



Capital Regulation and the Treasury Market

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The proper treatment of central bank reserves and sovereign debt in capital requirements has been discussed since regulators around the world began strengthening bank regulations following the Global Financial Crisis (GFC). The dramatic but short-lived disruption of the Treasury market in September 2019 and the more profound market dislocations associated with the onset of the COVID crisis six months later have elevated the issue. The Biden administration, policy groups, and academics have all included changes in capital regulations in menus of possible reforms to improve the functioning of the Treasury market.¹ Specifically, changes have been proposed to the Enhanced Supplementary Leverage Ratio (eSLR) and G-SIB (Global Systemically Important Bank) capital surcharge. (See box on next page.) Both these capital requirements apply only to the eight U.S. banks designated as of global systemic importance.² Because these banks are some of the most important dealers in Treasuries, regulatory disincentives to hold and trade Treasuries can adversely affect the liquidity of the world's most important debt market.

Disagreement over whether to adjust the eSLR, the surcharges, or both is often just a version of the continuing debate over the right level of capital requirements. Some banking interests seize on episodes of Treasury market dysfunction to argue for reductions in the eSLR and surcharge. Some regulators, elected representatives, and commentators see any adjustments as weakening post-GFC capital standards. Yet it is possible to reduce the current regulatory disincentive of banks, especially at the margin, to hold and trade Treasuries without diminishing the overall capital resiliency of large banks.

There are some complications. First, it is difficult to predict how much improvement in Treasury market functioning would result from modification of capital rules alone. Quite apart from regulatory requirements, banks become more cautious during periods of market stress. They are inclined to pull back from intermediation in the face of high uncertainty. There was no significant regulatory constraint on dealers in the fall of 2008, yet the Treasury market was impaired, and even frozen for a few days.

On the other hand, the March 31, 2021, expiration of a temporary exemption of reserves and Treasuries from the leverage ratio was followed quickly by an increase in the assets under management of money market funds. (Reserves count in the leverage ratio, but are relatively low yielding). The March 2021 sequence suggests – though it does not prove – that banks responded to the prospect of the reinstated higher leverage ratio requirement by offloading deposits in order to reduce the amount of reserves on their balance sheets.³ If so, then the regulations may indeed be suppressing the amount of risk-free assets the large banks are willing to hold. Of course, by March 2021 financial market stress had

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1. U.S. Department of the Treasury, Board of Governors of the Federal Reserve System, Federal Reserve Bank of New York, U.S. Securities and Exchange Commission, U.S. Commodity Futures Trading Commission, Recent Disruptions and Potential Reforms in the U.S. Treasury Market: A Staff Progress Report (Nov. 8, 2021) <https://home.treasury.gov/system/files/136/IAWG-Treasury-Report.pdf>; Group of 30, U.S. Treasury Markets: Steps Toward Increased Resilience (July 2021). https://group30.org/images/uploads/publications/G30_U.S._Treasury_Markets-Steps_Toward_Increased_Resilience_1.pdf; Darrell Duffie, Still the World's Safe Haven? Redesigning the U.S. Treasury Market After the COVID-19 Crisis, Hutchins Center Working Paper # 62 (July 2020). https://www.brookings.edu/wp-content/uploads/2020/05/WP62_Duffie_v2.pdf; Nellie Liang and Pat Parkinson, Enhancing Liquidity of the U.S. Treasury Market Under Stress, Hutchins Center Working Paper # 72 (Dec. 16, 2020) https://www.brookings.edu/wp-content/uploads/2020/12/WP72_Liang-Parkinson.pdf.
2. The eight are Bank of America, Bank of New York Mellon, Citigroup, Goldman Sachs, JP Morgan, Morgan Stanley, State Street, and Wells Fargo.
3. The shift from bank deposits to money market funds is documented in a staff report from the Federal Reserve Bank of New York. Gara Alfonso, Marco Cipriani, and Gabriela La Spada, Banks' Balance-Sheet Costs, Monetary Policy, and the ON RRP (December 2022), at pp. 10-14 https://www.newyorkfed.org/medialibrary/media/research/staff_reports/sr1041.pdf. This analysis is especially suggestive because the authors find that assets under management of the money market funds affiliated with banks increased more rapidly than those of unaffiliated funds.

dissipated and, ultimately, it remains unclear how much intermediation of Treasuries in periods of stress would be enhanced by regulatory change.

A second complicating factor is the somewhat underappreciated fact that newly applicable rules in the international capital framework of the Basel Committee on Banking Supervision limit how broadly U.S. banking agencies can modify capital rules, especially the eSLR. The proposals that follow are offered as one, though surely not the only, way to mitigate the unwelcome effects of capital regulation on the Treasury market while respecting the international arrangements for which U.S. banking agencies advocated so strongly following the GFC.

THE MECHANICS OF LEVERAGE RATIOS AND THE G-SIB SURCHARGE

A minimum **leverage ratio** is a capital requirement that limits the total amount of leverage a bank may assume. The numerator of a leverage ratio is a measure of a bank's capital. The denominator is a measure of its total assets or exposures, regardless of the risk of loss. Leverage ratios are distinguished from risk-weighted capital requirements, whose denominator is adjusted based on the relative riskiness of the bank's assets and exposures; the riskier the assets, the greater the amount of capital required.

U.S. banking law contains three leverage ratio requirements. The first, traditional minimum leverage ratio, applies to all banking organizations, large and small. Its denominator is the bank's total assets (loans, securities, etc.).

The second is a "supplementary" leverage ratio (SLR), which applies to the fifteen largest U.S. banks. It was added in 2013 after the U.S. successfully sought agreement in the Basel Committee on Banking Supervision to add a leverage ratio to minimum standards for internationally active banks. Its denominator consists of the total "exposures" of a bank, which include off-balance sheet items such as derivatives, as well as on-balance sheet assets. Formulas are required to convert the off-balance sheet items into balance sheet equivalents. Under current Federal Reserve regulations, the SLR generally applies only to banking organizations with more than \$250 billion in assets. The SLR is set internationally, and under U.S. law, at 3%.

The third U.S. leverage ratio requirement is the "enhanced" supplementary leverage ratio (eSLR). It applies only to "G-SIBs," the eight "systemically important" U.S. banking organizations.^a It is calculated identically to the SLR. But the eSLR adds a 2% buffer requirement on top of the 3% SLR minimum, for a total applicable ratio of 5%. Technically, the 5% threshold is not a minimum. But because banks falling below 5% are required to limit dividends and share repurchases, the G-SIBs generally treat the entire 5% as a minimum requirement. This is the requirement that some say creates disincentives for G-SIBs to hold or trade Treasuries.

The **G-SIB surcharge** applies only to that same group of eight banking organizations. The surcharge is added to the risk-weighted requirements applicable to all banking organizations – again, technically as a "buffer" but, again, it is regarded by banks as effectively a regulatory minimum. The surcharge is set based on the systemic risk score of the bank. Under current Basel Committee standards and U.S. law, the surcharges are set at intervals of half percentage points – i.e., 1%, 1.5%, etc. Thus a significant range of systemic risk scores result in the same surcharge until a cutoff for the score is reached, sending the bank into the next surcharge bucket.

The Federal Reserve uses two methodologies to calculate a surcharge for the G-SIBs, with the higher of the two results being used for each bank. Method 1 is the approach adopted by the Basel Committee for application to the G-SIBs of all its member jurisdictions. A systemic risk score is calculated from five systemic indicators – size, interconnectedness, substitutability, complexity, and cross-jurisdictional activity. Method 2 was developed, and is applied, unilaterally by the Fed. The Method 2 systemic risk score includes four of the five Basel indicators, but substitutes short-term wholesale funding for the substitutability indicator. However, Method 2 is designed to – and does – produce higher surcharges for the G-SIBs. Under the most recent Fed determination, the surcharges range from 1% to 3.5%.^b Discussion of the impact of the surcharge on the Treasury market is thus focused on Method 2.

^a The eight are Bank of America, Bank of New York Mellon, Citigroup, Goldman Sachs, JP Morgan, Morgan Stanley, State Street, and Wells Fargo.

^b <https://www.federalreserve.gov/publications/files/large-bank-capital-requirements-20220804.pdf>

Background

The concern with eSLR is that when it is effectively the binding regulatory capital constraint on a bank, that institution will limit its holding and trading of Treasuries.⁴ A leverage ratio requires the same amount of capital for every asset with the same nominal balance sheet value, regardless of the risk of loss associated with the asset. Because Treasuries and Treasury-backed repurchase agreements are relatively low margin, banks that are close to the eSLR threshold will be disincentivized from allocating more of their capital to those activities, instead of to riskier (and thus higher-yielding) assets.⁵ The disincentive increases only if the Federal Reserve is increasing, or maintaining at high levels, the amount of reserves in the banking system, since by definition these are part of bank balance sheets. The concern with the G-SIB surcharge is that several of the metrics that determine the surcharge amount include Treasuries and, especially, Treasury-backed repo. Again, banks may be disincentivized from greater participation in the Treasury repo market.

When the eSLR was adopted in 2014 and the G-SIB surcharges in 2015, nearly everyone would have agreed that capital regulation should not impede the smooth operation of the Treasury market or the implementation of monetary policy. Federal Reserve officials discussed this issue internally, concluding that the new requirements would not pose significant problems, given the expected trajectory of reserve holdings and Treasuries. Still, many inside and outside the Fed recognized the possibility that the eSLR in particular might have *some* adverse impact on the Treasury market, especially during a period in which the participants and structure of that market were changing.⁶ The case for reconsideration has been substantially strengthened by the COVID pandemic, which dramatically increased reserves (because of the Fed's quantitative easing) and the amount of Treasuries (because of fiscal support for the economy).

The eSLR

While some supporters of a leverage ratio favor its use as the primary form of capital regulation, most proponents regard it as an important back-up to risk-based capital measures. In theory, of course, a risk-

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4. There are two ways in which a capital requirement can be “effectively” binding even if a bank’s reported capital ratio is above the regulatory minimum. First, a bank will always regard as “binding” whichever of the applicable capital ratio minimums it is closest to. So, for example, if the bank is materially above the regulatory minimum of both the SLR and its risk-weighted requirement, but it is significantly closer to the minimum SLR, it will be inclined to favor activities that increase the amount of relatively risky assets on its balance sheet. Second, banks generally do want any of their capital ratios to fall too close to regulatory minimum levels. If they do, an unexpected market shock could push their ratios below the minimum, with likely regulatory consequences. Banks generally try to maintain a buffer above regulatory thresholds to account for this possibility. Thus, at least most of the time, the effective minimum ratios for banks are higher than those set in the banking agencies’ regulations. These buffers are “enforced” internally by banks’ risk management practices.
5. The impact of leverage ratio requirements on bank policies is discussed in Wenxin Du, Benjamin Herbert, and Wenhao Li, Understanding the “Inconvenience” of U.S. Treasury Bonds, Liberty Street Economics, Feb. 6, 2023, <https://libertystreeteconomics.newyorkfed.org/2023/02/understanding-the-inconvenience-of-u-s-treasury-bonds/>. By examining changes in the relationship between the yield of long-dated Treasuries and comparable maturity interest rate swaps, the authors document the emergence of an “inconvenience” yield for large banks holding Treasuries following the GFC.
6. In the interests of full disclosure, I should note I was among that group, though I did not so indicate publicly until I was leaving the Fed. Daniel K. Tarullo, Departing Thoughts, at the Woodrow Wilson School of Public and International Affairs, April 4, 2017. <https://www.federalreserve.gov/newsevents/speech/tarullo20170404a.htm>.

based capital regime is optimal. In practice, though, even the more sophisticated forms of risk-based regulation are imperfect. The risk weighting of assets is, directly or indirectly, founded on past performance of those assets. Yet, as experience with some mortgage-backed securities in 2008 showed, assets that have historically been relatively safe may become less so – sometimes spectacularly less so – when an unanticipated shock occurs. A leverage ratio requirement provides a safeguard against these unanticipated shocks and the consequent losses to assets that had been treated favorably under risk-weighted measures.

The traditional U.S. regulatory leverage ratio has the virtues of simplicity and transparency: essentially, the denominator in the ratio is the entire asset side of the balance sheet. Even vault cash and reserves held at the central bank, assets which cannot decline in nominal value, are included in the denominator. What U.S. regulators call the “supplementary” leverage ratio (SLR) was devised in the Basel Committee following the GFC. It includes in the denominator a measure of both the bank’s balance sheet and off-balance sheet exposures (such as derivatives). This innovation made sense because of the implicit leverage in derivatives and other transactions of many large banks. But it also makes calculation of the leverage ratio considerably more complicated. Thus, to the extent exclusions from the denominator of the traditional leverage ratio were resisted in order to keep things simple and transparent, that rationale has much less force for the SLR.

Because the denominator of the SLR is bigger, possibly much bigger, than that of the traditional leverage ratio for large, complex banks, the minimum SLR ratio is set at 3% (compared to 4% for the traditional leverage ratio). The *enhanced* SLR that was adopted in 2014 imposed an additional 2% “buffer” requirement, thereby creating an effective 5% minimum for G-SIB bank holding companies.⁷ There is an even higher minimum of 6% for insured depository institutions within G-SIB holding companies. Unlike risk-weighted G-SIB surcharges, which vary with the size and complexity of the bank, the same eSLR was made applicable to all eight U.S. G-SIBs. The eSLR has, by design, been the more binding of the two leverage ratios for these banks and, at times, it has been more binding than their risk-weighted requirements.

Several different ways to adjust the eSLR have been discussed. Reserves held at the Fed and Treasuries could be excluded from the denominator, thereby removing any disincentive at the margin for a bank to deal in Treasuries.⁸ This was the option temporarily adopted by the Federal Reserve during the COVID crisis. Alternatively, the denominator could be retained as is, but the minimum ratio reduced, so as to give more space before it binds a bank. More radically, leverage ratios could be eliminated entirely.

In considering these possibilities, one must not lose sight of the international capital disciplines championed by the U.S. agencies that were agreed in the Basel Committee. As noted, the minimum SLR for all internationally active banks is 3%. Central bank reserves may be temporarily excluded from the denominator of the SLR “in exceptional macroeconomic circumstances,” but there is no exclusion for

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7. Technically the additional 2% does not create a higher, 5% “minimum” regulatory requirement. Instead it creates a threshold; if a bank’s eSLR falls below this level, its capital distributions (including dividends and share repurchases) are automatically constrained. The constraint becomes more severe as the bank’s leverage ratio falls through the buffer, closer to the 3% regulatory minimum. Because banks want to minimize regulatory constraints on their capital distribution policies – and the adverse reaction of investors and analysts that might be entailed by falling into the buffer – they tend to regard the sum of the minimum and buffer as their de facto minimum.
8. The Economic Growth, Regulatory Relief, and Consumer Protection Act, Public Law-115-174, May 24, 2018, §402, required the banking agencies to remove most central bank reserves from the denominator of the SLR of “custody banks,” which include Bank of New York Mellon and State Street. The business model of custody banks provided a very good reason for this change, even if the precedent of Congress legislating regulatory exceptions for specific banks is not an altogether happy one.

sovereign debt instruments. And, if a temporary exclusion is granted, the national regulator is obliged under the Basel provision to raise the minimum SLR on the remaining assets during the period of exclusion.⁹

When the Federal Reserve temporarily exempted Treasuries and central bank reserves from the denominator of the SLR during the COVID crisis, it did not even address the facial inconsistency of its action with the Basel rule.¹⁰ In any event, it may well be that none of the roughly fifteen bank holding companies subject to the SLR ever fell below the 3% international minimum.¹¹ But that minimum has since changed for the G-SIBs. January 1, 2023 was the effective date for the G-SIB leverage ratio surcharge that had been agreed upon in Basel in 2017. The new requirement is for an SLR surcharge that is half of the risk-weighted G-SIB surcharge applicable to a bank under a formula agreed to internationally in 2011.¹² Thus, unlike the situation for the decade following adoption of the eSLR, the application of a higher SLR for G-SIBs is no longer a unilateral measure of the U.S. banking agencies that could be eliminated without running afoul of Basel agreements.

The Basel rules are not binding on the United States as a matter of international law. The Basel Committee has always operated as a cooperative arrangement among banking regulators from its member countries. But that arrangement is built on shared expectations that members will generally implement the minimum standards adopted by consensus in the various Basel agreements. It is not in the interests of the U.S. banking agencies to undermine the international standards they have worked so hard to strengthen since the GFC. Indeed, international agreement on a minimum leverage ratio was one of the key aims of U.S. banking regulators. It was regrettable that they failed to acknowledge the then-prevailing Basel rules in March 2020, but it was at least understandable against the backdrop of the COVID onslaught that led to quick and frightening disruptions in the Treasury market. A more or less indefinite disregard would be harder to justify and, no doubt, would invite derogations by other jurisdictions from

9. The full provision reads as follows:

At national discretion, and to facilitate the implementation of monetary policies, a jurisdiction may temporarily exempt central bank reserves from the leverage ratio exposure measure in exceptional macroeconomic circumstances. To maintain the same level of resilience provided by the leverage ratio, a jurisdiction applying this discretion must also increase the calibration of the minimum leverage ratio requirement commensurately to offset the impact of exempting central bank reserves. In addition, in order to maintain the comparability and transparency of the Basel III leverage ratio framework, banks will be required to disclose the impact of any temporary exemption alongside ongoing public disclosure of the leverage ratio without application of such exemption.

https://www.bis.org/basel_framework/chapter/LEV/30.htm.

10. <https://www.federalregister.gov/documents/2020/04/14/2020-07345/temporary-exclusion-of-us-treasury-securities-and-deposits-at-federal-reserve-banks-from-the#citation-8-p20580>.

11. As the Federal Reserve's exemption was about to expire, Fitch issued a report indicating that none of the SLR looked to have difficulties with the reversion to the normal denominator. <https://www.fitchratings.com/research/banks/us-banks-sufficiently-capitalized-to-withstand-slr-expiration-22-03-2021>. The balance sheets of the very large regional banks like PNC and Truist are dominant to those of traditional commercial banks, with relatively low levels of zero-weighted assets on their balance sheets. The balance sheets of the G-SIBs that do have a heavy proportion of Treasuries in their commercial banks and broker-dealers were already required under the eSLR to maintain a ratio 2 percentage points higher than the international minimum. Hence there was considerable room for the ratio to fall from its March 2020 minimum U.S. level before it hit the international minimum.

12. As explained in the box, in 2015 the Federal Reserve adopted a second methodology for calculating G-SIB surcharges, known as "Method 2," which generally results in higher surcharges than the Basel method, known under U.S. law as "Method 1." As a formal matter, the applicable surcharge for U.S. G-SIBs is always the higher of the two. 12 Code of Federal Regulations §217.403(a). <https://www.ecfr.gov/current/title-12/chapter-II/subchapter-A/part-217/subpart-H/section-217.403>. The concerns over the impact of the G-SIB surcharge on the Treasury market related to Method 2.

various Basel rules.¹³ While negotiating a change in the rules is a possibility, it would likely take considerable time. Moreover, because of their concern with the stability of sovereign debt in a number of Eurozone countries, it is not at all clear that Basel Committee members such as Germany and the Netherlands would ultimately agree to exclusion of sovereign debt from the leverage ratio denominator.

What options, then, are practically available? The Federal Reserve is in the midst of an overall review of capital rules as a prelude to implementation of the significant changes to international capital standards negotiated in what became known as the Basel III endgame.¹⁴ This review, and the extensive package of regulatory changes that will follow it, provide a convenient opportunity to adjust the eSLR. The most straightforward approach would be to substitute the new Basel leverage ratio surcharge for the current across-the-board 2% and simultaneously increase risk-weighted capital requirements. As suggested earlier, the aim would be to reduce the disincentives for G-SIBs to hold and trade Treasuries while maintaining their overall capital resiliency.

This change would yield between a 75 and 150 basis point reduction in the eSLR, based on current international surcharges.¹⁵ It would be of particular value for Goldman Sachs and Morgan Stanley. These two G-SIBs have relatively low Basel leverage surcharges (0.75% and 0.50%, respectively) but, because broker-dealers are the most important part of their firms, they are most likely to find the eSLR binding.

If, as seems likely, the Fed's package of Basel III "endgame" changes will materially increase risk-based capital requirements for all advanced approaches banks, then a reduction in the eSLR minimum may not result in a decrease in the amount of capital G-SIBs must hold for their current balance sheets. If, on the other hand, the package of changes does not clearly offset fully the eSLR reduction, some analysis would be required to determine which banks would be most advantaged by the eSLR change and how best to adjust risk-based capital requirements. Because increases in capital requirements for traded assets look to be among the more consequential of the Basel III endgame adjustments, there may be a

13. In truth, many Basel Committee members – including the United States – fall short of some Basel standards. Sometimes this is because of action by a legislature, such as when Congress included a provision in the Dodd-Frank Act prohibiting the use of external ratings in capital regulations, as required for some risk-weightings under Basel standards. Other Basel Committee members have at least a limited understanding of, and tolerance for, such legislatively driven deviations. They are generally less accepting of derogations that their counterparts in other countries could have avoided.

One very relevant departure from the Basel leverage ratio rule is the Bank of England's apparently indefinite removal of central bank reserves from the denominator. Perhaps the Bank would justify this practice on the grounds that "exceptional macroeconomic circumstances" have been affecting the United Kingdom for years because of the large Bank balance sheet resulting from its quantitative easing policies. This seems a bit of a stretch. However, insofar as the Bank has, as called for by the Basel rule, raised the leverage ratio on remaining assets of its banks, there may be a greater international tolerance of the Bank's practice.

14. Vice Chair for Supervision Michael S. Barr, Why Bank Capital Matters, at the American Enterprise Institute, Washington, D.C., December 1, 2022 <https://www.federalreserve.gov/newsevents/speech/barr20221201a.htm>.

15. Half of the currently applicable risk-weighted surcharge would mean leverage ratio surcharges of 1.25% for JP Morgan, 1% for Bank of America and Citi, 0.75% for Goldman Sachs, and 0.5% for Bank of New York Mellon, Morgan Stanley, State Street, and Wells Fargo. (Updated risk-weighted surcharges are published by the Financial Stability Board each year. The current list is at <https://www.fsb.org/wp-content/uploads/P211122.pdf>.) The international surcharges (Method 1 in the Federal Reserve's regulations) are lower than the Federal Reserve's own (Method 2) surcharges, which both weight some factors differently and include a measure of short-term funding instead of the international "substitutability" factor.

serendipitous coincidence of the G-SIBs that will benefit most from an eSLR adjustment and those that will see the largest increases in their risk-weighted requirements.¹⁶

Would the leverage ratio relief afforded by replacement of the eSLR with the Basel G-SIB leverage buffer be sufficient in periods of stress, when many financial market participants need cash? As already noted, the Basel leverage ratio rule allows for temporary exclusion of central bank reserves, but not sovereign debt instruments, from the denominator. The Fed could, however, invoke the temporary exemption for central banks reserves and use its Standing Repo Facility (SRF)¹⁷ to substitute reserves for Treasuries on the balance sheets of banking organizations. The result would be to free up additional balance sheet space for banks to purchase and deal in Treasuries, since they could be presented as necessary at the SRF in exchange for reserves and, thereby, result in an effective relaxation of leverage ratio limits.¹⁸

Although a bit more complicated than, for example, simple exclusion of Treasuries from the supplementary leverage ratio, this two-part mechanism carries some advantages. First, unrestricted relief is limited to the stress periods when it is most needed. Second, leverage ratios are most useful in relatively good times, when possible vulnerabilities of apparently safe assets are masked. A period of stress will usually reveal those vulnerabilities and cause the bank to book reserves or losses. So at that moment, some further relaxation of the leverage ratio requirement is not necessarily ill-advised.¹⁹

Third, this approach may prompt the Fed to plan more systematically for stress periods in which liquidity is severely constrained. An increase in Treasury intermediation by G-SIBs during such a period is more likely if banks have prepared contingency plans for operating with different capital limitations. To draft these plans, they will need to know in advance what terms the Fed will apply to the SRF in periods of stress – including the conditions under which the exemption of reserves from the revised eSLR’s denominator would be determined and how it would be ended as financial markets normalize.

Advance development of its presumptive strategy would show that the Fed was anticipating that large banks will play an important role in intermediating safe assets during stress periods. That emphasis could reduce the chances that a bank would hesitate to use the SRF in such periods because of fear of stigma. Similarly, advance planning would give an opportunity in calmer times to consider issues such as how to encourage that intermediation, rather than just invite banks to rush to present their own Treasury holdings at the SRF. And, since planning for SRF use and the exemption of reserves would involve consideration of large bank’s overall liquidity capacities during stress periods, this effort might productively be expanded to incorporate the range of regulatory requirements and supervisory

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16. Notwithstanding the trading book changes, were there to be shortfalls in total capital resiliency from eSLR adjustment, the theoretically better way to compensate would be through the annual stress test and associated setting of large banks’ “stress capital buffer.” In practice, though, intentional and unintentional relaxation of stress test rigor over time may argue for changes in the G-SIB risk-based surcharge. As discussed below, however, the impact of this change on bank incentives to hold and trade Treasuries would also need to be considered.
17. The Standing Repo Facility was created in July 2021 and modified in January 2022 to add insured depository institutions to primary dealers as the group of institutions eligible to participate.
https://www.federalreserve.gov/monetarypolicy/files/FOMC_StandingRepoFacilityResolution.pdf
18. Under the Basel rule, the temporary exemption of central bank reserves from the denominator must be accompanied by a temporary increase in the leverage ratio requirement for remaining assets. In most circumstances this should not be a problem for banks that were compliant with the leverage ratio before the stress event occurred.
19. As noted earlier, under the Basel provision an increase in the minimum leverage ratio would be required.

expectations during these non-normal periods.²⁰ That internal exercise, in turn, might lead to more ongoing attention to crisis management strategies beyond pulling off the shelf various playbooks for special facilities used in past crises.

Even with a change in the eSLR, banks' holdings of Treasuries would continue to be subject to capital requirements for market risk. Moreover, as the failure of Silicon Valley Bank has demonstrated, the exclusion of unrealized gains and losses on banks' available-for-sale portfolio of debt securities, including Treasuries, can give a misleading picture of a bank's capital position. Following the Federal Reserve's 2019 regulatory changes, only banks with more than \$700 billion in assets or more than \$75 billion in cross-jurisdictional activity are required to reflect unrecognized gains and losses in their capital calculations. The banking agencies should consider a significant reduction in these thresholds.

G-SIB Surcharges

In short, the eSLR can be modified to accommodate considerably more intermediation of Treasuries without significantly undercutting its regulatory rationale. As for the G-SIB surcharge, there are some unproblematic changes that could help. But the chief complaints from banks about the G-SIB surcharge will be harder to satisfy without undermining the rationale of imposing higher capital requirements on systemically important banks. The complaints are directed against the Federal Reserve's alternative, more rigorous surcharge framework, which it calls "Method 2" (in contrast to the Basel framework, which the Fed calls "Method 1"). In theory, the applicable surcharge is the higher of the two; in practice, Method 2 always (and by design) requires a higher surcharge.

Under the Federal Reserve's Method 2, Treasuries and Treasury repo are included in three different components of the systemic indicator scores of G-SIBs: the total exposure of the institution, short-term wholesale funding, and (as appropriate) cross-border transactions. One sometimes hears the criticism that this methodology "double counts" (or, in the case of a cross-border repo, triple counts) the same asset or liability. This complaint is accurate, but it is directed at a feature of the G-SIB surcharge, not a bug. The surcharge is built on the principle that higher capital requirements should apply to systemically important banks because of the greater impact that their severe stress or failure would have on the financial system.²¹ In assessing this impact, size obviously matters, but so does the nature of the assets and liabilities that account for that size. An OTC derivative, for example, is counted as part of the firm's exposure, yet it is also appropriately counted as part of the "complexity" component of the systemic risk measure. Similarly, the failure of a large firm with a large presence in the Treasury repo market would reverberate more immediately and dramatically than the failure of a firm that is of a similar size, but that neither provides nor relies on short-term wholesale funding.

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20. That is, the Fed (with FDIC participation as needed) might clarify expectations for bank recovery and resolution plans, as well as what facilities (such as the Discount Window and special Section 13(3) facilities) will be available for use by banks without regulatory consequences.

21. ²¹ The greater impact is measured against the baseline of the failure of a large regional bank. Board of Governors of the Federal Reserve System, *Calibrating the G-SIB Surcharge* (July 20, 2015) at 3-11.
<https://www.federalreserve.gov/aboutthefed/boardmeetings/gsib-methodology-paper-20150720.pdf>.

A second criticism is that the systemic risk measure used by the Fed has not accommodated the growth of the financial system in the decade since the methodology was first established.²² Many of the components of the systemic risk score (though not short-term wholesale funding) are calculated by reference to a 2012-2013 baseline, which does not automatically escalate with the growth of the economy. While this criticism has been lodged by banks against the Fed’s surcharge method for some time, it became more prominent as bank balance sheets grew rapidly in the last few years.²³ As capital requirements move higher because of overall balance sheet growth, banks may look to limit growth of low-margin assets such as Treasuries – at least beyond what is needed to meet other regulatory requirements such as the liquidity coverage ratio.

It is difficult to separate the longstanding argument of some banks for lower surcharges from their recent emphasis on the effects of the G-SIB surcharge on the Treasury market. And, as with a change in the eSLR, it is hard to know just how much bank holdings and intermediation of Treasuries would increase were the G-SIB surcharge to be reduced. Nonetheless, there is surely something to the claim, especially if surcharges were to continue to rise based on balance sheet growth that roughly parallels economic growth (and thus, at least presumptively, does not necessarily increase in the systemic risk posed by that institution).

Size, complexity, and reliance on short-term wholesale funding are all important indicators of a bank’s systemic importance. If, for example, a bank with a very large Treasury repo book fails, it could cause significant market disruption even if there is no question whether the underlying Treasury collateral remains good. Thus there is real tension between the rationale for the surcharge and a program that seeks to adjust any regulation that may possibly be inhibiting bank holding and trading of Treasuries. Still, there are three changes in the G-SIB methodology that could modestly advance the latter aim without undermining the purpose of the surcharge. None is directed specifically at the treatment of Treasuries or repo in the G-SIB metrics. Instead they target general features of the G-SIB methodology as to which good arguments for change can be made quite apart from the Treasury issue.

First, the Fed might calculate all inputs into its systemic risk score as averages of daily holdings or activity during the preceding year. As is typically the case in banking regulations, many of the indicators in the Basel G-SIB score are measured at a point in time – specifically, the date of a regulatory filing.²⁴ Accordingly, banks have some incentive to “window dress” their scores at the end of the period for which their report is being filed – i.e., to reduce the amount of the relevant asset or activity temporarily, in order to minimize their score at the time the surcharge is calculated. Use of average daily amounts of the asset or activity for the preceding quarter, as the Fed does with its short-term wholesale funding component, would be an improvement and avoid possible disruptions in markets caused by multiple banks following

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22. See, for example, a paper posted by the Bank Policy Institute, a trade group funded by large banks. <https://bpi.com/gsib-method-2-fixed-coefficients-must-be-adjusted-for-economic-growth/>
23. See, for example, the remarks of Beth Hammock, Co-Head of the Global Financing Group at Goldman Sachs at the Federal Reserve’s 2022 Treasury Market Conference. <https://www.newyorkfed.org/newsevents/events/markets/2022/1116-2022>. It may be that as the Fed has begun shrinking its balance sheet, and the inflow of reserves onto banks’ balance sheets has reversed, the eSLR has for the time being become less binding.
24. The Fed derives the inputs for systemic risk scores from the most recent G-SIB filing of form FR Y-15, the Systemic Risk Report that must be filed by all bank holding companies with greater than \$100 billion in assets. The metrics are defined in 12 Code of Federal Regulations §217.405(b). <https://www.ecfr.gov/current/title-12/chapter-II/subchapter-A/part-217/subpart-H/section-217.405>.

the same window dressing strategy.²⁵ Better yet would be a shift to an average of daily positions over the preceding year.

Because the Fed applies the Basel surcharge in accordance with international agreement, and uses four of the Basel components in its own, more rigorous surcharge, it may be reluctant to shift unilaterally to using a daily average for all metrics. Accordingly, the Fed may want to propose this change in Basel. However, since some jurisdictions in the Basel Committee have traditionally resisted moving in this direction, this change might at best take time.²⁶ If agreement could not be reached in Basel, the second-best alternative would be for the Fed to adopt daily averages for all Basel components of its Method 2 surcharge calculation, while retaining the international point-in-time metrics for Method 1.

Second, the Fed could reduce the incentives of banks to restrain their level of Treasury holdings and trading by shifting from a bucket-based surcharge to a continuous function surcharge. At present, systemic risk scores within a fairly wide range result in the same surcharge. When the score rises even one point above that range, the bank is placed in the next “bucket,” with a resulting surcharge increase of half a percentage point. Thus, for example, a Method 2 score anywhere between 530 and 629 carries a 3% surcharge, but if the score increases to 630, the surcharge rises to 3.5%.²⁷ This cliff effect strengthens the window dressing incentive and may also lead banks to indefinitely cap Treasury holdings and trading, which are relatively low-yielding even as they contribute to the systemic risk score.

A shift to a continuous function approach would mean that the G-SIB surcharge would vary with any change in the systemic risk score. So a change from 530 to 550 would result in, say, an increase in the surcharge to 3.1%. But a change from 629 to 631 would result in a surcharge increase of only a basis point. Banks would still attend to the impact of specific assets and activities on their scores, of course. But there would no longer be outsized incentives to limit or decrease activities such as Treasury repo when a bank was close to the line separating one surcharge bucket from another.²⁸

Finally, the Fed should at some point consider a forward-looking adjustment to the baseline against all metrics are calculated in its Method 2 approach. Such an adjustment would be consistent with the theoretical foundation of an expected impact approach to setting the surcharges: it is, after all, likely that

25. Fed staff who researched the issue concluded that the most important element of window dressing strategies of U.S. G-SIBs is a reduction in OTC derivatives activity. Jared Berry, Akber Khan, and Marcelo Rezende (2020). "How Do U.S. Global Systemically Important Banks Lower Their Capital Surcharges?," FEDS Notes. Washington: Board of Governors of the Federal Reserve System, January 31, 2020, <https://doi.org/10.17016/2380-7172.2480>. An industry study confirmed the role of OTC derivatives adjustments, but also presented indirect evidence that the banks reduced repo activity, especially cross-border repo, which is an element of the complexity measurement in the G-SIB score. Francisco Covas and Adam Freedman, *The GSIB Surcharge and Repo Markets* (Nov. 26, 2019)

<https://bpi.com/wp-content/uploads/2019/11/The-GSIB-Surcharge-and-Repo-Markets.pdf>. Both studies predated COVID and the accompanying increases in reserves and Treasuries. In any case, a bank's incentive to window dress by reducing cross-border repo activity or to sell Treasuries would be eliminated by this change.

26. The resistance has at times been explained by some foreign regulatory authorities as based on the increased data costs that would be entailed in calculating daily averages. This seems a rather weak argument in light of the much more extensive requirements of the internal ratings-based approach for risk-weighted capital calculations. One suspects that at least some of the resistance may be based on the recognition that removal of window dressing opportunities would likely increase systemic risk scores for some banks.

27. 12 Code of Federal Regulations §217.403, <https://www.ecfr.gov/current/title-12/chapter-II/subchapter-A/part-217/subpart-H/section-217.403>.

28. Again, such a change would ideally be made in the Basel methodology as well. When the idea of a G-SIB surcharge was first discussed in the Financial Stability Board, the Fed suggested this approach. It garnered little support, though, and was not pursued. Subsequent experience with cliff effects may have created more receptivity to the idea today.

the difference in impact of a G-SIB's failure relative to that of a large regional bank will not continually increase just because the economy and financial system grow. This change should not reduce existing surcharges, but would account for future economic growth. The nature of the eventual change would depend on numerous factors beyond the scope of the present discussion, including the Fed's estimate of optimal overall capital levels for G-SIBs, analysis of the best baseline (e.g., GDP, total exposures of regulated institutions, total financial system assets) against which to calibrate the systemic risk score components, and whether adjustments could be automatic or would best be effected through regular ad hoc reconsideration.

Conclusion

Even far-reaching deregulatory changes would not remedy all that is worrisome in Treasury markets today. As the studies cited at the beginning of this paper all emphasize, a multi-pronged program is needed. In any case, it would be misguided to seek greater bank capacity for Treasury intermediation at the cost of undermining the increased resiliency of the most important U.S. banking organizations or international bank regulatory arrangements. At the same time, it would be ill-advised not to recognize the changes in Treasury markets, beginning with their increased size because of fiscal policy. The modifications of capital regulation, especially the eSLR, suggested here should ease (though not eliminate) constraints on banks holding and trading Treasuries without endangering the foundations of the post-GFC reforms.



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