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Introduction

Recovery remains weak from the Great Recession, arguably the worst financial crisis since the Great Depression, which quickly spread from its origins in the United States to much of the rest of the world. Over-leveraged consumers have been hesitant to spend, while over-leveraged banks have been too weak to lend. It will take time, perhaps a very long time, for economies that entered the crisis in such precarious financial condition to heal and for strong, sustained growth to take hold.

In the United States, the Financial Crisis Inquiry Commission, the official body charged with investigating the causes of the crisis, highlighted numerous factors that together led to excessive subprime mortgage lending and leverage among many of the financial institutions that bought securities backed by subprime loans. Even before the commission issued its report, in December 2010, the U.S. Congress had enacted the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010, which the president signed into law immediately in July of that year. Supporters of the legislation argued that its multiple provisions were necessary to prevent future financial crises as well as the bailouts of unsecured creditors of a number of the largest financial institutions, which were engineered principally in 2008 by policymakers in an effort to head off the feared collapse of the U.S. financial system in the wake of the crisis.

Controversy still swirls, however, over the wisdom and effectiveness of the Dodd-Frank law and similar reform measures adopted by other developed countries. In

particular, questions surround the ability of governments to better manage the stability of their financial institutions and sectors going forward, both to prevent future crises and to contain the damage when it occurs.

The chapters in this volume are based on papers by financial experts in the United States and Japan that were presented at the annual Brookings-Nomura Institute-Wharton School conference. The authors of these chapters, which focus on how to restore and protect financial stability, come to their tasks from several different perspectives and voice different, and sometimes conflicting, views. But readers should not find that surprising. Debate over the causes and appropriate cures for the financial crisis began as the crisis itself was unfolding and continues to this day. The debates over the future direction of financial regulatory policy are healthy, because they help expose both the strengths and weaknesses of various prescriptions. We trust that readers will agree after reading the contributions to this volume.

Chapter 2 is about Japan, which is still attempting, more than two decades later, to recover from its own deep financial crisis of the late 1980s and early 1990s. Given the weakness of the economic recovery from the most recent crisis, many have been looking to the Japanese experience for lessons. The subsequent four chapters discuss various features of the U.S. response to its crisis, with special emphasis on ideas or concepts that did not make it into the Dodd-Frank legislation but that policymakers may want to consider as they implement the regulations or revise the landmark legislation itself.

This introduction provides an overview of some of the key themes that are elaborated in the chapters that follow. Before turning to these summaries, however, we begin with a very brief summary of the Dodd-Frank legislation itself so that readers unfamiliar with the law have a basic idea of how U.S. policymakers responded to the crisis.

It is impossible to do full justice in this very brief introduction to the Dodd-Frank legislation, which contained more than 2,000 pages of legislative language and instructions to various U.S. financial regulatory bodies to issue more than 500 rules, conduct 81 studies, and present 93 reports to implement the statute. At this writing, some of the rulemakings have been completed, but many have not. Nor have all of the numerous reports about specific aspects of the crisis and responses mandated by Dodd-Frank been completed. Nonetheless, the broad outlines of the bill can be briefly summarized and usefully described as having three main features.

First, the bill requires banks and "systemically important" nonbank financial institutions to have substantially higher capital and liquidity cushions than they maintained before the crisis. The Basel Committee, which had been setting

capital standards for banks since 1989, began work to increase bank capital standards shortly after the crisis began. Because the United States is a member of the committee, this particular feature would likely have been adopted without the legislation, although the United States delayed implementation of the second version of the Basel Accord until the crisis hit. But Dodd-Frank went further, creating the new multi-agency Financial Stability Oversight Council (FSOC) to define systemically important nonbank financial institutions and to include them in the new regulatory regime. Moreover, the legislation has charged the FSOC with the difficult—some would say impossible—task of monitoring the financial system in the future for signs of systemic risk and adopting measures to head it off, such as new reporting requirements for a wide range of financial institutions, even higher capital or liquidity standards, and reduced loan-to-value ratios for all kinds of lending.

Second, various provisions of the bill are designed to promote more careful lending of all kinds, not just mortgage lending. They include new "skin in the game" provisions that require mortgage originators and/or those who package mortgages into securities to have some minimum equity stake in them should the mortgages turn sour (regulators have since specified 5 percent, but the requirement is applicable only to mortgages with a loan-to-value ratio greater than 80 percent); various new rules aimed at improving the quality of credit ratings while removing the legal requirement that such ratings be used by various federal authorities in the future (except in setting bank capital requirements, when credit ratings remain an important part of the process); constraints on compensation for bank employees and executives to discourage short-term profit seeking at the cost of excessive short-run risks; and creation of the new, controversial Consumer Financial Products Bureau to consolidate and strengthen federal consumer protection rules governing consumer credit.

Third, the act contains several measures aimed at curbing and ideally eliminating one of the most controversial aspects of the financial crisis: the bailout of creditors of large financial institutions, what has colloquially been called the "too big to fail" (TBTF) problem. There is a new resolution procedure for failing nonbanks, much like the one that the Federal Deposit Insurance Corporation (FDIC) has traditionally administered for banks, but with one crucial difference: in principle, no unsecured creditors of failed nonbanks are to be made whole. Skeptics still wonder whether the special liquidity support mechanism for creditors of failing nonbanks, funded by other, healthy, large financial institutions, will be used somehow to bail out those creditors and thus perpetuate the moral hazard now associated with the expected bailout of technically uninsured depositors of banks. One safeguard against that outcome is a revision to section 13(3) of the Federal

Reserve Act, which prohibits lending programs aimed at propping up failing financial firms while requiring that the security for future emergency loans be sufficient to protect taxpayers from losses. We will not know whether these provisions really will end TBTF without contributing to systemic concerns in the midst of a future crisis until a crisis actually occurs.

Another important set of TBTF-related reforms are those stemming from the mandated reforms to the over-the-counter (OTC) derivatives markets, in particular central clearing of standardized OTC contracts and regulated margin requirements for customized derivatives, which in theory should eliminate the need to bailout derivative counterparties, as happened in the case of AIG. At this writing, in the fall of 2012, not all of the required rules to implement these reforms were yet in place; even when they are, it will take some time to see whether they work.

The one conspicuous omission from Dodd-Frank was the failure to reform the two large government-sponsored enterprises (GSEs), Fannie Mae and Freddie Mac, whose substantial purchases of subprime mortgages and related securities contributed significantly to the excesses in that market that helped trigger the financial crisis. While this volume does not cover this important topic because there is already a substantial literature on the subject, its omission from the U.S. legislative response to the crisis is noteworthy. It is an important aspect of the crisis that is simply not addressed and continues to distort financial markets.

The legislation and accompanying regulation also failed to address other aspects of the U.S. financial system that contributed to the crisis as well. These topics will be addressed in subsequent chapters. But chapter 2, by Yasuyuki Fuchita and Kei Kodachi of the Nomura Institute of Capital Markets Research, appropriately begins the discussion by looking back on the Japanese experience, but only after addressing one particular aspect of the post-crisis response to the financial crisis: the anti-bailout provisions of Dodd-Frank in resolving future failing financial firms. Unlike many supporters of these provisions in the United States, Fuchita and Kodachi suggest that, if truly enforced, these provisions will make it more difficult to resolve the debts of large multinational financial firms without damaging spillover to the rest of the financial system. For that reason—and in the interest of ensuring systemic stability—Japan has not followed the United States and other developed economies in attempting to prohibit all future bailouts of creditors of large financial firms. Indeed, the authors argue that even in the United States there is skepticism that the anti-bailout stance will hold in a future crisis, at least with respect to systemically important banks, noting that credit rating agencies "uplift" their ratings of these banks because they believe that policymakers would support such institutions in a future crisis. The authors also quote a number of current U.S. public officials who express doubts that the

resolution (or "living will") plans required by Dodd-Frank that rely on putting various financial activities in "silos" to ease resolution can actually work without losing significant economies of scope.

After expressing their doubts about the effectiveness of new anti-bailout resolution regimes going forward, Fuchita and Kodachi turn back to examine the resolution regime adopted in Japan after its financial crisis. Stripped to its essence, that regime has fully protected bank depositors in an effort to maintain confidence in the financial system, through mergers, loss sharing by local governments, and direct national government support. Failed securities firms and their creditors have been treated differently, much as they would be under a U.S.-style bankruptcy system, with creditors suffering losses. The first major test case was the failure of Sanyo Securities in 1997, a second-tier but still relatively sizable brokerage firm. Yet the novelty of creditor losses in the Sanyo case caused sufficient damage to confidence in the banking system that it led to a funding crisis and eventual failure of one of Japan's top twenty banks, Hokkaido Takushoku Bank. The turmoil in the financial markets then spread to Yamaichi Securities, one of the four largest Japanese securities firms at the time, which ultimately failed. And following that, markets lost faith in a major regional Japanese bank, Tokuyo City Bank.

The authors draw a simple conclusion from this sequence of events: that in an environment of general financial weakness, the failure of even one relatively minor financial actor (Sanyo) can damage the confidence of money market participants enough that they withdraw funding from—and thereby trigger the collapse of—other larger financial actors, even in different financial sectors. They further develop this theme when they argue that even the seemingly orderly resolution of a failing firm (Yamaichi) did not necessarily end the crisis.

By 1998, the Japanese financial authorities had switched strategies and injected capital directly into twenty-one of the nation's largest banks. We will never know, but perhaps that decision (along with the urging of Britain's prime minister, Gordon Brown) helped motivate the sudden switch by U.S. policymakers in 2008 to do the same thing in the midst of the U.S. crisis, using funds provided under the controversial Troubled Asset Relief Program (TARP) to buy bank capital rather than distressed securities from the banks. In any event, Japan institutionalized the capital injection strategy, in exceptional circumstances, when its Deposit Insurance Act was revised in 2000. By examining a number of specific cases and through more general reasoning, the authors strongly defend this approach. They express some concern over the viability and wisdom of the post-crisis cutbacks in U.S. emergency lending and loan guarantees for large failing financial firms in the future.

Fuchita and Kodachi are not the only authors in this volume to express reservations about bankruptcy-like resolutions for financial firms. In chapter 3, Gavin Bingham, formerly at the Bank for International Settlements, voices different concerns, but by discussing the following conundrum, vividly on display during the European banking/sovereign debt crisis: how actions by states to alleviate distress among financial institutions can cast doubts on the viability of the government's debt, especially when the financial sector is large relative to the size of the overall economy, and how doubts about the ability of sovereigns to aid their troubled financial institutions can in turn aggravate the fragility of those institutions.

Bingham begins by discussing the importance of bankruptcy regimes for firms: how they promote market discipline and thus efficiency, allowing market forces to cull out the weak so that the strong are not penalized. At the same time, bankruptcy systems should be designed so that they do not trigger contagion, a caution especially appropriate in the financial context.

There are no accepted international bankruptcy rules for sovereigns, however, and efforts over the years to establish them have foundered for various reasons. Nonetheless, there is a long history of sovereign debt restructuring, which Bingham briefly surveys. Typically, such restructuring imposes some losses on creditors, with senior status accorded to post-resolution funding (analogous to debtor-in-possession financing in private sector bankruptcies).

Likewise, there is no effective mechanism, despite the efforts to establish one since the 2007–08 financial crisis, for effectively resolving the debts of TBTF institutions. Bingham reviews the alternatives and finds them all wanting in different respects. He devotes the rest of his chapter to showing the similarities and differences in the resolution challenges relating to both sovereigns and TBTF institutions. These issues relate to the problems of contagion and the so-called time inconsistency problem, namely, the fact that bailouts provided in the short run do not provide appropriate incentives to avoid excessive risk taking (either by sovereigns or TBTF institutions) in the longer run. Other common problems relate to deciding the priority of claimants; the difficulty of "staying" creditors, avoiding "asset grabs," and enforcing claims even when they are awarded; and the complexity of the resolution (a problem mostly unique to TBTF institutions).

Bingham concludes his chapter by outlining a number of principles that he argues can best guide the resolution of troubled sovereigns and TBTF institutions. While no perfect answers exist, Bingham believes that the best possible solutions lie in what he calls "soft law," which of necessity must evolve over time and take shape as different crises are dealt with.

One of the unique aspects of the 2007–08 financial crisis was the role played by the so-called shadow banking system: the range of nonbank financial insti-

tutions that issued subprime mortgages and securities (mortgage lenders and securities firms) and the institutions that bought them (hedge funds, structured investment vehicles attached to banks, money market funds, insurance companies, pension funds, and the like). In chapter 4, Morgan Ricks, of Harvard Law School, takes an in-depth look at the contribution of these institutions to the crisis and offers some interesting out-of-the-box recommendations for regulating them in the future based on his analysis.

Ricks begins with a simple, broad definition of "shadow banking": maturity transformation that takes place outside the depository banking system. A central premise of his overall thesis is that the activity of maturity transformation creates a prima facie case for some kind of regulatory oversight or intervention. The simple reason: short-term funders of longer-term assets can "run" (or refuse to roll over their obligations) once they lose confidence that they will be repaid. Deposit insurance and lender-of-last-resort lending by the central bank can prevent that from happening in the banking system, but neither of those tools is available for shadow banks. What then should be done to stabilize the shadow banking system?

In Ricks's view, the new "orderly liquidation authority" provided for failing nonbanks under Dodd-Frank will not solve the stability problem since short-term creditors who fear that they will be forced to take a loss will run at the first chance. Ricks argues that some other tool is needed to prevent shadow banks from creating or aggravating financial crises and that that tool is a licensing system that limits the types of firms that are allowed to fund themselves with short-term debt. Such firms would have to adhere to portfolio restrictions and capital requirements, much like banks. Perhaps most controversially, Ricks proposes that government explicitly commit to insuring the short-term money claims issued by shadow banks, while requiring these institutions to pay risk-based fees for the insurance.

As a practical matter, Ricks's proposal would effectively treat bank-like institutions, such as finance companies, as banks, while forcing securities firms, hedge funds, and other financial institutions now relying heavily on short-term funding to "term out" or substantially lengthen the maturity of their borrowings—and even to raise more equity capital. Ricks acknowledges that his regime would substantially raise the cost of doing business for shadow banks, perhaps ending some business models (such as the current money market mutual fund business, which he suggests would be unlikely to generate sufficient returns to cover the higher funding costs).

Ricks's approach to the financial instability problem is completely different from the approaches discussed in the rest of this volume. It eschews the need

for capital injections for failing firms, as advocated in the Japanese context by Fuchita and Kodachi. But in advocating a new regime of strict regulation of financial firms with short-term funding models, it has elements of a market-based approach as well: forcing firms that do not want to be regulated as banks or their functional equivalent to rely totally on more stable, long-term sources of funding and thus enforcing market discipline.

The authors of chapter 5, Charles Calomiris of Columbia University and Richard Herring of the University of Pennsylvania, offer yet another approach for both stabilizing the financial system and providing incentives for financial institutions to act carefully so that they do not cause financial crises. Their focus is banks, and their approach suggests a novel way to operationalize the notion of "contingent capital," debt that converts to equity upon some trigger of bank weakness.

One of the earliest and most prominent responses to the financial crisis was the decision by bank regulators in developed economies—operating under the auspices of the Basel Committee—to significantly increase bank capital requirements in an effort both to provide greater cushions against the kinds of losses that led to the crisis and to give shareholders more "skin in the game" so that they have an incentive to discourage bank management from taking the kinds of risks that result in losses. The authors criticize the earlier Basel standards for improperly measuring risk and thus ironically contributing to the crisis itself. But they also criticize bank regulators for failing to compel banks that suffered losses to recapitalize in a timely fashion so as to avoid the funding crisis that damaged, in some cases fatally, many of the largest ones in the fall of 2008.

The solution to both of these shortcomings, they say, is to require banks to issue and maintain some significant amount of "contingent capital" (CoCos). CoCos, when converted to equity, *automatically* add a new layer of capital to weak institutions. And because CoCos dilute the equity positions of the current owners when they are converted to equity, the owners have strong incentives to pressure managers (most of whom also typically have some significant fraction of their wealth tied up in bank shares) to avoid taking excessive risks.

The trick is to design CoCos so that the conversion trigger is truly automatic and not subject to the discretion of managers or regulators, who have a history of engaging in forbearance when seeing bank troubles, but also not so sudden and arbitrary that it discourages potential investors from purchasing the convertible debt in the first place. The authors come up with an intriguing way to meet both challenges.

First, they suggest that CoCos represent a large fraction of overall required capital. Otherwise, they cannot provide the necessary additional capital cushion to keep a troubled bank from actually failing, even after conversion. Second, the CoCo conversion trigger should be based on the *market value* of a company's

stock, to avoid the forbearance problem. And to avoid potentially misleading volatility in daily stock prices, they suggest that the market value be measured over a ninety-day moving average, so that a temporary drop in a bank's stock price cannot prematurely cause conversion. Third, all CoCos outstanding should convert at the trigger, so that all holders of the instrument are treated identically. Fourth, the conversion ratio should significantly dilute the equity of preexisting equity holders so that they have incentives to avoid that outcome.

The authors conclude their chapter by showing how their CoCo proposal might have worked during the 2007–08 financial crisis and how it might have avoided many of the banking system problems, at least, that occurred. Their analysis establishes a lower bound for the effectiveness of CoCos because it omits the important impact of incentives on shareholders and managers to take corrective actions before a crisis arises.

A final lesson from the financial crisis that many policymakers and analysts have drawn is the need for both policymakers and regulators to engage in what has been called "macroprudential" regulation and supervision. This is to be distinguished from the historic focus on the safety and soundness of individual financial institutions. How should macroprudential regulation actually work? Will it work going forward? Those are among the many questions that Doug Elliott of the Brookings Institution tackles in chapter 6, the concluding chapter in this volume.

On the question of who should run macroprudential policy, after weighing the pros and cons of each alternative—a single authority, multiple bodies, or a committee—Elliott comes down on the side of a single authority. He considers the arguments in favor of and against having the central bank assume this role, and although he does not reach a definitive conclusion, he suggests that if the single authority is not the central bank, it should be an entirely new entity.

Whichever organization carries out macroprudential policy, it should have numerous tools at its disposal, including the setting of countercyclical capital and liquidity requirements, dynamic loan loss provisioning, leverage limits on asset purchases, loan-to-value and loan-to-income guidelines or requirements for home mortgages, caps on aggregate lending, and even credit controls. Other devices, almost surely outside the authority's scope, would include changes in tax policy. If the authority is not the central bank, then its actions must be closely synchronized with monetary policy. Indeed, Elliott devotes an entire section of his chapter to how macroprudential policy and monetary policy should be coordinated, which at a minimum will require exchange of information between the monetary authority and the macroprudential regulator (assuming that they are not one and the same) on the state of the financial system and of systemically important financial institutions in particular.

Perhaps the most difficult challenge for any macroprudential body is when and how to take action. In particular, any such authority runs the risk of acting too early and thereby thwarting an expansion prematurely, but there is also the risk of acting too late, after a bubble or systemic risk has expanded enough to jeopardize the stability of the financial system. Elliott runs through the various issues entailed in striking this balance, pointing out that it is not possible to dispense with some subjective judgments in any event.

In the remaining sections of his chapter, Elliott addresses such difficult issues as how macroprudential policy should be coordinated with regulation of the safety and soundness of individual financial institutions and with similar policies being pursued by other countries (especially to avoid or minimize regulatory arbitrage); how to ensure proper accountability for macroprudential policy decisions; the major risks that the authority would confront; and how best to communicate the decisions that it reaches.

The debate over the appropriate course for future financial regulatory policy has not ended with the financial crisis and the immediate responses to it. Heated debates continue in both the United States and other countries. In a fundamental sense, the process of reform has just begun, because the initial responses were incomplete in many of the respects highlighted in the chapters in this book. This book is designed to raise the level of public debate about the future course of reform and to provide suggestions for effective policy modifications that will ensure a more stable and efficient financial system.