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THE UNINTENDED CONSEQUENCES OF INTERNATIONAL BANK CAPITAL STANDARDS

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IN LIGHT OF the financial crisis, the widely accepted international bank capital standards known as the Basel Accords have come under scrutiny. The current crisis is compelling evidence that those standards, intended to protect the international financial system from disruptive systemic risks by promoting uniform capital requirements for banks, have failed. Indeed, in several ways they may have helped both to cause and to exacerbate the crisis.

This Mercatus on Policy reviews the unintended consequences of the Basel capital standards, as well as the failure of those standards to achieve the desired result of systemic stability. The fundamental lesson is that capital standards should be viewed in the context of a dynamic process in which the ability of standards to produce desirable behavior necessarily degrades over time.

THE RATIONALE FOR BASEL I

THE BASEL CAPITAL standards (Basel I) were first introduced in 1988 by the Basel Committee on Banking Supervision.¹ The standards were more recently revised in 2004 (Basel II) and were in the process of being phased in shortly before the current credit crisis emerged.

The Basel I standards were intended to fill gaps that had been exposed in previous capital regulations. One set of gaps was related to international coordination: Regulatory authorities did not want banks in different jurisdictions to face vastly different capital standards. It was felt that differences across countries could lead to regulatory arbitrage as well as subject countries with strong capital standards to spillover risk from institutions operating under jurisdictions with weak standards.

Another impetus for the new standards was the wave of failures, primarily of savings and loan associations, in the United States in the early 1980s. These failures were attributed to the previous regime of capital regulation, which applied unspecific ratios, failed to align capital requirements with risk, and also allowed those institutions categorized as thrifts to use book value accounting to disguise problems in their balance sheets.² It was widely believed that capital requirements would be improved by the move to risk weighting because in the absence of weighting, it seemed that banks responded to incentives to maximize return on capital by over-investing in risky assets. The move to risk-based standards was considered an improvement over a system without any explicit adjustment for risk. A 2003 publication from the Federal Deposit Insurance Corporation summarizes Basel I's consideration of risk as follows:

Most claims are risk-weighted at 100 percent, although residential mortgages are weighted at 50 percent, claims on or guarantees provided by qualifying banks and other entities (in the U.S. this category includes most notably the government-sponsored enterprises such as Fannie Mae and Freddie Mac) are weighted at 20 percent, and very low risk assets, such as those guaranteed by qualifying governments, are weighted at 0 percent. This forces banks to hold more capital if they choose riskier assets, and does not penalize them for holding less risky portfolios. Institutions subject to the Accord are required to maintain a minimum ratio of regulatory capital-to-total risk-weighted assets of at least 8 percent.³

BASEL II: THE SEQUEL

SEVERAL FACTORS CAUSED regulators to view the Basel I regulations as outdated, leading to Basel II. First, there was the increased use of derivatives by large banks. Second, there was the recognition that the Basel I risk buckets (as described in the quoted passage above) were crude. For example, they did not differentiate between loans to low-risk borrowers and loans to high-risk borrowers. Finally, the Basel I methodology was out of synch with the risk-management techniques that banks were using for internal purposes. These techniques, such as Value at Risk (VaR)⁴, looked at portfolio-wide risk characteristics rather than treating risk as the linear sum of the risk of individual assets.

Basel II created more refined risk buckets. In particular, it allowed for risk weights for loans and securities to vary according to the ratings issued by rating agencies, with AAA- and AA-rated securities requiring less capital than other assets. It also allowed banks to use VaR and similar metrics as alternative measures of risk.

FAILURE TO PREVENT A CRISIS

GIVEN THE EMERGING crisis in the world's financial system, the latest regime of capital requirements has been a failure. To understand why, it's worth noting the following points.

Capital requirements did not address the "too big to fail" problem. In theory, a bank should be closed when it is unable to meet minimum capital standards. In practice, however, regulators fear that shutting down a large bank will cause investors to pull out of other banks, causing a systemic collapse. Moreover, they fear the consequences of a large bank failure for the counterparties of that bank, particularly in complex derivative contracts.

The internal risk models like VaR did not measure what the regulators need to know. Out of 100 scenarios, these models calculate the value of a bank under the 99 *best* scenarios—but what regulators need to worry about is the value of the bank under the *worst*—and often completely unpredictable—scenario. This is often referred to as the "Black Swan" problem.⁵ What it means in practice is that VaR, while it may be useful for some purposes, is not a reliable measure of capital adequacy.

The relationship between banks and non-bank financial institutions was not well handled. Several of the institutions that were part of the financial crisis, including the major investment banks and AIG insurance, were not chartered as banks prior to the crisis and thus were not subject to the same capital regulations. This reintroduced the problems of regulatory arbitrage and spillover.

The capital regulations failed to take into account liquidity risk. Financial institutions that might be solvent in the long run nonetheless face short-run liquidity needs that threaten their viability. Liquidity risk was particularly pronounced at AIG when some of the counterparties to its credit default swap portfolio required AIG to post collateral for insurance that it had sold on securities that had not yet defaulted. However, liquidity risk also affected banks subject to the Basel capital regulations.

HOW BASEL CONTRIBUTED TO THE CRISIS

MORE THAN A failure to prevent the crisis from occurring, the Basel capital standards actually contributed to it.

The Basel standards did their worst damage by using rating-agency evaluations of bond risk to determine capital requirements. This created an enormous worldwide demand for AAA- and AA-rated securities. To meet this demand, the United States manufactured highly rated securities out of other assets, especially mortgage loans. The flaw in this process was that the ratings greatly understated the risks of the underlying assets. As is now well known, the rating agencies

failed to allow for scenarios of general house price depreciation in crafting their ratings. Securities that were initially rated as AAA or AA subsequently defaulted at very high rates when prices began to decline.

The obsession with ratings caused perverse results. If a bank originated a mortgage loan for its own portfolio, the lowest risk-weighting it could receive under Basel I was 50 percent, even if the loan was for an owner-occupied house to a borrower making a large down payment with well-verified income. On the other hand, the risk weighting could be lower on a mortgage-backed security consisting of subprime loans with low down payments that originated via the infamous “NINJA” approach (no verification of the borrower’s income, job, or assets).⁶ In other words, the capital standards actually promoted unsound securitized mortgages ahead of safe mortgage loans.

The Basel standards also caused harm by exacerbating systemic risk. Risk-based bank capital standards, when combined with mark-to-market accounting required by regulation, are inherently procyclical. When times are good, assets are liquid and robustly priced and bank capital positions can seem deceptively strong. When times are bad, many banks may need to sell assets at the same time in order to maintain capital adequacy. Markets for assets can become illiquid and prices fall. This in turn requires other banks to mark down the value of their portfolios, which requires them to take action to meet capital requirements. They may be forced to sell their own securities, driving prices down further. The whole system is caught in a vicious downward spiral.

Risk-based capital and mark-to-market accounting make sense for monitoring bank behavior and preventing individual bank failures. However, from a systemic point of view, once a crisis begins these policies are counterproductive.

LEARNING FROM THE CURRENT CRISIS

THE CURRENT CRISIS provides some obvious lessons, but it also poses some deeper challenges.

One obvious lesson is that countercyclical capital requirements would be better than the current regime. Under countercyclical capital requirements, banks would be required to hold relatively more capital when asset prices have been rising and relatively less capital when asset prices have been falling. This would help to serve as a brake on asset-market manias and panics. Instead, as we have seen, the Basel accords promoted both the upside bubble and the downside correction.

Another obvious lesson is that rating agencies were given too much power and too little scrutiny under the Basel regime. If we are going to continue to set different capital requirements

based on agency ratings, then steps will have to be taken to insure the quality of those ratings.

It is less clear what ought to be done about the relationship between regulated banks and other financial institutions. Should the regulatory differences be accentuated, or should they be reduced?

The case for *accentuating* regulatory differences. We want to provide consumers with bank deposits that are insured. To protect taxpayers, we want to prevent insured banks from taking significant risks. Therefore, banks should be very closely regulated. On the other hand, we do not want to suppress risk-taking in general. Therefore, we should allow non-bank institutions much wider discretion to take risks, with the understanding that their liabilities are not insured or otherwise protected by taxpayers. In conclusion, we need to differentiate sharply between banks that are closely regulated and non-banks where the risks are borne entirely by private investors.

The case for *reducing* regulatory differences. We have seen that in a crunch the government cannot allow important financial institutions to fail. The federal government stepped in to guarantee money market funds and provide funds to AIG.. We have also seen that when institutions face differences in regulatory regimes, transactions take place that are motivated solely by regulatory arbitrage, to the detriment of the entire system. Moreover, it may not be possible to set up a system that insulates the regulated banking sector from spillover risks that are created by the unregulated sector. Therefore, we need to bring as many financial institutions as possible under a coherent regulatory regime.

The current crisis has not provided compelling evidence one way or the other on the issue of regulatory differentiation or consolidation. That is an important issue to debate going forward. However, all other things being equal, it might be better to encourage more regulatory regimes than fewer regimes. A diverse portfolio of financial institutions and regulatory regimes might be less subject to catastrophic failure than a single system.⁷

Finally, there is the question of whether regulation is doomed to always be behind the curve of financial innovation. A regulatory regime that seems optimal when it is first implemented may nonetheless degrade over time.

A regulatory regime is an incentive structure, much like a compensation system within a corporation. Within a corporation, the management’s goal with compensation is to induce maximum employee effort at minimum cost. Employees want to earn the most income with the least possible effort. Once a compensation system is in place, one can expect employees to put effort into figuring out how to “game” the system. As time

goes on, they will get better and better at doing so. Firms typically have to tinker with their compensation systems regularly in order to remain profitable.

Similarly, bank regulators want to induce banks to hold enough capital to protect safety and soundness.⁸ Banks want to earn the highest possible return on equity. Even without actively trying to figure out loopholes in regulations, the natural drive for higher returns will lead banks in the direction of taking the most possible risk under any given regime. Thus, the longer a regime stays in place, the more innovations will emerge that undermine that regime.

The challenge for regulators is to recognize and adapt to market developments before innovations cause an excessive build-up of risk, instead of always trying to fight the last battle. The point here is that bank regulation is not a single problem with an optimal solution. It is instead an evolutionary process in which we can expect the market to constantly make moves to which regulation will have to adapt.

ENDNOTES

1. This committee consists of banking regulators from 13 advanced countries, the United States being one of them.
2. FDIC, "Basel and the Evolution of Capital Regulation: Moving Forward, Looking Back," 2003, <http://www.fdic.gov/bank/analytical/fyi/2003/011403fyi.html>.
3. Ibid.
4. Value at Risk is the largest loss that would occur if all of the factors that affect the asset stay within a given confidence interval, such as 99 percent or 99.9 percent.
5. Nassim Taleb uses the term Black Swan to pertain to an event that seems all but impossible—until it takes place. Nassim Nicholas Taleb, *The Black Swan: The Impact of the Highly Improbable* (New York: Random House, 2007).
6. Steven Pearlstein, "'No Money Down' Falls Flat," *The Washington Post*, March 14, 2007, D01, http://www.washingtonpost.com/wp-dyn/content/article/2007/03/13/AR2007031301733_pf.html.
7. For support of this argument, see Lawrence J. White, "In Defense of Regulatory Complexity," *Forbes*, February 3, 2009, http://www.forbes.com/2009/02/03/federal-regulation-economy-opinions-contributors_0203_lawrence_white.html.
8. For a basic explanation of how capital and leverage ratios are calculated, see Lawrence J. White, "Understanding Capital and Leverage in the Financial Markets Debacle of 2007-2008," *Mercatus on Policy*, Mercatus Center at George Mason University, February 6, 2009, <http://mercatus.org/PublicationDetails.aspx?id=26042>.

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