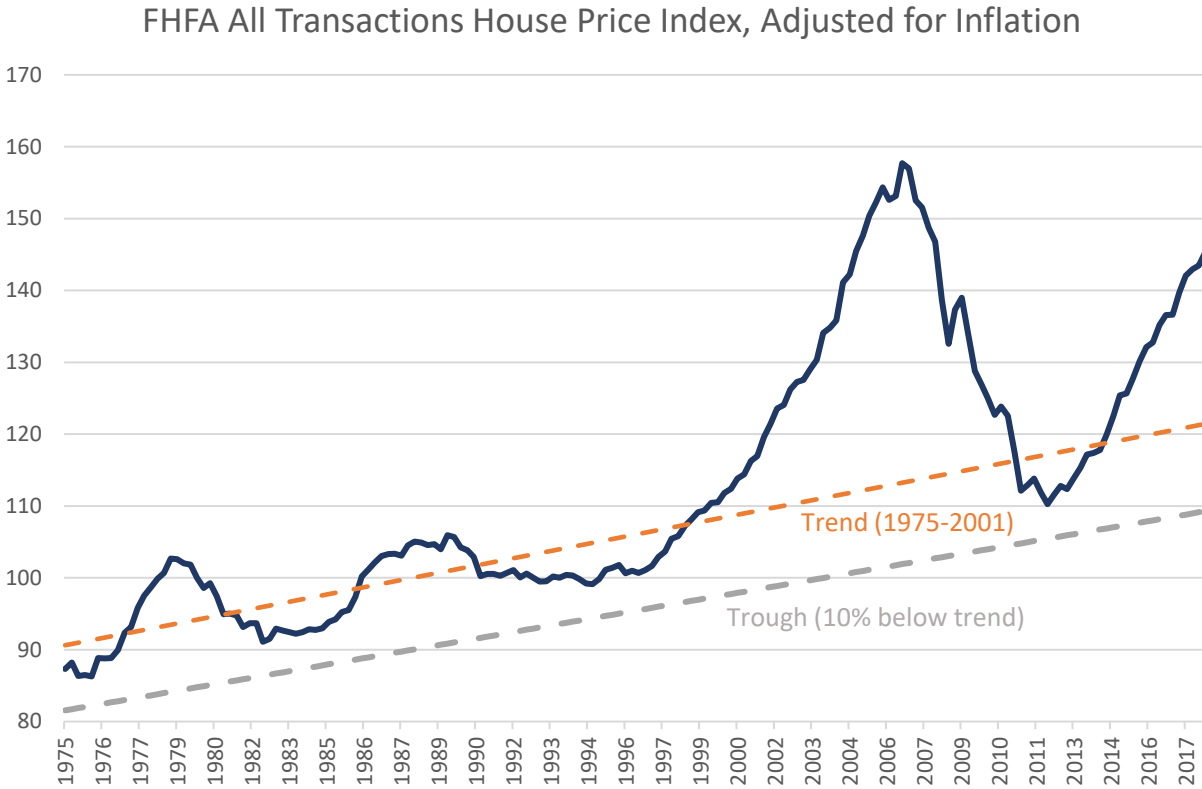
Model risk deserves its own category or sub-category (as part of operating risk) to ensure that these concerns are directly reflected in the amount of capital required. Although the risk of this category is somewhat hard to quantify, 50 basis points would seem minimal and should be accompanied by a commitment to greatly expand regulator resources on an ongoing basis to improve and maintain FHFA’s own modeling efforts. The degree of reliance on GSE models in this proposal is a source of concern. Because the GSEs will understand that reliance, models they have developed for business purposes may not evolve in a way that assists the regulator in monitoring capital standards when risks are rising. Unless the regulator is constantly engaged in improving its own models, it may easily miss the importance of seemingly minor decisions made by the GSEs in their models, and thereby fail to make rule amendments when they are needed.

iv. The proposed rule does not adequately address the risk posed by a substantial house price boom and would tend to exacerbate house price cycles.

The proposed rule does not adequately address the risk posed by a substantial house price boom. Such booms by definition are unsustainable and not only impact the riskiness of purchase transactions, but also cash out and non-cash out refinances.

The current proposal computes the risk based capital needed to address credit risk by risk rating each loan and then estimating future lifetime loan losses based on mark-to-market loan-to-value ratios for active loans to which there is then applied a stress event shock equal to a static 25 percent decline in house prices. As a result, as a lengthy house price boom proceeds, capital requirements would steadily decline because the projected shock would be fixed and mark-to-market LTV ratios would be updated every quarter, making the existing books of loans look safer and safer. The proposed FHFA approach would tend to exacerbate house price cycles, by, in effect, “rewarding” outsized home price appreciation with a lower capital level even as the risk of a price correction is increasing.

Chart 1



As Chart 1 demonstrates, the US housing market has experienced two major house price booms in the last 20 years, booms that dwarf earlier booms in the last half of the 1970s and the last half of the 1980s. History shows that house prices, after adjusting for general inflation, tend to return to a trend path sooner or later. The farther above trend they get, the worse the fall. Updating LTVs in a boom and using the same price decline scenario ignores the increased danger of a serious decline as the boom proceeds. And if a crash in prices overshoots equilibrium, the proposed approach will also tend to overstate the risks of further massive declines and require the raising of large amounts of capital when that is most difficult and destabilizing. The FHFA proposal correctly raises the issue of pro-cyclicality, but the only feature of the rule that addresses the problem is a very low leverage requirement, designed to ensure that the risk-based rule will generally be binding.

That is the wrong way to go. The appropriate response is to toughen up the risk-based rule by providing a defined and transparent counter-cyclical rule in advance; one based on overall market price trends. A new loan made when prices have been soaring for several years is much riskier than a new loan when prices are closer to trend. All regulators of mortgage markets, not just FHFA, need to gradually discourage aggressive lending in boom times and encourage it in bad times to increase housing market stability (see discussion in the Appendix). Last year bank regulators started to recognize the importance of taking some counter-cyclical measures by increasing the size of the house price decline in the Fed's large institution stress tests to 30 percent after several years of using just 25 percent.

FHFA has published papers on its website outlining how house price scenarios might be varied over the course of a price cycle.⁹ The countercyclical capital regime proposed in the papers varies the stress test in each period and by geography so that real house prices fall from current levels to a level that is a fixed proportion below a local house price trend. A greatly simplified version of this plan, using just a national house price index and trend, should work well: instead of using a fixed 25 percent decline in house prices, the decline should reflect where current prices are relative to historical trends. FHFA's review of past cycles indicates that a price decline from the level at the start of the test to a level at least as far below the inflation-adjusted trend as seen in prior cycles would provide sufficient protection. That trend should be determined using a national index based on the period 1975-2001, the same horizon used in the 2012 FHFA paper, or a longer-term period ending at about that time, because it would not be prudent to let the outsized boom of the last cycle to influence our view of the long-term trend. We explain in the Appendix why it would be optimal to use a nationally representative index of all purchase transactions, including FHA.

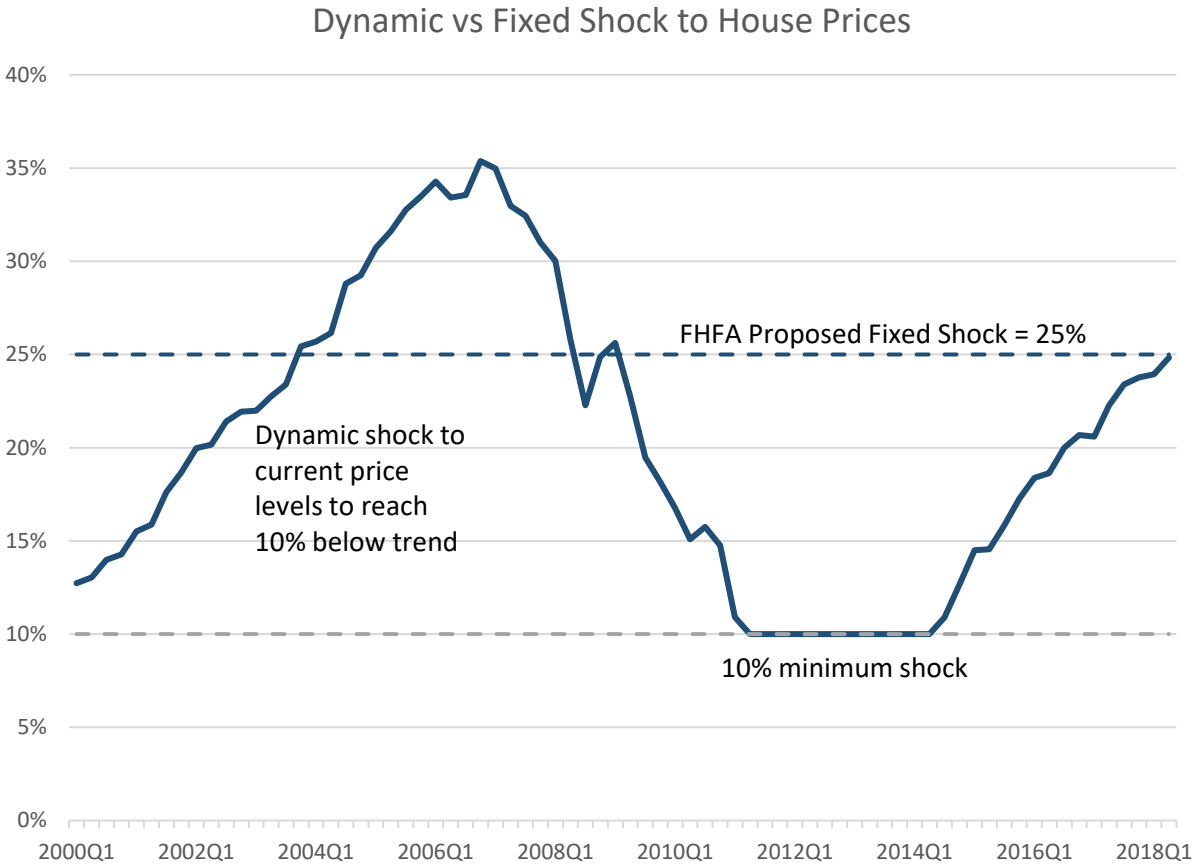
Using FHFA's all transaction index for illustration, we find that the national real HPI dipped to 6 percent below its linear historic trend in the second quarter of 2012, in line with prior cycles (see chart 1). Therefore, a stress test should utilize at least an 8-10 percent reduction below trend as the estimated trough.¹⁰ Prudence also should require the stress scenario to include a minimum house price decline of at least 8-10 percent from current levels.

Using this countercyclical approach, the shock is dynamic, not fixed, and mortgages made near the peak of a boom period will require greater amounts of capital than the same loans made when prices are closer to trend (see Chart 2). Also, our approach does not assume that a future boom will look like past booms. In the last boom, the dynamic shock would have been initially lower than the fixed 25 percent shock proposed by FHFA until the fourth quarter of 2003 and then greater over 2004-2006 as real prices rose even further above trend. Thus, for the fourth quarter 2006 real house price peak, our simplified approach would have stressed loans using a 35 percent total shock to house prices, representing a 28 percent decline from peak to trend and then a further decline of 7 percent when measured relative to the peak index (or 10 percent when measured relative to the trend).

⁹ See Smith, Scott and Jesse Weiher, "Countercyclical Capital Regime—A proposal Design and Empirical Evaluation," FHFA Working Paper, April 1, 2012; and Smith, Scott, Debra Fuller, Alex Bogin, Nataliya Polkovnichenko and Jesse Weiher, "Countercyclical Capital Regime Revisited: A test of Robustness," FHFA Working Paper, May 23, 2014.

¹⁰ Following FHFA's procedure, defaults and losses would be calculated along a price path along which the full shock would be realized over three years, followed by a 4-year period at the fully shocked price level before returning to trend over the final 3 years of the 10 year forecast period.

Chart 2



Importantly, incorporation of a dynamic, countercyclical shock would prevent the mark-to-market provisions of the current FHFA proposal resulting in an automatic reduction in required capital. Consider a loan made in 2003 that is still active in 2005. Even though the loan-to-value ratio of the loan will be marked to market in 2005, the dynamic shock to house price to which the loan will be subjected will have also grown over the interim, in effect clawing back the two years of house price appreciation.¹¹

Looking at the current boom, as of the second quarter of 2018, the prescribed dynamic shock would be nearly 25 percent. However, this boom is continuing and will be of unknown duration. Given the magnitude of the last and current booms, this is not a good time to institute a capital measure based on only an unchanging 25 percent shock.

v. The risk-based standard needs to protect against all stress losses, not just unexpected losses.

In calculating credit risk capital requirements, the proposed rule would use estimates of future lifetime loan losses in a stressful environment and then deduct future losses in an undefined “expected” scenario. FHFA argues that this is appropriate because the GSEs charge fees to cover expected losses, and thus capital need only address unexpected losses. This approach is also used in bank regulation, but

¹¹ Mark-to-market calculations also incorporate changes to loan balances resulting from borrower payments and the effect of such reductions to principal are not affected by the countercyclical approach.

it works much better for bank loans than for mortgages. Mortgages are generally much longer-lived instruments than are bank loans, and the fees are scheduled evenly over the lives of the loans. Capital needs to be able to protect against a sharp, sudden decline in house prices. The losses can be expected to mount quickly, and future fees on non-defaulting loans will not be available to address early losses. Worse, because interest rates are likely to decline in such an environment, those future fees may never be realized at all owing to rapid prepayments as healthy borrowers refinance their loans. The prudent course is to simply forget about the fees and include all stress losses in the estimates of capital need.

It is important to note that for the purposes of the risk-based capital rule, the measure of capital used to check compliance, as defined in FHFA's charter statute, includes the allowance for loan losses (loss reserves). From an accounting perspective, those reserves are intended to address expected losses, but in FHFA's proposal they are in effect available to cover unexpected losses as well. This is an issue of considerable magnitude. In 2017, when FHFA estimated the effects of its proposal, the GSEs' actual loan loss reserves amounted to \$30 billion, a third of the credit loss component of their estimated combined total capital requirement. Implementation of new accounting standards effective starting in 2020 will increase those reserves, and both GSEs report that the increase may be "substantial."¹²

vi. Capital requirements do not adequately address some types of risk.

Preliminary analysis of the capital impact of varying loan risk characteristics makes clear that some types of risk are not penalized in proportion to their effect on potential loss in an extreme scenario comparable to what we recently experienced. In particular, the effect of varying credit scores on loan performance among 2007 originations was much greater than the differences in capital that would be required by the proposed rule. Similarly, the proposed rule would apply a much smaller capital penalty for refinance loans, especially cash-out refinance loans, than would be indicated by relative loan performance among 2007 originations. The source of this problem probably lies in FHFA's use of models (its own and those of the GSEs) to measure the relative danger of different risks that are based on the average historical performance of loans in all economic environments. But the effect on performance of some risks may be quite different in good times and bad. Models should flexibly allow the risk characteristics of cohorts of loans nearer in time to a stress event to have different estimated effects on default relative to more seasoned loans.

Summary of Needed Changes to Risk-based Capital

With respect to the risk-based rules, FHFA needs to add nearly 200 basis points in additional capital for going-concern, operational and model risks. Improving the FHFA's proposal to make capital more countercyclical and to more appropriately price individual loan risk characteristics will have a less clear impact on required capital since implementing these changes may mainly serve to vary the cost of lending over time and with respect to the composition of lending, resulting in better GSE decision-making. The inclusion of expected losses in calculating overall required capital may add around 15 basis points in additional capital relative to the current proposal. The total risk-based recommendations, therefore, result in more than 200 basis points of additional capital relative to FHFA's proposal.

Such a change would also make the requirements more consistent with those of large banks, which must maintain total capital to risk-weighted assets of 10.5 percent if they want to pay dividends.

¹² FASB, Accounting Standards Update No. 2016-13, "Financial Instruments—Credit Losses (Topic 326)."

Because the risk weights for mortgages are generally 50 percent, that ratio would translate to a 5.25 percent result for the GSEs. By contrast, FHFA's proposed rule when applied to their combined third quarter 2017 books would result in a capital ratio of 3.24 percent. Even that is a bit misleading because 48 bps of that are accounted for by an allocation for deferred tax assets (DTAs). The bank rules have nothing comparable because they accomplish a comparable degree of protection by adjusting their definition of capital, something that FHFA's statute does not permit. After deducting the DTA component in the GSEs rule, their capital requirement would be only 2.76 percent, a little more than half of bank requirements. Failing to establish greater comparability with banks would keep most of the mortgage credit risk concentrated in the two GSEs. The gap of nearly 250 basis points would largely be addressed by the recommendations above.

Minimum Leverage Ratios

vii. The proposed minimum leverage ratios do not provide an effective lower bound for capital requirements.

FHFA proposes two alternative sets of leverage ratio rules. One would be a flat 2.5 percent of assets. The other would be 1.5 percent of MBS trust assets and 4 percent of other assets, which for 2017 would average about 1.85 percent. Yes, either would be a big improvement on the 2007 leverage requirements of 0.45 percent of trust assets and 2.5 percent of other assets. But experience from 2007 to 2011 illustrates how little help these new requirements would have been. Against peak cumulative losses of \$265 billion for the GSEs subsequent to 2007, the proposed leverage ratios for comparably-sized GSEs would now require either a combined \$139.5 billion or a combined \$103.5 billion, depending on which of two proposed alternatives is considered. The GSEs are less risky now than they were in 2007, but the whole point of a leverage ratio is to ensure a reasonable amount regardless of risk. As discussed below, a requirement of at least four percent would produce a more meaningful lower bound on capital and would have a more reasonable relation to requirements for large banks.

viii. The proposed minimum leverage ratios would not produce results comparable to the largest banks for comparable assets.

Comparisons with Banks are relevant because the Bank rules provide a general reasonableness benchmark and because sharp differences between the two will artificially tend to concentrate mortgage risks in the type of institution the lower capital requirements. While FHFA argues that its proposed rule would establish an appropriate degree of comparability, closer examination does not support that view.

With respect to the leverage ratio, FHFA argues that the GSEs are less risky than commercial banks and should therefore have a lower leverage requirement. To measure their relative risk, FHFA notes that GSE assets would generally fit in the 50 percent risk bucket under bank risk-based capital rules, while assets at the 31 largest banks average about a 72 percent risk weight. Thus GSE assets are 69 (50/72) percent as risky as banks, and their capital requirements should be roughly 69 per cent as high, relative to assets. Looking at the four percent requirement for most banks, that implies a leverage requirement of about 2.8 percent.

The current FHFA director has stated that the GSEs are systematically important.¹³ Thus the more relevant comparison is to requirements for global systemically important banks (G-SIBs) in the United States. Their requirement is six percent, in addition to other, potentially tougher leverage ratios they must maintain during stress tests. That implies a leverage requirement of more than four percent for the GSEs. FHFA also notes that the GSEs take less funding risk and lower their credit risk through use of credit risk transfers. While true, as FHFA also acknowledges, the GSEs are monoline firms unlike the large banks, which benefit from broad diversification.

FHFA's alternatives of 2.5 percent and 1.85 percent are substantially lower, and even that overstates their levels relative to banks because FHFA unaccountably makes no adjustments for deferred tax assets (DTAs) as bank regulators do and FHFA does in its risk-based standard. Although the GSEs' DTAs fell considerably after the tax reduction enacted last year, even those reduced amounts effectively lower the required leverage ratios to 2.17 and 1.45 percent. The latter looks to be less than a fourth of the requirement for large banks.

FHFA's proposed minimum leverage ratios are too low relative to what we learned in the last stress event and relative to global systemically important banks. FHFA should treat the GSEs as SIFIs and require a minimum of at least 4 percent capital, after deducting any DTA allocations.

Sources of Capital

ix. Capital or other supervisory tools need to limit use of preferred stock.

By statute, non-cumulative preferred stock can be used to meet both the risk-based and leverage standards. Bank regulators have limited the extent to which preferred stock counts toward meeting requirements because it is much more difficult to stop paying dividends on preferred stock than on common stock, and those dividends can be a serious drain on a weak institution. Furthermore, the use of such stock can cause problems for institutions holding preferred stock if dividend streams they assumed were safe suddenly stop, as occurred in the last crisis. The OCC places only a 20 percent risk weight on GSE preferred stock assets. Banks that bought such stock to conserve capital have received no dividends for a decade and can have no expectations of ever getting any.

To address these concerns, FHFA should either create a capital surcharge for excessive reliance on preferred stock or take other supervisory steps to limit use of such stock.

Conclusion

The proposed rule pays insufficient attention to the unique risks attendant to the mortgage guarantee business and the GSEs' outsized role in this business. Specifically, its binding, risk-based rules would not require enough capital to address another housing crisis of comparable magnitude to the most recent one, and its minimum leverage ratios would not be consistent with requirements for global systemically important banks (G-SIBs) given the *de facto* status of the GSEs as systematically important financial institutions (SIFIs). The result would be underpricing of risks and exacerbation of house price cycles.

We have outlined a number of recommendations to address these shortcomings in an attempt to improve upon past failures not only in terms of capital adequacy during a crisis but also in terms of GSE

¹³ See <https://www.sifma.org/resources/general/oct-3-hfsc-hearing-on-housing-finance/>.

(or similar post-conservatorship institution) incentives throughout the cycle that tend to amplify housing booms and busts.

Our recommended changes to the capital requirements, with a focus on single-family whole loans and guarantees, would result in additional risk-based capital of more than 200 basis points relative to FHFA's proposal and a minimum leverage ratio of 4 percent.

Specifically, we recommend the following changes:

Risk-based capital standards:

- Increase capital to address going-concern risk from 75 to at least 200 basis points (see item *i*).
- Increase capital to address operational risk from 8 to at least 25 basis points (see item *ii*).
- Increase capital to address model risk from 0 to at least 50 basis points (see item *iii*).
- Adopt a counter-cyclical approach to risk-based credit risk requirements following a simplified version of FHFA's 2012 proposal (see item *iv*).
- Increase risk-based standards to protect against both expected and unexpected credit losses compared to the proposal to cover only unexpected losses (see item *v*).
- Update models to more fully reflect changing impacts of risk characteristics under stress (see item *vi*).

Minimum leverage capital ratios:

- Modify the alternative leverage ratios from 2.5 percent or less to result in capital equal to at least 4 percent of assets, after deducting any DTA allocations, in order to be more comparable to global systemically important banks (see items *vii* and *viii*).

Sources of capital:

- Limit the use of preferred stock to meet either risk-based or leverage ratio capital standards (see item *ix*).

Appendix – Mortgage Credit Policy Needs to be Countercyclical

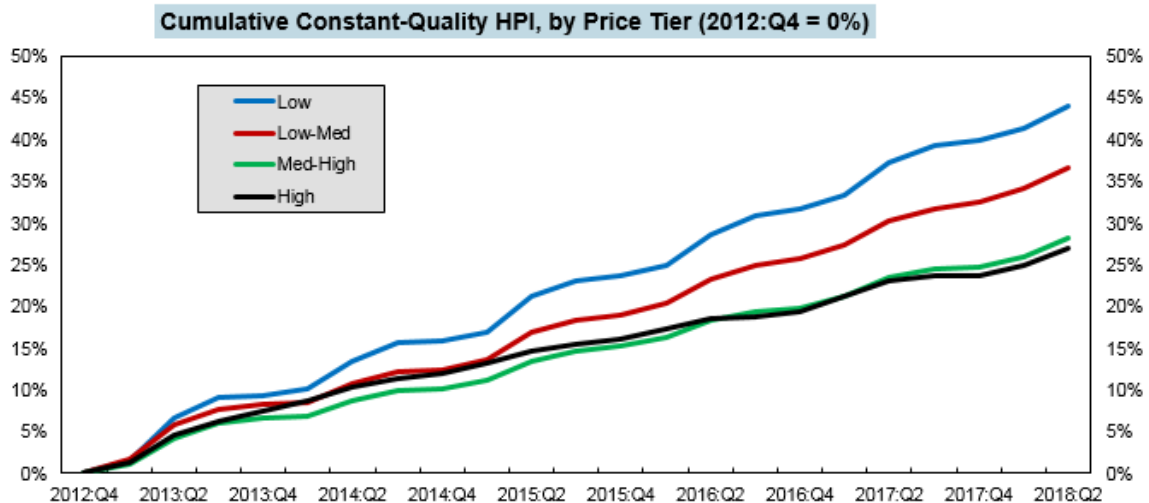
Not only should FHFA’s capital standards be countercyclical, addressing the risk posed by a substantial house price boom is also necessary and prudent for the Federal Housing Administration (FHA):

- The GSEs are the largest source of housing finance capital,
- FHA loans guaranteed by Ginnie Mae are the second largest source of housing finance capital and the largest source of highly leveraged lending programs, and
- The GSEs’ and FHA’s footprints have substantial overlap from a credit box and geographic perspective.

The credit policy of all mortgage entities are important. Because of their size, the GSEs and FHA stand behind a substantial portion mortgage capital in the US and therefore their credit policies have a large influence on home prices and their cycles. The credit policy of most US government agencies involved in the mortgage market, with the exception in recent years of Rural Housing, are substantially pro-cyclical, allowing leverage to rise as house prices increase. These collective policies contribute to the overall length and extent of house price booms and the risk facing both borrowers and other mortgage market actors.

As one example of the interaction between FHA and the GSEs in the context of a house price boom, research by the AEI Housing Center has documented that recent prices in lower price tiers, where leverage is readily available, have experienced faster house price appreciation than in higher price tiers (chart A).

Chart A



Note: HPIs are smoothed around the times of FHFA loan limit changes.
Source: AEI Center on Housing Markets and Finance, www.AEI.org/housing.

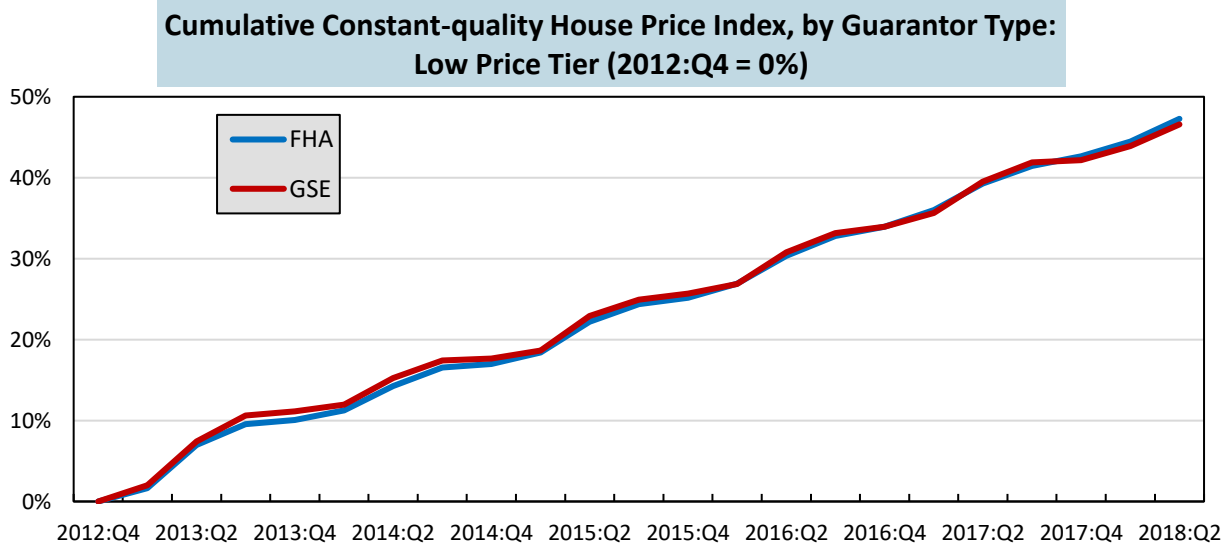
In the lower price tiers, FHA’s share of the market is substantial and heavily influences the overall leverage risk of the tier (Table 1).

Table 1

Price Tier	Market Share (2017)	Median Borrower Income (2017)	Mortgage Risk (Leverage) Index (2017)	FHA Share (2017)
Low	26%	\$ 53,000	14.5%	32%
Low-Med	30%	\$ 73,000	13.5%	29%
Med-High	36%	\$112,000	8.4%	12%
High	8%	\$237,000	3.2%	0.3%

In turn, the GSEs face additional market risk in low and low-med price tiers, as high levels of leverage interacting with a seller’s market to cause house prices to increase much faster than in tiers with less leverage. Further, homes in the low price tier, regardless of whether houses were financed with mortgages insured by FHA or guaranteed by the GSEs, all experienced the same level of rapid house price appreciation because the marginal buyer sets the price for all homebuyers (see chart B).

Chart B

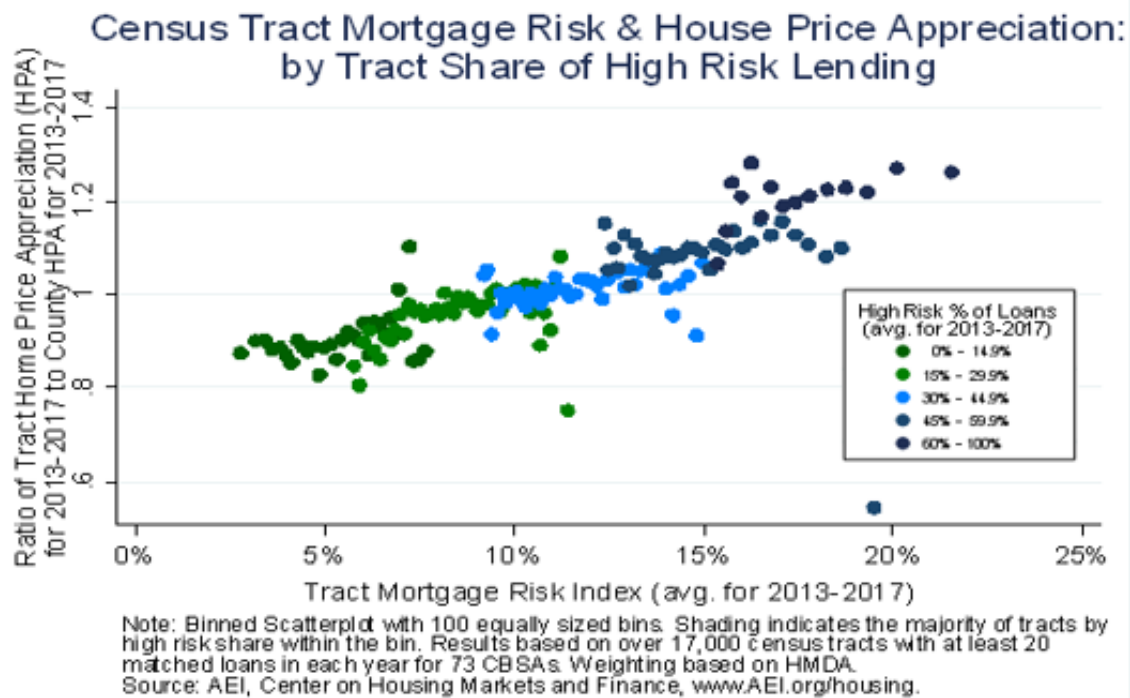


Note: HPIs are smoothed around the times of FHFA loan limit changes. Source: AEI Center on Housing Markets and Finance, www.AEI.org/housing.

We have found a strong positive correlation between level of mortgage risk and house price appreciation, particularly appreciation well in excess of trend. As shown in the scatter plot below (Chart C), tract house price appreciation increases as the tract mortgage risk index increases. The binned census tracts are color coded by the percentage of high risk purchase loans in a tract. In general, house price appreciation was above average in tracts where 30 percent or more of the loans were high risk

(high risk tracts). The GSEs and FHA accounted for 50 percent and 31 percent respectively of the loans in high risk tracts. Further, 51 percent of the GSEs' entire purchase loan business was in high risk tracts. As a result, the GSEs are impacted in at least two ways. First, by FHA's high risk lending since 94 percent of FHA's first time buyer business is high risk. Second, as a competitor to FHA in the acquisition of high risk loans, particularly for first time buyers. For example, today 34 percent of Fannie's first time buyer business is high risk, up from 10 percent at the end of 2012.

Chart C



Source: AEI Center on Housing Markets and Finance, www.AEI.org/housing.

In sum, a countercyclical approach to FHFA risk-based capital standards is only a partial solution. Similar policies must be adopted by FHA, else they will continue to impart risk to the GSEs and all homebuyers by exacerbating the house price cycle. The interaction of agencies' credit policies also suggests that the house price cycle and trends should optimally be described by indexes that include all purchase transactions, including FHA, and not just GSE transactions.