

Basel III and the Continuing Evolution of Bank Capital Regulation

By Huberto M. Ennis and David A. Price

Adopted in part as a response to the 2007–08 financial crisis, the Basel III accord is the most recent revision to international capital standards for banks. Basel III primarily relies on methods similar to those of Basel II for assessing the relative risks of different types of assets. The main focus of the changes in Basel III, rather, is to increase banks' equity capital requirements. This emphasis is a reflection of the conclusions drawn from the crisis: that bank fragility is more prevalent than previously thought and that the motivation for governments to assist banks in poor financial condition is very strong during a crisis.

The Basel Committee on Banking Supervision—a group of senior representatives of central banks and bank supervisory agencies—released its final draft of the Basel III accord in December. Basel III, a framework of capital adequacy standards, was negotiated and adopted following the 2007–08 financial crisis, based on the belief that the crisis had exposed shortcomings in the Basel II framework of 2004. While the Basel accords are not legally binding on participating countries, Basel III is expected to be implemented, either fully or in large part, by bank regulators worldwide, including those in the United States.

The reforms set out by Basel III include a range of new safety-and-soundness regulations, such as new standards for capital and leverage ratios and for liquidity. The tools that the committee principally relied on, however, involve heightened equity capital requirements: narrowing Basel II's definitions of capital, turning up the dial on Basel II's minimum capital levels of 4 percent Tier 1 capital, and adding

a countercyclical component to Basel II's capital requirements. Basel III retains the 8 percent minimum total capital requirement of Basel I and Basel II, but phases in a higher minimum Tier 1 capital ratio starting in 2013, ultimately increasing it to 6 percent in 2015. (Tier 1 capital, or "core" capital, is the subset of total capital that consists of shareholders' equity and retained profits net of accumulated losses and other capital deductions.) Starting in 2016, moreover, a requirement of a "capital conservation buffer," made up of common equity, gradually increases Tier 1 capital further to 8.5 percent and total capital to 10.5 percent. The new countercyclical component varies from 0 percent to 2.5 percent at regulators' discretion, and is in addition to the minimum total capital requirement, the Tier 1 capital requirement, and the capital conservation buffer.¹ The various capital requirements are measured against a risk-weighted calculation of the institution's assets; the general principle is that the riskier the asset, the more capital the institution should be required to hold in relation to the asset.

Basel III Capital Standards

	2013	2014	2015	2016	2017	2018	2019
Minimum Common Equity Capital	3.5%	4.0%	4.5%	4.5%	4.5%	4.5%	4.5%
Capital Conservation Buffer				0.625	1.25	1.875	2.5
Minimum Common Equity + Capital Conservation Buffer	3.5	4.0	4.5	5.125	5.75	6.375	7.0
Countercyclical Buffer Regime				0 - 0.625	0 - 1.25	0 - 1.875	0 - 2.5
Minimum Tier 1 Capital	4.5	5.5	6.0	6.0	6.0	6.0	6.0
Minimum Tier 1 Capital + Capital Conservation Buffer	4.5	5.5	6.0	6.625	7.25	7.875	8.5
Minimum Total Capital	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Minimum Total Capital + Capital Conservation Buffer	8.0	8.0	8.0	8.625	9.25	9.875	10.5

Note: All dates are as of January 1.

Source: Bank for International Settlements

A brief look at the evolution of capital requirements in the Basel accords highlights the ways in which the changes in capital requirements have reflected the changing perceptions among policymakers regarding the extent of financial stability risks, as well as how those risks should be assessed relative to one another.

The underlying rationale for minimum capital requirements is a familiar story.² Excessive risk-taking by banks may lead to public costs through deposit insurance payouts or through bailouts of failed institutions. In conjunction with measures such as supervision and asset restrictions, requiring banks to hold equity capital or subordinated debt imposes additional discipline; shareholders and junior creditors will have skin in the game, and thus will insist that the bank not overexpose itself to risk (or the bank will have to pay a higher price for capital to reflect its risk-taking). In addition, because the return to capital is contingent on the performance of the bank, capital provides a buffer in case of a negative shock: It absorbs some losses before the insurance fund (or a bailout financed with taxpayers' money) needs to step in and bear losses.

In the United States, regulators have imposed formal industry-wide capital requirements only since 1981 in response to loan-quality issues during the late-1970s stagflation and the early-1980s recession. Be-

fore then, supervisory agencies directed institutions to increase capital on a case-by-case basis when the agencies determined subjectively that an increase was warranted by the results of bank examinations. In the first years of formal capital requirements, and during the case-by-case era before it, there was some uncertainty about whether regulators could actually order banks to increase capital or whether they could rely only on persuasion. Congress resolved this issue in 1983 with the International Lending Supervision Act, which explicitly gave the agencies authority to set and enforce capital requirements.³

Within a few years, U.S. regulators became concerned that treating all assets the same for purposes of regulatory capital ratios did not capture differences in risks among different bank assets, thus giving banks an incentive to favor higher-yielding, riskier assets. In 1988, the central banks of the Group of Ten (G-10) countries adopted the Basel I framework, which sought to prevent, among other things, the "race to the bottom" that may occur when countries lower their capital requirements to attract global banking business. Basel I imposed an 8 percent minimum capital requirement and implemented risk adjustment of assets by putting them into four broad categories with a credit-risk weight for each—ranging from 0 percent for government bonds to 100 percent for corporate debt and unsecured personal loans.

This scheme, although more nuanced than the previous capital requirements in the United States, came to be viewed as too primitive. The next iteration of the international standard, Basel II, sought to address this shortcoming by dealing with risks other than credit risk (such as operational risk) and by offering a menu of methods that banks could use to calculate assets' credit risk. The simplest method, the "standardized approach," was similar to the Basel I approach in that it applied different risk weightings to different categories of assets, but with more narrow risk categories than those in Basel I. The Basel II categories were defined in part by credit-agency ratings—in contrast with Basel I, in which a commercial loan to a AAA-rated borrower would bear the same risk weighting as one to a B-rated borrower. Alternatively, banks could opt for an "internal ratings based approach" (IRB), which allowed banks to use their internal risk-analysis systems to determine the appropriate risk weighting for the assets in their portfolios after those systems had been checked by supervisory agencies.⁴ The expectation was that small (community) banks would choose the standardized approach, while large banks with well-established internal systems for assessing risks would choose an IRB approach.

The Basel II capital standards had not been fully implemented in the United States by the time the 2007–08 financial crisis started. (Prior to the crisis, the plan had been for them to take effect in April 2008, and even then they were generally to be mandated only for banks with at least \$250 billion of consolidated total assets or at least \$10 billion of on-balance sheet foreign exposure.) Thus, in principle, the U.S. experience during the financial crisis does not directly reflect on the effectiveness of Basel II.

Yet some of the conclusions that have been drawn from the financial crisis cast some doubts over the appropriateness of Basel II's asset-categorization methodology, as well as over the cruder version in Basel I. Basel II's reliance on credit ratings to place assets in categories seems somewhat at odds with the 2007–08 U.S. experience in which credit-rating agencies had given AAA ratings to tranches of mortgage-backed securities that performed very poorly after

the crisis started. Indeed, on the basis of that experience, section 939A of the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 directs federal agencies to review all of their regulations requiring an assessment of creditworthiness and to eliminate any reliance on credit ratings. The crisis of 2007–08, to some extent, also underscored the weaknesses of the internal risk modeling of banks, which is a crucial component of the IRB approach introduced by Basel II.

In general, Basel III retains the risk-weighting scheme of Basel II.⁵ The risk weights of some classes of securities have been adjusted substantially in light of the crisis, however, including adjustments that better reflect exposures to large financial institutions and highly leveraged counterparties. At a micro level, then, Basel III does not constitute a complete overhaul of the existing structure of risk assessments. Where Basel III brings about a large revision, rather, is in the required capital percentages. While Basel II centered on making capital requirements more sensitive to risk, without greatly changing the (average) total capital required under Basel I, Basel III is mainly centered on increasing the requirements for all banks. In this way, Basel III does reflect the macro-level lessons of the crisis: that developed countries may be more susceptible to banking crises than was previously believed, and that banking and fiscal authorities are undeniably inclined to intervene to shore up uninsured creditors during extreme crises. While there have been interventions in the past that extended protection to uninsured depositors and other creditors, as in the case of Continental Illinois National Bank and Trust Co. in 1984, it was not generally anticipated before the recent crisis that policymakers would find it necessary to intervene to protect uninsured depositors, creditors, and counterparties on such a large scale. More regulatory capital is a natural response to these revised perceptions.⁶

Some observers have argued that the Basel Committee, in drafting Basel III, should have revised the methodology of risk weighting more comprehensively to reduce, for example, the potential for gaming of credit ratings through the use of complex securities based on tranching.⁷ The committee's de-

cision not to embrace a new approach to risk assessment can perhaps be understood as salutary caution, which was based on the belief that there was no alternative with a clearly superior track record. The lack of a superior alternative highlights one of the little-discussed tradeoffs in the notion of a global Basel framework. On one hand, international harmonization of regulations reduces opportunities for international regulatory arbitrage (with capital seeking the higher returns available in less-regulated markets). On the other hand, it also reduces the extent of regulatory innovation at a national or subnational level that may lead to improvements in risk assessment and risk reduction. Supervisory agencies do retain the obligation, however, under the committee's Core Principles for Effective Banking Supervision, to determine to their satisfaction that a bank's capital is adequate. In that regard, supervisory agencies retain the discretion to impose requirements in response to new asset types or asset conditions.

In a sense, increasing the minimum capital requirements under Basel III is itself an experiment. The expected upside is a banking system with larger buffers against losses and better incentives for controlled risk-taking, and thus fewer bank failures and less potential for systemic crises. Yet, not all the macroeconomic effects of higher capital requirements are known at this point. Given the potential costs of raising Tier 1 capital, banks facing increased requirements may respond not by issuing new equity, but by reducing lending or even liquidating bank-specific productive assets. It is also unclear to what extent the costs created by increased capital requirements will make financial intermediation by banks costlier and push these activities into unregulated areas of the financial sector, with pernicious implications for the stability of the system.

Undoubtedly, fixing capital requirements is subject to tradeoffs. Given that capital is costly, it seems unlikely that the optimal level of regulatory capital should be such that the risk of bank failures is driven down to zero. At what point, then, have regulators lowered the probability of bank failures enough that the benefits of further lowering such risk are

outweighed by the costs of functioning with a more expensive source of funding? This is one crucial question that is still in search of a definitive answer.

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Endnotes

- ¹ The committee provides some basic guidelines for computing and adjusting the countercyclical component. See Rafael Repullo and Jesús Saurina, "The Countercyclical Capital Buffer of Basel III: A Critical Assessment," March 2011, for a detailed discussion of the issues.
- ² See, for example, Edward S. Prescott, "Regulating Bank Capital Structure to Control Risk," Federal Reserve Bank of Richmond *Economic Quarterly*, Summer 2001, vol. 87, no. 3, pp. 35-52.
- ³ For more on the early history of U.S. capital requirements, see Karlyn Mitchell, "Capital Adequacy at Commercial Banks," Federal Reserve Bank of Kansas City *Economic Review*, September-October 1984, pp. 17-30, and Herbert L. Baer and John N. McElravey, "Capital Shocks and Bank Growth—1973 to 1991," Federal Reserve Bank of Chicago *Economic Perspectives*, July-August 1993, vol. 17, no. 4, pp. 2-21.
- ⁴ There were two categories of IRB methods, the "advanced IRB" approach and the "foundation IRB" approach. For details, see "The Internal Ratings-Based Approach," Basel Committee on Banking Supervision, January 2001, at <http://www.bis.org/publ/bcbsca05.pdf>.
- ⁵ For example, Basel III continues to treat AAA-rated securities alike; it continues to treat AAA- and AA-rated sovereign debt like cash; and it continues to offer banks the option of relying on their internal risk models.
- ⁶ The Dodd-Frank legislation includes a number of complementary measures to respond to the same lessons from the crisis. Among other relevant provisions, the statute mandates enhanced supervision of nonbank financial companies that are deemed systemically important; it creates a new system of "orderly liquidation" for dealing with a systemically important financial company that is in default or in danger of default; and it mandates new regulation of incentive-based compensation to curb excessive risk-taking.
- ⁷ See "Third Time's the Charm?" Free Exchange Blog (*The Economist*), September 13, 2010, at http://www.economist.com/blogs/freeexchange/2010/09/basel_iii and "The Biggest

Weakness of Basel III," Felix Salmon, Reuters Blog, September 24, 2010, at <http://blogs.reuters.com/felix-salmon/2010/09/15/the-biggest-weakness-of-basel-iii/>.

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