



**Congressional  
Research Service**

Informing the legislative debate since 1914

---

# Bank Capital Requirements: A Primer and Policy Issues

March 9, 2023

**Congressional Research Service**

<https://crsreports.congress.gov>

R47447



## Bank Capital Requirements: A Primer and Policy Issues

Financial regulators at the state and federal levels take a number of measures to ensure the financial health of banks, generally through what is referred to as prudential (or safety and soundness) regulation—rules and standards put in place to mitigate risks associated with banking activity. One way regulators ensure that banks operate in a safe and sound manner is by establishing capital requirements that banks must meet. Bank capital serves a number of important roles: Primarily it serves as a layer of protection against losses, and in doing so it promotes public confidence in banking institutions. Regulators do this in part because when banks fail, the federal government provides a financial safety net to protect depositors and the broader economy from losses.

Capital requirements are statutorily mandated, but statute provides the regulators with discretion to set them as “deem(ed) to be necessary and appropriate”—although Congress has occasionally intervened legislatively to modify specific rules or details. Capital rules are set through regulation by the federal bank regulators—the Federal Deposit Insurance Corporation (FDIC), the Federal Reserve, and the Office of the Comptroller of the Currency (OCC)—and are modeled off international agreements made by the members of the Basel Committee on Banking Supervision, which includes U.S. regulators.

Many capital requirements are based on *risk-weighted assets (RWA)*, which base how much capital is required on the riskiness of the bank’s assets, whereas others, called leverage requirements, are generally based on total assets irrespective of the riskiness of those assets. The reason regulators use RWA in addition to total assets is because some assets are inherently riskier than others. Without risk weighting, banks would have an incentive to hold riskier assets, as the same amount of capital must be held against riskier and safer assets. But risk weights could also prove inaccurate. For example, banks held highly rated mortgage-backed securities (MBSs) before the 2008 financial crisis in part because those assets had a higher expected rate of return than other assets with the same risk weight. MBSs then suffered unexpectedly large losses during the crisis. Thus, leverage ratios, which are based on balance sheet size rather than risk, can be thought of as a backstop to ensure that incentives posed by risk-weighted capital ratios do not result in a bank holding insufficient capital. However, there are policy tradeoffs in using these two types of requirements. Risk-weighted assets are more complex and therefore impose greater regulatory burden. For that reason, Congress created an option for qualifying smaller banks to opt out of risk-weighted requirements in 2018 when it created a simplified regime called the community bank leverage ratio. Another issue of increasing frequency is that leverage requirements are requiring banks to hold more capital than risk-weighted requirements. This has the disadvantage, some argue, of making capital regulation no longer based on the principle of matching risk with capital.

Congress may be interested in a number of additional policy issues concerning capital regulation. The first is the overall level of capital requirements: Are they sufficient, too high, or too low? Have COVID-19 pandemic-related circumstances adequately vetted the efficacy of current capital frameworks? If levels are too high, what is the most effective constraint to lower them? Should various capital requirements be recalibrated to better align incentives with public policy goals? In addition, large banks are subject to more complex and higher capital requirements, rising in stringency with the size and complexity of the bank. Have those requirements sufficiently addressed the too big to fail problem? Alternatively, could those requirements be better calibrated to increase efficiency while still mitigating systemic risk? Will various proposals, including the Basel III “endgame,” improve large bank capital requirements?

R47447

March 9, 2023

**Andrew P. Scott**

Analyst in Financial  
Economics

**Marc Labonte**

Specialist in  
Macroeconomic Policy

## Contents

Introduction .....	1
How Capital Regulation Works.....	1
Why Have Capital Requirements? .....	2
Current U.S. Bank Capital Framework .....	2
Regulatory Definitions of <i>Capital</i> .....	3
Risk-Weighted Assets.....	4
Minimum Capital Requirements .....	5
Prompt Corrective Action .....	6
Risk-Weighted Capital Requirements .....	7
Leverage Ratios.....	8
Community Bank Leverage Ratio (CBLR) .....	9
Large Bank Enhanced Capital Framework .....	10
Advanced Approaches .....	11
Supplementary Leverage Ratio.....	12
G-SIB Capital Surcharges.....	13
Stress Tests, Capital Planning, and the Stress Capital Buffer .....	13
Countercyclical Capital Buffer (CCYB).....	16
Total Loss Absorbing Capacity .....	17
Dodd-Frank Emergency Requirements.....	17
Summary of Large Bank Capital Requirements .....	18
Summary of Risk-Weighted and Leverage Capital Requirements.....	18
Policy Issues .....	20
Should Capital Levels Be Higher or Lower? .....	20
Binding Requirements.....	21
Large Bank Issues .....	23
Should the Countercyclical Buffer Be Reformed?.....	23
TLAC and Regional Banks .....	24
SLR Relief for Safe Assets .....	25
Modifying the Enhanced SLR for G-SIBs .....	26
Current Expected Credit Loss Phase-In .....	27
Crypto and Capital Requirements .....	28
Basel III “Endgame” .....	29

## Figures

Figure 1. Risk-Weighted Capital Requirements for Large Banks .....	16
Figure 2. Adequate Risk-Weighted Prompt Corrective Action Requirements and Buffers.....	19
Figure 3. Prompt Corrective Action Leverage Requirements .....	19
Figure 4. Enhanced SLR Requirement for G-SIBs, Current and Under Proposed Rule .....	27

## Tables

Table 1. Regulatory Capital Components.....	3
Table 2. Select Risk Weights for FDIC-Supervised Banks .....	4

Table 3. Minimum Capital Requirements..... 5  
Table 4. Prompt Corrective Action Framework..... 6  
Table 5. CBLR Framework ..... 9  
Table 6. Banks Subject to EPR..... 11  
Table 7. EPR Capital-Related Requirements..... 18

Table A-1. Key Provisions of U.S. Basel III Implementation ..... 36

## **Appendixes**

Appendix. Historical Capital Frameworks ..... 31

## **Contacts**

Author Information..... 37

## Introduction

Banks are typically places where consumers can safeguard their money in the form of deposits. Banks then use those deposits and lend them out to other people. This is called *credit intermediation*, and it is an important facet of economic activity. Intermediation is also inherently risky: Sometimes borrowers default on loans. Because banks lend out a portion of the deposits they receive, if their losses were great enough on defaulted loans, banks would be unable to honor deposits. Financial regulators at the state and federal levels take a number of measures designed to ensure the financial health of banks, generally through what is referred to as prudential (or safety and soundness) regulation—rules and standards put in place that mitigate risks associated with banking activity. In addition, regulators conduct routine examination of banks’ books to ensure that bank operations meet prudential standards. When banks fail to follow those rules, regulators have enforcement powers to compel them to correct deficiencies.

Capital requirements are a key prudential measure that banks must meet in order to operate in a safe and sound manner. Capital serves as a layer of protection against losses. In doing so it promotes public confidence in banking institutions. Capital standards serve to provide a buffer between losses and systemic risk, but they also constrain a bank’s potential for lending and other asset growth. Because of this trade-off between safety and performance, Congress has perennially debated the balance between prudential standards and regulatory burden. Frequently, that debate focuses on proposals to modify capital requirements.

## How Capital Regulation Works

A core practice of banks is to make loans, which are assets on the bank’s balance sheet. Banks also acquire other assets such as securities and property. Banks primarily raise the funds needed to make loans by attracting deposits, a type of liability. Banks can also borrow money from creditors (e.g., by issuing debt), which is another type of liability. However, banks must hold more assets than liabilities in order to remain solvent, so they also raise funds from another source, referred to as capital. Conceptually, a bank’s capital is the stock or equity that represents the owners’ stake in the bank.<sup>1</sup> (As discussed below, the regulatory definition of *capital* is more complex and includes various other instruments, but owner equity is the primary type of regulatory capital.) The value of a bank’s capital is the difference between the value of its assets and the value of its liabilities. By setting capital requirements, regulators compel banks to acquire at least a certain amount of funding from this source.

Capital helps a bank avoid insolvency and failure. When banks make loans, sometimes borrowers do not pay their loans back, and the value of the loan to the bank falls. On the bank’s balance sheet, as these loans default, the value of the bank’s assets fall to reflect the new value of the loans. The bank can remain solvent because the initial losses are balanced by reducing the bank’s capital value. For example, if a bank’s owners have retained earnings from the prior year, they can use those past earnings to pay off debts when the proceeds from their assets are insufficient. From a cash flow perspective, if a bank becomes unable to both pay all of its creditors and make dividend payments to stockholders, debts are repaid first (generally, creditors are legally required to be repaid before stockholders collect dividends), increasing the possibility of the bank remaining solvent. In this manner, capital acts as a buffer for losses.

---

<sup>1</sup> Equity may be publicly traded in the case of a publicly listed bank or held by owners in an illiquid form for privately held banks.

## Why Have Capital Requirements?

Regulators require banks to hold capital to reduce the likelihood of bank failures, which can negatively affect the local and broader economy, and to avoid widespread bank failures because of the systemic risk that they pose to financial stability, as occurred during the Great Depression. To avoid those outcomes, the federal government provides a financial safety net to protect insured depositors and the broader economy from bank failures. The government safety net comes in two separate forms: Deposit insurance is provided by the Federal Deposit Insurance Corporation (FDIC) to protect depositors from any loss (up to the insurance limit) in the event of a bank failure, and the Federal Reserve (Fed) acts as a lender of last resort, extending short-term credit to banks that are unable to access funding in private markets. These measures aim to ensure that banks remain liquid during periods of economic stress and reduce the likelihood that a liquidity crisis becomes a solvency problem. The government, FDIC, and Fed have also provided banks with ad hoc, emergency assistance in past crises, such as the 2008 financial crisis.

Capital is the buffer for the bank that protects the financial safety net from losses. It absorbs losses, providing a layer of protection before a potential public intervention may occur. Capital allows an institution to continue operating through periods of foreseeable losses without reaching insolvency, ensuring that the initial risk of loss is borne by owners rather than the public safety net. Thus, capital requirements contribute to the safety of the banking system, with significant consequences for taxpayers, the broader financial system, and the economy.

## Current U.S. Bank Capital Framework

Capital requirements are statutorily mandated, and statute provides the regulators with discretion to set them as “deem(ed) to be necessary and appropriate”—although Congress has occasionally intervened legislatively to modify specific rules or details.<sup>2</sup> Capital rules are set through regulation by the federal bank regulators—the FDIC, the Fed, and the Office of the Comptroller of the Currency (OCC). The OCC is the primary federal regulator for nationally chartered banks, the Fed for state-chartered banks that become members of the Federal Reserve System, and the FDIC for the remaining state-chartered banks.<sup>3</sup> Generally, the capital framework these regulators establish is consistent among regulators<sup>4</sup> and aligns with the recommendations of an international standard-setting body called the Basel Committee on Banking Supervision (BCBS), although details sometimes diverge between domestic regulation and Basel agreements.<sup>5</sup>

Capital requirements were updated significantly following the Basel II and Basel III agreements, the latter of which was intended to address weaknesses in capital rules that were exposed by the 2007-2009 financial crisis. (See **Appendix** for more information on historical capital frameworks in the United States.)

---

<sup>2</sup> 12 U.S.C. §3907. For examples of legislative interventions, see **Appendix**.

<sup>3</sup> The term *bank* is used generally in this report to refer to an institution that is subject to capital requirements and has one of the federal bank regulators as its primary regulator. There are also more exotic types of bank charters that the three regulators have respective jurisdiction over that are ignored here for simplicity. For more on who regulates which type of bank, see CRS Report R44918, *Who Regulates Whom? An Overview of the U.S. Financial Regulatory Framework*, by Marc Labonte.

<sup>4</sup> Differences in capital standards among regulators are minimal. For details, see OCC, Federal Reserve System, and FDIC, *Joint Report: Differences in Accounting and Capital Standards Among the Federal Banking Agencies as of September 30, 2022*, 88 *Federal Register* 5960, January 30, 2023, <https://www.govinfo.gov/content/pkg/FR-2023-01-30/pdf/2023-01697.pdf>.

<sup>5</sup> The BCBS is described in greater detail in **Appendix**.

Generally, banks are required to meet a range of basic capital requirements to ensure that when they take losses, they have an adequate buffer against insolvency. In addition, larger banks are required to meet enhanced prudential standards that include higher capital ratios to mitigate systemic risk. As discussed in more detail below, capital requirements are expressed as ratios where the numerator is capital and the denominator is assets. There are two broad categories of requirements—risk-weighted requirements, where the size of the denominator is based on the riskiness of a bank’s assets, and leverage requirements, where all assets are treated equally in the denominator.

The following sections summarize the different types of capital requirements established by federal banking regulators. The next section provides details on the basic capital standards that all banks are required to meet—first, how the numerator (capital) is defined; next, how the denominator (assets) is calculated; and, finally, an overview of the various numerical ratios that banks must meet. Then the subsequent section discusses the additional standards that larger institutions must meet.

## Regulatory Definitions of *Capital*

There are three core capital components that make up banks’ total capital, as described in **Table 1**. Banks use each component to meet various regulatory capital requirements. Each component as listed below is progressively less able to absorb losses.

**Table 1. Regulatory Capital Components**

Capital Component	Summary of Capital Elements
Common equity tier 1 capital	Sum of common stock issued by the bank; retained earnings; accumulated other comprehensive income; common equity tier 1 minority interest; common stock issued and held in trust for the benefit of employees as part of an employee stock ownership
Additional tier 1 capital	Unsecured and paid-in capital instruments issued with no maturity or planned incentives to redeem, which are subordinated to depositors
Tier 2 capital	Unsecured and paid-in capital instruments subordinated to depositors with a minimum maturity of five years

**Source:** 12 C.F.R. Chapter III, Subchapter B, Part 324.20.

Tier 1 capital has two main components: common equity tier 1 (CET1) and additional tier 1 capital:

1. CET1 represents the core equity of a bank, comprising retained earnings and common stock. CET1 is the highest quality of capital and serves to absorb initial losses, because a bank faces no obligation to repay it and can write down its value in the event of losses. The FDIC’s Risk Management of Examination Policies defines CET1 as “qualifying common stock and related surplus net of treasury stock; retained earnings; certain accumulated other comprehensive income (AOCI) elements if the institution does not make an AOCI opt-out election plus or minus regulatory deductions or adjustments as appropriate; and qualifying common equity tier 1 minority interests.” According to the FDIC, the

federal banking agencies expect the majority of CET1 capital to be in the form of common voting shares.<sup>6</sup>

2. Additional tier 1 capital includes qualifying noncumulative perpetual preferred stock, bank-issued instruments from federal programs such as the Small Business Lending Fund or Troubled Asset Relief Program that previously qualified for tier 1 capital, and qualifying tier 1 minority interests—that is, less certain investments in other unconsolidated financial institutions’ instruments that would otherwise qualify as additional tier 1 capital.<sup>7</sup>

Tier 2 capital includes the allowance for loan and lease losses up to 1.25% of risk-weighted assets, qualifying preferred stock, subordinated debt, and qualifying tier 2 minority interests, less any deductions in the tier 2 instruments of an unconsolidated financial institution.

## Risk-Weighted Assets

As discussed below, banking regulators establish a number of capital ratios that determine how much capital an institution must hold to remain adequately capitalized. Many capital ratios are calculated as a percentage of total *risk-weighted assets (RWA)*. The reason regulators use RWA instead of just assets is because some assets are inherently riskier than others. For example, if a bank holds Treasury bonds, that is a relatively low-risk asset, exposing the bank to limited potential losses. However, if a bank holds a loan portfolio of subprime mortgages, that is relatively higher risk. To account for these differences in risk profiles, regulators require banks to hold more capital against assets with greater relative risk. Assets are grouped into risk categories and assigned a risk weight, which determines how much capital a bank must hold against exposure. Risk weights (e.g., 20%) are not the amount of capital required. Rather, they are the percentage of total assets that counts toward the denominator of the capital ratio. In other words, if a bank faces a capital requirement of 6% and holds \$100 of assets with a risk weight of 20%, the bank must hold \$1.20 (6% x 20% x \$100) of capital for those assets.

Some examples of risk weights are provided below in **Table 2**.

**Table 2. Select Risk Weights for FDIC-Supervised Banks**

Risk Weight	Examples of Assets
0%	Investments in U.S. government (e.g., Treasury bonds) and exposures that are unconditionally guaranteed by the U.S. government
20%	Exposure to U.S. government that is conditionally guaranteed by the U.S. government; to the GSEs (e.g., Fannie Mae and Freddie Mac) that is not equity exposure or preferred stock; to U.S. depository institutions
50%	Most first-lien residential mortgages, pre-sold construction loans that are not cancelled
100%	GSE preferred stock; most corporate exposures, junior-lien residential mortgages
150%	Exposures to a sovereign where a sovereign default has occurred in the previous five years, loans that are more than 90 days past due that are not guaranteed or are unsecured

<sup>6</sup> FDIC, *Risk Management Manual of Examination Policies: Capital*, August 2022, p. 3, <https://www.fdic.gov/regulations/safety/manual/section2-1.pdf>.

<sup>7</sup> For background, see CRS Report R41427, *Troubled Asset Relief Program (TARP): Implementation and Status*, by Baird Webel; and CRS Report R42045, *The Small Business Lending Fund*, by Robert Jay Dilger.



**Source:** 12 C.F.R. §324.32.

**Notes:** This is not an exhaustive list and is used simply to illustrate how certain asset categories are treated differently with respect to capital requirements.

Federal regulations prescribe two approaches to risk-weighting assets. Most banks are subject to the *standardized approach*. The *advanced approach* is required for only the nine largest, most complex institutions, although other banks may voluntarily adopt it. The standardized approach is a simpler calculation that banks can use to account for their exposures to risk, while the advanced approach is more complex, using enhanced methodologies for calculating risk exposures. For more information, see the “Advanced Approaches” section below.

## Minimum Capital Requirements

There are several capital requirements, which will be explained in greater detail below, that banks must comply with. Banks meet these various requirements simultaneously, as opposed to additively, with the exception of buffers, which are on top of the minimum requirements. In other words, banks do not need to hold separate amounts of capital to comply with multiple requirements. **Table 3** explains how these requirements are calculated. A series of requirements, which are referred to as the “generally applicable framework,” are the default set of requirements that a bank would need to comply with. However, some qualifying banks have opted out of the generally applicable framework and instead comply with the community bank leverage ratio.<sup>8</sup> In addition, large banks are subject to a series of requirements in addition to the generally applicable framework.<sup>9</sup>

**Table 3. Minimum Capital Requirements**

Capital Ratio	Calculation
<i>Generally Applicable Framework</i>	
Common Equity Tier I (CET1) Capital	CET1/RWA
Tier I Capital	Tier I/RWA
Total Capital	Total Capital/RWA
Capital Conservation Buffer*	CET1/RWA
Leverage	Tier I Capital/Total Consolidated Assets (less certain deductions)
<i>Other Measures</i>	
Supplementary Leverage (Large Banks)	Tier I Capital/Total Leverage Exposure
Tangible Capital (Federal Savings Associations)	Tier I Capital/Average Total Assets
Community Bank Leverage	Tier I Capital/Average Total Consolidated Assets

**Sources:** 12 C.F.R. §3.10-11; 12 C.F.R. §217.10-11; 12 C.F.R. Chapter III, Subchapter B, Part 324.

**Notes:** The calculation of RWA varies for the standard approach and advanced approach, although the numerical requirement is the same for both methods. See text for definitions and which banks each requirement applies to.

<sup>8</sup> See the section below entitled “Community Bank Leverage Ratio (CBLR).”

<sup>9</sup> See the section below entitled “Large Bank Enhanced Capital Framework.”

\* The capital conservation buffer is defined differently for large banks. Depending on the bank, it may include the stress capital buffer, the countercyclical capital buffer, the G-SIB surcharge, or some combination of these measures.

A 1983 federal appeals court ruling called into question the authority of bank regulators to enforce capital rules on banks. The ruling argued that capital weakness alone, as measured by capital ratios, was not a sufficient justification to impose a cease-and-desist order on a bank.<sup>10</sup> In November 1983, Congress responded to this court ruling by granting clear authority over bank capital levels to the federal banking supervisors in the International Lending Supervision Act of 1983 (12 U.S.C. §3901).

Through their supervisory, enforcement, and resolution powers, bank regulators can compel banks to take actions to improve their safety and soundness. Capital requirements trigger the consistent application of remedial actions through the prompt corrective action framework.

### Prompt Corrective Action

The Federal Deposit Insurance Corporation Improvement Act of 1991 (P.L. 102-242) built on this authority to establish criteria for which regulators would take certain remedial actions based on the capital positions of each institution. This rules-based enforcement scheme is referred to as prompt corrective action (PCA). The philosophy behind PCA is to limit taxpayer losses by intervening swiftly when a bank becomes undercapitalized and before it loses more money. The general PCA framework is summarized in **Table 4**. The minimum requirements are set equal to the adequately capitalized PCA requirements.

**Table 4. Prompt Corrective Action Framework**

General Regulations for Commercial Banks

PCA Category	Total Risk-Based Capital Ratio	Tier I Risk-Based Capital Ratio	Common Equity Tier I Capital Ratio	Leverage Ratio
Well Capitalized	≥ 10.0% and	≥ 8.0% and	≥ 6.5% and	≥ 5.0%.
Adequately Capitalized	≥ 8.0% and	≥ 6.0% and	≥ 4.5% and	≥ 4.0%
Undercapitalized	< 8.0% or	< 6.0% or	< 4.5% or	< 4.0%.
Significantly Undercapitalized	< 6.0% or	< 4.0% or	< 3.0% or	< 3.0%.
Critically Undercapitalized	n/a	n/a	n/a	Ratio of tangible equity to total assets ≤ 2.0%.*

**Source:** 12 C.F.R. §324, FDIC, *Formal and Informal Enforcement Actions Manual*, “Chapter 5—Enforcement Actions: Prompt Corrective Action,” p. 4, <https://www.fdic.gov/regulations/examinations/enforcement-actions/ch-05.pdf>.

**Notes:** CBLR institutions that meet a leverage ratio greater than 9% are considered well capitalized; see “Community Bank Leverage Ratio (CBLR)” section of report. In addition to the capital requirements listed in the table, certain actions issued by the FDIC would prevent a bank from being considered well capitalized. A bank subsidiary of a Global Systemically Important Bank (G-SIB) is deemed well capitalized if it meets the above criteria and has a supplementary leverage ratio ≥ 6.0% (see the section below entitled “Supplementary Leverage Ratio”). Category I, II, and III banks and any other that elects to use advanced approaches must also meet a

<sup>10</sup> First National Bank of Bellaire v. Comptroller of the Currency, 697 F.2d 674 (5<sup>th</sup> Cir. 1983).

supplementary leverage ratio  $\geq 3.0\%$  to be considered adequately capitalized and is deemed undercapitalized if it has a supplementary leverage ratio  $< 3.0\%$ .

\* Tangible equity is tier 1 capital plus the amount of outstanding perpetual preferred stock (including related surplus) not included in tier 1 capital.

Increasingly stringent restrictions are placed on a bank that is less than adequately capitalized in order to restore its capital levels. Institutions that are adequately capitalized or better are not subject to supervisory action regarding their capital positions.<sup>11</sup> However, an institution that is undercapitalized, significantly undercapitalized, or critically undercapitalized is subject to the following provisions, according to the FDIC:<sup>12</sup>

- It cannot approve capital distributions or pay management fees.
- The FDIC will monitor the condition and compliance of the institution.
- It must submit a capital restoration plan to the FDIC within 45 days of becoming undercapitalized.
- Its asset growth is restricted unless such growth is consistent with the FDIC-approved capital restoration plan.
- It is restricted from engaging in acquisitions, branching, or new lines of business unless the FDIC has provided prior approval.

In addition, small banks that are undercapitalized are subject to more frequent examinations,<sup>13</sup> and undercapitalized banks may not accept brokered deposits.<sup>14</sup> Significantly and critically undercapitalized institutions face additional provisions, which can include recapitalization through sale of voting shares, transaction restrictions, and interest rate restrictions paid on deposits. Critically undercapitalized institutions are further prohibited from engaging in certain transactions, amending their bylaws or charters, and making excessive bonuses or compensation. A critically undercapitalized bank may ultimately be taken into FDIC resolution, where it is likely to be liquidated or sold to a healthier institution.<sup>15</sup>

## **Risk-Weighted Capital Requirements**

There are separate risk-weighted requirements for the three different types of capital. Because CET1 is more loss absorbent than other tier 1 capital and tier 1 is more loss absorbent than tier 2, banks are required to hold at least 4.5% common equity, 6% of tier 1 capital, and 8% of total capital to be considered “adequately capitalized.” These capital requirements are cumulative, so the more loss absorbent types of capital count toward meeting the less stringent requirements. In other words, the 4.5% of CET1 also counts toward the tier 1 requirement, so only up to 1.5% of other tier 1 is needed to meet that requirement. Likewise, the 6% tier 1 capital counts toward the

---

<sup>11</sup> There are no regulatory penalties for being adequately capitalized. However, to avoid the capital restrictions associated with failing to meet the Capital Conservation Buffer (CCB; see main text), banks would need to exceed the PCA well-capitalized standards. Regulators also evaluate for capital adequacy as part of their supervisory exams, so banks might seek to maintain well-capitalized status to avoid any negative effect on their CAMELS ratings. For background on bank supervision, see CRS Report R46648, *Bank Supervision by Federal Regulators: Overview and Policy Issues*, by David W. Perkins.

<sup>12</sup> FDIC, *Formal and Informal Enforcement Actions Manual*, “Chapter 5—Prompt Corrective Action,” June 2022, p. 5, <https://www.fdic.gov/regulations/examinations/enforcement-actions/ch-05.pdf>.

<sup>13</sup> 12 U.S.C. §1820(d)(4).

<sup>14</sup> 12 C.F.R. §337.6 et seq.

<sup>15</sup> FDIC, *Formal and Informal Enforcement Actions Manual*, p. 5.

total capital requirement, so only up to 2% of tier 2 capital is required to meet that requirement. Alternatively, a bank could hold 8% CET1 and meet all three requirements.

On top of those requirements, banks must hold a capital conservation buffer (CCB) composed of CET1 equal to at least 2.5% to avoid any restrictions on capital distributions (e.g., dividends and share buybacks).<sup>16</sup> As the CCB falls below 2.5%, regulators impose increasing restrictions on capital distributions, and if the CCB falls to 0.625% or lower, all capital distributions are prohibited. The purpose of the buffer, as the name would suggest, is to ensure that banks have enough of a capital buffer in good times that they do not fall below their minimum requirements during an economic downturn. If banks fell below their minimum requirements in a downturn, they could be forced to suddenly cut back on lending, exacerbating the downturn.

## Leverage Ratios

The leverage ratio is the ratio of tier 1 capital (with certain adjustments) to consolidated assets. Unlike other regulatory capital ratios, assets are not risk-weighted for purposes of the leverage ratio. The rule implementing Basel III raised the minimum leverage ratio from 3% to 4% for certain banks, including those with a strong supervisory rating.<sup>17</sup> (Banks that did not have a strong supervisory rating were already required to maintain a 4% leverage ratio.) In other words, the value of the bank's tier 1 capital must be equal to at least 4% of the value of the bank's assets to be considered adequately capitalized. The bank must maintain a leverage ratio of at least 5% to be considered well capitalized, however.

Why have both a leverage ratio and risk-weighted capital ratios? Basel III measures most capital ratios in terms of RWA to account for the fact that some assets are riskier than others. A basic tenet of finance is that riskier assets have a higher *expected* rate of return in order to compensate the investor for bearing more risk. Without risk weighting, banks would have an incentive to hold riskier assets, as the same amount of capital must be held against riskier and safer assets. But risk weights may prove inaccurate. For example, banks held highly rated mortgage-backed securities (MBSs) before the 2008 financial crisis, in part because those assets had a higher expected rate of return than other assets with the same risk weight. MBSs then suffered unexpectedly large losses during the crisis. Thus, the leverage ratio can be thought of as a backstop to ensure that incentives posed by risk-weighted capital ratios to minimize capital and maximize risk within a risk weight do not result in a bank holding insufficient capital.

The leverage ratio is simpler and more transparent than risk-weighted capital measures because the public does not have full information on the risk weight assigned to each asset held by the bank. Therefore, the public can less easily assess whether a bank has enough capital to absorb potential losses based on risk-weighted ratios. Some policymakers concluded after the 2008 financial crisis that boosting simpler, more transparent measures of capital can be better at restoring confidence during a crisis.<sup>18</sup>

---

<sup>16</sup> All three of the CET1, Tier 1, and total capital requirements must be at least 2.5 percentage points above the minimum requirements to avoid restrictions on capital distributions. Restrictions on capital distributions are also tied to the countercyclical capital buffer for applicable banks, which has always been set at zero in practice. See the section below entitled "Countercyclical Capital Buffer."

<sup>17</sup> In addition to these requirements, a type of depository institution chartered as a federal savings association must maintain a 1.5% tangible capital ratio. See 12 U.S.C. §1464(t).

<sup>18</sup> BCBS, *Strengthening the Resilience of the Banking Sector*, December 2009, <https://www.bis.org/publ/bcbs164.pdf>; Asli Demirguc-Kunt, Enrica Detragiache, and Ouarda Merrouche, *Bank Capital: Lessons from the Financial Crisis*, IMF Working Paper WP/10/286, December 2010, <https://www.imf.org/external/pubs/ft/wp/2010/wp10286.pdf>.

## Community Bank Leverage Ratio (CBLR)<sup>19</sup>

In 2018, Congress passed the Economic Growth, Regulatory Relief, and Consumer Protection Act (EGRRCPA; P.L. 115-174). Section 201 of this law mandated that banks with less than \$10 billion in consolidated assets that meet certain criteria be given the option by regulators to comply with a higher leverage ratio instead of having to calculate the various capital requirements, including the more complex risk weights noted above. This made capital rules for smaller institutions tailored to simplify the requirements based on the notion that these institutions pose less risk to financial stability and the FDIC's Deposit Insurance Fund and that complying with complex regulations poses a relatively greater regulatory burden for them. In 2019, the federal banking agencies jointly issued a final rule that simplified the measure of capital adequacy for qualifying community banking organizations (qualifying criteria are summarized in **Table 5**) that opt in, thereby implementing Section 201 of the EGRRCPA. The rule became effective at the beginning of 2020. Section 201 granted the bank regulators authority to set the ratio requirement, so long as it was between 8% and 10%. The regulators settled on 9% in their final rule.<sup>20</sup>

**Table 5. CBLR Framework**

Component	Criteria
Qualifying community bank	<ul style="list-style-type: none"> <li>• Less than \$10 billion in consolidated assets</li> <li>• Off-balance-sheet exposures of 25% or less of total consolidated assets</li> <li>• Trading assets plus liabilities of 5% or less of total consolidated assets</li> <li>• Not an advanced approaches organization</li> </ul>
Calculation of leverage ratio	Tier 1 capital / Average total consolidated assets
Leverage ratio requirement	Greater than 9%

**Source:** Federal Reserve, *Community Bank Leverage Ratio Framework: Community Bank Compliance Guide*, October 29, 2019, <https://www.federalreserve.gov/newsevents/pressreleases/files/bcreg20191029a3.pdf>.

In 2020, circumstances related to the COVID-19 pandemic created a short but deep recession and much uncertainty in the economy, and part of the response from Congress included some temporary easing of regulatory requirements to support bank profitability. The agencies issued a final rule that temporarily lowered the CBLR from 9% to 8%, responding to the pandemic and implementing Section 4012 of the CARES Act (P.L. 116-136). The agencies also established a transition period to bring the CBLR back to 9%. In 2021, the CBLR was set to 8.5%, and then in 2022 it reverted to 9%. Qualifying institutions were given a two-quarter grace period in 2022 to bring their leverage ratios in line with the 9% requirement, assuming they maintained at least 8% in the interim.

In 2020, the FDIC completed a study of the impact the CBLR would have on institutions, finding that 85% of community banks were eligible to opt in to the CBLR framework because, among other factors, their leverage ratios already exceeded 9%.<sup>21</sup> One of the findings was that while the

<sup>19</sup> For more on the CBLR, see CRS Report R45989, *Community Bank Leverage Ratio (CBLR): Background and Analysis of Bank Data*, by David W. Perkins.

<sup>20</sup> Federal Reserve, OCC, and FDIC, "Federal Bank Regulatory Agencies Issue Final Rule to Simplify Capital Calculation for Community Banks," press release, October 29, 2019, <https://www.fdic.gov/news/news/press/2019/pr19100.html>.

<sup>21</sup> The study found that 87% would have qualified on size and a leverage ratio exceeding 9% alone. FDIC, *Analyzing the Community Bank Leverage Ratio*, May 2020, <https://www.fdic.gov/analysis/cfr/staff-studies/2020-03.pdf>.

CBLR is a simple calculation and reduces the complexity of various capital requirements for eligible banks, it is more stringent for many banks than the generally applicable framework is.

At 9 percent, the leverage ratio would become the most stringent capital requirement for 97 percent of CBLR-eligible community banks—a substantial increase from 13 percent under the generally applicable rule. Thus, a vast majority of community banks that opt into the CBLR will experience a decrease in their levels of excess capital as measured by their capital stringencies. Conversely, only 3 percent of CBLR-eligible community banks would be entering into a less stringent capital regime by opting in to the CBLR framework.

This suggests that for the 1,632 banks that adopted the CBLR framework as of June 2022, the benefit of avoiding the regulatory burden and reporting requirements of the more complex capital standards exceeds the cost of complying with higher leverage requirements. This follows from the fact that most eligible banks already maintained a leverage ratio above 9% and so would not have to hold any more capital to comply with the CBLR.

## Large Bank Enhanced Capital Framework

The 2007-2009 financial crisis highlighted the problem of “too big to fail” financial institutions—the concept that the failure of large financial firms can trigger financial instability, which in several cases prompted extraordinary federal assistance to prevent their failure. One pillar of the 2010 Dodd-Frank Wall Street Reform and Consumer Protection Act’s (Dodd-Frank Act; P.L. 111-203) response to addressing financial stability and too big to fail is a new enhanced prudential regulatory (EPR) regime that applies to large banks and to nonbank financial institutions designated by the Financial Stability Oversight Council (FSOC) as systemically important financial institutions (SIFIs). (There are currently no designated SIFIs.<sup>22</sup>)

Title I of the Dodd-Frank Act automatically subjected all bank holding companies (BHCs) and foreign banks with more than \$50 billion in assets to EPR. In 2018, the EGRRCPA created a more “tiered” and “tailored” EPR regime for large banks.<sup>23</sup> It automatically exempted domestic banks with assets between \$50 billion and \$100 billion (five domestic banks at present) from enhanced regulation. The Fed has discretion to apply most individual EPR provisions to banks with between \$100 billion and \$250 billion in assets (10 domestic banks at present) on a case-by-case basis if it would promote financial stability or the institutions’ safety and soundness, and the Fed has proposed exempting them from several EPR requirements.

In 2019, the Fed implemented these changes by creating a four-tier system for U.S. banks, with more stringent requirements at each tier.<sup>24</sup> The Fed used the \$100 billion and \$250 billion thresholds found in P.L. 115-174, along with other metrics, to define Category III and IV banks. **Table 6** summarizes the definition of each category and the number of U.S. banks in each category as of 2021. The 2019 rule requires foreign banks with over \$50 billion in U.S. non-branch assets and \$250 billion in global assets to form intermediate holding companies (IHCs) to house certain U.S. operations. Those IHCs are also placed in the four categories, and the number in each is shown in **Table 6**.

---

<sup>22</sup> Previously, FSOC had designated four nonbank SIFIs for enhanced prudential regulation; all four have since been de-designated.

<sup>23</sup> BHCs are legal entities that allow more than one bank to be owned within the same ownership group. Banks within a holding company can be structured as banking subsidiaries. A type of BHC called a financial holding company may own both bank subsidiaries and nonbank financial subsidiaries.

<sup>24</sup> Federal Reserve, “Federal Reserve Board Finalizes Rules That Tailor Its Regulations for Domestic and Foreign Banks to More Closely Match Their Risk Profiles,” press release, October 10, 2019, <https://www.federalreserve.gov/newsevents/pressreleases/bcreg20191010a.htm>.



**Table 6. Banks Subject to EPR**  
As of 2022Q2

	Definition	# of U.S. Banks	# of IHCs <sup>a</sup>
Category I	U.S. G-SIBs	8	0
Category II	Other banks with >\$700 billion in assets or >\$75 billion in cross-jurisdictional activity	1	0
Category III	Other banks with >\$250 billion in assets or >\$75 billion in nonbank assets, weighted short-term wholesale funding, or off-balance-sheet exposure	5	6
Category IV	Other banks with \$100-\$250 billion in assets	10	6

**Source:** Federal Reserve, *Supervision and Regulation Report*, November 2022, Appendix A, <https://www.federalreserve.gov/publications/2022-november-supervision-and-regulation-report-appendix-a.htm>.

**Notes:** G-SIB=Globally-Systemically Important Bank, as designated by the Financial Stability Board.

- a. Foreign banks with over \$50 billion in U.S. non-branch assets and \$250 billion in global assets are required to form intermediate holding companies to house certain U.S. operations.

Under this regime, the Federal Reserve is required to apply a number of safety and soundness requirements to large U.S. banks and IHCs that are more stringent than those applied to smaller banks. Category I, comprised of banks designated as Global Systemically Important Banks (G-SIBs) by the Financial Stability Board, are subject to the most stringent EPR requirements.

Some of these more stringent capital requirements are described in the rest of this section. Many of these capital requirements originate from Basel III rather than the Dodd-Frank Act. These capital requirements determine how the largest banks must fund all of their activities on a day-to-day basis. In that sense, these requirements arguably have a larger ongoing impact on banks' marginal costs of providing credit and other services than most of the other EPR provisions that impose only fixed compliance costs on banks.<sup>25</sup> For a full overview, see CRS Report R45711, *Enhanced Prudential Regulation of Large Banks*, by Marc Labonte.

## Advanced Approaches

Since Basel II, large, complex banks have been required to use “advanced approaches”—more technical, complex procedures—to model risk for more sophisticated financial activities. Previously, advanced approaches were required for institutions that had consolidated total assets equal to \$250 billion or more or consolidated total on-balance sheet foreign exposures equal to \$10 billion or more. In the 2019 tiering rule, the Fed changed this so that only Category I and II banks are required to use advanced approaches. Other banks may still elect to use advanced approaches if they wish.<sup>26</sup>

There are other examples of cases where large banks follow more complicated methodology to comply with capital rules than those used by smaller banks. For example, another rule in 2019 simplified the capital treatment of certain assets to reduce regulatory burden. Advanced approaches banks were not allowed to use this simplified capital treatment.<sup>27</sup> As another example,

<sup>25</sup> *Regulatory compliance costs* refers to resources and manpower directly expended on ensuring that a bank is complying with regulation.

<sup>26</sup> Some additional capital requirements apply to those banks that have elected to be advanced approaches banks. For simplicity, those additional capital requirements are not noted in the summary tables throughout this report.

<sup>27</sup> OCC, Federal Reserve, FDIC, “Regulatory Capital Rule: Simplifications to the Capital Rule Pursuant to the

the rule implementing Basel III required unrealized gains and losses on “available for sale” securities (as well as certain other items included in AOCI to count toward capital requirements for advanced approaches banks. Other banks were given a one-time opportunity to opt out of this requirement.

## Supplementary Leverage Ratio

Basel III introduced a supplementary leverage ratio (SLR) for large banks. G-SIBs, Category II and III banks, and any other bank that elects to be an advanced approaches bank must meet a 3% SLR at the holding company level and at the depository subsidiary level to be considered adequately capitalized. In addition, G-SIBs must also meet an enhanced SLR (eSLR) of 5% at the holding company level (specifically, G-SIBs must meet a 2% buffer on top of the 3% SLR requirement) to avoid restrictions on discretionary bonuses and capital distributions and 6% at the depository subsidiary level to be considered well capitalized.<sup>28</sup>

Like the leverage ratio, the SLR uses tier 1 capital in the numerator and unweighted assets in the denominator. The difference between the leverage ratio and the SLR is that the SLR includes off-balance-sheet exposures in the denominator. Thus, the numerator is the same, but the denominator is larger.<sup>29</sup> The SLR is intended to ensure that the bank is adequately safeguarded against off-balance-sheet losses that are not captured in the leverage ratio. Unanticipated losses related to opaque off-balance-sheet exposures exacerbated uncertainty about banks’ solvency during the 2007-2009 financial crisis. According to the regulators, there is less need to subject small banks to the SLR because small banks on average have fewer off-balance-sheet exposures.

Although the basic principle of leverage ratios is to treat all assets equally, policymakers have debated whether certain assets should be exempted. Section 402 of P.L. 115-174 allowed for custody banks—defined by the legislation as banks predominantly engaged in custody, safekeeping, and asset servicing activities—to no longer hold capital against funds deposited at certain central banks<sup>30</sup> to meet the SLR up to an amount equal to customer deposits linked to fiduciary, custodial, and safekeeping accounts.<sup>31</sup> All other banks would continue to be required to hold capital against central bank deposits. According to the implementing rule, the Bank of New York Mellon, Northern Trust, and State Street were the only banks that qualified for this exemption at the time.<sup>32</sup>

In response to the rapid increase in safe assets on bank balance sheets during the pandemic, the banking regulators provided temporary SLR relief by excluding Treasury securities and balances

---

Economic Growth and Regulatory Paperwork Reduction Act of 1996,” 84 *Federal Register* 35234, July 22, 2019, <https://www.govinfo.gov/content/pkg/FR-2019-07-22/pdf/2019-15131.pdf>.

<sup>28</sup> OCC et al., “Regulatory Capital Rules,” 79 *Federal Register* 24528, May 1, 2014, <https://www.gpo.gov/fdsys/pkg/FR-2014-05-01/pdf/2014-09367.pdf>.

<sup>29</sup> Because of the larger denominator, regulators estimated that an SLR of 3% is equivalent to a leverage ratio of 4.3%, on average. Thus, the 3% SLR requires affected banks to hold more capital on average than the 4% leverage ratio does.

<sup>30</sup> The central banks that currently qualify for this exemption include all countries belonging to the Organization for Economic Cooperation and Development (OECD) except Mexico and Turkey. For a list, see OECD, *Country Risk Classifications of the Participants to the Arrangement on Officially Supported Export Credits*, January 26, 2018, <http://www.oecd.org/trade/xcred/cre-crc-current-english.pdf>.

<sup>31</sup> For more information, see CRS In Focus IF10812, *Financial Reform: Custody Banks and the Supplementary Leverage Ratio*, by Rena S. Miller.

<sup>32</sup> Board of Governors of the Federal Reserve System, FDIC, OCC, “Agencies Finalize Changes to Supplementary Leverage Ratio as Required by Economic Growth, Regulatory Relief, and Consumer Protection Act,” press release, November 19, 2019, <https://www.federalreserve.gov/newsevents/pressreleases/bcreg20191119a.htm>.



held at the Fed from the denominator.<sup>33</sup> That relief expired at the end of March 2021, although bank balance sheets still remain larger than before the pandemic.

### G-SIB Capital Surcharges

Basel III also required G-SIBs to hold relatively more capital for their risk-weighted requirements than other banks in the form of a common equity surcharge of at least 1% to “reflect the greater risks that they pose to the financial system.”<sup>34</sup> In July 2015, the Fed issued a final rule that began phasing in this capital surcharge in 2016.<sup>35</sup> Each G-SIB is assigned a surcharge whose size is based on a formula intended to reflect its systemic importance. Under the rule, the capital surcharge can be between 1% and 4.5%. The Fed stated that under its rule, most G-SIBs would face a higher capital surcharge than required by Basel III. For 2022, the surcharge varied between 1% and 3.5%.<sup>36</sup>

### Stress Tests, Capital Planning, and the Stress Capital Buffer

Large banks’ capital requirements are partly determined by stress tests, capital planning, and the stress capital buffer—policies that work together to ensure that large banks have enough capital to survive a crisis. Title I of the Dodd-Frank Act required (1) company-run stress tests for any (bank or nonbank) financial firm with more than \$10 billion in assets, which P.L. 115-174 raised to more than \$250 billion in assets (with Fed discretion to apply to financial firms with between \$100 billion and \$250 billion in assets); and (2) Fed-run (or “supervisory”) stress tests for any BHC or nonbank SIFI with more than \$50 billion in assets, which P.L. 115-174 raised to more than \$100 billion in assets.

Stress test requirements were implemented through final rules in 2012, effective beginning in 2013.<sup>37</sup> Stress tests attempt to project the losses that banks would suffer under a hypothetical deterioration in economic and financial conditions to determine whether banks would remain solvent in a future crisis. Unlike general capital requirements that are based on current asset values, stress tests incorporate an adverse scenario that focuses on projected asset values based on specific areas of concern each year. For example, in 2022, the scenario is “a severe global recession with heightened stress in commercial real estate and corporate debt markets.”<sup>38</sup>

---

<sup>33</sup> Board of Governors of the Federal Reserve System, FDIC, OCC, “Regulators Temporarily Change the Supplementary Leverage Ratio to Increase Banking Organizations’ Ability to Support Credit to Households and Businesses in Light of the Coronavirus Response,” press release, May 15, 2020, <https://www.federalreserve.gov/newsevents/pressreleases/bcreg20200515a.htm>.

<sup>34</sup> Bank for International Settlements, *Basel III Summary Table*, <http://www.bis.org/bcbs/basel3/b3summarytable.pdf>.

<sup>35</sup> Federal Reserve, “Risk-Based Capital Guidelines: Implementation of Capital Requirements for Global Systemically Important Bank Holding Companies,” 80 *Federal Register* 49082, August 14, 2015, <https://www.federalreserve.gov/newsevents/press/bcreg/20150720a.htm>.

<sup>36</sup> Federal Reserve, *Large Bank Capital Requirements*, August 2022, <https://www.federalreserve.gov/publications/files/large-bank-capital-requirements-20220804.pdf>.

<sup>37</sup> Federal Reserve, “Annual Company-Run Stress Test Requirements,” 77 *Federal Register* 62396, October 12, 2012, <https://www.gpo.gov/fdsys/pkg/FR-2012-10-12/pdf/2012-24988.pdf>; and Federal Reserve, “Supervisory and Company-Run Stress Test Requirements,” 77 *Federal Register* 62378, October 12, 2012, <https://www.gpo.gov/fdsys/pkg/FR-2012-10-12/pdf/2012-24987.pdf>.

<sup>38</sup> Federal Reserve, “Federal Reserve Board Releases Hypothetical Scenarios for Its 2022 Bank Stress Tests,” press release, February 10, 2022, <https://www.federalreserve.gov/newsevents/pressreleases/bcreg20220210a.htm>.

The final rule for capital planning was implemented in 2011.<sup>39</sup> Under the rule, each bank must submit a capital plan to the Fed annually. The capital plan must include a projection of the expected uses and sources of capital, including planned debt or equity issuance and dividend payments. The plan must demonstrate that the bank will remain in compliance with capital requirements under the stress tests. In earlier years, banks would “pass” or “fail” on quantitative (whether the bank would have insufficient capital under the stress tests) and qualitative (the adequacy of bank’s risk management policies and processes) grounds. Typically, the Fed would require banks to revise their capital plans to address the objections raised by the Fed (assuming the bank does not successfully appeal).<sup>40</sup> The Fed could block the bank’s planned capital distributions if it did not submit an acceptable capital plan.

Over the years, regulators and Congress have taken steps to reduce the regulatory burden of stress tests. To the extent that stress tests effectively reduce the probability of a large bank failure, these steps may have also increased the risk of failure during a crisis. In addition to reducing the number of firms subject to stress testing, P.L. 115-174 also reduced the number of stress test scenarios and the frequency of company-run stress tests from semi-annually to periodically. The Fed also reduced the frequency of Fed-run stress tests for banks with between \$100 billion and \$250 billion to every other year in 2019.<sup>41</sup> In 2019, the Fed made changes to the stress test process to increase its transparency.<sup>42</sup> Between 2017 and 2019, the qualitative pass/fail was phased out on the grounds that banks’ capital plans had improved over the years.<sup>43</sup> The quantitative pass/fail was eliminated in 2020 by the introduction of the stress capital buffer.

### ***Stress Capital Buffer***

Stress tests and capital planning requirements provide the Fed with an assessment of whether large banks have enough capital to withstand another crisis as simulated using a specific adverse scenario developed by the Fed. This is similar to the role of capital requirements more generally and creates some overlap and redundancy between the two. As noted by the Fed, before 2020, banks with more than \$100 billion in assets had to simultaneously comply with 18 capital requirements and G-SIBs had to simultaneously comply with 24 different capital requirements, each addressing a separate but related risk.<sup>44</sup>

---

<sup>39</sup> Federal Reserve, “Capital Plans,” 76 *Federal Register* 74631, December 1, 2011, [https://www.federalreserve.gov/reportforms/formsreview/RegY13\\_20111201\\_ffr.pdf](https://www.federalreserve.gov/reportforms/formsreview/RegY13_20111201_ffr.pdf). For more information, see Federal Reserve, *Capital Planning at Large Bank Holding Companies*, August 2013, <https://www.federalreserve.gov/bankinfo/bcreg20130819a1.pdf>.

<sup>40</sup> Yearly results are available at <https://www.federalreserve.gov/supervisionreg/ccar-by-year.htm>.

<sup>41</sup> Banks subject to stress tests every other year use those results to determine their capital requirements for two years. Federal Reserve, “Federal Reserve Board Releases Scenarios for 2019 Comprehensive Capital Analysis and Review (CCAR) and Dodd-Frank Act Stress Test Exercises,” press release, February 5, 2019, <https://www.federalreserve.gov/newsevents/pressreleases/bcreg20190205b.htm>.

<sup>42</sup> Federal Reserve, “Federal Reserve Board Finalizes Set Of Changes That Will Increase The Transparency Of Its Stress Testing Program For Nation’s Largest And Most Complex Banks,” Press Release, February 5, 2019, at <https://www.federalreserve.gov/newsevents/pressreleases/bcreg20190205a.htm>.

<sup>43</sup> Federal Reserve, “Amendments to the Capital Plan and Stress Test Rules,” 81 *Federal Register* 9308, <https://www.federalreserve.gov/newsevents/pressreleases/bcreg20170130a.htm>. Federal Reserve, “Stress Tests,” website, <https://www.federalreserve.gov/supervisionreg/stress-tests-capital-planning.htm>.

<sup>44</sup> The 24 capital requirements can be grouped into a few major categories, and all requirements in that category are very similar. In that sense, having a large number of capital requirements does not create as great of a compliance burden as the number suggests. Rather, the economic burden associated with a large number of requirements stems from the fact that banks change their behavior to comply with the binding requirement, and multiple requirements make it more likely that the binding requirement could periodically shift and banks would adjust their behavior to take that

To try to minimize what it perceived as redundancy between these various measures, the Fed finalized a rule in 2020 to combine elements of the stress tests and the Basel III requirements.<sup>45</sup> Under the final rule, banks with more than \$100 billion in assets have to simultaneously comply with eight capital requirements and G-SIBs have to simultaneously comply with 14 capital requirements. The final rule accomplished this by eliminating five requirements tied to the “adverse” scenario in the stress tests, which the Fed is allowed to do under P.L. 115-174, and by combining four requirements tied to the “severely adverse” stress tests with four Basel III capital requirements.

Previously, large banks were required to hold CCBs equal to 2.5% of their RWA (as described above) to avoid limitations on capital distributions. (The CCB remains unchanged for smaller banks that have not elected to comply with the CBLR.) Under previous capital planning requirements, large banks were also required to hold enough capital to still meet the minimum amount required under the common equity, tier 1, total capital, and leverage requirements after their stress test losses, planned capital distributions (such as dividends and share buybacks), and projected balance sheet growth (because an increase in assets requires a proportional increase in capital).

The final rule replaced these separate requirements with a combined stress capital buffer (SCB) that requires banks to hold enough capital to cover stress test losses and dividends or 2.5% of RWA, whichever is larger (see **Figure 1**). The former is less restrictive than what banks previously faced if their projected capital levels fell below the minimum under stress test requirements.<sup>46</sup> Capital requirements would also be lowered for banks that had previously faced binding leverage constraints based on stress test results. (For a discussion of this concept, see the section below entitled “Binding Requirements.”) Because the SCB eliminates the leverage ratio from stress tests, the Fed argues that the leverage ratio appropriately reverts to being more of a backstop than a binding constraint.<sup>47</sup>

Because the Fed decided that banks would no longer have to hold capital to account for capital distributions (other than dividends) or balance sheet growth, the SCB reduces capital requirements relative to previous stress tests for non-G-SIBs. However, whether the SCB would be a lower capital requirement than the previous stress test requirements and the risk-weighted Basel III requirements it is replacing depends on the size of its losses under the stress tests. If losses are less than 2.5%, then a bank is required to hold the same amount of capital (2.5%) under

---

possibility into account.

<sup>45</sup> Federal Reserve, “Federal Reserve Board Approves Rule to Simplify Its Capital Rules for Large Banks, Preserving the Strong Capital Requirements Already in Place,” press release, March 4, 2020, <https://www.federalreserve.gov/newsevents/pressreleases/bcreg20200304a.htm>.

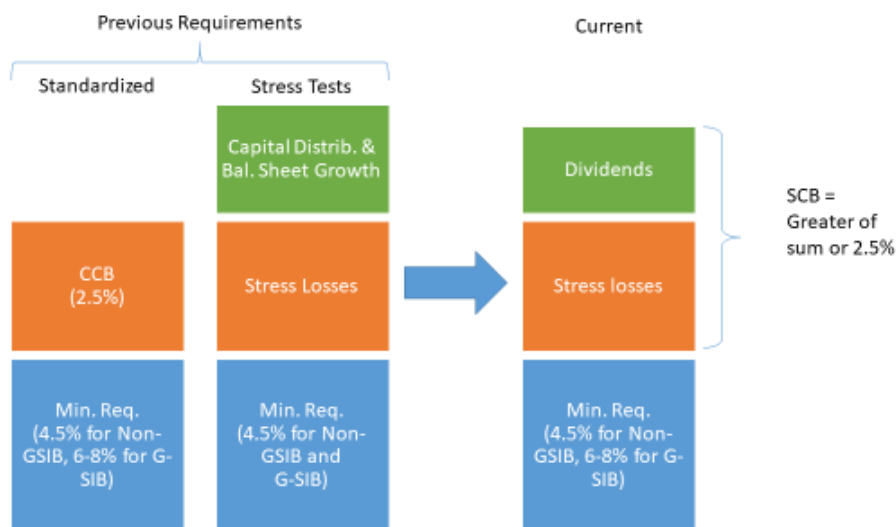
<sup>46</sup> The Fed has provided three justifications for making these requirements less stringent. First, the Fed argues that because capital distributions would automatically face restrictions if banks’ capital fell below their SCBs, it would no longer be necessary for firms to hold enough capital to meet all planned capital distributions. However, restrictions are phased in gradually and distributions are not entirely forbidden unless a bank has depleted all but 0.625% of its SCB. Second, the Fed argues for removing stock repurchases from capital planning on the grounds that only dividends are likely to be continued as planned in a period of financial stress. Finally, the Fed argues that its previous assumption that balance sheets continue to grow in a stressed environment was an unreasonable one—although the COVID crisis that began one month after the SCB rule was finalized demonstrated that bank balance sheets can grow significantly during crises. Federal Reserve, “Proposed Rule Regarding the Stress Buffer Requirements,” staff memorandum, April 5, 2018, pp. 11-13.

<sup>47</sup> The proposed rule would have also required banks to comply with a stress leverage buffer based on the leverage ratio. The final rule omitted it, in part, to make the leverage ratio more of a backstop. Federal Reserve, “Draft Final Rule Regarding the Stress Capital Buffer,” staff memorandum, February 19, 2020, <https://www.federalreserve.gov/newsevents/pressreleases/files/bcreg20200304a1.pdf>.

the SCB as it did previously under the CCB. If they are more than 2.5%, then a bank is required to hold less capital under the SCB than previously under the Comprehensive Capital Analysis and Review stress tests because the SCB includes fewer factors that require additional capital.<sup>48</sup> For G-SIBs, there is an additional consideration—the SCB is higher if stress tests were previously the binding constraint, because the SCB includes the G-SIB surcharge and the stress tests did not.

**Figure 1. Risk-Weighted Capital Requirements for Large Banks**

Common Equity Tier I



**Source:** Congressional Research Service (CRS).

**Notes:** CCB = Capital Conservation Buffer, SCB = Stress Capital Buffer, GSIB = Global Systemically Important Bank.

At the time the rule was finalized, the Fed calculated what would have happened if the SCB had been in place in recent years. It found that the SCB would have reduced required capital for large banks that are not G-SIBs (because the stress test is currently the binding constraint) by between \$5 billion and \$53 billion and would have required G-SIBs to hold between \$6 billion less and \$84 billion more capital (because the G-SIB surcharge is being added to the SCB). Overall, capital requirements would have increased by an average of \$11 billion in those years.<sup>49</sup>

### Countercyclical Capital Buffer (CCYB)

The banking regulators also issued a final rule implementing a Basel III countercyclical capital buffer, which now applies to Category I, II, and III banks. The countercyclical buffer requires these banks to hold more capital than other banks when regulators believe that financial conditions make the risk of losses abnormally high. In normal times, the countercyclical buffer is

<sup>48</sup> For G-SIBs, if stress test losses exceeded 2.5%, a bank would be required to hold less capital only if the sum of the bank's capital distributions and projected balance sheet growth were greater than the sum of the bank's G-SIB surcharge and dividends.

<sup>49</sup> Federal Reserve, "Draft Final Rule Regarding the Stress Capital Buffer."

to be set at zero, but in high-risk circumstances, it could be set as high as 2.5%.<sup>50</sup> In practice, it has always been set at zero since inception.

## Total Loss Absorbing Capacity

The Fed issued a 2017 final rule implementing a Total Loss Absorbing Capacity (TLAC) requirement for U.S. G-SIBs and U.S. operations of foreign G-SIBs effective at the beginning of 2019.<sup>51</sup> The rule requires U.S. G-SIBs to hold TLAC equal to at least 18% of RWA and 7.5% of unweighted assets (including off-balance-sheet exposures) at the holding company level. TLAC is composed of tier 1 capital and a minimum amount of long-term debt (equal to the greater of 4.5% of unweighted assets including off-balance-sheet exposures or 6% plus the G-SIB surcharge of RWA) issued by the holding company.<sup>52</sup> (Tier 1 capital held to meet other capital requirements counts toward the TLAC requirement up to the eligible limit.) In addition, G-SIBs would be subject to a TLAC buffer. If TLAC fell below the buffer level, the G-SIB would face restrictions on capital distributions and discretionary bonuses. TLAC requirements do not require banks to hold more capital but rather can be met through additional capital or eligible long-term debt.

TLAC is intended to make these equity and debt holders absorb losses by writing off existing equity and converting debt to equity in the event of the firm's insolvency, a process referred to as bank "bail ins." This furthers the policy goal of avoiding taxpayer bailouts of large financial firms.

## Dodd-Frank Emergency Requirements

For banks with more than \$250 billion in assets, the Dodd-Frank Act imposed an emergency limit of 15-to-1 on the bank's ratio of liabilities to equity capital (sometimes referred to as a leverage ratio, although this definition differs from the leverage ratio that applies to all banks).<sup>53</sup> The ratio is applied only if a bank receives written warning from FSOC that it poses a "grave threat to U.S. financial stability," and it ceases to apply when the bank no longer poses a grave threat. To date, this provision has never been triggered.

The Dodd-Frank Act also requires the Fed to "establish a series of specific remedial actions" to reduce the probability that a bank with more than \$250 billion in assets experiencing financial distress will fail. Early remediation is the principle that financial problems at banks should be addressed early before they become more serious. This establishes a requirement for BHCs

---

<sup>50</sup> Federal Reserve, "Regulatory Capital Rules: The Federal Reserve Board's Framework for Implementing the U.S. Basel III Countercyclical Capital Buffer," 81 *Federal Register* 63682, September 16, 2016, <https://www.federalreserve.gov/newsevents/press/bcreg/20160908b.htm>.

<sup>51</sup> 12 C.F.R. Chapter II, Subchapter A, Part 252. Federal Reserve, "Total Loss-Absorbing Capacity, Long-Term Debt, and Clean Holding Company Requirements for Systemically Important U.S. Bank Holding Companies," 82 *Federal Register* 8266, January 24, 2017, <https://www.federalreserve.gov/newsevents/pressreleases/bcreg20161215a.htm>.

<sup>52</sup> Capital required by TLAC is not in addition to capital required under standard capital requirements, and standard capital requirements are the same or higher than TLAC. However, TLAC capital must be issued by the holding company, whereas banks must meet standard capital requirements at both the depository subsidiary level and the holding company level. Some banks might have to hold more capital to meet both of these requirements simultaneously.

<sup>53</sup> 12 C.F.R. §225.220. Federal Reserve, "Enhanced Prudential Standards," 79 *Federal Register* 17240, March 27, 2014, <https://www.gpo.gov/fdsys/pkg/FR-2014-03-27/pdf/2014-05699.pdf>. Unlike the leverage ratio found in Basel III, this emergency ratio is based on liabilities instead of assets. It is calculated as total liabilities relative to total equity capital minus goodwill. This ratio is inverted compared with the leverage ratio—capital is in the numerator rather than the denominator.

similar in spirit to the prompt corrective action requirements that apply to insured depository subsidiaries. Unlike prompt corrective action, early remediation requirements are not based solely on capital adequacy. As the financial condition of a firm deteriorates, statute requires the steps taken under early remediation to become more stringent, increasing in four steps from heightened supervision to resolution. The Fed issued a proposed rule in 2011 to implement this provision that to date has not been finalized.<sup>54</sup>

## Summary of Large Bank Capital Requirements

**Table 7** summarizes the applicability of the EPR requirements discussed in this section of the report.

**Table 7. EPR Capital-Related Requirements**

Requirement	Category I (G-SIBs)	Category II (>\$700B assets or see notes)	Category III (>\$250B or see notes)	Category IV (other \$100B- \$250B)
Company-run stress tests	annual	annual	biannual	none
Fed-run stress tests	annual	annual	annual	biannual
Capital plan	annual	annual	annual	annual
Emergency 15-to-1 debt-to-equity ratio	applies	applies	applies	none
Stress capital buffer	applies	applies	applies	applies
SLR	more stringent eSLR applies	applies	applies	not required
Advanced approaches	applies	applies	not required	not required
Countercyclical capital buffer	applies	applies	applies	none
Total Loss Absorbency Capacity	applies	none	none	none
G-SIB capital surcharge	applies	none	none	none

**Source:** CRS.

**Notes:** SLR = Supplementary Leverage Ratio, eSLR = enhanced Supplementary Leverage Ratio, G-SIB = Global Systemically Important Bank. Banks under \$700 billion in assets are ranked as Category II if they have over \$75 billion in cross-jurisdictional activity. Banks under \$250 billion in assets are ranked as Category III if they have more than \$75 billion in nonbank assets, weighted short-term wholesale funding, or off-balance-sheet exposure. For brevity, this table does not specify whether each requirement is applied to a foreign bank's intermediate holding company or total U.S. operations.

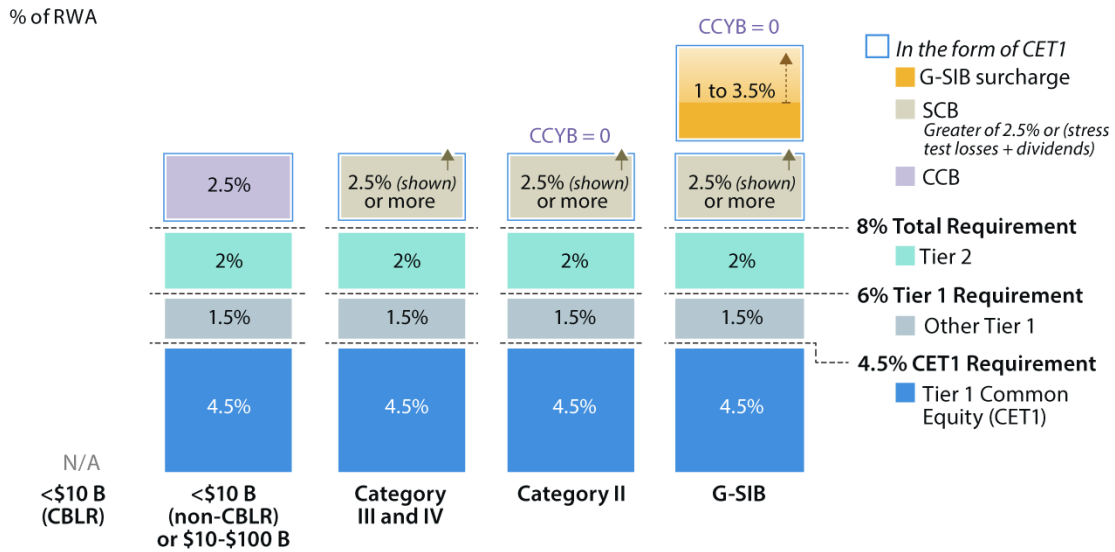
## Summary of Risk-Weighted and Leverage Capital Requirements

The basic capital requirements discussed in this report are summarized in **Figure 2** for risk-weighted requirements and **Figure 3** for leverage requirements.

<sup>54</sup> Federal Reserve, "Enhanced Prudential Standards and Early Remediation Requirements," 77 *Federal Register* 594, January 5, 2012, <https://www.gpo.gov/fdsys/pkg/FR-2012-01-05/pdf/2011-33364.pdf>.



**Figure 2. Adequate Risk-Weighted Prompt Corrective Action Requirements and Buffers**

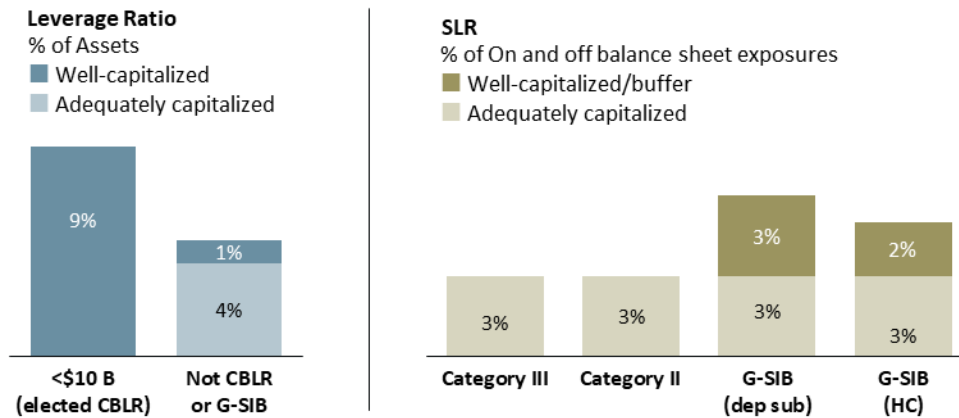


Banks arranged from smallest to largest.

**Source:** CRS based on bank regulatory capital rules.

**Notes:** Banks can use common equity tier 1 (CET1) capital to meet other tier 1 requirements and any tier 1 capital to meet tier 2 requirements. See text for definitions. Regulators may set the Globally Systemically Important Bank (G-SIB) surcharge as high as 4.5%, but no bank’s surcharge currently exceeds 3.5%. Regulators have set the Countercyclical Capital Buffer (CCYB) at zero since its introduction but have the ability to raise it above zero. For capital requirements for Community Bank Leverage (CBLR) banks, see **Figure 3**.

**Figure 3. Prompt Corrective Action Leverage Requirements**



**Source:** CRS based on bank regulatory capital rules.

**Notes:** HC = holding company; dep sub = depository subsidiary. HC requirement is not a PCA requirement. See text for other definitions.

## Policy Issues

Capital rules are ever evolving as new developments and unintended consequences of existing rules emerge. Changes may arise from Basel initiatives, bank regulator initiatives, or legislation. This section considers current prominent proposals to alter existing rules. According to Fed Vice Chair for Supervision Michael Barr, the Fed is currently undergoing a “holistic review of capital standards.”<sup>55</sup> Although not limited to large banks, the review is expected to focus on a number of capital standards that apply only to large banks. For example, the review is considering changes to the stress tests, the SLR, and TLAC and how to implement the Basel III Endgame.

### Should Capital Levels Be Higher or Lower?

Banks often complain that capital requirements are too high, whereas their critics argue that they are not high enough.<sup>56</sup> But what is the optimal level for capital requirements? This is not a straightforward question to answer. As a thought experiment, if leverage requirements were set at 100%, no bank would ever fail. But since capital is a more expensive funding source than debt or deposits, some argue this would lead to banks providing too little credit and risk economic activity moving outside the banking system.<sup>57</sup> (Whether those risks would still be a policy concern once outside the banking system would be another factor to consider in setting capital requirements as many nonbank financial firms do not face comparable capital requirements.) Theoretically, capital requirements could be designed to achieve the goals of safety and soundness and financial stability with the least distortion in specific economic activities. They would be set high enough that, along with other prudential requirements, bank failures would not be frequent enough to cause systemic risk (which imposes economic costs) or require taxpayer support.<sup>58</sup> But they would not be set so high that the societal benefit of reduced risk exceeds the societal costs associated with reduced credit intermediation.<sup>59</sup>

Others might argue that regulation could be replaced by market discipline—private debt holders and depositors might be expected to independently gravitate to well-capitalized banks, as such banks maximize the chance that their obligations would be honored, in which case regulatory requirements could be viewed as redundant. But in the presence of the taxpayer safety net, these incentives are blunted. Further, because an individual bank (or its creditor) does not price in how its failure would affect financial stability, private costs are not aligned with social costs.<sup>60</sup> As a

<sup>55</sup> Vice Chair for Supervision Michael S. Barr, *Why Bank Capital Matters*, speech at the American Enterprise Institute, Washington, DC, December 1, 2022, <https://www.federalreserve.gov/newsevents/speech/barr20221201a.htm>.

<sup>56</sup> Anat R. Admati et al., *Fallacies, Irrelevant Facts, and Myths in the Discussion of Capital Regulation: Why Bank Equity is Not Expensive*, working paper, March 23, 2011, <https://gsbapps.stanford.edu/researchpapers/library/RP2065R1&86.pdf>; Greg Baer and Francisco Covas, “As U.S. Regulators Implement the 2017 Basel Accord, It’s Time for a Reality-Based Assessment of Current Capital Levels,” Bank Policy Institute, November 10, 2022, <https://bpi.com/as-u-s-regulators-implement-the-2017-basel-accord-its-time-for-a-reality-based-assessment-of-current-capital-levels/>.

<sup>57</sup> This thought experiment could be expanded to address the extent to which the inexpensive provision of deposit services in the current system provides a social benefit.

<sup>58</sup> BCBS, *An Assessment of the Long-Term Economic Impact of Stronger Capital and Liquidity Requirements*, August 2010, <https://www.bis.org/publ/bcbs173.pdf>.

<sup>59</sup> Although adjusting capital requirements results in a trade-off between risk and credit availability at moderate capital levels, if capital requirements were below some minimal threshold, raising capital requirements could boost credit availability over time by delivering a more stable banking system.

<sup>60</sup> Because banks that are “too big to fail” pose more systemic risk and more potential strain on the safety net than small banks do, the argument would be that capital requirement for them should theoretically be set higher than for small banks to align with their social costs.



result of these two factors, banks would not be expected to hold enough capital voluntarily, and thus some argue capital requirements would be necessary to achieve a socially optimal outcome.

In addition, capital levels are pro-cyclical (meaning capital declines when credit losses rise during recessions and rises when credit losses decline in booms), so capital adequacy is not meaningfully tested until a downturn, and it is tested for resiliency against financial instability even less frequently.<sup>61</sup> After the fact, the failure of 489 banks from 2008 to 2013 demonstrates that capital requirements were too low (or at least overall prudential regulation was not strict enough) before Basel III.<sup>62</sup> A total of eight failures from 2018 to 2022 might provide some indication that capital requirements are no longer too low after Basel III, although the banking sector has not been under comparable strain since. But the answer to the normative question of whether current capital requirements are too high, too low, or about right would need to be modeled based on theory and underlying assumptions about the societal costs and benefits associated with capital requirements. Studies have reached different conclusions about optimal capital levels because they rely on different theory and underlying assumptions.<sup>63</sup>

Another major point of debate is whether capital requirements should be simpler or more complex. Over time, capital requirements have become more complex and sophisticated as the business of banking has become more complex and more sophisticated analytical tools have been developed to model risk. Yet simple rules have lower compliance costs,<sup>64</sup> and some economists argue that simple rules are more resilient in the face of economic uncertainty.<sup>65</sup> If risk weighting is accurate, it improves efficiency by accurately matching capital to risk, but if inaccurate, it reduces efficiency by drawing too much bank funding to activities with artificially low risk weights and too little to activities with artificially high risk weights. Artificially low risk weights on MBS and other securitized products encouraging banks to hold those products in the run up to the financial crisis is an example of how capital requirements can backfire and contribute to the financial instability that they are intended to prevent. Because risks are frequently not revealed until downturns, these inaccuracies could be in place for several years before they become obvious.

## Binding Requirements

Over the past several decades, capital regulations have evolved to account for more complex risks in the marketplace. For example, capital requirements were once based on city population, then deposit volume, then total assets, and now RWA (see **Appendix**). However, one somewhat recent trend has been the return to simpler leverage measures of capital requirements either in addition

<sup>61</sup> Further, capital requirements could exacerbate downturns—if banks make fewer loans during downturns to stop themselves from falling below capital requirements, it would further decrease economic activity.

<sup>62</sup> Data available at <https://www.fdic.gov/bank/historical/bank/>.

<sup>63</sup> Simon Firestone, Amy Lorenc and Ben Ranish, *An Empirical Economic Assessment of the Costs and Benefits of Bank Capital in the US*, Federal Reserve, working paper 2017-034, <https://www.federalreserve.gov/econres/feds/files/2017034pap.pdf>; Skander J. Van den Heuvel, *The Welfare Effects of Bank Liquidity and Capital Requirements*, Federal Reserve, November 2022, <https://www.federalreserve.gov/econres/feds/the-welfare-effects-of-bank-liquidity-and-capital-requirements.htm>; and BCBS, *An Assessment of the Long-Term Economic Impact of Stronger Capital and Liquidity Requirements*.

<sup>64</sup> Small banks may face disproportionately higher compliance costs, and so the benefits of simpler rules may be greater for them.

<sup>65</sup> Andrew G. Haldane, *The Dog and the Frisbee*, Speech, August 31, 2012, <https://www.bis.org/review/r120905a.pdf>; and Karen Petrou, *A Holistic Construct for Bank Regulatory Capital*, July 6, 2022, <https://fedfin.com/wp-content/uploads/2022/07/FedFin-Issue-Brief-A-Holistic-Construct-for-Bank-Regulatory-Capital.pdf>.

to or, in some cases, instead of prior risk-weighting schemes. For example, banks that opt in to the CBLR are no longer subject to risk-weighted capital requirements.<sup>66</sup> In cases where it replaces risk weighting, a leverage measure is used to simplify regulatory requirements. But for many banks, simpler measures such as leverage ratios are intended to supplement risk-weighted schemes, and in doing so, they act as a hedge against any particular market risk.

For decades, the guiding principle of capital regulation is that a riskier bank should hold more capital. However, leverage ratios serve as a sort of regulatory hedge against the chance that regulators misappropriated risk weight categories or that an unforeseen risk emerged that risk weights did not properly capture and eroded capital adequacy. Further, leverage ratios act as a “belt and suspenders” approach to capital regulation, effectively guarding against the risk of a particular institution as well as the potential systemic impact a larger asset portfolio may have on the financial system should it succumb. Leverage ratios also proved to be more transparent and therefore instilled more confidence during financial crises.

When banks face multiple capital requirements, the minimum amount of capital that they are required to hold is determined by whichever capital requirement is the “binding” one.<sup>67</sup> Issues can arise when the combination of risk-weighted ratios and leverage ratios does not result in capital being held against the riskiest behavior. For example, if a bank’s leverage requirement compels it to hold more capital than its risk-weighted requirement, the size of the bank binds the bank’s capital decisions rather than the riskiness of its assets. At that point, capital regulation is no longer based on the principle of matching risk with capital, and it has the potential to create perverse incentives for banks.<sup>68</sup> For example, under a purely risk-based regime, if two banks had the same assets but one held much riskier assets than the other did, then the bank with the riskier asset portfolio would have to hold more capital. But if the leverage requirement is the binding requirement, all assets require the same amount of capital (at least up to the point where they would hold an equal amount of capital under either risk-based or leverage regimes), so there is less incentive to hold safe assets.

In practice, this is more likely to occur for the largest institutions because they are subject to the SLR, which on average requires a bank to hold more capital than the generally applicable leverage ratio does. The switch to the stress capital buffer may have exacerbated this issue for non-G-SIB large banks subject to the stress tests. The growth in balance sheet assets, particularly among the largest institutions, over the past decade (especially during the pandemic<sup>69</sup>)—combined with enhanced prudential standards targeting leverage capital over risk-weighted capital—has influenced capital formation among banks, making many banks’ balance sheet size a more important determinant of their capital position than their risk profiles.

---

<sup>66</sup> See the “Community Bank Leverage Ratio” section above.

<sup>67</sup> The binding requirement will vary from bank to bank—and possibly over time for a given bank—depending on the types of capital and assets it holds. Typically, a bank aims to hold enough capital to always stay comfortably above whatever amount is required by the binding ratio. It nevertheless must take into account whichever requirement is binding in all its actions. In reality, the binding requirement is the one that costs the bank the most to hold—for example, if a bank’s RWA were such that it was required to hold \$8 million in total capital, and its total assets were such that it had to hold \$7 million in tier 1 to meet its leverage ratio requirements. It is possible that the \$7 million in tier 1 cost the bank more to raise than the \$6 million in tier 1 plus \$2 million in tier 2 capital (\$8 million in total) cost to raise.

<sup>68</sup> Karen Petrou, *A Holistic Construct for Bank Regulatory Capital*, July 6, 2022, <https://fedfin.com/wp-content/uploads/2022/07/FedFin-Issue-Brief-A-Holistic-Construct-for-Bank-Regulatory-Capital.pdf>.

<sup>69</sup> The regulators provided temporary relief to banks subject to the SLR during the pandemic by exempting Treasury securities and bank reserves from the SLR. This relief expired in March 2021.

By creating the CBLR, Congress explicitly opted for simplicity over risk sensitivity for smaller banks. For non-CBLR banks, Congress or the regulators could lower leverage ratios to make risk-based standards the binding requirement.<sup>70</sup> Alternatively, risk-based requirements could be raised to return them to the binding requirement. Some current proposals to alter capital requirements for large banks that would reduce the likelihood of leverage requirements being binding are discussed in the next section.

## **Large Bank Issues**

Since post-crisis large bank capital rules were finalized beginning in 2011, there have been various proposals to make the rules more effective (in the eyes of proponents). Although specific proposals would often result in large banks holding less capital, in principle any proposal to change how capital rules work could be crafted to have a neutral effect on how much capital large banks hold overall (although some banks would hold more capital and some would hold less under such a proposal). For example, a narrower base for measuring assets or exposures to hold capital against could be offset by having to hold a higher percentage of capital, or vice versa. Some prominent current proposals focus on the countercyclical capital buffer, TLAC, and the SLR.

### **Should the Countercyclical Buffer Be Reformed?**

According to the Bank for International Settlements, the CCYB's primary objective is to prevent excess credit growth that could result in financial instability by requiring banks to hold more capital during periods of rapid credit growth. Likewise, the countercyclical buffer could be lowered during an economic downturn so that banks would become freer to provide credit to support a weak economy.<sup>71</sup>

Yet since the CCYB was implemented in 2013 in the United States, it has been continuously set at zero. Over that period, the U.S. economy and financial system have experienced a sluggish recovery, a financial boom, a brief but extreme financial freeze at the onset of the pandemic, and another financial boom. And yet the CCYB has never been changed. Arguably, in its current state, it does not serve its intended purpose of restraining excess credit growth and mitigating credit downturns, unless one believes that credit growth has never been excessive in that time, which included periods of unusually rapid price growth in multiple asset classes, including equities, housing, and cryptocurrency.<sup>72</sup> This could occur for multiple reasons. Perhaps the banking regulators had not accurately identified periods of excess credit growth as they occurred in this period, which raises the question of whether they would in the future. Or perhaps the incentives facing the bank regulators—such as fear of public backlash or political pressure or the fear that the act of raising the CCYB would cause a financial panic—make it too difficult to raise the CCYB above zero.

If policymakers seek to reform the CCYB, there are multiple options. One option would be to remove regulatory discretion from the decisionmaking process and instead base the level of the CCYB on a formula, such as the rate of credit growth or asset price appreciation, perhaps

---

<sup>70</sup> Regulators could not reduce the leverage ratio below 4% without a legislative change because the Collins Amendment prohibits regulators from setting capital requirements below those in place in 2010.

<sup>71</sup> BIS, *Countercyclical Capital Buffer*, July 6, 2022, <https://www.bis.org/bcbs/ccyb/>.

<sup>72</sup> In its policy statement on the CCYB, the Fed sets a relatively high (and subjective) bar for raising the CCYB—that excessive credit or asset price growth is threatening financial stability. Making CCYB activation contingent on financial stability concerns makes it more likely to not be used for the reasons posited above. See 12 C.F.R. Appendix A to Part 217.

allowing regulators to override the formula in unusual circumstances. Another is to repeal the CCYB, which some might justify on the grounds that it has not worked as intended and, in any case, raising large bank capital standards is not the best way to tackle excess credit growth, even if it had worked as intended.

Another option, proposed in 2019 by then-Fed Vice Chair Randal Quarles and others, is to make the default level of the CCYB, say, 1% so that regulators would be reducing the CCYB in a downturn instead of raising it during credit booms. If desired, other capital requirements could be reduced by a similar amount to make the effect capital neutral.<sup>73</sup> This approach could also potentially ease capital constraints in a downturn even when the CCYB was previously at its default level, making the CCYB truly countercyclical. This would presumably be easier for regulators to do whether the current inactivity is because of identification or incentives. This approach has been used in some other countries, such as the United Kingdom.

### TLAC and Regional Banks

Several Category III banks, popularly called “regional banks” because they tend to be concentrated in particular regions of the country, have applied to merge with or acquire other relatively large banks in recent years.<sup>74</sup> This has narrowed the size gap between G-SIBs and the largest Category III banks, particularly in terms of their banking subsidiaries. As these Category III banks have grown in size, some observers have questioned whether they are becoming too big to fail (i.e., their failure is likely to cause widespread financial instability).

On October 14, 2022, the Fed and FDIC released an advanced notice of proposed rulemaking on whether TLAC and other resolution requirements should apply to a greater set of large banks.<sup>75</sup> The issue was also raised in the FDIC’s request for information on mergers and in a speech by Fed Vice Chair Michael Barr.<sup>76</sup> Acting Comptroller Michael Hsu suggested that TLAC requirements could avoid a situation where a failing regional bank would have to be bought by “one of the four megabanks.”<sup>77</sup>

As discussed above, TLAC is intended to avoid failing large banks from being “bailed out” by the government and instead be “bailed in” by shareholders and bondholders. TLAC is currently applied to G-SIBs because they are the most likely to be too big to fail. For smaller banks not subject to TLAC, the most common form of resolution is for the FDIC to sell a failing bank’s viable operations and assets to a healthy bank. This option is available for a failing regional bank

---

<sup>73</sup> Federal Reserve Vice Chair for Supervision Randal K. Quarles, *Frameworks for the Countercyclical Capital Buffer*, speech, March 29, 2019, <https://www.federalreserve.gov/newsevents/speech/quarles20190329a.htm>.

<sup>74</sup> For more information, see CRS In Focus IF11956, *Bank Mergers and Acquisitions*, by Marc Labonte and Andrew P. Scott.

<sup>75</sup> Federal Reserve, “Federal Reserve Board Invites Public Comment on an Advance Notice of Proposed Rulemaking to Enhance Regulators’ Ability to Resolve Large Banks in an Orderly Way Should They Fail,” press release, October 14, 2022, <https://www.federalreserve.gov/newsevents/pressreleases/bcreg20221014a.htm>. The *Federal Register* notice was released on October 24, 2022, and can be found at Federal Reserve System and FDIC, “Resolution-Related Resource Requirements for Large Banking Organizations,” 87 *Federal Register* 64170, October 24, 2022.

<sup>76</sup> FDIC, “Request for Information and Comment on Rules, Regulations, Guidance, and Statements of Policy Regarding Bank Merger Transactions,” 87 *Federal Register* 18740, March 31, 2022, <https://www.fdic.gov/news/board-matters/2021/2021-12-06-notational-fr.pdf>; Vice Chair for Supervision Michael S. Barr, “Making the Financial System Safer and Fairer,” speech, September 07, 2022, <https://www.federalreserve.gov/newsevents/speech/barr20220907a.htm>.

<sup>77</sup> Acting Comptroller of the Currency Michael J. Hsu, “Bank Mergers and Industry Resiliency,” speech, May 9, 2022, <https://www.occ.gov/news-issuances/speeches/2022/pub-speech-2022-49.pdf>.

as well, but as Hsu suggested, a suitor able to finance and absorb such a large institution would likely either be a G-SIB or another regional bank, which could then become a G-SIB.

If policymakers sought to extend TLAC requirements to a broader set of banks, one option would be to apply the requirement to any bank meeting a certain criteria (e.g., Category II or III, large U.S. IHCs of foreign banks). Another option would be to require merger applicants to meet TLAC requirements as a condition for the approval of any merger over some threshold. Various estimates have been made about how much long-term debt banks would be required to issue under this proposal, although in the absence of a formal proposal, these estimates are purely speculative.<sup>78</sup> Alternatively, regulators can already reject specific merger applications on financial stability grounds if they believe there is a “resolvability gap,” in the words of Hsu.<sup>79</sup>

If a bank is not too big to fail or could be easily resolved through the FDIC’s traditional resolution process, many would argue the societal costs of TLAC requirements are likely to outweigh the benefits. As the proposed rule notes, G-SIB resolutions are more complex because of their significant foreign and nonbank subsidiaries. Critics also argue that bank regulators have approved the resolution plans (“living wills”) of these banks and therefore have explicitly endorsed the view that these banks can be resolved without being bailed out and, in some cases, by selling parts of the business to multiple buyers.<sup>80</sup> (However, the resolution plans do not include mergers that have not been completed.)

### SLR Relief for Safe Assets

As discussed above, regulators responded to the surge in banks’ holdings of safe assets during the pandemic with a temporary exemption from the SLR for banks’ reserve balances held at the Fed and their holdings of Treasury securities. Regulators allowed this exemption to expire at the end of March 2021, by which time financial conditions had normalized. However, some regulators have suggested that a permanent change would be desirable to address the underlying issue.

As discussed above, leverage ratios are intended to be backstops to ensure a minimum level of capital adequacy, not a binding constraint on banks. However, according to Quarles, the rapid increase in safe assets on bank balance sheets during the pandemic caused the SLR to increasingly become the binding constraint for large banks (see the “Binding Requirements” section above).<sup>81</sup> Quarles decries the “perverse incentives” of a binding SLR to cause banks to want to avoid adding safe assets to their balance sheets. He argues that the SLR should be recalibrated to reflect a financial system with more Treasuries and bank reserves. That could

<sup>78</sup> Harry Terris and Zuhaib Gull, “TLAC Requirements for Regionals Might Not Pose That Big of a Hit,” S&P Global Market Intelligence, October 13, 2022; Lauren Anderson, Katie Collard, and Gonzalo Fernandez Dionis, *Imposition of SPOE and TLAC Requirements on Large Regional Banks Is Unnecessary to Promote Financial Stability*, Bank Policy Institute, June 30, 2022, <https://bpi.com/wp-content/uploads/2022/07/Imposition-of-SPOE-and-TLAC-Requirements-on-Large-Regional-Banks-is-Unnecessary-to-Promote-Financial-Stability.pdf>; FitchRatings, “Resolution Debt Buffers Would Drive Large US Regional Bank Upgrades,” August 16, 2022, <https://www.fitchratings.com/research/banks/resolution-debt-buffers-would-drive-large-us-regional-bank-upgrades-16-08-2022>.

<sup>79</sup> Acting Comptroller of the Currency Michael J. Hsu, “Financial Stability and Large Bank Resolvability,” speech, April 1, 2022, <https://www.occ.gov/news-issuances/speeches/2022/pub-speech-2022-33.pdf>.

<sup>80</sup> Anderson, Collard, and Dionis, *Imposition of SPOE and TLAC Requirements on Large Regional Banks*.

<sup>81</sup> Federal Reserve Vice Chair for Supervision Randal K. Quarles, *Between the Hither and the Farther Shore: Thoughts on Unfinished Business*, speech, December 2, 2021, <https://www.federalreserve.gov/newsevents/speech/quarles20211202a.htm>. The increase in safe assets during the pandemic was the byproduct of the increase in bank deposits. See Andrew Castro, Michele Cavallo, and Rebecca Zarutskie, *Understanding Bank Deposit Growth During the COVID-19 Pandemic*, FEDS Notes, June 3, 2022, <https://www.federalreserve.gov/econres/notes/feds-notes/understanding-bank-deposit-growth-during-the-covid-19-pandemic-20220603.htm>.



allow the risk-weighted measures to again be the binding restraint, which would allow capital to be better aligned with risk.

A potential drawback to exempting selected safe assets from the SLR is that it would no longer play its role as a strictly risk-neutral measure of capital adequacy. Although holders of Treasury securities do not face credit risk, they do face interest rate risk that could result in losses. It could also lead to a “slippery slope” dynamic, where if some assets were exempted, arguments would then be made that slightly riskier assets should also be exempted.<sup>82</sup> Exempting assets would also result in lower capital requirements for large banks, unless the SLR was raised to avoid that result.

The SLR applies only to large banks, yet it functions similarly to the leverage ratio. Exempting safe assets from the SLR but not the leverage ratio or CBLR would provide capital relief to large banks but not small banks, even though both face the same underlying issue.

### Modifying the Enhanced SLR for G-SIBs

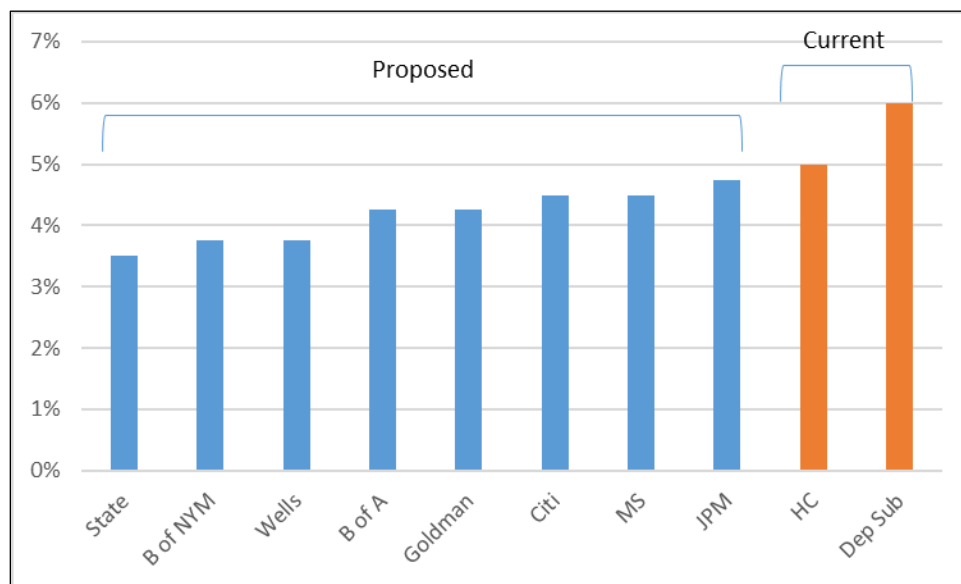
Another option to avoid the eSLR becoming the binding capital ratio is to reduce its level. In April 2018, the Fed and the OCC proposed a rule to modify the eSLR for G-SIBs.<sup>83</sup> Instead of 5% and 6% for the holding company and depository subsidiary, respectively, the rule proposes setting the eSLR for each G-SIB at 3% plus half of its G-SIB surcharge for both the holding company and the depository subsidiary. In this way, the amount of capital required to be held by G-SIBs under the eSLR would increase with their systemic importance. Because each G-SIB has a surcharge that is between 1% and 3.5%, respectively, the proposed rule would reduce capital requirements under the eSLR for each G-SIB to between 3.5% and 4.75%, depending on the bank. **Figure 4** compares the current eSLR requirement for G-SIBs to the anticipated SLR requirement for each G-SIB if the proposed rule were finalized.

---

<sup>82</sup> Federal Reserve Governor Daniel K. Tarullo, *Departing Thoughts*, speech, April 4, 2017, <https://www.federalreserve.gov/newsevents/speech/tarullo20170404a.htm>.

<sup>83</sup> OCC, Federal Reserve, “Regulatory Capital Rules,” 83 *Federal Register* 76, April 19, 2018, <https://www.govinfo.gov/content/pkg/FR-2018-04-19/pdf/2018-08066.pdf>.

**Figure 4. Enhanced SLR Requirement for G-SIBs, Current and Under Proposed Rule**  
If Rule Were in Effect for 12 Months Beginning October 2022



**Source:** CRS calculations based on Federal Reserve, *Large Bank Capital Requirements*, August 2022, <https://www.federalreserve.gov/publications/files/large-bank-capital-requirements-20220804.pdf>.

**Notes:** For each G-SIB, the proposed SLR is equal to 3% plus half of the G-SIB surcharge. State = State Street, B of NYM = Bank of New York Mellon, Wells = Wells Fargo, B of A = Bank of America, Goldman = Goldman Sachs, Citi = Citigroup, MS = Morgan Stanley, JPM = JPMorgan Chase, HC = Holding Company, Dep Sub = Depository Subsidiary.

Critics are concerned that reducing the SLR would exacerbate the too big to fail problem, thereby reducing financial stability. Whether this reduces how much capital the G-SIBs are currently required to hold depends on whether the SLR is the binding capital ratio. As discussed above, the SLR was not intended to be the binding ratio, yet CRS analysis found that in 2022 it was binding for the majority of the G-SIB holding companies.

The proposed rule would make similar changes to G-SIBs' TLAC requirement.<sup>84</sup> Currently, G-SIBs must meet a 9.5% leverage buffer under TLAC, composed of 5% tier 1 capital and 4.5% tier 1 capital or eligible long-term debt. Under the proposed rule, each G-SIB would be required to meet a leverage buffer equal to 7.5% plus half of its G-SIB surcharge. Because all G-SIBs currently have a surcharge below 4%, this would reduce their TLAC requirements. The proposed rule would also make a similar change to the TLAC long-term debt requirement for G-SIBs.

## Current Expected Credit Loss Phase-In<sup>85</sup>

Accounting practices also affect a bank's capital levels. For example, a bank adjusts the value of its loans to account for any expected losses. Those adjustments are called credit loss reserves (formerly, loan loss reserves), and they affect capital levels in the short run by reducing income. This in turn reduces retained earnings, a component of core capital.

<sup>84</sup> OCC, Federal Reserve, "Regulatory Capital Rules."

<sup>85</sup> For more on Current Expected Credit Loss, see CRS Report R45339, *Banking: Current Expected Credit Loss (CECL)*, by Raj Gnanarajah.

In June 2016, the Financial Accounting Standards Board, which implements U.S. accounting standards for financial institutions, created a new way to account for expected losses at an earlier date during the life of a loan.<sup>86</sup> This approach, referred to as Current Expected Credit Loss (CECL), requires banking organizations “to recognize lifetime expected credit losses and to incorporate reasonable and supportable forecasts in developing the estimate of lifetime expected credit losses, while also maintaining the current requirement that banking organizations consider past events and current conditions.”<sup>87</sup>

If CECL closer aligns credit reserves and credit losses, it would tend to improve safety and soundness. At the same time, transitioning to recognizing the full lifetime of expected credit losses up front would likely result in a reduction of the income earned during the initial reporting period. Thus, if a bank does not earn sufficient income to offset the increased credit loss reserves, then retained earnings would decline. Retained earnings are part of bank’s tier 1 capital. In February 2019, bank regulators adopted a joint final rule for an optional phase-in period of three years so banks could mitigate the potential impact of implementing the new CECL standard.<sup>88</sup>

In March 2020, responding to the pandemic, regulators adopted a second CECL transition provision through an interim final rule.<sup>89</sup> This transition allowed banks that were required to adopt CECL in 2020 to delay for up to two years an estimate of CECL’s effect on regulatory capital, followed by a three-year transition period. (The regulators adopted a final rule in September 2020, consistent with the interim final rule, effectively giving banks five years to fully implement the new standard.)<sup>90</sup>

Banking regulators have acknowledged that CECL implementation will impact regulatory capital by increasing allowance levels and lowering retained earnings, ultimately lowering common equity tier 1 capital.<sup>91</sup> The two-year window for banks to implement their estimates of CECL’s impact on capital is closing and could prove an interesting test of the banking system’s capital position.

## Crypto and Capital Requirements

Currently, traditional commercial banks are relatively limited in their exposure to cryptocurrency assets.<sup>92</sup> However, that could change in the future if regulators allow banks to expand their operations into crypto markets. Bank regulators recently stated that

<sup>86</sup> For more, see Financial Accounting Standards Board Accounting Standards Update (ASU) No. 2016-13, *Financial Instruments—Credit Losses, Topic 326, Measurement of Credit Losses on Financial Instruments*.

<sup>87</sup> OCC, Federal Reserve System, and FDIC, “Regulatory Capital Rule: Implementation and Transition of the Current Expected Credit Losses Methodology for Allowances and Related Adjustments to the Regulatory Capital Rule and Conforming Amendments to Other Regulations,” 84 *Federal Register* 4222-4250, February 14, 2019.

<sup>88</sup> OCC, Federal Reserve System, and FDIC, “Regulatory Capital Rule: Implementation and Transition.”

<sup>89</sup> OCC, Federal Reserve System, and FDIC, “Regulatory Capital Rule: Revised Transition of the Current Expected Credit Losses Methodology for Allowances,” 85 *Federal Register* 17723, March 31, 2020.

<sup>90</sup> OCC, Federal Reserve System, and FDIC, “Regulatory Capital Rule: Revised Transition.”

<sup>91</sup> Fed, FDIC, National Credit Union Administration, and OCC, “Frequently Asked Questions on the New Accounting Standard on Financial Instruments—Credit Losses,” December 19, 2016, p. 15, <https://www.federalreserve.gov/supervisionreg/srletters/sr1619a1.pdf>.

<sup>92</sup> For example, the OCC issued a range of interpretive guidance effectively permitting national banks to custody crypto assets. Further, the OCC conditionally approved three national trust charters for crypto operations. Additionally, some state regulators are approving trust and special depository charters for crypto companies. However, traditional commercial banks are currently not allowed to accept crypto deposits.



issuing or holding as principal crypto-assets that are issued, stored, or transferred on an open, public, and/or decentralized network, or similar system is highly likely to be inconsistent with safe and sound banking practices.<sup>93</sup>

Nevertheless, banks might have other permissible exposures to crypto that trigger capital requirements. Depending on what is permitted, banks could potentially hold crypto exposures with regulatory capital implications by, for example, accepting crypto as loan collateral, using stablecoins, or providing certain custodial services for crypto.<sup>94</sup> Further, as there have begun to be trust companies and special purpose banks chartered at the state and federal levels<sup>95</sup> that participate in various crypto markets, regulators may want to consider how and whether cryptocurrency exposure should be accounted for in future capital regulations. In 2022, the BCBS issued its second consultative document on the regulatory treatment of crypto exposures,<sup>96</sup> which provides a potential framework for U.S. regulators down the road.

The basic structure of the proposal in the first consultation was to classify cryptocurrency into two groups: assets that are deemed to be stable and ones that are not.<sup>97</sup> The first group would effectively be subject to the existing capital framework, whereas the latter would be subject to a new, more conservative capital requirement.

The new framework refines the way crypto is classified and includes a stabilization test for certain stablecoins, introduces a new requirement to account for risk to digital infrastructure underpinning crypto transactions, clarifies which risks are covered by capital frameworks for operational risk or market risk, specifies liquidity requirements, and introduces an exposure limit of 1% of tier 1 capital for less stable cryptocurrency.

BCBS acknowledged that the value of the crypto market contracted significantly during the months between the first and second consultation.<sup>98</sup> However, despite the current market size, a large exposure to crypto could undermine a bank's safety and soundness. These risks could be managed through capital requirements and/or other regulatory measures, including prohibiting banks from activities that would result in crypto exposures. Before the BCBS framework is adopted and implemented in the United States, Congress may consider which method would be more appropriate and effective.

## Basel III “Endgame”

In September 2022, the federal banking regulators announced their intention to issue a proposed rule on “enhanced regulatory capital requirements that align with the final set of ‘Basel III’

---

<sup>93</sup> Federal Reserve, FDIC, and OCC, *Joint Statement on Crypto-Asset Risks to Banking Organizations*, January 3, 2023, <https://www.federalreserve.gov/newsevents/pressreleases/files/bcreg20230103a1.pdf>.

<sup>94</sup> Board of Governors of the Federal Reserve System, FDIC, and OCC, *Joint Statement on Crypto-Asset Policy Sprint Initiative and Next Steps*, November 23, 2021, <https://www.federalreserve.gov/newsevents/pressreleases/files/bcreg20211123a1.pdf>.

<sup>95</sup> For more on bank charters, see CRS Report R47014, *An Analysis of Bank Charters and Selected Policy Issues*, by Andrew P. Scott.

<sup>96</sup> Moody's Analytics, “BCBS Consults on Prudential Treatment of Cryptoasset Exposures,” June 30, 2022, <https://www.moodyanalytics.com/regulatory-news/jun-30-22-bcbs-consults-on-prudential-treatment-of-cryptoasset-exposures>.

<sup>97</sup> Group 1 includes tokenized traditional assets and assets with effective stabilization mechanisms. Group 2 would include assets with ineffective stabilization mechanism, thus posing higher risks compared with Group 1.

<sup>98</sup> BCBS, “Second Consultation on the Prudential Treatment of Cryptoasset Exposures,” June 2022, <https://www.bis.org/bcbs/publ/d533.pdf>.

standards issued by the Basel Committee on Banking Supervision in December 2017.” The regulators noted that the proposal would apply only to large banks.<sup>99</sup> This last round of Basel III reforms is sometimes colloquially referred to as the Basel III Endgame or Basel IV. According to the BCBS,

A key objective of the revisions ... is to reduce excessive variability of risk-weighted assets (RWAs) ... [and] help restore credibility in the calculation of RWAs by: (i) enhancing the robustness and risk sensitivity of the standardised approaches for credit risk and operational risk, which will facilitate the comparability of banks’ capital ratios; (ii) constraining the use of internally-modelled approaches; and (iii) complementing the risk-weighted capital ratio with a finalised leverage ratio and a revised and robust capital floor.<sup>100</sup>

The leverage ratio revisions include “introducing a leverage ratio buffer to further limit the leverage of G-SIBs.”<sup>101</sup> In the United States, an SLR buffer has already been introduced. If the buffer is applied to the SLR, the BCBS proposal is consistent with the 2018 proposed rule discussed in the “Modifying the Enhanced SLR for G-SIBs” section.<sup>102</sup> The BCBS set (nonbinding) deadlines of January 2022 to January 2027 to implement these standards.

There has already been some divergence between U.S. implementation of Basel III and the Basel III agreements. For large banks, implementation of the endgame could result in (1) greater divergence that could be problematic for international cooperation; (2) U.S. regulation becoming more complex in order to simultaneously allow divergence and compliance;<sup>103</sup> or (3) elimination of U.S. divergence, which could result in higher or lower capital requirements, depending on the provision.<sup>104</sup>

---

<sup>99</sup> Board of Governors of the Federal Reserve System, FDIC, and OCC, “Agencies Reaffirm Commitment to Basel III Standards,” press release, September 9, 2022, <https://www.federalreserve.gov/newsevents/pressreleases/bcreg20220909a.htm>.

<sup>100</sup> BCBS, *Basel III: Finalising Post-Crisis Reforms*, December 2017, <https://www.bis.org/bcbs/publ/d424.pdf>.

<sup>101</sup> BCBS, *High-Level Summary of Basel III Reforms*, December 2017, [https://www.bis.org/bcbs/publ/d424\\_hlsummary.pdf](https://www.bis.org/bcbs/publ/d424_hlsummary.pdf).

<sup>102</sup> The BCBS leverage buffer proposal includes off-balance-sheet items, which is consistent with the SLR. See BCBS, *Basel III: Finalising Post-Crisis Reforms*, p. 143.

<sup>103</sup> For more information, see Bank Policy Institute, “Basel Finalization: The History and Implications for Capital Regulation—Part II,” January 31, 2023, <https://bpi.com/basel-finalization-the-history-and-implications-for-capital-regulation-part-ii/>.

<sup>104</sup> Former Fed Vice Chair Randal Quarles claimed that implementing the endgame could raise large bank capital requirements by as much as 20%, although the actual effect on capital would depend on details that have not yet been determined. See Quarles, *Between the Hither and the Farther Shore*.

## Appendix. Historical Capital Frameworks

U.S. capital standards have a long history featuring many fundamental changes in how they work, sometimes returning to approaches that had previously been discarded. Typically, financial crises create demand for new types of capital requirements in response to recent stress borne by the financial system. An example is the set of enhanced prudential standards first introduced in the years following the 2007-2009 financial crisis.

In the United States, capital standards for banks began as a simple minimum amount of gold or silver that bank owners were required to contribute to the bank in order for it to begin operations, and when national banks were first formed in the 19<sup>th</sup> century, those formation capital requirements were based on the population of the area where the bank was headquartered.<sup>105</sup> Banks were then required to build additional capital levels referred to as “surplus accounts” equal to 20% of their formation capital requirements. This could be drawn down as banks incurred losses, but banks were not allowed to pay dividends until the surpluses were rebuilt. In the early 20<sup>th</sup> century, capital requirements were slowly modified to be based on the size of the bank’s operations rather than the geographic area it served. For example, in 1914, the OCC implemented a capital-to-deposits ratio for national banks, and by the 1930s, California, New York, Michigan, and Texas established capital requirements for state-chartered banks in proportion to their deposits.<sup>106</sup>

When the FDIC was created in 1933, it required state-chartered banks to meet a minimum capital requirement equal to 10% of deposits.<sup>107</sup> After the FDIC began insuring deposits held at banks, however, deposit withdrawals became less risky, and asset losses became the primary focus for capital regulation.<sup>108</sup> In 1939, the FDIC shifted to a 10% capital-to-assets ratio requirement.

By the 1940s, banks invested heavily in U.S. Treasuries, which increased their asset holdings but meant their holdings comprised more “risk-free” instruments.<sup>109</sup> Regulators sought to “avoid penalizing banks for investing in these low-yield and ‘riskless’ assets”<sup>110</sup> by modifying capital requirements to deduct Treasury holdings from assets in the denominator of the capital-to-asset ratio calculations.<sup>111</sup> Slowly, capital adequacy began to be defined in terms of capital held against assets that were held for the purposes of earning a return, which were generally associated with greater risk than Treasuries and other risk-free assets.

---

<sup>105</sup> The National Banking Act of 1864 sets an early example of formation capital requirements. At formation, banks were required to establish minimum capital levels such as \$50,000 for banks in cities with fewer than 6,000 people, \$100,000 for cities of fewer than 50,000 people, and \$200,000 for cities of more than 50,000 people. For more, see John Walter, “US Bank Capital Regulation: History and Changes Since the Financial Crisis,” *Federal Reserve Bank of Richmond Economic Quarterly*, vol. 105, no. 1 (First Quarter 2019), [https://www.richmondfed.org/-/media/richmondfedorg/publications/research/economic\\_quarterly/2019/q1/walter.pdf](https://www.richmondfed.org/-/media/richmondfedorg/publications/research/economic_quarterly/2019/q1/walter.pdf).

<sup>106</sup> Walter, “US Bank Capital Regulation.”

<sup>107</sup> The average capital-to-deposits ratio from 1920 to 1939 was 15.2%, suggesting that the minimum of 10% was not binding for many banks. See Walter, “US Bank Capital Regulation.”

<sup>108</sup> Karlyn Mitchell, “Capital Adequacy at Commercial Banks,” *Federal Reserve Bank of Kansas City Economic Review*, September/October 1984, <https://www.kansascityfed.org/documents/1049/1984-Capital%20Adequacy%20at%20Commercial%20Banks.pdf>.

<sup>109</sup> Walter, “US Bank Capital Regulation.”

<sup>110</sup> Malcolm Alfriend, “International Risk-Based Capital Standard: History and Explanation,” *Federal Reserve Bank of Richmond Economic Review*, November/December 1988, [https://www.richmondfed.org/-/media/richmondfedorg/publications/research/economic\\_review/1988/pdf/er740603.pdf](https://www.richmondfed.org/-/media/richmondfedorg/publications/research/economic_review/1988/pdf/er740603.pdf).

<sup>111</sup> Mitchell, “Capital Adequacy at Commercial Banks.”

It was not until the 1950s that asset risk became a central feature of capital regulation. By that time, the Fed, FDIC, and OCC adopted an approach to measuring capital that established risk categories for different types of assets and different capital requirements within each category. Regulators modified this requirement by adding a liquidity test, which required more capital for less liquid institutions. Capital adequacy was largely viewed in terms of how much capital an institution had versus the amount required as determined by the adjusted risk approach.

However, while regulators adopted similar approaches to capital requirements, there was general disagreement over what assets to risk adjust, and by the 1960s, the OCC abandoned the risk adjustments “on the grounds that it was arbitrary and did not consider factors such as management, liquidity, asset quality, or earnings trends.”<sup>112</sup> Further, the three banking agencies disagreed on how to define *capital*. The Fed continued to define it as equity plus reserves for loan losses, while the FDIC and OCC allowed some forms of debt to count. It was not until the 1980s that the agencies began to coordinate capital requirements.<sup>113</sup>

In 1981, the banking agencies coordinated a new definition of *bank capital* and set joint standards for determining capital adequacy. The new definition comprised “primary capital” and “secondary capital.” *Primary capital* was defined as instruments that were not subject to redemption or retirement, such as common stock, reserves for loan losses, and other capital reserves. *Secondary capital* included nonpermanent forms of equity, such as redeemable preferred stock and subordinated debt. The regulators also created minimum levels of capital to determine capital adequacy for community banks and regional banks.<sup>114</sup> However, a federal appeals court ruled that regulators did not have the authority to impose cease-and-desist orders on banks with capital inadequacy as determined by capital ratios.<sup>115</sup> In 1983, Congress passed the International Lending Supervision Act (ILSA),<sup>116</sup> which gave the agencies the authority to establish minimum capital standards and authorized them to enforce these capital standards.

Later in the 1980s, regulators amended the minimum requirements, establishing a simple primary capital-to-asset ratio of 5.5% and total capital of 6%. Because the ratio was a simple capital-to-asset calculation, banks began increasing their holdings of higher yielding assets, and because capital requirements applied only to balance sheet items, banks began to expand off-balance-sheet activity.<sup>117</sup>

In addition to granting authority to the agencies to establish and enforce capital standards, ILSA also stated that the Fed and Treasury should work with other countries to strengthen capital bases of banks involved in international lending. This laid the groundwork for the U.S. implementation

---

<sup>112</sup> Alfriend, “International Risk-Based Capital Standard.”

<sup>113</sup> While agency coordination is not inherently good or bad (for instance, regulators could coordinate a bad policy), industry has generally viewed disparate treatment of similar issues by the three federal banking agencies as burdensome, confusing, or creating an un-level playing field. Typically, bank regulators coordinate rulemaking on issues affecting all banks in some way.

<sup>114</sup> Larger institutions, referred to as “multinational banks,” were excluded from this measurement system until 1983, when the Fed set a minimum capital ratio of 5% for multinational banks. See Mitchell, “Capital Adequacy at Commercial Banks.”

<sup>115</sup> *First National Bank of Bellaire v. Comptroller* 1983, pp. 8-9.

<sup>116</sup> 12 U.S.C. §3901 et seq.

<sup>117</sup> Off-balance-sheet (OBS) activity refers to the operation of assets and liabilities that are not recorded on the balance sheet for accounting purposes. Examples of OBS assets include letters of credit, loan commitments, and transfers of financial assets; OBS liabilities include revolving underwriting facilities, certain contingent liabilities, and standby lines of credit. For more, see the FDIC examination manual at <https://www.fdic.gov/regulations/safety/manual/section3-8.pdf>.

of what became known as the Basel Accords, a prudential framework focused on (but not limited to) capital standards issued by the BCBS, an international standard setting body (see text box).

### History of the Basel Committee

The Basel Committee was created in the wake of international financial market turmoil caused by the 1970 exchange rate crisis. After the collapse of Bretton Woods in 1973, many banks incurred large foreign currency losses. In response to these and other disruptions in the international financial markets, the central bank governors of the G-10 countries established a Committee on Banking Regulations and Supervisory Practices (later renamed the Basel Committee on Banking Supervision, or BCBS) at the end of 1974 to facilitate regular cooperation between its member countries on banking supervisory matters and to enhance financial stability.

In 1975, the BCBS issued a paper that came to be known as the “Concordat.” The Concordat set out principles for sharing supervisory responsibility for banks’ foreign branches, subsidiaries, and joint ventures between host and parent (or home) supervisory authorities. In May 1983, the Concordat was revised and re-issued as *Principles for the Supervision of Banks’ Foreign Establishments*.<sup>118</sup>

Capital adequacy soon became the main focus of the BCBS’s activities. In the early 1980s, the onset of the Latin American debt crisis heightened the BCBS’s concerns that the capital ratios of the main international banks were deteriorating at a time of growing international risks. This resulted in a broad consensus on a weighted approach to the measurement of risk both on and off banks’ balance sheets.

According to BCBS, “there was strong recognition within the Committee of the overriding need for a multinational accord to strengthen the stability of the international banking system and to remove a source of competitive inequality arising from differences in national capital requirements.” Following comments on a consultative paper published in December 1987, a capital measurement system commonly referred to as the Basel Capital Accord was approved by the G-10 governors and released to banks in July 1988.

As the financial system becomes more complex, regulators have updated capital requirements for banks. Since 1988, BCBS has issued three iterative frameworks, referred to as Basel I, II, and III. While the Basel frameworks (also referred to as “accords”) have no legal force in the United States, it is helpful to understand the BCBS approach because domestic regulators have chosen to closely align their rules—which are implemented through the notice-and-comment rulemaking process pursuant to the Administrative Procedure Act—with these frameworks. This choice is arguably predictable given that members of BCBS negotiate the rules together and that U.S. bank regulators are, as the representatives from the world’s largest economy and financial system, influential members. As such, BCBS standards likely reflect, at least in part and possibly significantly, the views and preferences of the U.S. agencies. A driving concern of the BCBS has historically been avoiding a “race to the bottom” in bank regulation—in particular, larger countries such as the United States concerned that small countries will enact lax standards to entice banks to locate in their jurisdictions.

## Basel I

Basel I was established in 1988 and focused mainly on credit risk, establishing a classification system for risk weighting bank assets. It featured five risk categories of 0%, 10%, 20%, 50%, and 100%. Basel I proposed minimum capital equal to 8% of RWA. Capital comprised two forms: tier 1 capital and tier 2 capital. Tier 1 capital is the more loss absorbent type of capital and represents the basic funding of the bank. Tier 2 capital is less loss absorbent.

In 1989, the United States adopted Basel I and implemented a uniform regulatory capital system that required banking organizations to maintain regulatory capital against exposures both on and

<sup>118</sup> BIS, *Principles for the Supervision of Banks’ Foreign Establishments (Concordat)*, May 28, 1983, <https://www.bis.org/publ/bcbcs312.htm>.

off balance sheet. Exposures were assigned one of four categories of credit risk, which carried minimum capital charges ranging from 0% to 8%.

Signatories agreed to limit Basel I to internationally active banks. However, U.S. regulators applied the framework to all U.S. banking organizations. In the 1990s, it became apparent that Basel I had some limitations, particularly for larger banks. For example, the Basel I rules required the same amount of regulatory capital against all unsecured corporate loans and bonds regardless of actual risk and treated almost all first-lien residential mortgage exposures as equally risky. This provided an incentive for banking organizations to shed lower-risk exposures and acquire or retain higher-risk exposures within some asset categories. The Basel I–based rules also did not take into account important elements of credit-risk mitigation—such as most forms of collateral, many guarantees and credit derivatives, and the maturity and seniority of exposures—and, thus, may have blunted incentives for banks to reduce or otherwise manage risk. In addition, the Basel I–based rules were considered particularly inadequate for dealing with capital markets transactions, such as repurchase agreements, securities borrowing and lending, margin loans, and over-the-counter derivatives. As these examples illustrate, simple rules have limitations that regulators subsequently attempted to address through increasingly complex rules. In response, BCBS initiated a revision to the capital framework, which became Basel II.<sup>119</sup>

## **Basel II**

In June 2004, BCBS introduced a more risk-sensitive capital adequacy framework, Basel II, designed to promote improved risk measurements and to better align capital requirements with risk. Basel II included three pillars: minimum regulatory capital requirements, supervisory review of capital adequacy, and market discipline through enhanced public disclosure.<sup>120</sup>

Under Basel II, a banking organization calculated risk-based capital requirements for exposure to credit risk and operational risk. For measuring credit risk, Basel II included three approaches: a standardized approach, which modifies and enhances the Basel I approach, and two internal ratings-based approaches—foundation and advanced—that use an institution’s internal estimates of key risk parameters in combination with supervisory capital formulas to determine risk-based capital requirements. Under the foundation approach, banking organizations estimated some risk parameters, and supervisors set others. Under the advanced approach, banking organizations determined all of the key risk parameters.

Basel II also provides three methodologies for estimating operational risk: a basic indicator approach, a standardized approach, and an advanced measurement approach. The basic indicator approach and the standardized approach both linked operational risk capital requirements to fixed percentages of a banking organization’s gross income. The advanced measurement approach relied on a banking organization’s internal operational risk measurement and management processes. Banking organizations with significant trading activities also factored in a measure for exposure to market risk.

The U.S. implementation of Basel II took a few years to materialize into a form that each of the three banking regulators agreed upon. The final rule, issued in 2007, implemented only the advanced internal rating approach to calculating credit risk and the advanced measurement

---

<sup>119</sup> Federal Reserve, “ANPR for Proposed Revisions to the Current Risk-Based Capital Rules,” September 30, 2005, <https://www.federalreserve.gov/boarddocs/press/bcreg/2005/20051006/Basel1Amemo.pdf>.

<sup>120</sup> Federal Reserve, “Implementation of Advanced Capital Adequacy Framework (Basel II Draft Final Rule),” October 26, 2007, [https://www.federalreserve.gov/generalinfo/basel2/FinalRule\\_BaselII/Board\\_memo.pdf](https://www.federalreserve.gov/generalinfo/basel2/FinalRule_BaselII/Board_memo.pdf).



approach to operational risk (together called the “advanced approaches”).<sup>121</sup> The rules implementing Basel II identified three groups: banks required to adopt the advanced approaches (“core banks”), banks that voluntarily adopt advanced approaches (opt-in banks), and banks that do not need to use advanced approaches (“general banks”). General banks continued to apply the standardized approach. Core banks were institutions with either consolidated total assets of \$250 billion or more, consolidated foreign exposures of \$10 billion or more, or subsidiaries of institutions that use the advanced approach.<sup>122</sup> (The rule included a provision that allowed regulators to exclude a bank from the advanced approach for a variety of reasons.)

## Financial Crisis to the Present: Dodd-Frank Act and Basel III

In the years leading up to the 2007-2009 financial crisis, banks were overleveraged and insufficiently liquid, which was reflected in rapid credit growth and volatile pricing of risk.<sup>123</sup> The BCBS issued new principles for liquidity risk management in 2008,<sup>124</sup> and in 2009 it issued further guidance on how to strengthen the Basel II framework.<sup>125</sup> By 2009, the financial system in the United States had avoided collapse through large-scale government intervention, and widespread bank failures reflected the vulnerabilities in the existing capital framework.

In 2010, Congress passed the Dodd-Frank Act (P.L. 111-203), which addressed a number of vulnerabilities revealed by the financial crisis. For the most part, the Dodd-Frank Act deferred to the forthcoming Basel III on reforming capital requirements, but Section 171, known as the Collins Amendment, required the bank regulators to establish minimum leverage and risk-based capital requirements, on a consolidated basis, for all insured depository institutions and depository institution holding companies, as well as nonbank financial companies supervised by the Fed. This is an example of how, although the Basel Accords do not require congressional approval to become U.S. regulation, Congress can nevertheless make statutory changes to capital requirements, regardless of whether they are part of Basel.

By the end of 2010, BCBS issued new prudential standards to address problems exposed by the financial crisis, revising and updating the Basel II standards. These new standards, many of which were new capital requirements and some of which apply only to large banks, came to be known as Basel III and included the following:

- Stricter requirements for the quality and quantity of capital;
- Additional capital buffers that restrict capital distributions if drawn down;
- A minimum amount of loss-absorbing capital relative to all of a bank’s assets and off-balance-sheet exposures regardless of risk weighting;

<sup>121</sup> OCC, Fed, FDIC, and Office of Thrift Supervision, “Risk-Based Capital Standards: Advanced Capital Adequacy Framework—Basel II; Final Rule,” 72 *Federal Register* 69288-69445, December 7, 2007, <https://www.govinfo.gov/content/pkg/FR-2007-12-07/pdf/07-5729.pdf>.

<sup>122</sup> Banks required to use advanced approaches would be redefined in 2019. See the “Advanced Approaches” section above.

<sup>123</sup> Alexander Chudik and Marcel Fratzscher, “Liquidity, Risk and the Global Transmission of the 2007-08 Financial Crisis and the 2010-11 Sovereign Debt Crisis,” European Central Bank, February 2012, <https://www.ecb.europa.eu/pub/pdf/scpwps/ecbwp1416.pdf>.

<sup>124</sup> BCBS, *Principles for Sound Liquidity Risk Management and Supervision*, September 2008, <https://www.bis.org/publ/bcbs144.pdf>.

<sup>125</sup> BCBS, *Enhancements to Basel II Framework*, July 2009, <https://www.bis.org/publ/bcbs157.pdf>.

- Minimum liquidity ratios intended to ensure that banks had enough liquid assets and stable funding to meet cash flow needs; and
- Additional requirements for systemically important banks, including higher capital requirements than other banks and strengthened cross-border supervision and resolution.

A series of narrower, more technical BCBS proposals followed. Some of the more complex details of the Basel III framework were later agreed to in 2017,<sup>126</sup> with an implementation time frame of the final measures taking place from 2023 to 2028.<sup>127</sup>

The United States began implementing the first round of Basel III standards in 2014 after a couple of years of proposed rulemaking.<sup>128</sup> Regulations issued in 2014 included the implementation of Basel III, changes to the existing capital framework to be consistent with Dodd-Frank, revisions to the calculation of RWA under the Basel II standardized approach, and changes to the advanced approaches risk-based capital rules. Regulators also included changes to specific risk weights and definitions to better reflect risks that had been problematic during the financial crisis, such as high volatility commercial real estate (HVCRE). As a result, details of the U.S. capital rules diverge in places from the Basel III framework, sometimes in ways that make the U.S. rules stricter.<sup>129</sup> The implementation of each of these provisions was phased in over several years, with most parts phased in by 2016 but some subparts being implemented in 2022. Some of the provisions implemented in the final rule are listed in **Table A-1**.

**Table A-1. Key Provisions of U.S. Basel III Implementation**

Provision	Covered Institutions
Minimum capital ratios and buffers; regulatory adjustments and deductions	All banking institutions
Standardized approach for calculating RWA	All banking institutions (established floor for advanced approaches institutions)
Advanced approaches for calculating RWA	Advanced approaches institutions
RWAs for market risk	Market risk institutions

**Source:** Davis Polk, “U.S. Basel III Final Rule: Visual Memorandum,” April 30, 2015, p. 7, [https://www.davispolk.com/sites/default/files/updated\\_april\\_2015\\_visual\\_memo\\_us\\_basel\\_3\\_final\\_rule.pdf](https://www.davispolk.com/sites/default/files/updated_april_2015_visual_memo_us_basel_3_final_rule.pdf).

**Notes:** Market risk institutions have aggregate trading assets and liabilities of more than 10% of total assets or more than \$1 billion or one that is required to calculate RWAs for market risk by a regulator.

Congress modified parts of Basel III in subsequent legislation. In 2018, Congress passed the Economic Growth, Regulatory Relief, and Consumer Protection Act (EGRRCPA; P.L. 115-174), which reduced the number of banks subject to the large bank capital framework resulting from the Dodd-Frank Act (discussed in the section entitled “Large Bank Enhanced Capital

<sup>126</sup> BCBS, *Basel III: Finalising Post-Crisis Reforms*, December 2017, <https://www.bis.org/bcbs/publ/d424.pdf>.

<sup>127</sup> See “Basel III Endgame” section above. The original final implementation of 2022 was delayed because of COVID-19.

<sup>128</sup> OCC, “Regulatory Capital Rules: Regulatory Capital, Implementation of Basel III, Capital Adequacy, Transition Provisions, Prompt Corrective Action, Standardized Approach for Risk-weighted Assets, Market Discipline and Disclosure Requirements, Advanced Approaches Risk-Based Capital Rule, and Market Risk Capital Rule,” 78 *Federal Register* 62018, October 11, 2013.

<sup>129</sup> Davis Polk, “U.S. Basel III Final Rule: Visual Memorandum,” April 30, 2015, [https://www.davispolk.com/sites/default/files/updated\\_april\\_2015\\_visual\\_memo\\_us\\_basel\\_3\\_final\\_rule.pdf](https://www.davispolk.com/sites/default/files/updated_april_2015_visual_memo_us_basel_3_final_rule.pdf).



Framework”).<sup>130</sup> In addition, it created the CBLR, which allowed certain banks to opt in to a different, simplified capital framework (discussed in the section entitled “Community Bank Leverage Ratio”). The current capital standards for U.S. banks are discussed in detail above. The EGRRCPA also modified specific details of certain capital rules, including those surrounding the risk weighting of HVCRE and the SLR.

## Author Information

Andrew P. Scott  
Analyst in Financial Economics

Marc Labonte  
Specialist in Macroeconomic Policy

---

## Disclaimer

This document was prepared by the Congressional Research Service (CRS). CRS serves as nonpartisan shared staff to congressional committees and Members of Congress. It operates solely at the behest of and under the direction of Congress. Information in a CRS Report should not be relied upon for purposes other than public understanding of information that has been provided by CRS to Members of Congress in connection with CRS’s institutional role. CRS Reports, as a work of the United States Government, are not subject to copyright protection in the United States. Any CRS Report may be reproduced and distributed in its entirety without permission from CRS. However, as a CRS Report may include copyrighted images or material from a third party, you may need to obtain the permission of the copyright holder if you wish to copy or otherwise use copyrighted material.

---

<sup>130</sup> For more information, see CRS Report R45073, *Economic Growth, Regulatory Relief, and Consumer Protection Act (P.L. 115-174) and Selected Policy Issues*, coordinated by David W. Perkins.