

For release on delivery
12:15 p.m. EST
November 9, 2011

The Evolution of Capital Regulation

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to the

Clearing House Business Meeting and Conference

New York, N.Y.

November 9, 2011

A little over three years ago, Lehman Brothers ignited the dry tinder of a badly overleveraged financial system that was too dependent on continuous, significant increases in housing prices and too opaque for supervisors, investors, analysts, and often participants themselves to understand. As one would expect of a truly systemic crisis, there were many contributing factors--the prevailing statutory framework for financial regulation, supervisory practices, and the risk-management practices of financial actors. And, as one would thus expect, the reform agenda has itself also been multi-dimensional.

For all the regulatory changes that are in place, in process, or under consideration, however, I believe that capital regulation remains the single most important element of prudential financial regulation. Let me immediately elaborate upon that statement in two ways. First, capital regulation itself must be multi-dimensional and rigorous in each of its components. Second, while strong capital regulation is necessary for a sound financial system, it is not, on its own, sufficient. In my remarks this afternoon, I will concentrate on the first of these points and discuss how capital regulation reform is evolving in the wake of the crisis.

Evolution and Shortcomings of Capital Regulation

Although they had long used bank capital ratios as a supervisory instrument, U.S. bank regulators did not impose explicit minimum capital requirements until the 1980s. The proximate reason for this change was regulatory concern over the decline in capital ratios of the largest banks--a concern reinforced by Congress, as it saw some of those large banks facing enormous losses on their loans to foreign sovereigns. Within a few years this U.S. regulatory innovation was effectively internationalized by the original Basel Accord.

At the same time, regulators came to regard capital requirements as a supple prudential tool. As activity and affiliation restrictions were loosened in the United States, capital

requirements seemed a promising way to protect the public's interest in the stability of financial institutions that had access to the Federal Reserve's discount window and Federal Deposit Insurance Corporation insurance. Capital requirements promised to provide a buffer against bank losses from *any* activities in which the bank or its affiliates might engage, a consideration of equal or greater relevance in countries with universal banking models. Some support also developed for the proposition that minimum capital levels could, by maintaining a material equity value for the bank, serve as a disincentive for excessive risk-taking by management and shareholders.

In the ensuing quarter century, banking regulators around the world focused considerable attention toward elaborating capital requirements to reflect more precisely the particular risks faced by a financial institution. Capital requirements had, to a considerable extent, become the dominant prudential regulatory tool.

The financial crisis showed that this concentrated, almost all-consuming regulatory focus on refining bank capital requirements in Basel II had come at the expense of attention to other risks in the financial system. In particular, banking regulators failed to appreciate fully the implications of the growth--in size, leverage, and maturity transformation levels--of the shadow banking system for the balance sheets of commercial banks and for overall financial stability. The crisis showed that liquidity problems can be an independent source of severe stress, perhaps even for firms that might otherwise have remained solvent.

But it was also evident that the specifics of pre-crisis capital regulation fell far short of what this prudential instrument can achieve. The Basel I and Basel II capital requirements relied almost exclusively on capital ratios that were essentially snapshots of balance sheets and thus all too often a lagging indicator of a bank's condition. Declines in asset values--particularly of non-

traded assets--were often not reflected in capital calculations for some time. Though already well-known before the crisis, this phenomenon was particularly problematic as asset values declined rapidly, causing both markets and supervisors alike to regard regulatory capital ratios as providing only limited information about a firm's current financial condition.

In addition, minimum capital levels had simply been set too low, in general and with respect to particular assets. One of the most obvious examples was the capital requirement for asset-backed securities in the trading books of banks. The requirement was based on returns over a 10-day holding period, used a one-year observation period that had been characterized by unusually low price volatility, and did not adequately account for the credit risks inherent in these traded instruments.

Furthermore, at least some of the instruments that qualified as "Tier 1 capital" for regulatory purposes were not reliable buffers against losses, at least not on a going concern basis. It is instructive that during the height of the crisis, counterparties and other market actors looked almost exclusively to the amount of tangible common equity held by financial institutions in evaluating the creditworthiness and overall stability of those institutions. They essentially ignored the Tier 1 and total risk-based capital ratios in regulatory requirements. In the fall of 2008, there was widespread doubt in markets that the common equity of some of our largest institutions was sufficient to withstand the losses that those firms appeared to be facing. This doubt made investors and counterparties increasingly reluctant to deal with those firms, contributing to the severe liquidity strains that characterized financial markets at the time.

Finally, the crisis validated the concerns expressed by some academics and by policy staff at the Bank for International Settlements that the effectiveness of capital regulation was limited by its exclusively microprudential focus. Capital requirements had been set with

reference solely to the balance sheet of a specific firm. The risk weights assigned to the firm's assets were calculated with reference to ordinary times, whether through a supervisory determination or a combination of supervisory formulas and a firm's own modeling. This microprudential focus did not take into account the potential impact of a shock to the value of widely-held assets--whether exogenous, caused by the distress sales of such assets by a large firm suffering particularly severe problems, or, as in the financial crisis, a lethal interaction between these two factors.

The limits of the microprudential approach were particularly evident with respect to very large, interconnected firms. There would be very substantial negative externalities associated with the disorderly failure of any such firm, distinct from the costs incurred by the firm and its stakeholders. The failure of one large firm, especially in a period of stress, significantly increases the chances that other financial firms will fail, for two reasons. First, direct counterparty impacts can lead to a classic domino effect. Second, because losses in a tail event are much more likely to be correlated for firms deeply engaged in trading, structured products, and other capital market instruments, all such firms are vulnerable to accelerating losses as troubled firms sell their assets into a declining market.

Reform of Capital Regulation in the Post-Crisis Period

It is obvious that the post-crisis regulatory system will not be as dependent on capital requirements as the pre-crisis regime. Dodd-Frank itself is testimony to this fact, as are a number of changes already made by the bank regulatory agencies. There is now increased emphasis on market discipline, liquidity regulation, activities restrictions, and more effective supervision, in addition to capital requirements. Reforms for money market funds and the triparty repo market, as well as more general attention to wholesale funding models for financial

intermediation, are still needed. But the crisis reinforces the point that robust capital requirements should continue to be a central component of the financial regulatory system. The U.S. banking agencies made reform of the capital regime a high priority.

In response to the shortcomings of the pre-crisis capital regulatory regime, there have been three complementary threads of reform. First is improvement of the traditional, individual-firm approach to capital regulation. This strand mostly originates in the work of the Basel Committee. Basel 2.5 revised and strengthened the market risk requirements of Basel II. Basel III upgraded the quality and increased the quantity of minimum capital requirements, created a capital conservation buffer, and introduced an international leverage ratio requirement.

Second is the introduction of a macroprudential component of capital regulation. Although Basel III does contain a few features responsive to macroprudential concerns, it remains principally microprudential. This second thread is linked both to the requirement in section 165 of the Dodd-Frank Act for enhanced risk-based capital standards for large bank holding companies and to the Basel Committee's effort to develop a framework for the assessment of a capital surcharge based on the global systemic importance of the largest, most interconnected banking organizations.

Third is establishment of regular stress testing and capital planning. These complementary supervisory tools serve two related functions. First, they make capital regulation more forward-looking by subtracting losses in asset values and earnings estimated to be sustained in an adverse macroeconomic scenario, in order to determine whether firms would have enough capital to remain viable financial intermediaries. Second, they contribute to the macroprudential dimension of capital regulation by examining simultaneously the risks of all large financial institutions in the face of the adverse scenario. This reform thread is sourced in

the Dodd-Frank requirement for stress testing at large banks, but more generally in the Federal Reserve's establishment of a formal annual capital planning requirement for these firms.

The development and implementation of these three threads of capital reform are at different stages, so it may be useful to review where each stands. As to the first--improving the traditional, individual-firm approach to capital regulation--Basel 2.5 and Basel III are important steps forward, both internationally and domestically. In addition, the so-called "Collins amendment" in Dodd-Frank requires that banking organizations maintain capital at levels no lower than those set by "generally applicable" requirements, which include a standardized approach to risk-weighting. In practice, the Collins amendment provides a safeguard against declines in minimum capital requirements in a capital regime based on internal modeling.

The Basel Committee completed work on Basel 2.5 and Basel III in 2009 and 2010, respectively. Implementation of these two frameworks into national legislation or regulations is underway in the jurisdictions represented on the committee.¹

Two issues concerning implementation in the United States bear mentioning. First, while U.S. bank regulatory agencies have published a proposed regulation for the new market risk capital requirements, we did not include the trading book securitization and resecuritization portions of Basel 2.5, which are supposed to take effect in 2011. The complication here, and with part of Basel III implementation, lies in the use of agency credit ratings. Dodd-Frank requires the removal of agency credit ratings from all regulations throughout the government. Thus, the banking agencies have had to develop substitutes for agency ratings in each of the quite different contexts in which they are used within the capital standards. This has not been the easiest of tasks, but I believe we are now close to convergence on the approaches we will take in

¹ Basel Committee on Banking Supervision (2011), *Progress Report on Basel III Implementation* (Bank for International Settlements: Basel, Switzerland, October), www.bis.org/publ/bcbs203.pdf.

fashioning these substitutes. We should soon be able to draft a proposed regulation for the rest of Basel 2.5. Work on the Basel III rule has had to compete for staff time with all the other rulemakings currently underway at the banking agencies, but I would expect a proposed regulation in the first quarter of 2012.

The second issue pertains to the six-year transition period for Basel III, which by its terms phases in the requirements for both the improved quality and increased quantity of capital in somewhat backloaded stages beginning in January 2013. Questions have arisen as to supervisory expectations for capital levels during this rather lengthy period. Specifically, there has been some uncertainty as to whether supervisors intend to “pull forward” the various transition points outlined in Basel III. While the Federal Reserve intends to ensure that firms are on a steady path to full Basel III compliance, we do not intend to require firms to raise external capital or to reduce their risk-weighted assets in order to meet any new requirement earlier than at the time specified in the Basel III transition schedule. However, because this issue is complicated somewhat both by certain expectations stated in Basel III and by the relationship of Basel III implementation to the Federal Reserve’s requirement for annual capital planning by certain large bank holding companies, it may be useful to provide some further details on our expectations.

In the first place, the Federal Reserve *will* require bank holding companies that are subject to our proposed capital plan rule (generally companies with \$50 billion or more in total assets) to take affirmative steps to improve capital ratios, such as external capital raises, when those steps would be needed to meet each Basel III transition target on time.

Next, it is important to note a statement made by the Governors and Heads of Supervision (GHOS)--the oversight body of the Basel Committee--in announcing agreement on Basel III in

September 2010. The GHOS said that banks should “maintain prudent earnings retention policies” so as to meet both the new minimum equity standard and the conservation buffer “as soon as reasonably possible.”² In the spirit of that statement, we will expect large bank holding companies that have not yet met the fully phased-in Basel III requirements (including any expected capital surcharge for globally systemically important banks) to improve their capital ratios steadily during the transition period through prudent earnings retention policies, even if they already meet any applicable intermediate targets. In practical terms, we will monitor their progress through the annual capital planning exercise, about which I shall have more to say a bit later in these remarks. We will be comfortable with proposed capital distributions only when we are convinced they are consistent with a bank holding company readily and without difficulty meeting the new capital requirements as they come into effect.

Turning now to the second thread of capital regulation reform, the introduction of a capital requirement keyed to the systemic importance of financial firms, I am sure you are all aware that last Friday the Basel Committee released its framework for calibrating capital surcharges for banks of global systemic importance. This initiative is consistent with the Federal Reserve’s obligation under section 165 of the Dodd-Frank Act to impose more stringent capital standards on systemically important financial institutions, including the requirement that these additional standards be graduated based on the systemic importance of the bank. Both the Dodd-Frank provision and the Basel framework are informed by the fact that the failure of a systemically important firm would have substantially greater negative consequences on the financial system than the failure of other firms, even quite sizeable ones. Yet obviously such a firm has no incentive to take account of these negative externalities. An ancillary rationale is

² See Bank for International Settlements (2010), “Group of Governors and Heads of Supervision Announces Higher Global Minimum Capital Standards,” press release, September 12, www.bis.org/press/p100912.htm.

that additional capital requirements could help offset any funding advantage derived from the perceived status of such institutions as too-big-to-fail.

The surcharge attempts to reduce the chances of a global systemically important bank's (G-SIB's) failure so as to bring the expected impact of the failure of such a firm--that is, the expected damage to the system upon its failure discounted by the possibility that it will, in fact, fail--more in line with that of other sizeable firms. Moreover, the metrics for determining G-SIB status are heavily weighted toward the kind of interconnectedness features that pose macroprudential risks. The framework includes a range of surcharges in the 1.0–2.5 percent range for what will likely be a global group of about 30 banks, to be phased in as an expansion of the Basel III capital conservation buffer from 2016 to 2019.

For illustrative purposes, the Basel Committee used 2009 data to generate a list of banks that were of global systemic importance and, based on the criteria developed from that data, a hypothetical set of “buckets” associated with the different surcharge rates. It is important to note, however, that this list, which was published last week, will not be used to determine any bank's surcharge. The list of banks to be covered and the surcharge buckets into which they will be placed when the surcharge begins to take effect in 2016 will be based upon data collected in 2014. This is as it should be, since the inclusion and ordering of the firms should be based upon the characteristics of the banks as they have evolved closer to the effective date. Some banks have changed their profiles materially in the past couple of years, and the prospect of capital surcharges may be an incentive for others to do so as well. In this regard, I should also note that the bucket allocation of each G-SIB will be recomputed in each year after 2016.

The use of more up-to-date data means that banks will not know for some time exactly which buckets they will occupy when the surcharge first phases in. However, the potential

uncertainty associated with this approach should be substantially reduced by the plan to publish an updated list of the covered financial institutions each November, along with an indication of the bucket to which each firm would have been allocated based on data from the preceding year. The Basel Committee will release by the latter part of 2014 additional information relevant to the surcharges that will be applied beginning in 2016 -- the thresholds for each surcharge “bucket” and the denominator reflecting the universe of global banking institutions against which each G-SIB will be measured. To further advance the goals of transparency and predictability, we will continue to work within the Basel Committee to ensure that the indicators used to determine the systemic-risk ranking of a firm are clear and based upon publicly available information sources. If additional information is needed by firms to allow for effective capital planning, the Basel Committee should be prepared to develop and release additional guidance.

Dodd-Frank requires the Federal Reserve to impose more stringent capital requirements on all bank holding companies with assets of \$50 billion or more, not just the U.S. firms that are on the list of G-SIBs and will thus have capital surcharges. No decision has yet been made as to whether the more stringent capital requirement to be applied to firms other than those on the eventual list of G-SIBs will be in the form of a surcharge. However, analysis of the systemic footprints of other U.S. bank holding companies suggests that even if surcharges were to apply, their amounts would be quite modest, at least based on current characteristics of the other bank holding companies.

The third thread of reform in capital regulation is the establishment of regular stress testing and capital planning. Unlike the first two threads, there is no international framework that parallels our domestic changes, though stress testing is receiving increased attention in a number of other jurisdictions. These reforms build on the stress test we performed at the height

of the financial crisis in early 2009, which used an adverse macroeconomic scenario and estimates of firm revenues and potential losses on a portfolio-specific basis to calculate the amount of capital that each firm would need to remain a viable financial intermediary even were the adverse scenario to materialize. The test was thus both forward-looking and horizontal, meaning that the 19 largest U.S. bank holding companies were assessed in a simultaneous, consistent fashion.

Dodd-Frank creates two kinds of stress testing requirements. First, it mandates that the Federal Reserve Board conduct annual stress tests on all bank holding companies with \$50 billion or more in assets to determine whether they have the capital needed to absorb losses in baseline, adverse, and severely adverse economic conditions. Second, it requires both these companies and certain other regulated financial firms with between \$10 billion and \$50 billion in assets to conduct internal stress tests. The Board must both publish a summary of results of the supervisory stress tests and issue regulations requiring firms to publish a summary of the company-run stress tests.

Those who participated in the 2009 exercise, both at the banks and at regulatory agencies, know that the resource demands associated with it were considerable. Yet the value of that effort was also considerable, a fact that doubtless informed the Congressional decision to make the practice mandatory. The exercise itself forces supervisors to focus on the nature and extent of potential sources of loss for the largest bank holding companies as a group. The disclosure of stress test results allows investors and other counterparties to better understand the profiles of each institution. And, I believe, the demands of supervisors for well-specified data and projections from firms has improved risk management at these institutions.

We will be implementing the specific stress testing requirements of Dodd-Frank over the next year. However, in the interim we are using a modified form of stress testing as part of the annual capital planning process we have established for large bank holding companies. This process goes well beyond a stress testing exercise. It requires firms to project their capital needs and plans on a firm-specific basis, as well as with reference to more standardized stress scenarios. It also allows us to review the safety and soundness of the firm's capital position, including any plans it has for distributions of capital. As you will recall, in the absence of such a capital review, some companies engaged in ill-advised, inappropriate capital distributions in the period immediately preceding the financial crisis, leaving them less able to absorb the losses that ensued.

We conducted a capital plan review early this year for the 19 firms that had been involved in the 2009 stress test. In just a few weeks, we will begin the 2012 review. This process integrates stress testing and decisions about capital adequacy and possible capital distributions. It also gives supervisors insight into the risk measurement and risk management capabilities of the firms. We are close to issuing a final regulation that will contain the basic structure for this annual exercise.

The rule would extend this formal capital planning to all bank holding companies with \$50 billion or more in assets. The comments received on the proposed regulation issued in June have been useful in crafting the final rule. I expect that the final rule would, among other things, respond to the concern of some firms that the timing of the first capital planning process did not provide for appropriate capital distributions in the first quarter of the succeeding calendar year. Clarifications of some other issues that arose in the 2011 capital review will be addressed in the documentation for the 2012 exercise--such as describing with more specificity what constitutes

the kind of material change in the risks faced by a firm, such that a supplemental capital plan would be needed during the course of the year.

It is important to note that the capital planning process, including the stress testing component, provides supervisors with the opportunity to determine whether banking organizations need to maintain capital ratios above the minimum levels specified in the various Basel frameworks as implemented into U.S. law. Institution-specific capital measures of this sort are explicitly contemplated in the Basel arrangements, in U.S. legislation, and in the regulations of U.S. banking agencies. During the financial crisis, we used our safety-and-soundness authority to require banks to hold sufficient capital to weather the impact of the crisis and the serious recession that followed. Similarly, our annual capital plan review is a forward-looking exercise that, in estimating losses and reduced revenues that would follow an adverse economic scenario, may result in requiring banks to maintain more capital than would a static, backward-looking snapshot of minimum capital levels.

Conclusion

On a number of previous occasions, I have noted that, for all the disagreement over the right set of financial reform measures, on one point there is near unanimity: No one wants another TARP program. Not those who thought TARP was the best of a bad set of options in the fall of 2008. Certainly not those who opposed it. Not the American people, many of whom saw the injection of billions of dollars of government capital into financial firms as more a bail-out of large banks than an imperative to stabilize the financial system. And not even, I suspect, most of the large financial firms that received the government capital.

Each of what I have characterized as the three threads of capital regulation reform is still in development. Domestically, there are notice-and-comment rulemakings still to be done in

each area. Internationally, the Basel Committee will continue work on the indicators used in its capital surcharge methodology and, of course, has yet to finalize the list of systemically important banks and the assignment of those banks to the various surcharge buckets. In both arenas it is important to move as quickly as feasible to complete all this work, so as to provide more clarity to banks, markets, and the public on the details of capital requirements, while still ensuring that the final regulations and requirements are well-crafted.

But if details are still lacking, the direction of these reforms is now clear. When fully implemented, these reform strands together will increase significantly the safety and soundness of the financial system and make much less likely the need for some future TARP. At a time when there is considerable disagreement over the best direction for many aspects of financial regulation, that result is one I suspect commands broad support among policymakers, policy analysts, and the public.