eSLR Reform Aligns Leverage Requirement with Original Objective

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As described in footnote 1, an earlier version of this note included a mistaken statistic, which we have now corrected.

Summary

On June 17, 2025, the federal banking agencies proposed revising the enhanced supplementary leverage ratio (eSLR) for the eight U.S. global systemically important banks. The proposal is sensible and overdue. When regulators introduced the eSLR in 2014, they anticipated that it would serve primarily as a backstop to risk-based capital requirements; however, they expressed concerns that the leverage ratio would be unduly binding, potentially pushing banks toward riskier assets in search of higher returns.

Those concerns were allayed by expectations that reserve balances would shrink as the Fed reduced the massive portfolio of government securities it had purchased in multiple rounds of quantitative easing during and after the global financial crisis. However, reserves did not decline as projected. The Fed stopped reducing its portfolio of securities when it decided in 2019 to conduct monetary policy by oversupplying reserve balances. The portfolio and therefore reserves surged to new heights during the Fed's asset purchases in response to the Covid pandemic. The further growth in reserves raised banks' investments in zero-risk-weighted assets and made the leverage ratio constraint tighter than intended.

A binding leverage ratio on the largest banks has further bad consequences because those are the banks that make markets in fixed-income securities, most notably Treasury securities. With a binding leverage ratio, those banks are discouraged from holding Treasury inventories or engaging in reverse repos in Treasuries at any time, including in stressed markets.

Against these considerable costs, a binding leverage ratio has limited benefits. The eSLR and its cousin the Tier 1 leverage ratio were intended to serve as a supplement to risk-weighted requirements to guard against a risk-weight being too low. However, evidence from the Global Financial Crisis shows that the Tier 1 leverage ratio (the only ratio that was used at that point) was unhelpful for predicting bank failures. In fact, after controlling for risk-based capital ratios, banks with lower leverage requirements were less, not more, likely to fail.

If adopted, the eSLR reform will reconfigure the requirement to align with the original intent of the U.S. banking agencies when it was created, returning it to a backstop to risk-based requirements. The high level of reserve balances has reduced the weighted-average GSIB leverage ratio 33 basis points relative to where it would have been if reserve balances had declined, making the requirement more likely to bind. The proposed reform would reduce the weighted-average eSLR requirement by 114 basis points, returning the requirement to being a backstop to risk-based requirements as intended.

Background

Capital is the amount the bank's shareholders have invested in the bank. It measures the owners' skin-in-the-game and also the amount of losses the bank can make without its assets being less than its liabilities; that is, capital absorbs losses, preventing the bank from becoming insolvent (assets worth less than liabilities).

Capital requirements come in two forms: Leverage ratio requirements and risk-weighted ratio requirements. Leverage ratios are calculated as the bank's capital divided by its total assets. Risk-weighted requirements are calculated as capital divided by risk-weighted assets. Risk-weighted assets, as the term implies, put a higher weight on riskier assets. For example, in the standardized approach to assigning risk weights, the risk weight is 100 percent on a construction and land-development loan, 50 percent on a prime residential mortgage, and 0 percent on reserve balances (deposits of the bank at a Federal Reserve Bank). Because the risk weights are almost all 100 percent or less, risk-weighted assets are less than total assets, so risk-weighted capital ratios are higher than leverage ratios.

The banking agencies propose to replace the 2 percentage point eSLR buffer for GSIB bank holding companies with the Basel standard for the eSLR buffer: one-half the method 1 GSIB surcharge. The eSLR buffer is added to the 3 percent SLR requirement to determine the requirements for GSIB holding companies. The GSIB surcharge is an additional capital buffer required of GSIBs. The Basel standard for the GSIB surcharge is calculated using method 1. The requirement for U.S. GSIBs is the maximum of the method 1 surcharge and the U.S.–only method 2 surcharge.

The proposal also changes the requirement for commercial bank subsidiaries of GSIBs. Currently, in order to be considered "well capitalized," the subsidiary must have an SLR of 6 percent. Under the proposal, that requirement is changed to 3 percent plus the new eSLR buffer (one-half the method 1 GSIB surcharge).

How a Binding Leverage Ratio Requirement Creates an Incentive for Banks to Become Riskier

A risk-based capital ratio is sensitive to risk, while a leverage ratio is not. Consequently, a risk-based ratio is a better measure of the probability that a bank will become insolvent over some time horizon. Nevertheless, the Basel Committee on Banking Supervision (BCBS), and the U.S. banking agencies, support including a leverage ratio requirement as part of banks' capital requirements to serve as a backstop for risk-based requirements. If a risk-weight is set too low, a bank subject to the requirement

will have an incentive to shift toward that mis-weighted asset, but the capital required by the leverage requirement treats that asset the same as all the others. That potential benefit as a backstop comes at high cost, however, if the leverage requirement is set too high and ends up binding even in circumstances when there is no error in risk weights.

First, if a bank is bound by a leverage requirement rather than a risk-weighted requirement, it has an incentive to reallocate its balance sheet toward riskier, higher-yielding assets. For many reasons, capital is a costly source of funding for a bank. If a bank is funding its assets with a certain amount of capital to satisfy its leverage requirement, but its risk-based requirement is not binding, the bank can shed assets with low risk-weights and add an equal amount of assets with high risk-weights while remaining compliant with both requirements. Doing so will increase the bank's expected profits but also make it riskier.

For example, consider a bank that is funded with $5 billion in capital and $95 billion in deposits that has invested in $50 billion in reserve balances and $50 billion in business loans totaling $100 billion in total assets. The risk weight on reserve balances is zero and the risk weight on business loans is 100 percent. Consequently, the bank's leverage ratio is 5 percent ($5 billion/$100 billion) and its risk-based ratio is 10 percent ($5 billion/$50 billion).

Suppose the bank's leverage requirement is 5 percent and its risk-based requirement is 9 percent. If the bank reduces its riskless reserve balances by $5 billion and increases its risky business loans by $5 billion, its leverage ratio would remain 5 percent, and its risk-based ratio ($5 billion/$55 billion) would be 9.1 percent. If the expected return on business loans is higher than on reserve balances, the bank would boost its expected return on equity by shifting toward the riskier asset while remaining in compliance with both requirements.

When the Federal Reserve Board originally passed the enhanced supplementary leverage ratio requirement in 2014, members were very concerned about the possibility that the requirement would be binding and would therefore create an incentive for banks to shift toward riskier assets. As can be read in the transcript or seen in the video, those concerns were expressed by every Board member: Governor Powell, Governor Tarullo, Governor Stein and Chair Yellen.

Growth In the Fed's Balance Sheet Has Made Leverage Ratio Requirements More Binding

Even though the staff analysis indicated that the leverage ratio requirement would be binding for several banks in 2014, the Board nevertheless adopted the requirement because it expected that the requirement would not be binding in the future for two reasons. First, the risk-based requirements were expected to increase, which, in fact, they did.

Second, the level of reserve balances was $2.4 trillion at that time as a result of QEs 1, 2, and 3, and staff projected reserve balances to decline substantially as the Fed normalized its balance sheet. The staff briefing material for the FOMC published just prior to the Board meeting on the eSLR assumed that reserve balances would decline to $25 billion. The level of reserve balances is determined by the Fed's balance sheet, and the banking system has to absorb them.

However, rather than reducing reserve balances, the Fed boosted reserve balances, which are now $3.3 trillion. The higher the level of reserve balances, the higher the share of zero risk-weighted assets on banks' books, and the lower are banks' leverage ratios relative to their risk-based capital ratios. That

means, whatever the requirements, leverage ratios are more likely to bind when there are a lot of reserve balances.

Importantly, the lower leverage ratios are clearly not the consequence of reserve balances having an inappropriately low risk weight. Deposits at Federal Reserve banks have no credit, interest rate, or liquidity risk. No one questions that they are entirely riskless and that the correct risk weight is zero.

Adjusting for the Impact of the Growth of Reserves on GSIB Leverage Ratios

The growth in reserve balances compared with their expected decline to near zero has reduced GSIB holding companies' weighted average leverage ratio by 33 basis points. The banking agencies' proposal is to replace the 2-percentage point eSLR buffer for holding companies with one-half the method 1 GSIB surcharge. Under the proposal, the weighted-average eSLR buffer would be 0.86 percent, 114 basis points lower.[1] However, if reserve balances had shrunk to essentially zero rather than swelling, the weighted-average GSIB SLR would be 6.31 percent instead of 5.98 percent, a 33 basis point difference. In short, nearly 30 percent of the proposed adjustment to the eSLR simply adjusts the calibration for the growth in reserves that the Board had not expected.

Binding Leverage Requirements Impair Treasury Market Functioning

The second serious problem when the leverage ratio requirement is binding is that banks are required to fund riskless or nearly riskless assets in part with capital and are therefore discouraged from participating in activities that require them to hold such assets. In particular, to support Treasury market liquidity under stress, the broker-dealer subsidiaries of GSIBs must be willing to purchase Treasury securities in their trading accounts, and if they are bound by the leverage ratio, the cost to the GSIB is far in excess of the cost of meeting market risk capital requirements that are relevant if risk-based capital requirements are binding. Partly as a consequence, intermediation capacity in the Treasury market has stagnated even as the amount of Treasury debt has grown massively, leaving the market susceptible to dysfunction during stress times. Many studies, including both the Group-of-Thirty and the Brookings-Booth whitepapers on Treasury market reform, have recommended that the leverage ratio requirement be made less binding to encourage Treasury market intermediation. Relatedly, a recent Boston Fed study shows that when the Fed temporarily excluded Treasury securities and reserve balances from the SLR during Covid, primary dealers that were most constrained by the SLR boosted their Treasury holding far more than less-constrained primary dealers.

Leverage Ratios Did Not Help Predict Bank Failures from the Global Financial Crisis

But perhaps having an elevated leverage ratio requirement is beneficial on net because the requirement weeds out weak banks that are otherwise missed by risk-based requirements. However, the evidence indicates the opposite is true. The table reports statistical analysis of the ability of a banks' risk-based and leverage ratios at the end of 2006 to predict failure over the subsequent 5 years. As shown in column 1, as expected, a bank with a lower risk-based capital ratio going into the GFC was more likely to fail. However, as shown in column 2, a bank with a lower tier 1 leverage ratio was not statistically more likely to fail.[2] Moreover, as shown in column three, when both ratios are included, a bank with a low

[1] In an earlier version of this note, when calculating the change in the weighted-average eSLR that would occur under the proposed reform, we neglected to multiply the method 1 GSIB surcharges by one-half to calculate the new eSLR buffers. That mistake has been corrected.
[2] The tier 1 leverage ratio, which was in use before the GFC and is still in use, is the sum of common and preferred equity divided by average tangible assets. The SLR was not defined until after the GFC. In Covas and Nelson (2016), we estimated a similar regression and found that the leverage ratio on its own was predictive of bank failure, but found the same result as reported here when both types of capital ratios were included.

leverage ratio was *less* likely to fail. Why? No doubt because a bank with a lower leverage ratio, given its risk-based ratio, holds a smaller share of its asset portfolio in risky assets.

Predicting Bank Failures: Risk Based Capital Ratio Versus Leverage Ratio ***(Logistic Regression, Robust Standard Errors)***			
	(1)	(2)	(3)
Tier 1 Risk-Based Capital Ratio	-0.051*** (0.016)	—	-0.241*** (0.036)
Tier 1 Leverage Ratio	—	-0.004 (0.005)	0.244*** (0.032)
Constant	-2.262*** (0.227)	-2.986*** (0.082)	-2.237*** (0.193)
Observations	7,675	7,807	7,674
Pseudo R-Squared	0.014	0.000	0.066
Note: Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1			

See the appendix for further information on the regression.

Conclusion

In sum, the U.S. banking agencies' proposed change to the eSLR buffer will help resolve unanticipated problems with the regulation that increased its costs and left it miscalibrated. When the regulation was adopted, the entire Federal Reserve Board expressed concern that it was being calibrated too high, would therefore bind, and so would create a perverse incentive for banks to shift from lower-risk to higher-risk assets. The Board expected this outcome to be avoided in part because it expected reserve balances to shrink dramatically but instead reserves have grown substantially. For the same reason, a binding SLR also reduces the incentive for primary dealers to provide liquidity to the Treasury market under stress. The purported advantage of a leverage ratio is that it is supposed to help identify weak banks when risk-based requirements fail, but a simple horserace between leverage and risk-based requirements for predicting bank failures during and after the Global Financial Crisis illustrates that a leverage requirement failed miserably in predicting failures.

Data and Analysis Appendix

The data used for the regression analysis is drawn from two primary sources: the FDIC Failed Bank List and the FFIEC Call Reports. From the FDIC Failed Bank List, a dataset was constructed that includes all banks that failed between the beginning of 2007 and the end of 2011. Then, from the 2006 Q4 Call Reports of all commercial and savings banks, the tier 1 leverage ratio and the tier 1 risk-based capital ratio were pulled from Schedule RC-R (line items 31 and 32, respectively). These two datasets were then merged, resulting in a final dataset with the two tier 1 capital ratios for each 2006 Q4 Call Report filer and a dummy variable indicating whether each bank failed during the period of interest. This data was used to estimate a logit regression model in which the failure indicator was regressed on the two tier 1 capital ratios, both individually and jointly (probit results are similar). Capital ratios with values greater than 100% were treated as outliers and excluded from the corresponding regressions.

The data used in the regression is available here.

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