Banks at Risk

Global Best Practices in an Age of Turbulence

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Peter Hoflich

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To Bruno and Renate, Naoko and Zen, and Ralph,
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Banks at Risk: Global Best Practices in an Age of Turbulence
By Peter Hoflich

INTRODUCTION

ASHES OF THE HEROES

Financial crises are not easy to come by—and a good thing this is. The great financial crisis that began in 2007 and never truly ended has cost the world trillions of dollars in productivity lost as a result of the massive downturn precipitated by the credit crisis, during which walking wounded and zombie banks were mistrusted by their healthy (or otherwise) counterparts. The resulting confidence crisis made financing hard to come by for any but the safest, most well-run, and highest-rated institutions.

According to the International Monetary Fund (IMF), by 2009 the crisis had already cost the world US$11.9 trillion (U.S. dollars used from here on)—the equivalent of 20 percent of the world's annual economic output. This sum comprised capital injections pumped into banks to prevent them from collapsing, the soaking up of toxic assets, debt guarantees, and central bank liquidity support.[1] While much of these funds is actually liquidity that was provided for but may never be called upon (that is, the funds have been set aside not lost forever), until the funds are reallocated they represent finance that is not being used to build schools, repair roads, fund social projects, or hire government workers.

More than $10 trillion of the money in the IMF's calculations comes from developed markets, with the United States the largest single contributor to the pool. (The U.S. gross domestic product [GDP] is currently more than $14 trillion.) Mervyn King, governor of the Bank of England, notes that output from the countries most affected by the crisis is "5 percent to 10 percent below what it would have been had there not been a crisis," and that "the direct and indirect costs to the taxpayer have

resulted in fiscal deficits in several countries of over 10 percent of GDP—the largest peacetime deficits ever."[2] Indeed, when comparing the cost of the financial crisis bailout to the Marshall Plan, a plan for rebuilding a shattered Europe after World War II, it is clear how bloated the scale of repairing significant disasters has become and how ineffective as well: the cost of the Marshall Plan from 1948 to 1952, which succeeded in bringing the GDP of the 17 recipient countries back to pre-war levels, was a mere $13 billion, or 5 percent of the U.S. GDP at the time.

The IMF also reports in its summary of an April 2010 meeting of G-20 leaders that the impact of the global financial crisis is cutting deep into national budgets. Net of amounts recovered so far, the fiscal cost of direct support has averaged 2.7 percent of GDP for advanced G-20 countries. In those countries most affected by the crisis, however, unrecovered costs are on the order of 4–5 percent of GDP. Amounts pledged, including guarantees and other contingent liabilities, averaged 25 percent of GDP during the crisis.[3] Furthermore, reflecting to a large extent the effect of the crisis, government debt in advanced G-20 countries is projected to rise by almost 40 percentage points of GDP during 2008–2015.[4]

The road to debt has turned into a highway for most affected nations. The debt to GDP ratio of Ireland, for example, has reached 32.5 percent, largely as a result of the bailout of its two largest banks. The government of Ireland has announced a four-year budget cut of $20 billion to bring the ratio down to the single digits. Other countries have a tougher fight ahead of them to rein in their debt. The United States, for example, has a federal debt of $14.6 trillion, more than 94 percent of the country's GDP.[5] The U.S.'s debt has not been in single digits since 1917, and was higher than it is now only in the World War II era (in 1946 it was 121 percent of GDP).

While financial crises cause untold human misery by setting back the development of individuals and businesses (or, at the very least, by bringing them back to a level that they may have been at had they not overextended themselves before the crisis), they do offer an opportunity to study the problems in the financial system and to thereby improve it. A great deal of discussion has gone into reforming post-crisis regulatory structures, capital regulations, liability structures, cross-border trade, liquidity ratios, and even the role of banks vis-à-vis other

parts of the financial services industry, such as insurers and unregulated bank-like organizations that form the *shadow banking industry*. But it is still uncertain whether these discussions are going in the right direction to achieve any sort of long-term improvement of the financial services system.

Financial crises are inescapable, and successful risk management techniques can merely lessen their effects or partially mitigate them at best. Risk is eternal, which is why banks are supposed to be good at understanding it and pricing for it. However, cataclysmic financial crises should be something that we have been able to move past, owing to lessons learned from the last big one: the Great Depression. Beginning in 1929, the Depression lasted into the early 1940s and saw international trade plunge by up to 66 percent. Unemployment in the United States rose to 25 percent, and some countries felt much higher levels of joblessness. Crop prices are believed to have fallen 60 percent, and industrial production and wholesale prices plummeted. Protectionism also surged, sharpening the downturn and lengthening the crisis. The event gave Federal Reserve Chairman Ben Bernanke the material to write his PhD dissertation and build his reputation as an economist; similarly, the crisis that happened on his watch is likely to give a string of future federal reserve chairpersons the material to write their dissertations.

Certainly, 2007 was very different from 1929 in terms of the sophistication of the financial system that had come to a grinding halt: in 2007 the system was larger, it was more concentrated, it was more global, and it had supranational bodies—such as the Committee of European Banking Supervisors, the Bank for International Settlements (BIS), and the International Organization of Securities Commissions—watching over banks. It also had sophisticated risk management agreements such as the Basel Accord on capital adequacy (Basel II), which all of the big banks were compliant with, including the ones that suffered the greatest difficulties. None of these sophistications was sufficient to prevent a massive collapse in confidence in banks, caused by their poor risk management abilities and improper business procedures, and the resulting chaos.

We can only hope that the mid- and long-term outcome of these two crises will also be different. The Great Depression and the policies

of economic isolationism that followed it helped escalate the tensions that eventually launched World War II, with its unprecedented destruction, madness, and misery. The response of the current crisis has already been a bit different: certainly, currency and trade spats and other forms of chauvinism have flared, as have political cracks in the European Union exacerbated by sovereign debt crises and runaway budget deficits. There are concerns that nationalism is on the rise and that it will spawn selfish beggar-your-neighbor actions. How effective our response to this crisis will be is being determined now, at a national level such as in the United States and the United Kingdom; at a regional level such as in Europe; and at a global level through gatherings such as the G-20. It is not clear whether we are heading in the right or wrong direction.

There is at least one parallel between the Great Depression and the current crisis, however: if one of the results of the Great Depression of 1929 was the Glass-Steagall Act (1933), which separated commercial banking from investment banking until 1999 when it was repealed by the Gramm-Leach-Bliley Act (1999), then so are the Volcker Rules a result of the 2008 crisis, which try to do the same by repealing Gramm-Leach-Bliley. The ball is clearly in the court of the regulators, who need to find solutions to the problem of risk management in banks while also deciding how to handle interconnected systemically important financial institutions so that large man-made financial disasters do not recur. The regulators also need to accurately predict future problems arising from innovation in financial services, avoid unintended consequences of their reforms, and prevent the choking off of capital—from both onerous capital requirements and a counterparty mistrust—thereby preserving economic growth. It will be a tough balancing act, and as the crisis has demonstrated, regulatory reform needs to be carefully thought through lest the next crisis be bigger than the current one. With some measures already in place—capital requirements, bank taxes, bail-ins, living wills, and salary and bonus caps—conversations have become speculative: opponents of new measures are calculating the impact they will have on GDP, while proponents are arguing that the long-term good of mitigating or softening future crises outweighs their short-term impact. Clearly, this is where King's assessment of business activity after the crisis being

"5 percent to 10 percent below what it would have been had there not been a crisis" fits in.

BANKS, REST, AND MOTION

Since the start of the financial crisis, regulators have weighed in on the key lessons of the crisis in their public statements and speeches. Donald Kohn, vice chairman of the Federal Reserve Board, discussed "The Federal Reserve's Policy Actions during the Financial Crisis and Lessons for the Future,"[6] while Federal Reserve Board Governor Daniel Tarullo expounded on "Lessons from the Crisis Stress Tests"[7] and gave his thoughts "Toward an Effective Resolution Regime for Large Financial Institutions."[8] Andrew Haldane, executive director of Financial Stability at the Bank of England, asked "The Contribution of the Financial Sector: Miracle or Mirage?"[9] and Adair Turner, chairman of the U.K.'s Financial Services Authority (FSA), spoke in January 2009—at just the time when bankers lived day-to-day with the uncertainty and fear about whether their banks or counterparties would stand or fall—on "The Financial Crisis and the Future of Financial Regulation."[10] More recently he asked "What Do Banks Do, What Should They Do, and What Public Policies Are Needed to Ensure Best Results for the Real Economy?"[11] Ironically, these are questions that will soon be better answered by the Bank of England than by the FSA, as the latter will be phased out as a financial regulator when the United Kingdom implements a new future of financial regulation—a future different from the one that FSA head Turner might have imagined in his speeches. Meanwhile, Jaime Caruana, general manager of BIS, aimed to tie it all together by his discussions "Re-establishing the Resilience of the Financial Sector: Aspects of Risk Management and Supervisions"[12] and "The Challenge of Taking Macroprudential Decisions: Who Will Press Which Button(s)?"[13]

Various organizations have weighed in on the solutions to the crisis and have outlined proposals that need to be put in place to prevent a repeat of the crisis. IMF policymakers have focused their attention on five key goals for financial sector reforms; namely, (1) ensuring a level playing field in regulation (and avoiding regulatory arbitrage where financial institutions and other entities could move business to more

lax jurisdictions as the need suited them); (2) establishing greater supervisory effectiveness; (3) building coherent resolution mechanisms for both national level and cross-border financial institutions; (4) creating a comprehensive macroprudential framework; and (5) allowing a greater remit in addressing emerging exposures and risk in the financial system.[14]

Commentators such as Nassim Taleb, Joseph Stiglitz, Simon Johnson, Niall Ferguson, and Jeffrey Sachs have come up with various priorities for global financial services reform. These priorities include breaking up institutions that are too big to fail as a way to limit systemic risk (Malcolm Gladwell has said that Citigroup should be broken up into a million pieces;[15] it hasn't been), building up a robustness against "high impact rare events" (Taleb's "Black Swans"), and moving, as Paul Krugman suggests, to regulation of institutions that "act like banks"[16] (such as hedge funds and other parts of the shadow banking system), which amass liquidity like banks do but are not banks and are not supervised by bank regulators. Other commentators have suggested creating an early warning system to help detect systemic risk, nationalizing insolvent banks, creating a system of maintaining sufficient *contingent capital* as a form of insurance premium to governments during boom times that could be drawn upon in bad times, and various forms of bank taxes.

King, among his radical reforms, calls for limited purpose banking, which ensures that "each pool of investments made by a bank is turned into a mutual fund with no maturity mismatch," and a move to "divorce the payment system from risky lending activity."[17] Ultimately, however, King proposes a solution that is not complex: "Banks should be financed much more heavily by equity rather than short-term debt. Much, much more equity; much, much less short-term debt. Risky investments cannot be financed in any other way."[18] Liability structures are among the key problems of the financial crisis, especially an over-reliance on short-term liquidity for long-term assets, and the problems that arise when the former cannot be renewed—as would happen in a crisis of confidence in the banking system such as the one that occurred—have now been made crystal clear: they are the kiss of death to banks and the economies attached to them.

The IMF proposed a bank tax in its April 2010 G-20 leaders report.[19] The tax aims to give governments a mechanism to help them recover the costs of direct fiscal support of failed financial institutions through levies on banks and taxes on bonuses. It proposes two types of tax: a *financial stability contribution* linked to a credible and effective resolution mechanism and a *financial activities tax* on the profits and remuneration of financial institutions. Banks already pay plenty of taxes; this would be yet another one. Hungary has become one of the early adopters of this tax concept; it remains to be seen if other countries will follow its lead. The United Kingdom, which has suffered greatly from the maladies of its financial sector, is becoming increasingly hostile to the banks headquartered there, and the regulation of this systemically important (yet accident prone) industry has become exceedingly political. Chasing this business away, which is what might happen with these punitive reglations, will be hard to deal with for the United Kingdom which, according to the Bank of England, sees 10 percent of its GDP coming from financial services (the comparable figure for the United States is 8 percent).[20]

Many countries in the world aspire to become financial centers and increase the level of participation financial services provide to their economies, although given the financial crisis, some may be re-thinking their goals; certainly, many would be secretly pleased that they had not arrived at their goals before 2008. Less happy are countries such as Iceland, which could only afford to be a financial center in good times, and the United Kingdom, where the financial center story has become hyperpolitical: taxpayers have bailed the system out all that they can bear and are doing everything they can to drive banks that are headquartered there to seek new homes. Switzerland, which is the home of two massive global banks—each of which has a balance sheet larger than its own GDP—has imposed extraordinarily fierce capital requirements on both UBS and Credit Suisse, requiring them to hold additional amounts of both equity capital and loss-bearing contingent capital, bringing their total holding of equity-like capital to 19 percent (the BIS standard is only 7 percent).

For jurisdictions that have banks under their supervision, new ideas are needed to deal with the ones that get into serious trouble. Opinions vary on what form bank resolution and support should take,

and the great thinkers of the world are trying to find a way to deal with banks that fail. The solution that has been used so far, that of propping them up, is clearly unacceptable, but the alternatives are unattractive. It is, quite simply, a lose-lose situation; call it "after me the deluge."

DANGER!

The size of institutions is a focal point in discussions of banking reform—the bigger they are, the harder they fall, and the term *too big to fail* (TBTF) seems to be on everyone's lips. The discussion about size gets complicated when it becomes clear just how difficult it is to determine how big a TBTF bank would be—considering the fact that Lehman Brothers was not very big, TBTF banks may actually be relatively small. The term *systematically important financial institution* (SIFI) has come into vogue and includes both institutions that are not big and non-banks such as AIG. But the labels SIFI and TBTF are in fact irrelevant because, given their interconnectedness, almost all banks are TBTF and SIFI.

And given the sovereign debt crisis taking place in Europe, there are other concerns than the ones around banks, concerns about another type of TBTF: the question has arisen whether there should be some new form of linguistic gymnastics that allows sovereign states to be included in the term, even if their balance sheets are quite small compared to those of banks. But perhaps sovereign default is not as serious a concern as bank failure, because the largest banks have balance sheets larger than all but the four largest economies in the world:[21] more than 50 of the world's largest banks have assets of more than $1 trillion, while Greece—which has caused so much concern in the European Union—had, in comparison, a GDP of only $355 billion in 2009.

Beside the problems nations face managing their debt, the threats to all nations of a massive failure of their financial services system is very real and, despite the fact that these systems are supervised by powerful regulators, their size and strength mean they can easily take on a life of their own. Banks tend to grow faster than the economies that house them because of their financial success (in good times), high profitability, and the great wages they can promise their staff.

In the United Kingdom and the United States, the two countries that have been the most impacted by the global financial crisis, banks have grown tremendously, either through organic growth or by acquisition, and the biggest ones have grown faster than any of the others.

This tremendous growth can be seen in a set of data on the top 10 banks in each country prepared by the Bank of England. In 1960, the largest bank in the United Kingdom was Barclays, and its assets represented 10 percent of the U.K.'s GDP. The other nine banks in the list had contributions in the single digits. The assets of these 10 banks together had a value of 40 percent of the U.K.'s total GDP, and the top 10 banks represented 69 percent of the U.K.'s total financial services sector. By 2010, the story was quite different: RBS had become the largest bank in the United Kingdom, with assets totaling 122 percent of the U.K.'s GDP, followed by Barclays (110 percent), and HSBC (105 percent). The 10 largest banks have assets 4.6 times the economy of the United Kingdom and represent nearly the entire financial services sector in that country (97 percent).[22] It seems there are barely any small banks left in the United Kingdom, but as King warns, "We have seen from the experience of first Iceland, and now Ireland, the results that can follow from allowing a banking system to become too large relative to national output without having first solved the 'too important to fail' problem."[23]

The concentration problem that the United Kingdom suffers from is not shared by the United States: because it is so much bigger than the United Kingdom and has so many financial institutions (7,830 banks are part of the Federal Deposit Insurance Program as of 2010, although this number will continue to shrink as more institutions close—140 banks failed in 2009 and even more failed in 2010—and regulators hold off issuing new banking licenses). Between 1960 and 2010, the largest bank in the United States (in the inclusive years it was the Bank of America) saw its assets grow from 2.1 percent of GDP to only 16.7 percent of GDP. In 1960, the top 10 banks had assets that represented 9.9 percent of the total U.S. economy and 20.3 percent of the banking sector; in 2010 those numbers swelled to 62.4 percent and 73.6 percent, respectively. But the banks are still growing rapidly in terms of their relative size to the economy. The Bank of America today represents to the U.S. financial services industry roughly the

equivalent of all of the top 10 banks of 1960 put together, and has assets as a percentage of GDP that is more than that of those institutions as well.[24]

Banks like to think that being larger and more diversified make them more stable; regulators agree with the latter but are undecided on the former. But whether they are big or small, banks are all founded on a single premise: confidence. Money flows into banks when confidence is high, but flows out when confidence disappears: a double-edged sword. In the crisis, ethereal, fickle confidence was the rarest of commodities, and banks suffered from a near-crippling lack of it. This was evidenced by the premia for insurance on their defaults (five-year senior credit default swaps), which from 2008 to 2010 ranged in the United Kingdom from 202 basis points (HSBC) to 354 basis points (Standard Chartered Bank) and in the United States from 100 basis points (Bank of New York Mellon) to 621 basis points (Citigroup). In happier times, when defaults were thought remote—if they were considered at all—the values were typically in the single digits.

Given the concerns we have about large banks—whether we should have confidence in them and the harm they can cause when they collapse under the loss of this confidence—would we be better off if we were to go back to the banking system of 1960, when smaller and less-connected institutions would cause less damage if they were to fail? Perhaps so: this has been advocated by many thinkers. But if we did take this step, then we would have to imagine our financial services industries looking a lot like those of India or Germany: fragmented, and with no banks truly large enough to take on the financing of huge infrastructure projects. Germany has for a long time been urging its banks to consolidate in order to benefit from efficiencies of scale and broader geographic distribution. In India, the size of the financial services industry has been bemoaned as too small, lacking the capacity needed to finance the type of projects the country needs to push on with growth.

While we are correct to have concerns about the concentration of banking assets in a handful of large banking institutions, there are corresponding concerns that some of the solutions we are coming up with to address weaknesses in our financial services industry will create instability by increasing concentration instead of reducing it.

Rules introduced by the Basel Committee on Banking Supervision to add to the Basel Accord on capital adequacy, which are being referred to as Basel III, will make certain businesses more expensive to be in, which will in turn cause (relatively) smaller players to exit these businesses and focus on the businesses they are strong in. This concentration effect in some businesses, such as payments or trade finance, may be one of the unintended consequences of current regulation, and there are certain to be others.

Given the lessons of the financial crisis, an understanding of what to do with banks that are failing and solutions for preventing this from happening are needed. Neel Kashkari, the interim assistant secretary of the Treasury for Financial Stability in the U.S. Department of the Treasury from July 2006 to May 2009 (under Treasury Secretary Hank Paulson), has described the difficulty officials faced in September 2008, when several large Wall Street institutions saw crumbling investor confidence and were ready to collapse, as well as the conflict regulators faced over the lack of proper tools to settle the problem. Liquidation, Kashkari said, was a way to punish failure, but would have led to huge investor losses, as business partners would shun a bank marked for liquidation and it would be hollowed out, leaving nothing of value to liquidate. Bankruptcy would take weeks or months to effect, all the while destabilizing financial markets, as the Lehman Brothers bankruptcy proved. Resolution by an organization such as the U.S. Federal Deposit Insurance Corporation (FDIC) has been a solution for dealing with small banks; however, national protection funds such as the FDIC and its counterparts in other countries are simply too small to deal with banks above a certain size. Creating a fund large enough to include the biggest banks is also considered counterproductive, as it would contribute to moral hazard by giving the banks a false sense of security and encouraging them to take on more risks. Breaking up banks that have grown too large is seen as having practical difficulties, while giving them special capital requirements that are punitive enough to force them to shrink on their own would make banks in any market that has such rules uncompetitive on a global scale. Kashkari discusses the concept of banks holding more contingent equity, where debt can be converted to equity if the equity level falls below a certain threshold. However, there are

again practical complications to this suggestion, such as the cost of the contingent equity, how the equity would be triggered, and the possibility of a wave of such conversions happening in a system all at once.

The most frightening aspect of responding to the crisis is that it can easily take on a life of its own. As King observed, "when the banking system failed in September 2008, not even massive injections of both liquidity and capital by the state could prevent the devastating collapse of confidence and output around the world."[25] In other words, liquidating banks or releasing them into bankruptcy are only the reactions to a crisis; restoring confidence, the true backbone of the financial services industry, is another matter entirely, and can be accomplished only by bending the laws of physics or perfecting a method of global mass-hypnosis. The crisis, which started out as a crisis of liquidity that could be solved by central bank solutions, quickly became a crisis of solvency, which central banks couldn't provide a solution for.

Basel III has introduced two global liquidity requirements for the first time: a short-term Liquidity Coverage Ratio and a long-term, structural measure called the Net Stable Funding Ratio. Many commentators on banking regulation feel that these new rules are still lacking because they take a one-size-fits-all approach and do not take account of differences in business models, bank size and other factors. Going into the crisis, Northern Rock was the best-capitalized bank in the United Kingdom, according to the Bank of England, but because of its liability structure, which was heavily dependent on short-term financing, it did not have the liquidity needed to keep its long-term liabilities going when it came under suspicion, and as a result it became the first U.K. bank in 150 years to experience a bank run.

The situation with banks like Northern Rock proved ironic, because it showed problems in the pre-crisis concept of risk management: the mortgages Northern Rock held in such abundance, which ultimately caused its downfall, were considered safe assets under the Basel II regime. It has now become abundantly clear that the solutions that had been proposed to make banks more robust in the face of a crisis simply could not do so. King notes that if capital levels are to be the solution, then "only very much higher levels of capital—levels that would be seen by the industry as wildly excessive most of the time—would prevent such a crisis."[26] Banks live and die based on the industry's confidence in protecting their assets, and in a

crisis of confidence what is an iron-clad way to prevent confidence in a financial institution from ever wavering? There are no guarantees, other than those provided by the lender of last resort.

Central bankers and bank regulators have a very sticky situation on their hands, as they have to deal with the issue of moral hazard; that is, not allowing banks to assume that they will be bailed out again should they run into trouble. Lehman Brothers was allowed to fail, and the world witnessed the consequences of this action. The question now is how do we get the system into such a state that an institution like Lehman Brothers could fail with relatively little damage? King himself defines the dilemma by saying that "When all the functions of the financial system are heavily interconnected, any problems that arise can end up playing havoc with services vital to the functioning of the economy—the payments system, the services of money and the provision of working capital to industry. If such services are materially threatened, governments will never be able to sit idly by. Institutions supplying such services are quite simply too important to fail. Everybody knows it. Highly risky banking institutions enjoy implicit public sector support."[27]

King is brave to suggest the concept of "implicit public sector support" while calling out his peers for their silence on this dirty little secret—regulators have been going into contortions to try to avoid saying that for years. King is just as broad when he notes that "it is hard to see why institutions whose failure cannot be contemplated should be in the private sector in the first place."[28] Clearly, the financial institutions of most developed markets have moved away from public ownership, which is anathema to many governments, but the public ownership system is still favored in some parts of the world, such as Asia. The fear of public ownership is a mindset that needs to be overcome if no other solutions can be found to prevent banks from dragging economies down with them, as they have proven well able to do. Pray that we find the solutions.

AROUND THE WORLD TO FIND ANSWERS

Banks at Risk airs the views of a group of established commentators on the great financial crisis in order to provide insights into the

challenges that lie ahead for banks as well as offer some observations from the generals who are fighting in the trenches to resolve on-the-ground, operational issues. The commentators in this volume include regulators, both local and regional, who oversee the safe conduct of their banks; commercial bankers, who balance the raising of capital with its safe deployment in order to protect stakeholders and reward shareholders; and risk managers, who are involved in the day-to-day management of the financial risks that every bank must undertake as part of its raison d'être.

The book is divided into three parts: "The Regulators," "The Practitioners," and "The Risk Managers." When considering the balance of the roles that these parties play in designing a new financial services system, some questions need to be asked: Who is the master and who is the learner? In a lose-lose situation, who holds the upper hand? In a war for talent, how do the regulators stand next to the practitioners? And, most important, do our best thinkers in either of these camps have what it takes to succeed?

Among the regulators are those who have a squad of large state-owned banks under their purview as well as those from Organisation for Economic Co-operation and Development (OECD) countries who have medium-sized, troubled banks in their oversight. Liu Mingkang runs the China Banking Regulatory Commission, a newly established authority that oversees the world's largest, most profitable, fastest-growing, and systemically important banks. Eric Rosengren is a long-term manager in the Federal Reserve Bank of Boston, and now its president, from where he regulates banks in six U.S. states; he also meets his regional peers in the Federal Reserve System as a voting member of the Federal Open Market Committee, which oversees the U.S.'s open market operations. Jane Diplock is the chairman of the New Zealand Securities Commission and has a view of the securities industry in her country, but she is also the chairperson of the Executive Committee of the International Organization of Securities Commissions (IOSCO) and thus has a view of global regulatory trends in the securities industry as well as in other industries where IOSCO has a partnership arrangement with respective regulatory associations, such as BIS. José María Roldán (senior director at both the Bank of Spain and the Committee for European Banking Regulators) and Jesús

Saurina (senior director at the Bank of Spain) offer insights gained from supervising the banks of Europe.

We hear from key survivors of the financial crisis, including Richard Kovacevich, the former chairman and CEO of Wells Fargo, who helped his bank dodge the mortgage real estate bullet that crippled so many industry peers, and Mike Smith, currently CEO of ANZ in Australia, who had a seat at the top of one of those peers in his previous role at HSBC. Smith explains how he applied lessons learned from one bank at another, and what the system needs to do to improve, while Kovacevich explains how the system ultimately fails everybody. Shan Weijian, chairman and CEO of Pacific Alliance Group, offers a view of what to do with a bank that *has* failed, offering insights gained from a career in private equity and a stellar reputation for turning failed banks into leaders.

Banks at Risk also contains the insights of risk managers of various sorts. Rob Close, the former CEO of CLS Bank, talks about the creation of a global framework and infrastructure for mitigating risk. Tham Ming Soong, the chief risk officer of UOB Bank in Singapore, gives an on-the-ground view of instilling risk management culture in an institution that is modernizing in a rapidly growing region as well as of issues in regulatory reform for banks in Asia. Tsuyoshi Oyama, Partner, Financial and Industries Group, Deloitte Touche Tohmatsu, and the former deputy director-general in the Financial Systems and Bank Examination Department of the Bank of Japan, gives his views on global regulatory reform and key global accords such as the Basel Accords. Oyama provides a strong global and a regional view on key reform issues.

With their unique, personal stories, it is clear that each of the commentators has been marked by scars of his or her own in the day-to-day battle to survive in the challenging and highly competitive world of financial services and financial services regulation and supervision. The insights the commentators provide shed some light on the thinking going into changing the world of financial services by those that deal with it every day of their careers. While *Banks at Risk* provides a look into the business of only 10 individuals and their institutions, it nevertheless serves as a chronicle of the industry's awareness of its problems and the level of its willingness to change.

ENDNOTES

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Part One
The Regulators

Chapter 1

Introduction

THE TOUGHEST JOB IN THE WORLD

China has the largest banks by nearly any measure. Industrial and Commercial Bank of China (ICBC), which had the world's largest public listing in 2007 when it raised US$21 billion (it has since been overtaken by Agricultural Bank of China [ABC], which raised $22 billion in mid-2010), became the world's largest bank by market capitalization while in the throes of the global financial crisis, as well as its most profitable. With $1.75 trillion in assets, ICBC is the second largest bank in Asia, trailing Mitsubishi UFJ Financial Group (MUFG) by $450 billion, according to *The Asian Banker*'s ranking of the top 500 banks in the region by asset size.[1] But this gap is shrinking—at the end of the 2002 financial year, ICBC (with $4,576 billion in assets) had much less than half of the assets of Mitsubishi Tokyo Financial Group ($827 billion) and UFJ Holdings ($669 billion) (the two merged in 2005 to create MUFG). ICBC and its peers in China are poised to hold the top five spots for asset size in China within the next five years due to their tremendous growth. The five largest Chinese banks are growing assets at a rate of 20–27 percent according to Asian Banker Research, compared to growth in the low single digits for the Japanese giants. This is not surprising given that the developed Japanese economy cannot match China's red-hot developing economic engine in terms of expansion anymore.

Big is not always beautiful, however, and explosive stimulus-package-led lending to large state firms and real estate developers could be cause for alarm in China, even with its tide of rapid economic expansion that is lifting all boats. All realistic expectations are that China's economic growth is going to decrease from double digits to single digits and that when that happens bad loans at banks are going to increase. But according to a strength indicator devised by *The Asian Banker*—which measures scale, balance sheet growth, risk, profitability, asset quality, and liquidity—China's banks are as strong as they are big (in contrast with the Japanese banks, which are big but not strong, and other emerging market banks that are strong but not

big). ICBC, for example, is the second largest bank in the region and the fifteenth strongest. Shanghai Pudong Development Bank does even better—it may be only the twentieth largest bank in the Asia Pacific region, but it is the fourth strongest, and for some years now has been the strongest bank in China.

It is important for China's banks to be strong if China is going to chart a steady path of economic growth over the next decade, and in times of global economic recovery a strong China is important to the world. Strong oversight of its banks is important to make certain they don't run into the problems that plagued Japanese banks in the early 1990s or the problems of the banks of Thailand, Indonesia, and Korea, which had enjoyed rapid economic growth until they were stopped in their tracks by the Asian Financial Crisis of 1997.

LEARNING FROM MISTAKES

Chinese banks have been through financial crises of their own, but because China's government has strong central control over the financial services sector—which included, in the past, total ownership of the country's banks—the effects of the global financial crisis were muted in comparison with those felt in other countries. But early in the first decade of the new millennium, the largest state-owned banks—ICBC, ABC, China Construction Bank, and Bank of China—required large capital infusions to help them resolve bad loans built up by years of policy lending to state-owned enterprises that were driven more by economic targets and employment goals than by true commercial operation.

With China's inclusion in the World Trade Organization (signed in 2001 and enacted in stages over the next five years) came a commitment to open up its financial services sector. Three regulatory bodies were formed to oversee the development of financial services in China: the China Banking Regulatory Commission (CBRC), the China Insurance Regulatory Commission, and the China Securities Regulatory Commission.

The CBRC has been headed since its inception by Chairman Liu Mingkang, one of the most talented of China's top-tier bureaucrats. Having graduated from the University of London in 1988 at the age of 41, Liu went on to get his MBA from the Cass Business School the following year. His career in banking goes back to 1979 when he

joined the Bank of China in Nanjing. In 1984 he worked in the bank's London branch where he was deputy manager of the Trade Settlement Division, and he later became the general manager for the bank in Jiangsu province as well as in Fuzhou city. In 1993 he became the vice-governor of Fujian province, his home state; this was the start of a string of one-year appointments that prepared him for senior leadership. From 1998 to 1999 he worked on preparing Macao for its oncoming status as a special administrative region, and from 1999 to 2000 he was the chairman of China Everbright Bank, a role that prepared him for the governorship of the People's Bank of China, which he held for two years until 2002. In 2003 he took the role at the CBRC that he still holds, and in 2007 he became a member of the Central Committee of the Communist Party of China. Liu is widely regarded by local and foreign bankers alike as a very capable regulator heading an agency that has the proper insights into how banks should be regulated and as being graced with capable staff who help him drive the transformation of Chinese financial institutions from policy banks to full commercial lenders.

The supervision of Chinese banks, with its strict control of all aspects of the business and the regulator's participation in management matters down to attendance at and surveillance of board meetings, appears to be part of a greater need in China for an orderly business environment in the long transition from a control economy to a market economy, and is a far cry from the concept of principles-based self-regulation that was once the fashion and common in London and New York—to disastrous effect. Voices in the high courts of power in China are talking about the need to move cautiously and prudently and to take nothing for granted. One slip . . .

China has specific advantages that other developing countries don't have. Its banks are sufficiently large and have the confidence of the international investment community, allowing them to take charge of such a large and dynamic economy. They also have the scale to take on large projects. Lack of scale is a common complaint in markets such as India's, whose largest lender by far, the State Bank of India, is only the fifteenth largest lender in the region (followed by ICICI Bank, the region's forty-sixth largest lender). With eight banks in the top 20 of *The Asian Banker*'s ranking of the largest banks by asset size,[2] Chinese banks have scale and they also have strength, compared to other ambitious juggernauts, which often look to China for inspiration on how to modernize quickly and sustainably.

It is up to managers like Liu to make certain that Chinese banks retain their strength during this long and frightening process of industrialization and modernization, so that they are not dragged down by their size. So far Liu has overseen the banks well, managing strong growth and profitability with the gradual opening up of the sector to local banks and foreign banks alike in terms of businesses that they can engage in when they are ready, but also overseeing capital standards and other buffers against rude shocks to the system. And, as a last resort in the event of a severe shock to the economy, there is the government, which retains majority stakes in the banks. China has bailed its banks out before and, with its monstrous foreign currency reserves, stands in good stead to do so again; hopefully, with the CBRC in charge, it won't need to.

Banks at Risk: Global Best Practices in an Age of Turbulence
By Peter Hoflich

Chapter 1

Effective Supervision of Systemically Important Banks

Liu Mingkang
Chairman, China Banking Regulatory Commission

The *too big to fail* (TBTF) problem stems from the excessive risks taken by some large banks. If not curbed, these risks enable large banks to externalize their costs, thereby effectively coercing governments to bail out failing lenders. Although many good suggestions have been made concerning the TBTF issue, and capital is surely an important tool in addressing it, regulators should give priority to factors that give rise to excessive risk-taking of large banks in order to tackle the problem satisfactorily. And regulators should adopt preemptive measures—before risks mature—with more engaged and more intense supervision of high-risk large banks. To a large degree, effective solutions to the TBTF problem are those that are already in the hands of regulators.

The current global financial crisis is in large part a crisis rooted in large banks.[3] The failures of some large banks resulting from excessive risk-taking threatened the stability of the entire global financial system and dragged the real economy into recession. Governments in many countries were forced to bail out troubled banks with taxpayers' money. It is unsurprising that the public in those economies was angry and disappointed about the behavior of the troubled banks. If the problem of dealing with TBTF banks is not addressed properly, in the post-crisis era, the moral hazard risk in national and international banking systems will become even more severe, and banking systems will be in danger of higher risk. G-20 leaders and the Financial Stability Board (FSB) have proposed a series of comprehensive measures to promote financial stability, and supervisory authorities that monitor many of the world's economies are also working on various

ways to address this issue. All of these efforts have the purpose of building a more resilient financial system in which the balance between efficiency and stability can be neatly regained and maintained. From a Chinese banking regulator's perspective, the moral hazard facing large banks and why it is necessary to address the issue of TBTF banks now can be seen. There is also a need to introduce and comment on various measures that have been proposed so far. I feel that at the core of the TBTF problem is the excessive risk posed by the very existence of TBTF banks; the risk is the source of negative externality and actually, the bigger the risk, the higher the probability of an eventual government bailout. Preemptive measures targeting the risks facing large banks are the key solution for the TBTF problem.

THE MORAL HAZARD FACING LARGE BANKS

Because it operates on leverage, a modern banking system has inherent volatility and is subject to periodical asset bubbles and credit cycles. An insurance scheme is needed for a banking system but it creates the dilemma of moral hazard in the system. While this problem has existed for a long time, it has been further complicated by the massive development of financial systems in the past few decades, making the current banking system more volatile in quite a few aspects. First, with the facilitation of information technology, financial liberalization, and globalization of the world's economy, the size of individual banks has increased tremendously to allow them to pursue the benefits of economy of scale and scope and as a result, concentration of the world's financial systems has increased tremendously. From 1995 to 2008, the size of the 50 largest banks in the world increased more than three times, reaching combined assets of US$70 trillion. Of the $1.1 trillion losses already exposed in the crisis, one-third was concentrated in five banks.[4,5] In several countries, such as Switzerland and Iceland, the cost of saving banks was even larger than the annual gross domestic product (GDP) of the country, far beyond the capability of the governments, thus making their banks too big to save! Second, in the past 30 years, the banking system has shifted from a credit culture to an equity culture—the income of banks has shifted from simply providing loans to securitizing them, and the funding of banks has changed from drawing deposits to capital markets, an over-reliance on which results in a large amount of embedded leverage. More important, although the overall risk of

large banks has increased greatly, capital requirements under the Basel II framework do not really reflect these changes. Low exposures assigned to securitization and off-balance-sheet items have further reduced the capital requirements of large banks. Highly embedded leverage and low capital together increase the vulnerability of financial systems. Third, current financial systems have become increasingly interconnected, with differences between banks and non-bank financial institutions blurred by the rapid development of off-balance-sheet activities, credit derivatives, and various non-bank financial intermediaries such as guarantees, monoline insurance, and hedge funds.

Under the system described above, once a large bank is on the verge of collapse, the whole system would be hurt by the spillover effects and negative externality, triggering a systemic crisis. Shocks can be transmitted through at least three channels. The first is the balance sheet channel. Considering that in most cases, large banks are the major counterparty of a large number of financial institutions and hubs of financial networks, their failure would either bring about direct losses for a large number of smaller financial institutions or, by way of guarantee or insurance, induce indirect losses to these institutions. Payment contagion will ensue. The second channel is the credit channel. Once a large bank fails and no other bank comes to replace the troubled bank to continue providing credit, the aggregate amount of credit available for business will shrink, resulting in adverse effects on the wider economy, which also puts serious pressure on employment and production. Increased default will then cause second-round impact on banks. The third channel is the market price channel. When a troubled large bank is forced to liquidate in a fire sale its assets with a haircut, the asset prices will spiral down, forcing more banks to get rid of their assets under fire sale conditions as well. Under such circumstances, what started as an external shock could be internalized by way of changing banks' behavior, accelerating the collapse of market prices, and de-leveraging. In the real world, the financial system is much more complex and interconnected, making the channel of contagion much more complicated than described above. Information uncertainty further increases the severity of the crisis.

Considering the significance of banks in maintaining financial stability and supporting the real economy, and although governments usually claim that they would not bail out large banks as they did in the crisis, once these banks are at the brink of failure their governments in

almost all cases are obliged to take action to save them. During this last crisis, governments and central banks provided an unprecedented scale of capital injection, liquidity support, and asset buybacks, as well as loans and guarantees.

The credibility of several national governments was greatly impaired in this crisis. If the moral hazard behavior of dealing with TBTF banks is not fully addressed, the financial system after the crisis will face greater risk.[6] As such, strengthening the supervision of large banks has been brought to the forefront of financial regulation reform.

SUGGESTED MEASURES

Since the outbreak of the crisis, the FSB has been pursuing a package of comprehensive measures to cope with the TBTF issue. One of these measures is to reduce the probability and impact of failures of systemically important banks (SIBs).[7] Policy measures under active consideration are several and include increasing the capital or liquidity surcharge (or both) calibrated to a measure of systemic externality, introducing a leverage ratio as a backstop to risk-based capital requirements; enhancing on-site examination and off-site surveillance of SIBs; improving consolidated supervision; establishing sound corporate governance and compensation regimes; and strengthening cross-border supervision. The second comprehensive measure is improving the banking resolution regime to ensure banks can be wound down in an orderly manner without precipitating disruptions to the provision of financial services to the economy. Policy measures include the establishment of legally binding resolution plans (or *living wills*) for SIBs. And banks may need to simplify their structures, enabling the impaired parts to be easily separated from others. The third comprehensive measure is enhancing financial infrastructures and markets, increasing transparency, and reducing contagion risks upon individual bank failures. The FSB suggests that on top of all these measures, if regulators find it necessary they should be bestowed with the power to limit the scale and activities of banks. National authorities are debating heatedly on the feasibility of this latter measure, with the United Kingdom and the United States taking the lead in the debate. The U.K. Financial Services Authority (FSA) tends to favor establishing a continuous function of capital requirements based on assessment of the systemic importance

of individual banks, while the U.S. Treasury favors tiering banks and building bucketed requirements for different tiers of banks.[8] The FSA supports limiting, via capital requirements, the extent to which commercial banks are involved in proprietary trading,[9] while the chairman of the U.S. Economic Recovery Board, Paul Volcker, has proposed structural reform by prohibiting commercial banks from conducting proprietary trading, thus inhibiting them from engaging in highly risky activities. Despite the various opinions and discussions, a broad consensus exists that the TBTF problem is a very complex issue and no single measure can be used to tackle it satisfactorily. A combination of measures is therefore necessary.

I share most of the views of these constructive discussions. We are witnessing the largest financial overhaul since the 1930s, and the various proposals on the table to date clearly show the willingness of academics and policymakers to carefully debate the pros and cons to best strike a balance between setting up a healthy competitive environment and continuing to support genuine competition. In this regard, I have some observations to add to the discussions underway.

First, there are some contradictions between the identification of SIBs and capital requirements in the proposal of the Macroprudential Group (MPG) of the Basel Committee on Banking Supervision (BCBS). The MPG proposes the use of an indicator-based approach for the identification of SIBs, and then the establishment of a continuous function between capital requirements and the identified systemic importance of the SIBs. Although the intention of such an effort is good, it may turn out to be paradoxical in implementation, as to identify an SIB first and then impose higher capital requirements accordingly may actually signal that the governments will bail out the bank once it is in trouble, as otherwise there is no reason to charge higher capital on the identified banks. It is also in this regard that the systemic levy on identified banks in an ex ante manner does not seem to be justified, although another form of levy—a financial crisis responsibility fee charged on banks that received government support in this crisis to pay back taxpayers' money—is quite reasonable. In my opinion, quite contrary to the intention, the result of charging higher capital on identified SIBs would actually further encourage banks to engage in excessively risky activities. Although the internal cost for large banks to take excessively risky activities is very high, as long as banks have been identified as SIBs and charged a fee with the implication that they are assured of a government bailout, they would have an incentive to

externalize the cost of high-risk activities. The constraint ability of capital requirement for inhibiting banks from undertaking excessive risk activities would actually be seriously weakened. I argue that a capital charge should not be applied on the identified SIBs, but instead on identified risks; I will go into detail about this later.

Second, an indicator-based approach is good in principle but is difficult to apply in practice. As the MPG pointed out, due to the fact that indicators to measure interconnectedness and substitutability are difficult to quantify, in the end, the estimation of the interconnectedness and substitutability of the SIBs has to a large degree overlapped with the estimation of size. In light of this, an indicator-based approach, although it seems more accurate, in effect may prove to be more arbitrary, with a high possibility of killing large but prudent banks and causing unfair competition. Perhaps we need to recognize that one important problem in today's regulation is that regulators increasingly off-load their responsibilities for deep analysis and evaluation of the risks of banks, which is what they are paid to do, on to a series of indicators and models. To a great degree, the problem revealed by the crisis is not the lack of new tools and instruments but the regulators' negligence of their assigned responsibilities, the so-called regulatory capture. If the philosophy of regulatory capture is still guiding our direction of reform, we are in danger. We should be aware that in most cases, risks are not quantifiable, and moreover, the interactions among various risks are not linear, but exponential—beyond the capture of indicators and models. The challenge of better quantifying risks has long existed in today's science, not to mention its application in finance. The imperative of struggling out of a crisis situation does not change very much the likelihood that we can find satisfactory solutions all of a sudden. A more practical and effective solution is instead to emphasize regulators' deep knowledge about banks and conduct a more expertise-based assessment of their risks. This certainly is not to say that indicators or models are unimportant. What we need is to place regulators' analysis and judgment about risks into the principal place. Under this precondition, indicators and models can play an important role in assisting judgment. If we overlook the primacy of personal analysis above indicators, we risk putting the cart before the horse.

Third, capital surcharge is surely a very important tool, and higher quality capital does provide a buffer to allow supervisors more time to seek a better resolution of a troubled institution, but capital is not the answer in and of itself. It is difficult for capital to prevent risks in a

preemptive manner because regulators cannot charge higher capital on banks before the latter take excessive risks. To charge higher capital after banks have already taken excessive risks will result in becoming trapped in the dilemma I described above. Moreover, although it is feasible in theory for capital to increase a bank's cost of taking excessive risks, studies have shown that in the real world banks can always find ways to circumvent the rules and transfer the increased costs to depositors and investors—by charging higher fees, changing asset portfolios, or otherwise moving the risky activities to the loosely regulated shadow banking system. Therefore, the tools necessary to solve the TBTF problem are much broader than just capital. Capital can be effective only when applied in combination with other risk-prevention measures to enhance the resilience of the financial system. The function of capital should not be interpreted as a levy or a tax on externality posed by SIBs; rather, it should be used to increase the ability of banks to absorb loss.

SOME THOUGHTS ON THE SOLUTION TO THE TBTF BANK PROBLEM

Some of the current proposals on bank reform further complicate the issue of TBTF banks, and it seems that we are still not firm in our stance on some fundamental issues surrounding the TBTF problem. Perhaps we need to think about the issue of TBTF banks from another perspective, and then it will be revealed that at the core of the problem is the excessive risk-taking of some large banks. As Adair Turner has pointed out,[10] there is a rule of diminishing marginal returns. Once we exceed the optimal point, marginal returns decrease and diseconomy follows. If we agree on this, it should come as no surprise that the efficiency of a banking system cannot be pursued indefinitely: while the benefit of financial efficiency will surely continue to increase, the potential cost of bank failure also increases in this process. The reason some large banks continue expanding and pursuing financial efficiency indefinitely is simply that there are opportunities for them to externalize the increased costs arising from conducting excessively risky activities. In effect, the higher the risks and external costs, the greater the likelihood that governments will be forced to bail them out, and once again the problem of TBTF banks grows. A link exists between high-risk activities and the likelihood of government bailout.

The essence of the TBTF problem therefore lies in that some large banks seek to pursue excessively risky activities, thus forcing governments to bail them out by externalizing the costs. Under the short-term incentives schemes, the benefit of higher risks goes to the senior management of banks, while the cost of bank failure has to be borne by taxpayers. Moreover, due to the public's belief that governments simply cannot afford to let these banks fail, depositors and investors tend to put their money in TBTF banks and markets tend to ascribe a higher rating to such banks.[11] This perception gives these banks the advantage of borrowing at preferential rates, thereby winning an unfair competitive edge by reducing their financing costs, weakening market discipline, and reducing the efficiency of resource allocation at the macro level.

In light of this, to effectively tackle the TBTF problem, measures should focus on excessive risks taken by large banks. By doing this, we can avoid the problem facing the identification of SIBs with an indicator-based approach, because risk will be the criterion to categorize large banks into prudent ones and aggressive ones. It should be admitted that due to the inherent nature of volatility in a banking system, large banks with low risk still have the possibility of encountering abrupt external shocks, and systemic impact could follow. Under such a circumstance, it is inevitable for governments to bail out these banks to prevent systemic spillover. This kind of government cost is justified and should not be paid by the banks. However, for those banks that kidnap the government by taking excessive risks, regulators should adopt intense and intrusive supervision in a preemptive manner, and they should have the authority to take action against these banks. Together with stricter capital requirements and a credible, strong resolution regime, these measures would contribute to eliminating the day-to-day effects of people's expectations about TBTF banks. In sum, no bank should be TBTF in future banking systems.

My suggestions on addressing the TBTF issue are as follows.

1. For the identification of large banks that need more intense supervision, risk profile should be the key criterion. In this regard, factors contributing to higher risks of large banks and their interaction in today's financial systems should all be considered and assessed by regulators in a dynamic background and on a case-by-case basis. Interconnectedness and substitutability in an indicator-based approach are surely factors to be considered, among others.

Moreover, factors such as the complexity of bank structures and business models, leverage, funding sources, and risk concentration should also be considered in the process of assessment. The implementation of living wills would help identify these factors.

2. The function of capital should be focused on increasing the loss-absorption ability of banks. Given the fact that in the run-up to the crisis capital requirements on complex large banks, particularly with regard to securitization activities, had been far too low, and expectations about TBTF banks further reduced the costs of some large banks, clearly there is a need to increase the minimum capital requirement of large banks and the risk exposures related to securitization activities. For the identified high-risk large banks, regulators should be able to impose an additional capital requirement or capital surcharge under the Pillar 2 requirements of the Basel II Accord whenever needed. Contingent capital can also be devised as an option to increase the loss-absorption ability of banks by requiring banks to convert debt instruments to equity under certain trigger mechanisms such as government action.

3. Preemptive measures are highly necessary and effective. Essentially, risks should be identified at an early stage, and prevented or corrected in a timely manner. By preemptive measures, I mean supervisors should undertake more engaged and intense supervision of identified high-risk banks, reviewing and questioning their business models, strategies, and practices, particularly from the macroprudential perspective and at a systemic level, and take corrective actions when necessary. Of course, this requires that the right people be tasked to challenge banks. But all in all, a more engaged regulatory relationship is badly needed before setting up new and high regulatory standards. One thing worth noting here is that people seem shy to speak out in favor of regulators' freedom to act independently and their power to intervene: there have been many cases of public power abuse in financial history, and it is understandable that people are alert to it, but to go to the other extreme is just as dangerous. What happened in the past 10–15 years is that regulations in some countries had gradually given way to self-discipline of the market. If we agree that the market is not perfect, then there must be

grounds for the *visible hand* of government to play a role in correcting market distortions. Regulators should have authority from politicians to take action. To prevent the abuse of authority, my suggestion is that when regulators take action on a bank, they should publish an explanation of their rationale for public scrutiny.

4. More broadly, the existing financial system itself contributes to the higher risk-taking of large banks. Before the crisis, such a system, featuring a complex securitization and equity culture, was esteemed as encouraging innovation and fostering efficiency; however, as Adair Turner has observed,[12] the exotic financial instruments that have been developed in the past 30 to 40 years mainly to evade taxes and seek capital arbitrage have to a large extent contributed more to the volatility of the financial system than to financial efficiency. It is time now to correct those wrong beliefs and behaviors of the overall financial system, otherwise raising requirements on individual banks will simply have no effect. One of the fundamental issues is to strengthen the requirement on securitization and the supervision of securitization-related activities. I quite agree with the fundamental review of banking and trading books that the BCBS is undergoing, and the view that complex securitization should be restricted. In the future, only simple and transparent securitization should be allowed.

5. There are grounds for regulators to limit the size of banks, because there is an optimal scale and scope of economy. As Cambridge economist Austin Robinson said in his seminal 1934 work "The Problem of Management and the Size of Firms," "Man's mind and man's memory is essentially a limited factor. Every increase in size beyond a point must involve a lengthening of the chain of authority . . . at some point the increasing costs of co-ordination must exceed the declining economies."[13] How to measure the optimal scale is easier to describe than execute, and the debate over how to measure it is indeed still in its infancy. While it is premature to be reaching policy conclusions, in my understanding the rule of diminishing marginal returns clearly suggests that grounds exist to limit the size of banks when needed. My preliminary thinking about the optimal size of banks is that the limit should be that point at which a bank begins to find ways to externalize its costs by

engaging in excessively risky activities, and also the point at which banks reach such a scale and complexity that senior management is unable to understand the banks' structures and risks. More often than not, on the way to encouraging competition, we have been eroding the orderly competitive environment itself. Regulators should not be afraid of being accused of "impeding competition," because at the end of the day, the so-called efficiency gained by risky activities does not really exist, and the cost of saving banks from excessive risks taken has to be borne by the public.

6. Firewall mechanisms are necessary. I see them as the real, effective way to address the interconnectedness of the financial system today. Some people argue that firewalls belong to a bygone era, but I do not think measures to contain risk contagion are necessarily impossible in an integrated financial market. There are already discussions taking place on how these firewalls could function, such as by creating non-operating holding companies, restricting proprietary trading, and encouraging narrow banking over universal banking. We should certainly encourage these discussions. In China, we have firewall schemes in place for further financial integration, which I discuss in the next section.

■ ■ ■

It is very important that credible resolution regimes exist for banks. A key issue is how we make a resolution regime for TBTF banks credible. Wind-down plans provide part of the answer. And we need to commit governments to restrain themselves from bailing out certain firms under all circumstances.

As we can see, when we break down the issue of TBTF banks, most of the measures to resolve the problem of them were actually in our hands before the crisis. Regulators should, first, be certain always to focus on the risks of large banks; second, they should engage in deep analysis and judgment about risks, and really be willing to execute intense supervision; and third, they should, when necessary, take regulatory actions in a preemptive manner to prevent banks from taking excessive risks.

Together with higher capital requirement and resolution regimes, I believe regulators and policymakers will have a greater possibility of

resolving the TBTF challenge. It is not always necessary for us to resort to new tools whenever there is a crisis. I suppose the reason we do so is that we have not really found satisfactory solutions to long-existing problems surrounding risk identification and effective supervision. But to shoot a wrong target is dangerous, and will give us only temporary comfort. Regulators' responsibility and regulation should not be on the sidelines in the search for answers to the TBTF issue. In my opinion, to what extent the problem of TBTF banks exists and how effectively we can address it depend on whether we regulators are really determined to take action on excessive risks posed by some of the large banks and whether we are really willing to address fundamental issues in the existing financial systems.

CHINA'S PRACTICES IN THE SUPERVISION OF LARGE BANKS

In the implementation of the supervision of large banks, our experience at the China Banking Regulatory Commission (CBRC) is that the techniques that prove effective in day-to-day work are establishing a set of measures, pivoting higher capital requirement, enabling more intense and intrusive supervision, pursuing better corporate governance, and building firewalls. The best index to an SIB, in my opinion, is twofold: first, we establish how it treats its business in a simple way, and second, we look at how effectively it treats its risks. If a large bank cannot do either of these correctly, it will kill itself and many others.

As our first measure in the supervision of large banks, we place capital adequacy and its quality as a core value. To mitigate the risks of rapid loan growth in 2010, the capital adequacy ratio (CAR) requirement of the banking industry is currently set at 10 percent, of which 20 percent is capital buffer. Given the higher risks facing big, systemic banks, they have been given additional capital surcharges, making their CAR requirement 11.5 percent. Capital surcharges upon SIBs should be determined in accordance with the risks these banks take on a case-by-case basis under Pillar 2 of the Basel II Accord, rather than Pillar 1. Moreover, we have strict filters concerning the quality of capital. Cross-holding of subordinated debts among banks is required to be deducted 100 percent from Tier 2 capital. Nowadays, more than 80 percent of the capital of Chinese banks is Tier 1

capital, consisting of common stocks and retained earnings that can absorb losses on an ongoing basis.

Second, we are fully aware that although capital is critically important, it cannot be a substitute for prudential tools. The enforcement of key limits and constraints on risk management plays an equally important role in the effective supervision of large banks. In this regard, some rules of thumb have proven to be simple and effective. We ask banks to classify their assets accurately and then ask them to set aside adequate provisioning accordingly. The CBRC sets the provisioning coverage ratio at 130 percent, drawing from historical data on loan migration and deviation analysis. We have large exposure limits—10 percent for a single borrower of the net worth of the bank and 15 percent for connected party transactions—which are higher than most other countries' limits. We monitor the top 10 borrowers of each bank and we also scrutinize connected party transactions. IT and data systems should be in place to check whether banks can manage group-wide risks on a consolidated basis. Banks in China are not allowed to follow the fashion of financial innovation recklessly, and they are not allowed to push forward into areas of financial innovation if they demonstrate that they do not know the rules well. Although all banks have to meet the thresholds we set for them, we pay greater attention to big, systemic banks because they have more than 50 percent of the market share of the entire banking system, and we undergo peer comparison among these banks on an ongoing basis. We also conduct more intensive and frequent on-site examinations of these banks, and communicate with them frequently at different levels about our findings and what they think. The ultimate goal of our supervision is to cultivate the culture of risk management and compliance, corporate governance, and internal control in banks. People may argue that more intrusive supervision was also adopted both in the United States and the United Kingdom before the crisis, and that despite this both countries still ran into crisis in the end. But the key problem is not with the method, rather with effective enforcement and follow-up. For example, regulatory authorities have to make sure their supervisors in charge of SIBs are not replaced frequently and that their supervisors have real understanding of the risk profiles of the banks they supervise.

Third, we attach great importance to the banks' corporate governance. From the perspective of risk monitoring, people are the key factor, and we at the CBRC check duty of care is fulfilled by the top

management of the top five banks. At the end of each year we assess the performance of each member of the board, and let him or her know our concerns. We require banks to set up clear-cut decision-making processes, with an independent but sound cooperative relationship between their boards and senior management. Whenever necessary, we send supervisors to participate in board meetings of the banks so that we can monitor and oversee their decision-making processes in the most direct, timely, and effective manner. A once-a-year dialogue between regulators and independent directors and auditors of banks has been built into the supervisory framework and plays an effective role in it. Moreover, we emphasize that incentives schemes should be well placed, embodying risk-adjusted long-term benefits and calculation of all-in-all costs and risks; disbursed in proportion in three years at the shortest; and equipped with clawback and evaluation mechanisms.

Last, but not least, is the firewall. In China, we are pursuing deeper financial integration, but in the meantime we ensure a sound firewall framework is put in place to guard against risk contagion. For example, the top five banks have been allowed to conduct capital market activities, but these activities must be pursued in stand-alone subsidiaries and financed out of own capital. We do not allow banks to underwrite their own hybrid debts, and we require that deposits be the banks' major funding source. We find leverage limit is effective, because cross-market products, as usual, have embedded leverage. It is also our belief that the structure of the institutions should be understandable to regulators.

Looking ahead, China faces greater challenges for further developing its financial system. There is still room for us to improve regulation, particularly that of large banks. Among other things, we are devising an appropriate bank resolution regime, building a systemic risk management scheme, and developing a deposit insurance scheme.

CONCLUSION

To a large extent, effective measures to address the TBTF issue are already in our hands, and these are concentrated in the methods for identifying excessive risks and addressing these risks. If we supervise high-risk large banks intensively and take actions whenever needed, and if we build a healthy competitive environment by addressing the

fundamental defects dominating today's financial systems, most likely we will be able to address the TBTF issue. As evidenced by China's practice, chasing fancy new tools is no better than strictly following the wisdom that has already proven to be effective. More often than not, simple actions are closer to the truth.

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Chapter 2

Introduction

PEACE IN THE PROVINCES

Because the regulation of financial services is such an important and complex function, there is no single system that is considered ideal to accomplish it. Regulatory architectures shift and change over the years, sometimes under the dictates of governance trends, as can be seen by the recent trend to create integrated financial services agencies to regulate banks. This trend has taken hold in the past 20 years in the United Kingdom (until 2010), Sweden, Denmark, Germany, Japan, Korea, and Taiwan. Other countries such as Australia and the Netherlands have a system called *Twin Peaks*, which carries a prudential regulator and a consumer advocacy group (as well as other agencies—the Twin Peaks model doesn't always have only two elements; the term is applied non-literally as a functional concept). Twin Peaks is a model that is currently gaining favor in light of the failures of existing systems revealed by the global financial crisis.

For the Twin Peaks model to work it needs a strong line of communication between the central bank and the financial regulator, especially with respect to information about the banking system, as banks and regulators in Australia and the Netherlands will attest. Bankers in the United Kingdom could add their thoughts about how the non-communication between the Bank of England (BOE) and the Financial Services Authority (FSA) amplified problems in their banking system.

The global financial crisis changed the way countries—and political groupings such as the European Union (EU)—look at bank supervision. In the United Kingdom, it was shown by the case of Northern Rock that the FSA was not receiving enough information from the BOE about its banks. As a result, the United Kingdom has changed its regulatory architecture, giving supervision of banks back to the BOE, creating a sort of Twin Peaks model of its own.

The shift in regulatory architecture is happening on the other side of the English Channel as well, with the EU proposing in 2010 the creation of a new regulatory watchdog to oversee financial practices that are considered opaque and difficult to track, such as short-selling

and derivatives trading. These practices will be challenging to oversee, but it is perhaps necessary to do so, as they are poorly understood activities that have been blamed for intensifying the financial crisis.

Reform of regulatory architecture is also clearly needed in the United States, which not only has the world's largest and most important financial services industry and is one of two global financial centers, but also was the epicenter of the global financial crisis. Reform was partly addressed by the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 (Dodd-Frank Act), which created a Financial Stability Oversight Council and an Office of Financial Research; offices that will be attached to the Treasury. The Act also abolished the Office of Thrift Supervision (OTS), which had been found lacking in its supervision of institutions such as AIG (which has received approximately US$180 billion in support from the U.S. government to preserve its business strength as a result of its business challenges), Washington Mutual (the largest commercial bank failure in the United States), and IndyMac Bank (the fourth largest commercial bank failure in the United States). A previous version of the OTS, the Federal Home Loan Bank Board, had also been faulted for the savings and loans crisis of the 1980s that saw 747 savings and loan associations fail; it had required a bailout of $180 billion. Its powers were transferred with the bill to the Federal Reserve, the Federal Deposit Insurance Corporation, and the Office of the Comptroller of the Currency. The Dodd-Frank Act also created the Bureau of Consumer Financial Protection, providing shades of a Twin-Peaks-like structure—but with the retention of existing structures this meant in a practical sense only two peaks in a long mountain range.

The Twin Peaks format for bank supervision had actually been suggested for the United States in a March 2008 report by former Secretary of the Treasury Hank Paulson.[1] The report alluded to what was seen as competition coming from maturing foreign economies that were developing into market-based economies, which could benefit from recently created or newly developed regulatory structures that are more adaptive to the complexity and increasing pace of intervention. Former U.S. Federal Reserve Board Chairman Paul Volcker, who is the Chairman of the Group of Thirty's Board of Trustees, also suggested the Twin Peaks system for the United States in October 2008, noting that it was under consideration in Spain, Italy, and France.[2] But the system has not been adopted seriously by any political reform proposals, including the Dodd-Frank Act.

WORKING WITH TOOLS

Financial regulatory agencies in the United States are staffed by dedicated and talented individuals who deal with small and large challenges on a daily basis and are working hard to learn the lessons of the great financial crisis that shocked probably the world's most resilient economy to its very core. The value of cooperation between agencies is key to regulatory effectiveness, and in sprawling systems like that in the United States, a great deal of trust is laid on the ability of the various agencies to work together, just as it is in the multiple regulatory bodies in hundreds of industries around the world. But because the financial services industry is so clearly at the epicenter of the global financial crisis, its regulators have an even greater need to explain that the system is being repaired, that it has matured and learned valuable lessons, and that it is ready to do the right thing going forward.

In a great deal of the soul searching that has gone on in the United States, much of it brought on by the authority of a new president from the one that was in office during the financial crisis, problems have been soberly identified. The sheer size of the U.S. financial system and the many types of institutions that need to be regulated—non-banks, the largest investment banks, global commercial and investment banks, and banks with limited domestic- or state-bound franchises, not to mention foreign banks—make regulation a complicated matter, which is exacerbated by the fact that U.S. political philosophy holds for a de-centralized governmental system: powerful national regulatory institutions are mistrusted and resisted aggressively.

In this environment, the members of the Federal Reserve System are trying to find solutions to a deep economic crisis that has cost millions of workers their jobs and has shaken the confidence in the backbone of the capitalist system and its ability to finance growth and expansion. As a result of the global financial crisis, there are clear implications for macroprudential supervision, capital, and liquidity, and new ideas in avoiding future crises.

Eric Rosengren, the president and CEO of the Federal Reserve Bank of Boston (Boston Fed), one of 12 regional federal reserve banks that make up part of the Federal Reserve System, has strong opinions on all of these issues. A passionate individual who takes a measured approach to explaining complex economic and regulatory concepts, Rosengren has since July 2010 been the president and CEO of Boston Fed, the

institution he has been with since completing his PhD dissertation at the University of Wisconsin in Madison in 1985.

Initially an economist, Rosengren became the senior vice president of Boston Fed's Supervision and Regulation Department, where he gained domestic and international regulatory experience related to the New Basel Capital Accord. His last positions before taking up the top job were executive vice president of the department and the chief discount officer. Rosengren's research has been in the field of banking and monetary policy, and he has written extensively on macroeconomics, international banking, bank supervision, and risk management, being published widely in academic journals. Among the Federal Reserve System policymakers, Rosengren has a reputation as a fiscal "dove," meaning that he tends to be less concerned about the risk of inflation and more inclined to act against slow growth and falling inflation. He is also distinguished by being a close follower of global accords, such as the New Basel Capital Accord, which has not been upheld in the U.S. financial system other than by the 10 largest banks. His involvement with global regulatory forums makes him the senior U.S. bank regulator with one of the broadest views on international financial services regulation.

Banks at Risk: Global Best Practices in an Age of Turbulence
By Peter Hoflich

Chapter 2

Implications of the Financial Crisis for Risk Management and Macroprudential Supervision

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The horrified residents of Boston saw many lives lost and more than 700 buildings destroyed in the devastating Great Fire of 1872. Sadly, this was the city's *second* such fire. Cities like Boston finally put an end to the era of recurring great fires by addressing prevention (through various codes and their enforcement) and putting in place infrastructure that could help mitigate the damage (like professional firefighting and adequate water pressure and supply).

Today, somewhat similarly, we need to make progress in our ability to prevent and mitigate *financial* firestorms.[3] As the overarching focus of *Banks at Risk* is new post-crisis approaches to risk management, in this chapter we explore some elements of financial fire prevention and the mitigation of damage should such a fire break out.[4]

We begin with some observations on the recent financial crisis and on pre-crisis risk management. Such observations can help with the development of a well-informed approach to risk management going forward.[5] Next we explore *macroprudential supervision*—its promise, its challenges, and some related issues. Then we discuss capital and its potential to reduce the likelihood of future problems. Finally, we explore ways to reduce the likelihood of failures and the

severity of their effects using things like resolution authority, *living wills*, and compensation-related incentives.

OBSERVATIONS ON THE FINANCIAL CRISIS

Capital

The first observation on the crisis is perhaps the most important: In retrospect it is clear that financial institutions did not hold adequate capital for the economic shocks that emerged. Many of the largest American and European banks needed to be recapitalized, frequently with support from their governments.

While many of the problems began with large institutions that were actively engaged in securitization and investment banking, in time the financial problems spilled over to the real economy. As real estate problems became worse, an increasing number of small community banks began to fail. Particularly in regions of the United States that experienced a significant boom-bust cycle in real estate markets, bank failures became common.

Risk Management

A second important observation is that these widespread bank failures occurred despite significant investments in risk management over the previous decade. Substantial investments in risk management were made by the largest financial institutions, whose risk models served as the backbone for the Basel II international capital accord. Banks and regulators had focused their attention on improving risk management by exploiting improvements in technology and data collection to build sophisticated models to monitor and manage risk. Using recently collected data, many banks and regulators became convinced that improved risk management meant traditional banking could now be conducted with relatively thin capital cushions.

However, because of the limited time period captured in the data, such models significantly underestimated the risks in bank portfolios. In particular, the models were estimated over a period that some economists have termed the *Great Moderation*—the period beginning in the mid-1980s during which there was a substantial decline in macroeconomic volatility (in other words, a decline in the variability of output, inflation, and other aspects of the economy).[6]

Estimating risk from only the economically placid period of the Great Moderation proved problematic. This estimation contributed to the largest financial institutions with the most sophisticated risk management systems being the first to experience significant losses in capital.

A major flaw in many of the models was the assumption that a low degree of correlation between assets *during good times* would not change significantly with a serious downturn. However, in the wake of the failure of Lehman Brothers, the behavior of many asset classes did become much more highly correlated, resulting in much less diversification than had been assumed in models.

Of course, models estimated during the Great Recession will suggest more capital for the same exposures, going forward. But beyond that, *many* historical relationships turned out—during a severe economic downturn—to be quite different than expected. House prices, which many observers had assumed were unlikely to fall, did in fact drop significantly.

All this highlights that models built using historical data will need to be augmented by improved stress testing. Such stress testing can highlight what happens if the truly unexpected scenario occurs. In particular, while many large financial institutions had done stress tests using real estate values prior to the downturn, the results of those tests generally implied a loss of earnings but not a more significant loss of capital. The models failed to capture what would happen when house prices fell more than expected; the correlations with other assets that would become apparent when that did occur; and the indirect impacts such as the problems with securitization, off-balance-sheet assets, and market liquidity.

Liquidity

A third observation on the financial crisis is that many models assume liquid markets, but during the crisis liquidity was frequently a problem. A combination of balance sheet constraints, poor transparency regarding potential losses, and concerns about heightened counterparty risk contributed to less-liquid financial markets. Uncertainty over asset valuations increased, and banks became reluctant to take on counterparty risk with certain institutions—particularly those with significant exposure to complex financial instruments.

Market illiquidity was apparent in the extended periods where bid-to-ask spreads widened, where buying and selling in short-term credit

markets dried up (absent significant price movement), and where formerly routine transactions in once active markets all but ceased. It was essentially a *liquidity lock*, characterized by extreme risk aversion by many investors and institutions that feared they would not be able to sell assets in a timely fashion without steep discounts. At certain points in the crisis, market participants saw few, if any, bids for even high-grade financial paper if it had a maturity greater than one day.

Another manifestation of the liquidity problem was the unwillingness of many of the largest financial institutions to lend to each other—as represented by the very large spread between the London Interbank Offered Rate (LIBOR) and the overnight index swap rate. The reluctance of banks to lend to each other became quite elevated beginning in mid-2007. Firms were unwilling to trade with each other because of concerns about solvency risk, and the opaqueness of firms made it difficult to ascertain their financial health. Going forward, financial firms and regulators clearly need to consider ways to make entities less opaque.

Securitization also played a role: it declined dramatically when investor confidence in ratings of structured products waned. And many markets became significantly less liquid as firms did not want to hold assets they could not securitize. Looking forward, we can conclude that in an environment where investors are less willing to rely on third-party ratings, securitization will need more transparent structures that allow for easier monitoring of risks.

Investment banks relied on short-term, collateralized loans—repurchase agreements—for financing and assumed the collateral could always be sold in the event of a default. However, concerns with the valuation of assets used for repurchase agreements led many investors to refuse to continue to lend, even overnight, fearing counterparty failure.

In addition, money market mutual funds were assumed to have little liquidity risk because they hold investment-grade securities of short duration. However, after a well-known fund "broke the buck" in the wake of the Lehman Brothers failure, many funds faced a wave of redemption requests they had great difficulty meeting.

In sum, regulatory and accounting frameworks and risk management approaches need to consider how best to address periods of sustained illiquidity. These periods of illiquidity are likely to occur in conjunction with other problems for risk modeling, such as increases in asset correlations.[7]

The Real Economy

A fourth observation on the crisis is that problems in financial markets had large spillover effects to the real economy. What may have been just a fairly typical recession became the Great Recession as a result of a string of financial failures in September and October 2008. These financial failures disrupted financial markets and significantly affected the length and severity of the economic recession, impeding the strength and speed of the recovery.

Indeed, the length, severity, and human toll of this financial crisis and subsequent recession highlight exactly why macroprudential supervision and new, informed approaches to risk management are so important.

EXPLORING THE PROMISE OF MACROPRUDENTIAL SUPERVISION

Macroprudential supervision is supervision that tries to reduce the *likelihood* that problems at financial institutions (not just banks) occur and negatively impact the real economy; and it is supervision that tries to reduce the *negative impact* should problems at financial firms nonetheless arise. This process is akin to the work that bankers do when thinking about reducing the probability of default of an asset and the loss given that default, but is focused on the broader economy instead of on a single institution.

One approach to reducing the probability of default is requiring financial institutions to hold more capital. Higher capital, particularly core capital, provides a buffer against unanticipated losses. The new financial regulatory framework signed into law (the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010) focuses on systemically important institutions holding more, higher-quality capital. The legislation also tries to reduce the probability of default by limiting certain risk-taking. The so-called Volcker Rule and limits on derivatives trading activity are attempts to reduce risk-taking behavior. It is quite possible that putting limits on these activities will reduce the risk of regulated entities failing, but regulators and supervisors will need to keep in mind the overarching goal of limiting risks to the macroeconomy if risk simply shifts to less-regulated corners of the financial system.

In terms of reducing loss given default, key strategies include having viable frameworks for resolving failing firms and living wills

(or *funeral plans*) that make unwinding a failed firm easier, with less damage to counterparties and others. The new resolution schemes provide tools for regulators to shut down financially important institutions in a more orderly fashion. The living wills are intended to ensure that regulators and regulated institutions better understand how financial structure can impede orderly resolution.

Stress Testing and Scenario Analysis

It is critical to understand the probability of default, and the loss given default, in times of economic and market stress. Under such circumstances markets are often disrupted, groups of institutions become troubled, and assets exhibit much higher correlations. It is these features that highlight the difficulty in focusing on only prudential supervision of individual institutions.

An important tool that was utilized during the crisis was stress-test-related scenario analysis. Many attribute the improvement in financial market conditions in the United States to the stress tests led by the Federal Reserve in early 2009. It will be important for macroprudential supervisors to use such scenario analysis to assess potential misperceptions and mispricing of risk and its dispersion, for both individual institutions and the financial system as a whole.[8]

While stress testing by institutions and regulators is still a work in progress, it shows great promise. For example, good scenario analysis would have highlighted the sensitivity of financial institutions to various risks, like falling house prices—and could have revealed that the values and ratings of subprime securities were extraordinarily sensitive to assumptions for which no one had good information.

However, it is important not to underestimate the challenge in developing good stress testing. Stress tests done by global banks as part of their risk management programs before the financial crisis often did not indicate their susceptibility to falling house prices in the United States. The reason is that most of these tests assumed lower house prices would mean losses on construction loans and subprime loan holdings—but most large global banks did not have significant exposure in those areas. What these tests failed to capture was the effect of house-price declines on the large holdings of highly rated securities that global banks held—the products of mortgage securitization activities, with their payment streams ultimately tied to the

performance of subprime loans. There was also an assumption that if house prices fell nationwide—a situation that most saw as unlikely—only the high-risk tranches of these securitized pools of mortgages would be affected, and the high-risk tranches were not generally held by U.S. banks.[9]

Macroprudential Supervision in Practice

Traditional bank supervision tends to focus on the current condition of a firm by identifying write-downs and validating loan ratings and the adequacy of reserves, reflecting in part the focus in accounting on *incurred* losses. In contrast, macroprudential supervision would focus on *possible future* losses. This requires taking into account the full range of possible outcomes, both expected and potential, including those with a low likelihood of occurring but significant adverse consequences if they occur.

To be effective, macroprudential or *systemic* regulators should have the ability to supervise a minimum of three things:[10] first, they should supervise *capital structure* and consider whether capital should be higher for those organizations that pose the most risk to the financial system. Second, they should supervise *liquidity risk and asset-liability management*, to minimize the likelihood, and impact, of runs on institutions. During the financial crisis many of these runs occurred at non-depository institutions such as money market mutual funds and investment banks. Finally, they need to supervise *risk management*, so that systemically important institutions have robust and effective means of evaluating risk, thus minimizing the likelihood of needing government support to avoid the spread of contagious financial instability.

Many analysts have raised concerns about how macroprudential supervision could work in practice. As many have noted, economists are not particularly good at identifying bubbles prior to the problem. While deviations from fundamental values may be difficult to identify because of the many judgmental factors needed in valuation models, there are significant trends that do seem characteristic of financially disruptive bubbles.[11] Important warning signs include the type of rapid asset appreciation that is financed by increased leverage, significant increases in the mismatch of funding of long-term assets with short-term liabilities, and substantial deterioration in underwriting practices.

REDUCING THE LIKELIHOOD OF FUTURE PROBLEMS BY HOLDING MORE CAPITAL

Capital Considerations

It is clear that many financial institutions did not hold sufficient capital for the shocks they encountered. Thus, raising the quality and quantity of capital at financial institutions would seem to be one of the first areas of focus, going forward. This would reduce the probability of insolvency, which, in the macroprudential sense, is particularly important if a given failure would have broad ramifications.

While the macroeconomic consequences of large institutional failures are apparent, it is important to note that large numbers of failures among *smaller* institutions can have important impacts on the real economy. Thus, the appropriate level of capital for smaller institutions engaged in construction and commercial real estate in the United States was much higher than what was actually held, as there were large clusters of failures of smaller institutions in areas such as the southeastern United States.

Previous banking problems in the United States have often been associated with an increased concentration of construction and commercial real estate loans. Despite this history, it was difficult for examiners to require higher capital for institutions making construction loans and commercial real estate loans because of political resistance to what now seems relatively sensible guidance.

In addition to holding more capital, it is important to consider banks' off-balance-sheet exposures. In retrospect, the capital for these off-balance-sheet structures was inadequate for the risks being taken. Revisiting implicit exposures that could deplete capital or increase assets during a crisis[12] should be an important component of assessing appropriate capital.

Regulatory and Accounting Policies

Recent events highlighted that raising capital during a crisis can be problematic and contribute to credit availability problems in the broader economy. The issue of accounting conventions and macroeconomic stability has been gaining increased attention. Having capital reserves that reflect only accrued losses results in very procyclical capital requirements. So we need to be assessing possible future losses, not just those that are considered incurred.[13]

Bank examiners spend significant time analyzing the adequacy of a bank's reserves in light of the quality of its assets. Reserve levels are calculated based on accounting standards that focus on incurred losses at the bank rather than on expected or unexpected losses. The incurred-loss model can sometimes be at odds with a more risk-based view that is more forward looking. By focusing on reserves in the manner defined by accounting rules, examiners are looking at history—that is, ensuring banks do not understate the losses that have already occurred—rather than focusing on whether banks have adequately provided for future losses.

It is important to explore how we can reduce the macroeconomic consequences of procyclical regulatory and accounting policies. Such policies can magnify economic fluctuations in either direction, so their financial stability implications should be carefully considered.[14]

Currently, U.S. Generally Accepted Accounting Principles (GAAP) provide that a loan-loss reserve should reflect probable and estimable losses that have already been incurred in the loan portfolio but have not yet been discovered (the *incurred-loss model*). The goal from an accounting standpoint is to inject transparency into reserve setting and inhibit financial manipulation. However, as financial conditions deteriorate, loan-loss reserves lag the increases in non-performing loans and expected losses. Solutions to this predicament would do well to achieve earlier loss recognition, more rapidly addressed problems, and a curtailing of high-risk lending earlier in the cycle.

To an economist's way of thinking, expected future losses should also be considered part of a more comprehensive view of loan losses. For example, if we anticipate unemployment will rise rapidly, our calculation of expected losses looking through the cycle may be very different than the losses that are probable and estimable given current economic conditions.

Spain's regulators use a different approach to reserving for loan losses, known as dynamic provisioning, whereby *stress losses* are estimated and loan-loss reserves are built up during good times for use during difficult times.[15] Losses draw down the reserve rather than capital, so capital is much less sensitive to economic conditions. Thus, there is less pressure to reduce lending during periods of financial difficulty (which is *procyclical*, meaning it only adds to the momentum of the business cycle). Of course, any changes to accounting rules to address procyclicality must take pains to avoid inviting *earnings management* and should respect the needs of investors and other users of financial statements.

Capital Retention

While building up capital during good times can provide a significant buffer, if large losses do occur it is important that banks move quickly to retain capital. Many banks did not retain capital initially but commenced doing so after the crisis began, often with significant prodding from regulators. Macroprudential supervision should place greater emphasis on retaining capital as problems emerge. During a financial crisis it is important that individual institutions as well as the banking system more generally take measures to retain capital.[16] This not only reduces the likelihood of insolvency of individual institutions, it also reduces the likelihood of institutions shrinking their balance sheet by reducing lending to prop up capital-to-assets ratios.

During the crisis, substantial dividends were paid in the initial phases to institutions that ended up needing significant government support. Dividends and stock buybacks could have been limited much earlier, as problems began to emerge. Many banks reduced or eliminated bonuses for senior management. By reducing both bonuses and dividend payments, banks were able to recapitalize relatively quickly; however, by waiting until the crisis became severe, much more government capital was needed. In the future, finding ways to retain capital earlier may significantly reduce the damage created by undercapitalized banks.

Convertible Debt

One reason that capital retention is so important is that it can be difficult or extremely expensive for banks to raise new capital in the middle of a financial crisis. An alternative for capital raising is to require that systemically important banks issue mandatory convertible debt, which converts to equity when certain triggers are hit. This allows debt to be converted when a firm or the banking system is under severe stress. Because there has been a reluctance to make debt holders suffer losses when financial institutions are troubled, this alternative provides an automatic mechanism to convert debt to equity when an institution is experiencing financial problems.

Because this debt converts to equity, it is likely to be much more expensive than debt that does not have this feature. One way to make such securities attractive is to establish that debt instruments could be used to meet capital requirements only if they have automatic triggers to convert to common equity under certain circumstances.[17]

While mandatory convertible debt is potentially attractive, establishing triggers that are acceptable to investors and regulators remains a challenge.

ALTERNATIVE CRISIS MITIGATION STRATEGIES

Resolution Authority

One of the most important innovations of the new U.S. financial regulatory legislation is the ability to resolve large systemically important institutions. The inability to resolve Lehman Brothers, other than through bankruptcy proceedings, significantly exacerbated financial market problems in late 2008. The new law creates an infrastructure that allows systemically important financial entities to be resolved in a more orderly fashion.

The events of the financial crisis—particularly the events surrounding Bear Sterns, Lehman Brothers, and AIG—demonstrated that perhaps the most pressing issue to be addressed in financial regulatory reform is resolution authority over failing non-bank financial firms.[18] A highway metaphor helps illustrate the need for wind-down or resolution authority. In this metaphor the financial system is akin to a highway that moves well most of the time. Car accidents occur but cause only minor disruptions to traffic—although those involved in the accidents may be seriously impacted. However, if something other than a car overturns—say a truck carrying volatile materials—specialized emergency equipment that can clear away such an accident is needed. In the absence of such equipment, the highway grinds to a halt and everyone is affected—not just those directly involved in the accident. Highway traffic jams may even spill over onto other roads. We have been operating in a world where bank failures can be addressed with acceptable side effects, but the failures of certain large non-bank financial firms have major negative impacts on many. It is in everyone's interest that tools exist to clear such overturned vehicles and keep the roadways moving.[19]

In his remarks on April 14, 2009, Federal Reserve Chairman Ben Bernanke noted:[20]

> Federal regulators urgently need a new set of procedures for dealing with a complex, systemically important financial institution on the brink of failure. Such rules already exist for banks. . . . However, for [others], these rules do not apply. Among other

> things, a good system for resolving non-bank financial institutions would . . . provide the authorities greater latitude to negotiate with creditors and to modify contracts entered into by the company.

While the new resolution authority should avoid another situation like the Lehman Brothers one, how this authority will work in practice is unknown. While it does provide greater flexibility in resolving institutions, it does little to resolve the problems created by global institutions whose regulatory and legal status will be determined by each jurisdiction in which it operates.

Living Wills, Capital, and International Coordination

The new financial regulatory legislation also requires living wills. These attempt to incentivize more stable behavior, in part through documents that require banks to detail how they would be resolved should they become troubled.[21] Living wills are not a cure in and of themselves, but their preparation is a good process to go through for both the institutions and their regulators. Effective living wills would also likely identify areas where banks have chosen particularly complicated legal structures—perhaps to avoid taxes, capital charges, or regulation—and determine whether these structures would increase the cost of resolution.

At a minimum, living wills should document the organizational purpose of different legal entities, and supervisors would have the ability to compare those structures with competitors who have chosen simpler structures. Ideally, organizations that choose particularly complicated structures would be penalized, perhaps by higher capital requirements, so as to reduce the probability of their failure.

Capital requirements, capital retention, resolution authority, and living wills can all be made more effective through international agreements.[22] The resolution of a large global player is quite different from, and more difficult than, resolution of a purely domestic institution. With different bankruptcy codes and rules of priority in each country, more work needs to be done to harmonize how global players would be resolved. A globally active institution placed into receivership in its home country may quickly find that its ability to transfer deposits, cash, and capital is hampered as host countries impose controls to protect their own liability holders.

As financial firms increasingly span national borders, much greater coordination between regulators is necessary. This is particularly true as the size of financial institutions' on- and off-balance-sheet exposures become large relative to the home country's capacity to provide emergency support. Bankruptcy laws and resolution procedures are national. Home country financial supervisors have a national focus, and bank regulations apply within firms' national borders. A global bank's management team needs to have a clear idea of how regulators will react when a global bank becomes troubled. To be truly effective, a living will for a global bank would require not only a plan developed and kept up to date by management, but also an agreement among regulators in different countries that such a plan would be feasible—because supervisory, regulatory, and legal restrictions are country-dependent. In essence, in the case of global banks, living wills may not only serve as mechanisms to better understand the difficulties with resolving large complicated institutions, but also encourage greater synchronization of supervisory policies across borders, achieving the type of greater international coordination that will be needed going forward.

One way of forcing banks to internalize the cost of choosing complicated structures is to require higher capital for institutions that don't have appropriate living wills or are built up around the sorts of complicated structure that could make it difficult to conduct an orderly resolution of these institutions should they fail.[23] The trade-off between the commercial benefits of complicated structures and the potential public costs of resolving these organizations is an area that deserves more supervisory and international policy study.

As banks become larger and more complicated, they become more difficult to resolve. Again, one way to address this problem is to require higher capital when banks become too large to easily conduct orderly resolution. A simple rule of thumb to understand which banks fall into this category might be that if it can be decided that the Federal Deposit Insurance Corporation (FDIC) is likely to have a high degree of difficulty managing the organization's resolution due to complexity, that is in and of itself a reason for the organization to be holding more capital.

One of the features of the recent crisis is that, among banking institutions, the problems were initially concentrated in large global institutions actively engaged in complex financial transactions. This created a number of significant complications.[24]

First, because many of the troubled financial transactions were bilateral—that is, between two firms or counterparties rather than through established exchanges—the firms were not only large, but also highly interconnected. As a result, the inability of a financial institution to fulfill the terms of financial contracts would have a significant impact on counterparties.

Second, when a large, interconnected financial institution became troubled, there were only a few parties with sufficient size or sophistication to acquire that institution. In terms of dealing with troubled businesses, the act of splitting off subsidiaries and selling portions of the firm have proven to be steps that are difficult to implement, as shown by the difficulty AIG has had in disposing of some of its significant non-core operations.

Third, banking problems are particularly difficult to resolve when the banking institution spans national borders. Because of the nation-specific nature of bankruptcy codes, bank regulation, bank supervision, and lender-of-last-resort facilities, there are currently no robust infrastructures for addressing the resolution issues surrounding global institutions.

Last, many of the activities that proved problematic were transactions involving supposedly highly rated assets held in off-balance-sheet entities such as *structured investment vehicles*, which were quite opaque. And the legal, accounting, and reputational issues surrounding these off-balance-sheet activities were often unclear.

The result of these conditions is that certain very large and interconnected financial institutions became too big to fail, not because of deposits but because they were so intertwined in the global financial infrastructure that their disorderly failure could have caused the flow of financial transactions to freeze, calling into question the financial viability of their counterparties and the functioning of markets where they were key players. In essence, too big to fail was really too interconnected to fail or too relied-upon to fail and ultimately, too damaging to others if allowed to fail.

Compensation Practices

A tool that may lead to better risk management that has received increased attention is compensation practices at financial institutions. Poorly structured executive compensation practices have been shown to cause certain behavior that may be risky to the institution but

potentially financially attractive to executives that benefit from short-term profits; as these executives may not be with the firm when the consequences of those risky actions are fully realized, the underlying compensation practices can be counterproductive to the firm overall. During the recent crisis, executive bonuses, given the powerful economic incentives they carried, seemed to have a big impact on behavior.

One can envision circumstances under which executive bonuses should be forfeited; for example, if the organization breaches certain capital buffers. This example may help align top executives' thinking with that of macroprudential regulators and risk managers. Many firms have been proactive in restructuring compensation schemes to better align management compensation with the long-term health of the financial institution.

CONCLUDING OBSERVATIONS

We began this chapter with the metaphor of the great fires of past centuries. Cities finally put an end to the era of recurring, devastating great fires by addressing prevention measures and putting in place infrastructure that could help lessen the damage from fires that did occur. We need to make progress in our abilities to prevent and mitigate *financial* firestorms. In this chapter we explored some elements of financial fire prevention and steps that would mitigate damage should such a fire again break out.

The financial crisis with its severe economic impact on individuals and organizations underlines the need for urgency and diligence in addressing the need for financial fire protection. Risk management is likely to be dramatically changed by the crisis and the Great Recession that began in December 2007. Risk managers and regulators need to be more skeptical of statistical models and be more aware of how fragile the assumptions underlying the models can be during economic downturns.

Over-reliance on statistical models allowed financial firms to justify high dividends, stock buybacks, and compensation practices that did not fully reflect the risks being taken by them. This problem was compounded by the failure to foresee the liquidity shock that could emerge during a period of turmoil, much less its impact on the value of assets on balance sheets. Perhaps most important, parties assigned too low a probability of house prices falling across the United States, despite an understanding of the impact that such an occurrence would

have. Even those who realized that a significant decline in house prices nationally would cause subprime securitization deals to suffer enormous losses assigned a very low or nonexistent probability to the drop in house prices that actually occurred, because house prices nationally had not declined significantly in the post-war period.[25]

Given the magnitude of the collateral damage created by the financial crisis, it is heartening that some early steps have been taken to avoid problems in the future. In the United States the new financial regulatory framework provides ways to reduce the likelihood of another crisis and reduce the costs of a crisis if it should nonetheless occur. Of course, the full impact of this legislation will not be known until regulations are in place and have been tested by financial stress. But the reforms are a good starting point for improving risk management of individual institutions and—for the first time—providing some tools for implementing more comprehensive macroprudential supervision.

ENDNOTES

1. "Blueprint for a Modernized Financial Regulatory Structure," http://www.ustreas.gov/press/releases/reports/Blueprint.pdf.
2. "Reforms of Banking Regulations Seen as Urgent—Approaches in Many Countries Fall Short in the Face of Today's Market Strains, the Pace of Financial Innovation and Globalization" (press release, Group of Thirty), http://www.group30.org/100608release.pdf.
3. Eric Rosengren, "Opening Remarks: Prevention, Containment, and Policy Change – Lessons from History" (speech delivered at the Federal Reserve Bank of Boston's 54th Economic Conference, Chatham, Massachusetts, October 21, 2009), http://www.bos.frb.org/news/speeches/rosengren/2009/102109.htm.
4. This chapter is based on remarks taken from Eric Rosengren's speech "Observations on Macroprudential Supervision" at the Federal Reserve Bank of Atlanta's 2010 Financial Markets Conference (Atlanta, Georgia, May 12, 2010) and other speeches delivered by Eric Rosengren in 2008, 2009, and 2010. The authors are grateful to many colleagues for their insights and feedback, and especially to Peggy Gilligan for quantitative analysis underlying the speeches. The views expressed are the authors', not necessarily those of our colleagues or the Federal Reserve System.
5. For further reading, we recommend "Causes of the Recent Financial and Economic Crisis," the written testimony of Federal Reserve Chairman Ben Bernanke before the Financial Crisis Inquiry Commission,

September 2, 2010, http://www.federalreserve.gov/newsevents/testimony/bernanke20100902a.htm.

6. In remarks delivered in 2004, then Federal Reserve Governor Ben Bernanke said, "One of the most striking features of the economic landscape over the past twenty years or so has been a substantial decline in macroeconomic volatility. In a [2001] article, Olivier Blanchard and John Simon documented that the variability of quarterly growth in real output (as measured by its standard deviation) has declined by half since the mid-1980s, while the variability of quarterly inflation has declined by about two thirds. Several writers on the topic have dubbed this remarkable decline in the variability of both output and inflation 'the Great Moderation.' In the mid 1980s major economic variables such as GDP, industrial production, monthly payroll employment and the unemployment rate began a decline in volatility. . . . The greater predictability in economic and financial performance had caused firms to hold less capital and to be less concerned about liquidity positions. This, in turn, is thought to have been a factor in encouraging increased debt levels and a reduction in risk premia required by investors." The full speech, which was given at the meetings of the Eastern Economic Association, Washington, DC, February 20, 2004, is available at http://www.federalreserve.gov/boarddocs/speeches/2004/20040220/default.htm.
7. For further discussion of liquidity issues, see "Implications of a Credit Crunch," speech delivered September 3, 2008; "The Impact of Financial Institutions and Financial Markets on the Real Economy: Implications of a 'Liquidity Lock'," speech delivered October 9, 2008; "Some Principles to Consider in Future Regulatory Reform," speech delivered December 8, 2008 (available at http://www.bos.frb.org/news/speeches/rosengren/2008/120808.htm); and "The Impact of Liquidity, Securitization, and Banks on the Real Economy," speech delivered June 5, 2009 (available at http://www.bos.frb.org/news/speeches/rosengren/2009/060509.htm).
8. Eric Rosengren, "Asset Bubbles and Systemic Risk" (speech delivered at the Global Interdependence Center's Conference on Financial Interdependence in the World's Post-Crisis Capital Markets, Philadelphia, Pennsylvania, March 3, 2010), http://www.bos.frb.org/news/speeches/rosengren/2010/030310/index.htm.
9. Eric Rosengren, "Bank Supervision and Central Banking: Understanding Credit During a Time of Financial Turmoil" (speech delivered at the Bank of Korea and the Bank for International Settlements Seminar Household Debt: Implications for Monetary Policy and

Financial Stability, Seoul, March 28, 2008), http://www.bis.org/publ/bppdf/bispap46c.pdf.

10. Eric Rosengren, "The Roles and Responsibilities of a Systemic Regulator" (speech delivered at RiskCapital 2009: The Global Risk Regulation Summit, Brussels, June 29, 2009), http://www.bos.frb.org/news/speeches/rosengren/2009/062909.htm.
11. Eric Rosengren, "Could a Systemic Regulator Have Seen the Current Crisis?" (speech delivered at the Seoul International Financial Forum 2009, Seoul, April 15, 2009), http://www.bos.frb.org/news/speeches/rosengren/2009/041509.htm.
12. Many banks chose to inject additional capital into off-balance-sheet entities or to consolidate assets from off-balance-sheet exposures.
13. Eric Rosengren, "The Roles and Responsibilities of a Systemic Regulator."
14. Eric Rosengren, "Addressing the Credit Crisis and Restructuring the Financial Regulatory System: Lessons from Japan" (speech delivered at the Institute of International Bankers Annual Washington Conference, Washington, DC, March 2, 2009), http://www.bos.frb.org/news/speeches/rosengren/2009/030209.htm.
15. See, for reference, a September 2010 working paper by our Federal Reserve Bank of Boston colleagues José Fillat and Judit Montoriol-Garriga, entitled "Addressing the Procyclicality of Capital Requirements with a Dynamic Loan Loss Provision System." The authors argue that "had U.S. banks set aside general provisions in positive states of the economy, they would have been in a better position to absorb their portfolios' loan losses during the recent financial turmoil. The allowances accumulated by means of the hypothetical dynamic provision during the cyclical upswing would have reduced by half the amount of TARP funds required. However, the cyclical buffer for the aggregate U.S. banking system would have been depleted by the first quarter of 2009, which suggests that the proposed provisioning model for expected losses might not entirely solve situations as severe as the one experienced in recent years." Also see Eliana Balla and Andrew McKenna, "Dynamic Provisioning: A Countercyclical Tool for Loan Loss Reserves," *Economic Quarterly* (The Federal Reserve Bank of Richmond) 95 (4) (2009): 383–418. The authors explore "an alternative system of reserving for loan losses—dynamic provisioning . . . a deliberate method to build LLR in good economic times to absorb loan losses during an economic downturn, without putting undue pressure on earnings and capital." The authors' data analysis suggests "the Spanish policy was effective in building relatively higher reserves and [is] thus worthy of further study."

16. Eric Rosengren, "Opening Remarks: Prevention, Containment, and Policy Change."
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18. Eric Rosengren, "Challenges in Resolving Systemically Important Financial Institutions" (speech delivered at the Institute of Regulation and Risk North Asia, Hong Kong, May 5, 2009), http://www.bos.frb.org/news/speeches/rosengren/2009/050509.htm.
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23. Rosengren, "Can We Ensure that Global Banks Do Not Create Global Problems?"
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Chapter 3

Introduction

THE MARKET NON-CRASH OF 2008

The global financial crisis of 2008 was caused by banks, and now their regulators and supervisors are acutely under pressure to find solutions to the problem. As the crisis spread to national and global levels, it quickly took on cross-border characteristics, bringing the lack of strong, authoritative global regulatory bodies in the commercial banking industry under the spotlight.

Securities markets, while reflecting the collapsing prices of financial institutions—Lehman Brothers, for example, lost 77 percent of its value in the first week of September (before its bankruptcy); its value plunged a further 42 percent on September 11 and plummeted 93 percent on September 15, the day Lehman Brothers declared bankruptcy—did not suffer the types of problems that the banks themselves did, and continued to function no matter what amount of desperate trading was being conducted on them. But despite this, securities regulators, along with other regulators of financial institutions, need to look at lessons learned by the crisis and priorities for reform of global regulation.

Like other key elements of the financial services industry such as banking and insurance, securities industries have been buffeted by the market crisis and require an adoption of thoughts and processes for a new global financial services landscape that needs to balance regulatory reform with an improved role for securities regulators in a changing global financial system. In particular, securities regulators have been challenged by the fragility of financial institutions as well as by the handling of over-the-counter financial products—which have typically been unregulated—and their use by the financial institutions themselves, bringing them into regulated areas so that their impact can be more easily understood and controlled in a crisis situation. The behavior of other unregulated entities, including hedge funds, private equity funds, and sovereign wealth funds, are also a concern for securities regulators in terms of how they participate in the market and whether they should be regulated—and if so, who the regulator should be.

Securities regulators also have to think about the inter-relationship between bank and securities regulators and the importance of cooperation, which should culminate in new considerations of better regulatory models and approaches aimed at crisis prevention. In terms of solutions to the crisis, this means weighing the pros and cons of a bank-based financial system against a market-based financial system. The issue of too big to fail, which is a concept in banking that was tested with the Lehman Brothers collapse, is also distinctly applicable to the securities world in terms of the unwinding of failed institutions and their liabilities and other obligations; here, exchanges often play an important role.

Issues have cropped up on the agenda of those assessing the impact of the crisis on emerging markets and the formulation of potential mitigation strategies for the worst impacts of financial crises. Emerging markets have shown their unique vulnerabilities as a result of the crisis and new partnerships are constantly forming between developed and developing markets for strengthening these systems, but altogether this has proven to be less of a concern than examining the flaws in the large developed markets in the United States and Europe.

REAL GLOBAL OVERSIGHT

The crisis has required that securities regulators re-examine corporate governance and risk management, especially in jurisdictions that have been hit by issues that arose out of a neglect of meaningful oversight and major market deceptions such as the Ponzi scheme of Bernard Madoff. Corporate governance and risk management topics that concern securities commissions as a result of the global financial crisis include executive compensation and its effect on risk management, board responsibility at traded institutions and their obligations to all stakeholders, and investor protection. Many of these themes are encapsulated in the treatment by regulators of the credit ratings agencies, in the forming of assessments of the agencies' role in the financial crisis—whether they lived up to their duty of judging and grading risk accurately—and in the forming of a better understanding of what the agencies' rights and responsibilities in this re-assessment process are. The issues thrown up by the crisis show the need to design a new set of shared values and rules for all participants of the financial services industry.

The International Organization of Securities Commissions (IOSCO) is a global regulatory body comprising securities and futures market regulators that includes as members the main financial regulator from each member country. The organization aims to help members cooperate to promote the standards of regulation needed to maintain just, efficient, and sound markets. It also helps exchange information on experiences and best practices to promote better development of domestic markets, enabling greater levels of global standardization and coordination. IOSCO promotes enforcement against securities market offenses, and also takes a surveillance role.

Besides corralling the views and experiences of securities regulators all over the world, IOSCO works with other organizations as a member or an observer. Principally it forms one part of the regulatory troika—the other two parts are the Basel Committee on Banking Supervision and the International Association of Insurance Supervisors—that makes up the Joint Forum on Financial Conglomerates. Between the three is a joint view on all financial services—banking, securities, and insurance—mirroring the regulatory architecture of certain jurisdictions, such as the European Union and China, where three distinct supervisory bodies work together. IOSCO is also involved with the Organisation for Economic Co-operation and Development (OECD), the Financial Stability Board, the Financial Action Task Force on money laundering, the International Accounting Standards Board, the Public Interest Oversight Board, the International Monetary Fund, the World Bank, and the European Commission.

Since 1998, IOSCO has adopted a set of objectives and principles in securities regulation that aims to strengthen auditor independence and oversight, strengthen corporate financial disclosure and transparency, reduce conflicts of interest for financial analysts—core principles about what makes up good securities regulation—and also provide a memorandum of understanding on enforcement cooperation. Importantly, it also sets up a code of conduct for credit rating agencies, a code that has been severely strained in the crisis.

Jane Diplock is the chairperson of the Executive Committee of IOSCO, having been first elected to the role in 2004 and re-elected for a third term in 2008. She is also the chairman of the Securities Commission of New Zealand, a role that she has held since 2001; in 2006, she was re-appointed to a second term to the New Zealand securities regulatory body, which will expire on September 3, 2011.

Previously, Diplock was the National Director, Infrastructure and Strategic Planning and New South Wales Regional Commissioner with the Australian Securities and Investments Commission, and she has also held various senior executive positions with Westpac Banking Corporation and the New South Wales Technical and Further Education Commission.

IOSCO's work on providing information and standards for the securities industry has provided a great deal of new learning since the crisis, including principles for direct electronic access to markets and new ideas on increasing the focus on systemic risk and cross-border securities market supervisory cooperation. As part of the Committee of Payment and Settlement Systems, which it formed together with the Bank for International Settlements, IOSCO has reviewed standards of payment, clearing, and settlements, finally publishing a nine-year study of market infrastructure that included principles for systemically important payment systems (2001), recommendations for securities settlement systems (2002), and recommendations for central counterparties (2004).

Through the work that it does together with the work of other councils and associations that have studied the crisis, IOSCO has determined some key findings and recommendations that will be significant in ensuring that crises are better managed going forward. Given the size and scale of the recent financial crisis, which surprised and then terrified even the most cynical market participants, far-reaching and well-implemented reforms are badly needed to ensure that global financial crises don't simply amplify with each occurrence, otherwise a future crash would surely topple global systems of finance, commerce, and trade.

Banks at Risk: Global Best Practices in an Age of Turbulence
By Peter Hoflich

Chapter 3

Entering an Era of Global Regulatory Oversight

Jane Diplock
Chairman, New Zealand Securities Commission and Chairperson, Executive Committee of the International Organization of Securities Commissions (IOSCO)

LESSONS OF THE GLOBAL FINANCIAL CRISIS

"The future," Pulitzer Prize-winning journalist George Will has written, "has a way of arriving unannounced." And, one might add, almost certainly unwelcomed. Yet nearly two years on from the first signs of the global financial crisis, we can say with some confidence that the future is here and that, while many are still suffering the effects of the crisis and much work remains to be done in terms of banking, regulatory, and other systemic reforms, a quiet revolution has taken place. The crisis has altered, hopefully forever, our understanding of risk and its regulation.

Individual risk has always been inherent in business and investment; regulation cannot—and should not try to—prevent it. Individual risk arises from the nature of a specific investment, and, given all appropriate information, investors can determine whether or not they are comfortable with its particular level of risk. Systemic risk is another matter altogether. With the best will in the world, individual investors are unlikely to be able to avoid it. Mitigating systemic risk is the job of regulators and governments. The global financial crisis changed the concept of risk: responsibility for its appropriate analysis and market management has been held up to the light and found wanting.

We have recognized for some time now that effective regulation of systemically important institutions is important in producing the right capital structures and drivers of behavior. Equally important, but until recently less well recognized, is the complementary need for

effective regulation of markets. Even the most perfect prudentially regulated institution will founder if the markets in which it operates are volatile and unruly. Regulation of markets and regulation of systemically important institutions are the virtuous twins of financial stability. The first crucial lesson we learned during the financial crisis is that both must be in place if we are to avoid another crisis.

The second important lesson of the crisis is that good governance is a necessity for a stable securities market, not a luxury. The underlying behaviors that led to the crisis arose in market conduct and infrastructure, and the risks were transmitted through the markets. Conflicts of interest, profligate lending, excessive leveraging, inappropriate valuations, overvalued securitizations, contrived off-balance-sheet vehicles, and extravagant compensation—all these occurred within the area of market behavior, and all had systemic implications.

Until too recently, believing and acting as if all were fair in love and securities markets was widely acceptable. We relied, as John C. Bogle[1] has said, on Adam Smith's "invisible hand," by which our own self-interest would advance community interests:

> Our society had come to rely less on strict regulation to govern conduct in the field of free enterprise—in commerce, business, and finance—and to rely more on open competition and free markets to create prosperity and well-being, and to add value to our society. But that self-interest got out of hand. . . . unchecked market forces totally overwhelmed traditional standards of professional conduct, developed over centuries.

It has taken a global financial crisis to teach us that markets and market regulation are vital to stable economic systems and that Smith's invisible hand is as capable of striking us down as it is of helping us up.

Regulation alone, though, is not enough, as Bogle intimates when he speaks of the need to develop a new fiduciary society that guarantees the rights of those whose savings are at stake.[2] As Justice Cardozo of the U.S. Supreme Court recognized 80 years ago, those bound by fiduciary ties must be "held to something stricter than the morals of the marketplace . . . a level of conduct . . . higher than that trodden by the crowd."[3] In securities market terms, this level of conduct is the essence of good corporate governance and goes to the heart

of investor confidence. Research shows that investors are more likely to have confidence in, and therefore invest in, companies with high standards of corporate governance.[4]

Along with the lessons that markets matter and that good corporate governance is crucial to market stability, the global financial crisis also taught those of us previously unaware of it that financial markets are now global. Securities market investment is no longer bound by politics or geography: money moves around the world at the click of a mouse. Before the global financial crisis, few investors in Europe or the United Kingdom would have imagined that the mis-selling of a mortgage product to an unemployed person in the suburbs of Chicago could have impacted on their economic future and the futures of those around them. We now know, to our cost, that the implications of what happens in one part of the world may be immediately felt in another. Securities markets are no longer islands of activity and regulation. From a regulatory point of view, therefore, merely minding the shop at home is no longer enough. The financial crisis has convinced most of us of the need for greater cooperation between international regulators, particularly in relation to enforcement and supervision.

The International Organization of Securities Commissions (IOSCO) stands at the intersection of the three concepts outlined above: (1) that market stability is crucial to economic health; (2) that good market conduct is crucial to market stability; and (3) that markets are global. IOSCO has therefore emerged as a major player in the global financial architecture. The remainder of this chapter will focus on IOSCO and the work it has done since the crisis to address systemic risk.

COORDINATING SECURITIES REGULATION

IOSCO is the international securities markets standard setter, existing to promote global financial stability, particularly in markets. It does this through member consensus on, and application of, consistent regulatory standards across the world's financial markets; where those standards fail to be met, it enables effective enforcement across jurisdictions. The organization comprises 114 ordinary members, most of whom are independently constituted government regulators. Its 67 non-voting affiliate members include stock exchanges, stock market industry associations, self-regulatory organizations, and international bodies with an interest in securities regulation, such as the International

Monetary Fund (IMF), the World Bank, and the Organisation for Economic Co-operation and Development (OECD).

The organization also maintains close relationships with major international regulatory bodies—the Basel Committee on Banking Supervision (BCBS) and the International Association of Insurance Supervisors (IAIS), the global standard setters for the banking and insurance sectors, respectively—and is a founding member of, and has two seats on, the Financial Stability Board (FSB).

IOSCO began as a network of regulators setting aspirational standards that jurisdictions looked to import over time into their own domestic regulatory framework. However, the formal adoption of the Multilateral Memorandum of Understanding[5] in 2005 (outlined below) saw IOSCO members agree on a set of standards that each member jurisdiction was committed to implementing. This, coupled with G-20 recognition of the need for full global implementation of the IOSCO Principles[6] (also outlined below), saw the organization's standard-setting role transformed from the aspirational to the operational, a shift reflected in many of the standards formulated post-crisis and outlined in this chapter.

The members of IOSCO regulate more than 90 percent of the world's securities markets. This wide membership, the organization's democratic mode of operation, and its consensus-based standard-setting processes are the key underpinnings of its legitimacy. It takes decisions by consensus, making recommendations for endorsement by the Presidents' Committee. All ordinary members are represented on that committee and have an equal say, regardless of the size or development stage of their markets. The standards IOSCO sets are formulated by expert practitioners and are the result of a thorough process that incorporates public consultation. While each member jurisdiction retains its sovereign capacity to set and regulate standards as it sees fit, the consensus reached through IOSCO on what these standards should be ensures each jurisdiction owns the global standards that the organization has established. Regulators have a vested interest in implementing IOSCO recommendations because they have collaboratively developed and collectively endorsed them. IOSCO is one of the very few international organizations with a truly global reach.

The twentieth century was the century of structural solutions; by the end of it, some of these structures were looking outdated. The twenty-first century promises to be one of networked solutions. The Internet and its opportunities for global integration present an

apt metaphor for the way twentieth century regulatory solutions are likely to be progressed. IOSCO's strength lies in its understanding and practice of such solutions. It is a network of equals.

THE IMPORTANCE OF SETTING PRINCIPLES AND MULTILATERAL MEMORANDA OF UNDERSTANDING

In 1998, IOSCO endorsed principles that recognize three objectives for securities regulation: protecting investors; ensuring markets are fair, efficient, and transparent; and reducing systemic risk. Based on these principles, each jurisdiction can assess and, if necessary, align its laws consistent with its own priorities, traditions, market developments, and legal frameworks. The principles are not an attempt to create a single international body of rules and regulations, but a global benchmark.

The G-20 recognized this when it included the IOSCO Principles among the standards and codes it committed to seeing implemented and peer reviewed through the Financial Sector Assessment Program (FSAP). This program is no mere formality: it entails rigorous processes with detailed assessments by experts. The G-20 has recommended all its members undertake an FSAP assessment and that other countries engage in either a self-assessment or an FSAP using the IOSCO Principles.

In 2002, IOSCO adopted a multilateral memorandum of understanding (MMOU) designed to facilitate cross-border enforcement and the exchange of information among national securities regulators. Three years later it endorsed the MMOU as the benchmark for this international cooperation, and required member jurisdictions to sign up by 2010. All but five have done so. This is a significant achievement in global cooperation given the need for strict auditing before a country may sign the MMOU, the number of jurisdictions with laws needing repeal or modification before they could adopt it, and the entrenched tensions between many nations in the broader field of international affairs.

The MMOU ushered in a new era. It has reshaped cross-border securities market enforcement and made it easier to track transgressors across markets and political borders. It is a cornerstone of the new post-crisis financial world order.

IDENTIFYING AND ADDRESSING SYSTEMIC RISK

IOSCO's work has always focused on addressing risks to investor protection and on the fair and efficient functioning of financial markets. A critical element of this work is ensuring that the drivers of behavior of those who control and influence markets and market participants are aligned with the interests of investors and other stakeholders. The global financial crisis revealed critical stresses and weaknesses in financial systems, and IOSCO's post-crisis work has concentrated on market stability and systemic risk: first, by analyzing the underlying causes of the crisis; second, by addressing through a specific program aspects of market conduct important in the crisis; and third, by developing a new IOSCO principle on systemic risk.

The Task Force on the Subprime Crisis established in November 2007 was asked to identify the causes of the crisis, analyze its implications for international capital markets, and make recommendations addressing issues faced by securities regulators. Its report, published in May 2008, recommended future IOSCO work to address issues in four areas: issuer transparency; firm risk management; prudential supervision; and valuation and accounting issues.[7]

IOSCO set up a separate task force to explore the issue of credit agency conflicts of interest. Its March 2009 report[8] significantly strengthened the capability of IOSCO's *Code of Conduct Fundamentals for Credit Rating Agencies*[9] to deal with the quality of ratings and conflicts of interest in the ratings process. As a result of these initial reports of the causes of the subprime crisis, IOSCO (and organizations with which it works) prepared a number of other reports and recommendations, and the organization has reaffirmed its focus on market stability and identification of the causes of systemic risk. It is developing strategies to help regulators more effectively identify the causes of systemic risk in markets.

IOSCO is also developing its own strategic direction for 2010 onward, and this will emphasize the need for greater vigilance on systemic risk. It will develop independent research capabilities and monitor the unregulated boundaries of markets where, in otherwise well-regulated jurisdictions, destabilizing products and market practices may nevertheless appear. Two IOSCO task forces—the Task Force on Unregulated Products and Markets and the Task Force on Unregulated Entities—are working in this area and have made

preliminary recommendations on information that regulators could collect to help assess systemic risk.

IOSCO'S POST-CRISIS RECOMMENDATIONS

Seven recent reports from IOSCO address various aspects of market behavior, including conflicts of interest, due diligence practices, ownership structures, and other drivers of behavior. They examine other approaches regulators might take and encourage greater transparency in markets. These reports have required an examination of the current boundaries of regulated activity and extended the reach of regulation, in some cases beyond its traditional scope. Transparency is necessary in these areas too because they deal with parties working within regulated markets. Each of the seven reports is described below.

1. **Private Equity Conflicts of Interest, November 2009**[10]
   This report draws up principles for mitigating the potential conflicts of interest between a manager and third-party investors that can arise from a firm's obligations to multiple funds. Such conflicts pose a risk to fund investors and efficient market functioning. Private equity firms should manage any conflicts in the best interests of their fund(s) and the overall best interests of fund investors. The firms should draw up written policies and procedures for application across their whole business and make sure these are always available to fund investors. Firms should opt for the most effective mitigation techniques and those yielding the most investor clarity. They should implement a well-documented process for consulting investors on conflict-of-interest matters, and they should promptly inform all affected investors on what emerges from investor consultation along with any actions taken. Finally, private equity firms should ensure all investor disclosure is clear, complete, fair, and not misleading.

2. **Joint Forum Report**[11] **on Special Purpose Entities, September 2009**[12]
   Special purpose entities (SPEs), whose defining feature is bankruptcy remoteness, can be useful to institutions and investors. However, poor understanding of SPE risk on the part of management and

investors can lead to failures of the vehicles. This report recommends that supervisors ensure market participants assess all SPE economic risks and business purposes throughout the life of a transaction. Assessment should be ongoing, and management should understand the risks. If at any point financial firm support is evident or likely, SPE activities should be aggregated with the institution's activities for supervisory assessment and risk-management purposes. SPE supervisors should support more standardization of definitions, documentation, and disclosure requirements, and report any divergent material to investors. They should also oversee and monitor SPE activity and assess its implications for regulated firms.

IOSCO intends continuing to monitor developments in off-balance-sheet financings, including unconsolidated SPEs.

3. Elements of International Regulatory Standards on Funds of Hedge Funds Related Issues Based on Best Market Practices, September 2009[13]

This report was prompted by retail investors' increasing involvement in hedge funds through funds of hedge funds, and it aims to give investors better information in this largely unregulated area. The report recommends that managers determine whether fund-of-hedge-fund liquidity is consistent with that of the underlying hedge funds. Managers should also consider whether conflicts of interest might arise between any underlying hedge fund and other parties. They should monitor and analyze several aspects of due diligence: the appropriateness of the legal regime and service providers and the transparency, valuation, and reporting arrangements of a specific hedge fund. Organizational structure, resources, and procedures must be adequate to taking action on any anomalies that due diligence identifies. Managers should also regularly assess whether selection procedures for eligible underlying hedge funds have been properly followed and explain any deviations. If any aspect of due diligence is outsourced, a fund-of-hedge-funds' manager should ensure conflicts of interest are addressed. Managers should also see that outsourcing is consistent with the IOSCO *Principles on Outsourcing of Financial Services for Market Intermediaries.*[14]

4. **Exploration of Non-professional Ownership Structures for Audit Firms, September 2009**[15]
   Securities regulators and investors rely on audited financial statements, therefore availability of quality audit services is critical. The European Union, Japan, and the United States all restrict audit firm ownership, and securities regulators have long been concerned that the loss of just one of the big four firms—Deloitte Touche Tohmatsu, Ernst & Young, KPMG, and PricewaterhouseCoopers—could disrupt the entire market for independent audit of large companies, which represents a significant risk to market efficiency. In this report, IOSCO explores the barriers preventing more firms from competing in the market. At the same time it is of course keen to preserve auditor objectivity, independence, professionalism, and competence, and thus, audit quality. The report suggests that modifying rules for audit firm ownership would give public companies a greater choice of audit firm services without compromising the quality of those services.

5. **Principles for Periodic Disclosure by Listed Entities (Periodic Disclosure Principles), July 2009**[16]
   This report amounts to a guide for companies with securities listed or admitted to trading on a regulated market in which retail investors participate. Periodic reporting is the lynchpin of both investor protection and transparent operation of financial markets. Information in periodic reports should be relevant and include independently audited financial statements covering the entire previous financial year. Reports must be regular, clear, concise, and understandable, and should identify who was responsible for producing them. Financial reporting should be regularly reviewed internally to ensure assets are safeguarded from unauthorized or improper use and transactions are properly recorded.

6. **IOSCO Good Practices in Relation to Investment Managers' Due Diligence When Investing in Structured Finance Instruments (Investment Manager Due Diligence Practices), July 2009**[17]
   The due diligence practices this report recommends are designed to help industry and regulators understand and monitor investments

in structured finance instruments (SFIs) on behalf of collected investment schemes (CISs). SFIs carry different risks from more traditional instruments and thus call for tailored due diligence. The report also deals with using third parties to carry out due diligence. Investment managers should understand the third party's methodology and parameters and the basis of that third-party opinion.

7. **Hedge Funds Oversight, June 2009**[18]
   Hedge funds can provide liquidity, price efficiency, and risk distribution, as well as contribute to global integration of financial markets and offer diversification benefits. The global financial crisis was not a hedge fund crisis. However, hedge fund activities did amplify its consequences because of their need to quickly unwind positions. This report suggests that regulation of hedge fund activity would mitigate its risks. Hedge funds and/or their managers or advisers should be registered and subject to regulatory requirements. Conflicts of interest and other conduct rules should be established. Investors should be entitled to disclosure, and prudential regulation should be mandatory. Prime brokers and banks that fund hedge funds should also be registered, regulated, and supervised. Hedge fund managers and advisers and prime brokers should inform regulators about systemic risk, and regulators should encourage the implementation and convergence of industry good practices. Regulators should also have the authority to cooperate and share information with other regulators to mitigate cross-border risks.

POST-CRISIS ACCOUNTING ISSUES

The global financial crisis highlighted a range of financial reporting issues, and some commentators have even gone so far as to suggest that fair-value accounting either contributed to or exacerbated the causes of the crisis.[19] The Financial Crisis Advisory Group (FCAG) has since discounted this view. However, the crisis was the impetus for the two key global accounting standard setters—the International Accounting Standards Board (IASB) and its U.S. counterpart the Financial Standards Accounting Board (FASB)—to accelerate projects to clarify and simplify a number of accounting standards. These included standards for financial instruments and loan-loss accounting.

The crisis increased the urgency of calls for the creation of globally convergent accounting standards to better serve investors in the world's capital markets. Entities' financial reporting is a hugely significant contributor to market transparency—financial reports being the mechanism by which investors measure the economic reality of entities at any given moment. IOSCO thus takes a keen interest in the machinery and outcomes of global standard setting for accounting. It has been closely involved in initiatives to improve transparency through better quality disclosures and in enhancements of international accounting standard-setting governance. This work has included formation of the Monitoring Board of the IASB. The work of the FCAG has also been important.

The IASB is the independent body for global financial reporting that sets the International Financial Reporting Standards (IFRS) now used in more than 100 countries. The IASB's counterpart in the U.S. is the FASB. Convergence of these two sets of accounting standards is critical: the existence of two can obscure market transparency and makes it difficult to compare entities that are using separate standards, especially those engaged in cross-border activity.

In 2008, IOSCO, the European Commission, the U.S. Securities and Exchange Commission, and the Japanese Financial Services Agency established a new monitoring board to interact with the International Accounting Standards Committee Foundation (IASCF), the IASB's oversight body, in response to concerns about the governance of the IASB standard-setting process. The IASCF Monitoring Board charter was signed in April 2009.[20]

The Monitoring Board gives securities regulators requiring or allowing the use of IFRS in their own jurisdictions a means of ensuring IFRS are being developed according to procedures and policies that protect investor interests. The Monitoring Board interacts exclusively with the IASCF, not the IASB, thus preserving the IASB's standard-setting independence, which is so critical to developing high-quality standards based on technical expertise. The Monitoring Board includes representatives of securities regulators in both developed and emerging markets.

The FCAG was formed in late 2008 as an FASB and IASB joint initiative to investigate and advise on the implications of the global financial crisis for financial reporting. The FCAG comprised 18 recognized financial market leaders, and was jointly chaired by Hans Hoogervorst, chair of the Netherlands Authority for Financial

Markets, and Harvey Goldschmid, former commissioner of the U.S. Securities and Exchange Commission. IOSCO was represented by the chairperson of its executive committee.[21] The group's most significant recommendation to the G-20 was to push for a single global accounting standard by converging IFRS and U.S. Generally Accepted Accounting Principles (GAAP). In July 2009, it made important recommendations to the FASB, IASB, and G-20 in the form of four broad principles.[22] It called for effective financial reporting, limitations on financial reporting, convergence of accounting standards, and standard-setter independence and accountability.

First, the FCAG emphasized how critical financial reporting is to financial market participants, including investors and regulators. It noted the limitations of current reporting standards that had been exposed by the financial crisis. It specifically recommended action on simplifying the reporting of complex financial instruments, exploring alternative standards for loan-loss provisioning, and improving standards relating to off-balance-sheet issues, such as consolidation and de-recognition.

Second, the FCAG noted that financial reporting, although critical to market transparency, has its limitations. It urged financial report users against suspending their own judgment or due diligence, particularly on price transparency. It urged authorities to set up robust infrastructures to foster price transparency, particularly for structured products and derivatives. It urged financial institutions to ensure they maintain effective price verification processes in order to improve valuation of assets and liabilities that are independent of sales trading and other commercial functions.

Third, the FCAG urged the IASB and FASB, along with national governments, financial market participants, and the global business community, to make every effort to achieve a single set of globally converged financial reporting standards. It encouraged national governments to set firm timetables for implementing IFRS and international accounting firms to take a leadership role in harmonizing accounting standard interpretations across jurisdictions.

Finally, the report emphasized the importance of maintaining the independence of accounting standard setters from undue commercial or political pressure along with the need for independence to be balanced by due process. Due process includes engaging with stakeholders and providing thorough oversight conducted in the public interest by the Monitoring Board. The report recommended that

monitoring board membership be expanded beyond the European Union, the United States, and Japan to include securities regulators from other IFRS-adopting jurisdictions.

The G-20 recognized IOSCO's importance in the international regulatory framework when it included the IOSCO Principles among the standards and codes it committed to seeing implemented and peer reviewed through the FSAP.[23] The G-20 also recognized the need for additional work to ensure global financial stability when it urged expansion of the Financial Stability Forum to form the new FSB in April 2009. The FSB brings together the leading national and international standard setters and prudential regulators of the global financial architecture—a further investment in the philosophy of *global ideas implemented nationally*. In this forum, IOSCO works closely with the BCBS and the International Association of Insurance Supervisors, as well as with the IMF, the World Bank, the OECD, and regional development banks.

THE FUTURE GLOBAL REGULATORY FRAMEWORK

Now that the dust from the global financial crisis is settling, it is possible to hazard some predictions about the future of international regulation. The post-crisis global financial architecture may still be under construction but promising characteristics are already emerging.

There is likely to be increasing cooperation between regulators in all jurisdictions; between prudential regulators and market conduct regulators; and between regulators, policymakers, and stakeholders, such as industry and consumer and investment groups. Standards are likely to be more convergent, with greater enforcement cooperation across jurisdictions leaving transgressors fewer places to hide. Global regulatory principles will continue to be implemented nationally and that implementation will be assessed by independent international experts. We are likely to see the expansion of multilateral cooperation instruments, such as the IOSCO MMOU, for exchanging information and facilitating regulatory supervision and enforcement of cross-border activities, coupled with mutual recognition of domestic regulatory frameworks, much like the New Zealand-Australia agreement operational since 2008.

Initiatives like these will facilitate the provision of cross-border financial services and access to other markets. They are likely to reduce the costs of doing international business by streamlining requirements and/or avoiding duplicate or parallel compliance requirements, obviating the need to establish branches or subsidiaries in foreign countries. Investors will not invest if they lack confidence that regulatory frameworks offer a fair, efficient, and transparent playing field. If the cost of learning about differing regulatory frameworks is high, investors will be discouraged from investing across borders. The more internationally consistent regulatory frameworks are, the more investor confidence in cross-border activity will grow and the more capital markets, and the businesses that raise money through them, will flourish. As all regulators know, investor confidence is a critical element of economic growth.

CONCLUSION

The global financial crisis was a shocking reminder of the importance of sound corporate governance to global financial stability: systemic failures were at least partly a failure of corporate governance—in particular, insufficient attention to risk. Since then, global financial leaders have become more aware of the need for effective market regulation as the virtuous twin of prudential regulation. Sustainable global growth will take place only in conditions of global financial stability, so the structure of financial entities and the interaction between them and markets must be well regulated. The purpose of high standards is to affect the drivers of behavior of market players and encourage them toward greater transparency, reduce conflicts of interest, and focus on the interests of investors.

The balance between market discipline and regulation needs to be carefully recalibrated so that dynamic, innovative markets are not stifled but investor confidence is preserved. This is a delicate matter, and IOSCO's transformation from an aspirational to an operational standard setter is crucial to this balancing act. Much of the organization's post-crisis work has focused on ensuring that the standards it sets are workable for all participants in global capital markets.

IOSCO's initiatives are directed toward ensuring the drivers of behavior of those who manage parties in global markets are congruent

with the interests of investors in those markets—in other words, having markets recognize that good governance is good business. IOSCO has been closely involved in post-crisis initiatives, both on its own account and in partnership with sister organizations that regulate aspects of the global financial system. Its recent work has focused on issues relating to the governance of market players, whether within the traditional regulatory remit or outside it. This reflects the organization's fundamental purpose: consistent regulatory standards and their enforcement across jurisdictions and in all areas of markets.

The challenge now is to ensure a measured, balanced approach to regulation. It is critical to the development of capital markets and economic growth that these markets are facilitated, and to that end, we must avoid heading down a path that would lead to over-regulation. What we all seek is improved liquidity and well-functioning markets—investor confidence is the key to this.

IOSCO acknowledges that regulation should be cost-effective and not undermine the benefits of free markets. It should be aimed particularly at ensuring the existence of a sound market infrastructure: adequate transparency (in relation to both the securities traded and how market participants are rewarded); strong clearing and settlement processes; and robust enforcement systems targeted at market abuse. The organization will continue to play a crucial role in the work of promoting integration and globalization while mitigating their associated risks.

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Chapter 4

Introduction

REGIONAL REGULATORY SENSIBILITIES: THE EUROPEAN VIEW

While the global financial crisis may have had its true roots in the real estate bubble of the United States and was magnified by the yield-chasing activities that went on at the various investment banks and other parties in the system, Europe had its own unique calamities around the same time. Some European banks (ING Group, in particular the ING Direct division) were caught up with investments in the same sophisticated risk products as the large U.S. banks, but there were also banks that were laid low by disastrous mortgage portfolios and impossible-to-refinance short-term liabilities (Northern Rock and Halifax Bank of Scotland in the United Kingdom) as well as banks that either had acquired very large financial institutions at the top of the market or had bought businesses that were overladen with toxic debts of their own (RBS and Lloyds TSB of the United Kingdom and Fortis of Belgium).

Since the start of the crisis, European institutions have tried to show their thought leadership in developing solutions to the crisis. Gordon Brown's U.K. government was the first to propose a decisive and significant bailout for struggling lenders, and the government later enacted a serious revamp of its financial architecture by transferring oversight of U.K. banks away from the Financial Services Authority to the Bank of England, ending a nine-year experiment in regulatory infrastructure reform. The Bank for International Settlements is also headquartered in Europe and is seen as the key coordinating body for financial services reform, although one body that sits within it, the Financial Stability Forum (and later the Financial Stability Board), headed by Mario Draghi, the president of Italy's central bank, is also a strong forum for discussion of global financial services reform and has a significant voice of its own. The European Union (EU), with its common currency and the resulting need for fiscal and monetary policy coordination among 27 member states, has sophisticated economic needs and is in many regards setting standards for multilateral cooperation within its own unique political and economic union.

Arguably the world's largest and most complex bureaucracy, as it unifies the policies of a large number of sovereign states under some forms of shared civic infrastructure and legislation-producing regional political bodies, the EU has a broad range of economic study groups and other bodies to oversee improvements in the financial services industry. Many of these are mandated by the European Union to harmonize the financial services market; they include the Markets in Financial Instruments Directive, the Payment Services Directive, the Trans-European Automated Real-time Gross Settlement Express Transfer System (TARGET2), and TARGET2-Securities.

The Committee of European Banking Supervisors (CEBS), an independent group set up in 2004 by the EU to provide advice on both policy and regulatory issues in banking supervision, is a body that plays a key role in the formulation of EU thinking on financial services reform—a role that has only strengthened since the onset of the global financial crisis. CEBS advises on the preparation of draft measures on lending activities, sees that there is consistent implementation of EU directives within the European Union member states to improve coordination, and ensures that there is supervisory cooperation and a robust exchange of information. Similar committees exist for securities, insurance, and pensions.

THE TROUBLE WITH EUROPEAN BANKS

Since 2009, CEBS has provided banking sector analysis and assessed risk in that sector. In 2010 it conducted public hearings on its guidelines around lessons learned from the financial crisis; the management of operational risk in market-related activities; the operational functioning of supervisory colleges to prepare for and handle emergency situations; concentration risk; liquidity cost-benefit allocation; transparency issues; and capital adequacy of cross-border groups.

In July 2010, CEBS conducted stress tests of banks in 27 European member states and publicly announced the results, seeking to allay fears that these banks were exposed to sovereign risks. This was in some ways a European variation of the tests that U.S. banks had been put through 13 months earlier. The U.S. tests were seen as a successful exercise and were credited for helping restore some confidence in the institutions that were tested (although they were criticized by bankers who felt the results should not have been made public or that the

public announcement element of the tests should have been managed better so as not to cripple the market capitalization of the banks being tested).

Only seven of the 91 banks CEBS tested failed and would require further capital—with this result came criticisms that the tests didn't stress the banks highly enough (such as a sharp enough economic decline) and that the banks themselves fudged the data they provided to the stress testers, casting into doubt CEBS' access to meaningful data. However, CEBS has maintained that the tests were robust and provided strong indicators about the strength of the system, and markets reacted favorably, showing that confidence had been restored, at least among investors.

José María Roldán has been a bank regulator with the Banco de España (Bank of Spain) since completing his postgraduate studies at the Centre for Monetary and Financial Studies in 1989, starting off in the Bank of Spain's research department. He has also provided services to the European Monetary Institute, the Office of the Economic Adviser to the Second Vice-President of the Spanish Government, the Minister of Economy and Finance, and the Spanish National Securities Market Commission. Since 2000 he has been the director general of Banking Regulation of the Bank of Spain and a member of its executive board, while also chairing or presiding over significant global and regional regulatory bodies and committees. He has chaired the Joint Forum of the Basel Committee on Banking Supervision (BCBS) (2002–2003), and the Banking Advisory Committee (2003), and he has sat as president of the Financial Action Task Force Against Money Laundering (2000–2001). From 2004 to 2005 he was the chairman of CEBS, and since April 2004, he has been the chairman of XBRL Spain. He is currently a member of the BCBS and the Banking Supervision Committee.

Jesús Saurina is a director of the Financial Stability Department of the Bank of Spain. His areas of research are banking, finance, regulation, and financial stability, and he has published papers on procyclical activities in financial services, capital management and loan-loss provisions, risk premia and market power in credit markets, deregulation, and many other topics.

The Bank of Spain has been credited as running one of the most—along with the Australian Prudential Regulation Authority (APRA) and Canada's Office of the Superintendent of Financial Institutions (OSFI)—prescient and influential financial regulators in the world.

The Bank of Spain has had in place for a long time counter-cyclical buffers of the sort that are being suggested by the BCBS, and this has helped banks like Santander draw upon capital set aside in good times to make opportunistic purchases across Europe, the United Kingdom, and North America during a once-in-a-century buyer's market for banking assets.

With the dissemination of these sorts of ideas—best practices developed in various central banks and financial services regulators all over the world, such as the Bank of Spain—larger supervisory and regulatory bodies are learning a great deal about the proper management of risk. And with the sobering insights of the vulnerabilities of the financial system as they were exposed by the global financial crisis come key points that regulators and banks all around the world can rally toward.

Banks at Risk: Global Best Practices in an Age of Turbulence
By Peter Hoflich

Chapter 4

Old and New Lessons of the Financial Crisis for Risk Management

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> *Do not make many rules, and if you do, try to make them good, and above all, make sure they are followed; for if rules are not followed, it is as if they did not exist.*
>
> —Miguel de Cervantes, *Don Quixote*, 1615

INTRODUCTION

The international financial crisis that erupted in August 2007 and worsened in September 2008 is the worst since the Great Depression in terms of the scope it has reached as well as the impact it has had, and still has, on the global economy. Although the epicenter of the crisis was in the United States, it quickly spread to the British Isles and continental Europe. Finally, ripples reached Asian financial systems as well as most emerging markets (in Central and Eastern Europe and Latin America). Many financial markets were immobile for a significant period—interbank markets, covered bond markets, and wholesale bond markets were all in a state of suspended animation—while some of them, such as securitization markets, have not yet recovered. The impact of the financial crisis also reached credit markets, which brought about a significant constraint in trade credit and

thus gave a huge blow to export activity. Economic growth, particularly for those countries more reliant on export markets, was also heavily impacted. But huge government interventions in the economy, both in the West and in the East, has prevented a collapse of these economies, and even as we are writing these lines the economic outlook has improved significantly, although economic recovery is still feeble in many Western countries.

Although the financial crisis has been global, it is no less true that most of the impact has been suffered by large international banks headquartered in the United States and Western Europe. Some of these banks have been bought by other institutions or have received support from governments via capital injections, such as partial or total nationalizations or guarantees over potential losses lurking in their credit instruments portfolios. Some large international banks seem to have escaped demise narrowly and thanks to ample government support through either temporary capital injections or liquidity facilities (or both). On the other hand, we can also find large internationally active banks, as well as several national banking systems, that have navigated the stormy waters pretty well in both relative and absolute terms. Finally, it is important to mention that large Asian banks have come out of the crisis almost unscathed, while some of them have even been contributing to the resolution of the crisis by buying bits and pieces of troubled banks.

The magnitude of the crisis and its systemic impact, as well as its potentially dangerous effects on the global economy, forced regulators to put on hold the type of level playing field issues they were pursuing before the crisis hit. Government rescues were suddenly seen as a reasonable policy response to the new situation, despite the fact that we had been taught in the past that such interventions were unnecessary or even counterproductive.

This crisis has proven false the paradigm of perfect financial markets and their rationality and efficiency. The Turner Review[2] cast serious doubt on the rationality of efficient markets, while insisting on the gap between individual and collective behaviors, the limits of allocative efficiency, and the failure of market discipline. To be more precise, value at risk (VaR) methodologies, previously used to measure risk in the trading book, have shown their clear limitations in a highly volatile environment. Similarly, fair value applied to illiquid assets has been challenged. An example of this are Level 3 Assets, those valued with internal models of the financial institution as well as

with internal estimates of key parameters, which have proven harder to value and much less transparent than originally thought. In addition to all of this, and to make things even worse, Keynesian-style stimulus policies have also shown their limits as they have increased public deficits significantly and are rapidly posing new threats to economic growth. In short, we are (almost) naked in terms of our tools for understanding the depth of the crisis.

The fact that the crisis has hit hard some of the supposedly best-managed banks in the world, together with the fact that in many different countries, with different supervisory arrangements, some large banks have done well while others badly, points to a key variable that explains the crisis of some banks and the survival of others: risk management. The crisis has proven how badly managed some banks were, while others have shown their strength in terms of risk assessment, risk monitoring, and risk mitigation. The crisis has also shown how important it is to have a good prudential framework as well as to apply it through effective supervisory actions.

Most of the lessons we have learned from the crisis are old lessons that show the limited ability of human beings to avoid past mistakes, as well as the cyclical nature of both the economy and the financial markets. Some of the lessons are new and show the need for some humility and skepticism when we assess financial products, institutions, and markets.

OLD LESSONS DRAWN FROM THE CRISIS

The first old lesson of this crisis is the key importance of lending standards for banking stability. At the core of the crisis has been the significant deterioration in lending standards in the United States mortgage market, as well as in other credit markets, with leveraged buyout funding and commercial real estate lending being two other clear-cut examples not restricted to the case in the United States. The relaxation of lending standards is always based on the excess of optimism of lenders and borrowers about repayment capacities or, at least, about their ability to refinance the loans at a later stage based on a rising value of the collateral. This is a mistake that happens in all lending booms.[3] Overoptimism leads to an upward biased estimation of the net present value of investment projects so that banks grant more loans than they should if they were applying a more conservative discounting factor that took into account the cyclical nature of the economy.

Of course, most experienced bankers know this and try to behave accordingly. However, competitive pressure is high as less risk-averse bankers (and their shareholders) are more prone to bet on a continuous expansion and are ready to lure customers from the more conservative banks. The pressure can increase further if some of the lenders are softly regulated or almost unregulated. Specialized mortgage lenders in the United States are a case in point here. At the end of a credit cycle, most of the banks engage in a process of significant credit growth at lower and lower prices, with shrinking risk premiums being applied, and declining lending standards fuel even more the lending cycle, increasing the probability of a sharper and deeper crisis. An environment of low interest rates for a long period of time may enhance the risk appetite of bankers as they are lured into a search for high yield activities, and thus incline their balance sheets toward riskier credit market segments. There is plenty of evidence that this old lesson about lending standards, learned by bank managers and supervisors crisis after crisis, was forgotten during the run-up to the crisis years.

The risk management process is the key to avoiding the worst of the recession or the housing collapse. The most conservative bankers—the ones that are stricter in the screening and monitoring of borrowers—are the ones that are able to survive the banking crisis, and moreover they are the ones that will take over the market share of more imprudent banks.[4] In fact, in Spain, the deep recession the economy is experiencing shows clearly how different credit risk management and lending standards have been during the current lending cycle: at the end of 2009 there were banks with less than 2 percent non-performing loan ratios while others had them in the double digit range.

The second old lesson is the role of collateral in lending. Collateral is not a substitute for the repayment of a loan and should not be considered as such. It is at most a mitigant of that lack of payment. Therefore, a loan granted on the basis of the collateral that is pledged and not on the repayment capability of the borrower is a weak loan that may turn sour.

The U.S. subprime market seems a perfect example of what was not a proper bank lending policy regarding collateral. This approach to collateral encompasses the (blind) faith in the reappraisal of the value of the collateral as the house price boom was deemed permanent, with continuous increases in house prices. The Japanese banking crisis of

the early 1990s is also a reminder of how granting loans based mainly on expectations about the value of the collateral—real estate in this particular case—is a risky credit policy.

What is new in this crisis regarding collateral is the fact that many investors bought collateralized loans such as asset-back securities paying no attention to the composition of the underlying collateral and its correlation with the economic cycle and with the many collateralized loans supporting the security. Some investors realized just too late that what they thought were safe, short-term fixed income investments were in fact risky investments in products collateralized by weak and illiquid assets subject to housing market price changes. Once again, lending money based on the underlying (expected and never understood) value of the collateral pledged is not a sound risk management practice.

Concentration risk is usually present in most banking crises. Banks in many countries invested large amounts of their credit portfolios in real estate exposures. Some large banks also aggressively chased the business of funding private equity activities, fighting each other to finance highly leveraged corporate finance operations that included large leveraged buyouts.

Concentration is not good or bad per se; rather, it is concentration on the riskier segments that is a mistake. For instance, there is a substantial difference between the risk that a portfolio of first-home mortgage loans with a loan-to-value ratio under 80 percent poses for a bank and the risk posed by a portfolio of loans to real estate developers to fund their acquisition of land on which they will start to build the houses. In December 2009, the difference in non-performing loan ratios in both portfolios was close to 10 percentage points in Spain. Therefore, concentration risk should be assessed together with credit risk to gauge its potential impact. The way that the crisis has humbled some banks that had piled into a certain risky business area that ran into difficulties shows that these banks had forgotten this very basic risk management principle.

We seem to have discovered during this crisis how extremely important capital requirements are. It is almost unbelievable how capital amounts had declined at some large international banks. When the crisis hit in August 2007, some banks were left with only a bare 1 percent to 2 percent capital ratio over their total assets. We also saw the problem of investment banks being among the most leveraged institutions. It is clear now that such a low level of capital is a recipe

for disaster. Just imagine a bank with 10 percent of the so-called Level 3 Assets; that is, assets that are at fair value, the value being obtained from an internal valuation model used by each bank (mark-to-model valuation). If there is a 10 percent (20 percent) decline in the value of those assets, a very conservative estimate during this crisis, a lender with 1 percent (2 percent) capital over total assets is bankrupt as the 1 percent (2 percent) loss over total assets, 10 percent $\times$ 10 percent (10 percent $\times$ 20 percent), eats up all the capital of the bank.

The push for ever-declining capital ratios—or, alternatively, ever-rising leverage ratios—significantly weakened some large internationally active banks, and confidence in them fell throughout banking markets and countries. The easiest way to enhance profitability and increase return on equity (ROE) is to reduce capital or increase leverage, for the same level of return on assets (ROA).[5] This seems to have been the driver of profitability for some banks during the run-up to the crisis. It is somewhat surprising to realize that bank analysts, bank investors, and some supervisors did not realize these developments until the crisis arrived. Overoptimism and disaster myopia was widespread across many agents during this crisis.

Another old lesson that had not been remembered by bankers in the lead-up to the crisis is the key role capital plays to enhance the solvency of each bank and the whole banking system. Bank capital is important not only in terms of building a buffer to cope with unexpected losses, but also in terms of incentives. The more capital a shareholder has in a bank, the greater the incentives to monitor closely the risk-taking of the bank and moderate risk exposure. A similar reasoning applies to the length of equity holdings, an aspect almost neglected in international debates. A short-term investor in bank equity has not the same incentives as those of a longer-term equity investor—a hedge fund versus an insurance company, for instance. Therefore, an increase in the "skin in the game" should help align risk management incentives with the nature of deposit institutions and their systemic role.

In fact, the new proposals of the Basel Committee on Banking Supervision are inclined toward increasing the level of minimum capital requirements for banks, among other measures such as increases in the quality of capital, countercyclical capital buffers, leverage ratios, and liquidity requirements. Some commentators call these proposals Basel III. This increase is particularly significant for trading book exposures where current VaR-based capital requirements

will be multiplied by a factor of three or four. This signals a reduction in the confidence supervisors may have in capital requirements based on banks' internal model calculations. In a sense, these envisaged changes seem to be a step backward to Basel 1.5 rather than a move forward to Basel III.

Another old lesson of this crisis has to do with provisioning policies and, more generally, with accounting policies. Credit risk appears in a bank balance sheet when a loan is granted. Non-performing loans are the ex post manifestation of credit risk; risk is always an ex ante concept, therefore, it should be properly recognized as such in the profit and loss accounts. On top of that, bank managers and supervisors know that lending mistakes occur during good times where overoptimism is widespread among borrowers and lenders. In boom periods, intense competition among banks leads to mispricing of some risks, thus not properly reflecting the risk premiums of lending operations. Strong credit growth means strong profits, dividends, and bonuses, which fuel more lending because bank managers' and shareholders' interests are well aligned. When the crisis arrives, loans granted in good times turn sour; the bank has not provisioned the risks and has distributed the profits, and it becomes suddenly undercapitalized and in trouble.

One way to deal with the foregoing problems is by using dynamic provisions. Spain has had such a system since mid-2000 and it has been very useful in limiting bank profits in the expansionary phase as well as increasing provisions over total loans. Now that the recession has arrived with the need for increased provisions, Spanish banks are using the buffer accumulated in the lending boom to cover the materialization of the credit risk. The system was calibrated using the 1993 recession, which was milder than the current one. Therefore, dynamic provisions have been useful but, given the depth of the current recession in Spain, they are not going to be a silver bullet for Spanish banks. In any case, they have bought precious time for the banks to absorb losses and maybe, for some, they may mean the difference between life and death.

It is important to note that bank profit and loss accounts register provisions to cover incurred losses not yet identified in specific loans that contribute to retained profits in good times as well as provide suitable incentives to bank managers. In a sense, our dynamic provisions were an applied macroprudential tool to deal with excessive procyclicality of the banking system.[6] The total provisions cover the identified incurred losses in individual loans as well as an adjustment

for expected losses. Therefore, our dynamic provisions are still procyclical but less so than those obtained from a pure incurred loss approach such as that contained in the current International Financial Reporting Standards (IFRS).

Another important old lesson of this crisis is not related to credit risk but to liquidity risk. Maturity transformation is in the very nature of a bank. Banks fund themselves short-term and lend long-term. Nevertheless, short-term funding can be very different. For instance, sight deposits such as current accounts and saving accounts are theoretically very short-term, because they can be retrieved the same day or overnight with little or no notice. In practice, however, a large amount of sight deposits tends to stay at the banks, and therefore are actually long-term funds.

During the run-up to the crisis, and thanks mainly to securitization developments, banks shifted away from retail funding to short-term wholesale funding. A significant part of the growth in loans was funded in these markets. While the markets were working smoothly, there was no problem with using this avenue. However, when these markets froze, banks suddenly realized that the liquidity had vanished, even for those markets that had been deeply liquid up until then such as asset-back commercial paper markets. A significant liquidity and maturity mismatch surfaced, and some large banks were not able to cope with it. Governments then needed to step in and rescue those banks that had managed the liquidity risk without due care.

Although disguised as a problem in the wholesale markets—which, until the crisis erupted, were among the most liquid—maturity mismatch is among the basic issues for proper liquidity risk management. This time, however, there was a huge underestimation of liquidity risk, particularly an underestimation of the possibility that some markets would not be resilient to shocks.

Leverage has been growing significantly over the past decade across most developed economies.[7] This is the result of the increase in household debt as well as the debt of corporate and financial institutions. More recently, government debt has also been increasing as a result of the fight against the recession and the need to assume liabilities arising from troubled banks. A significant part of the increase in the private sector leverage is the effect of (bank) credit growth.[8] This is not new; we have been here many times before. The lending cycle brings about a significant increase in households' and firms' indebtedness

that, during recessions, needs to be digested. In some cases, this digestion will take time and will have an impact on the economy and the speed and strength at which it will recover from recession.

Therefore, this interpretation is only a new way to present the old lessons, such as the one of leverage and deleverage versus lending booms and busts. However, what is new this time is the speed and the intensity at which some countries have increased their indebtedness levels. The abundant liquidity and the low interest rates worldwide have also contributed to the funding of the leverage process. On top of that, securitization, with its ability to mobilize resources, has also contributed together with private equity[9] and sovereign wealth fund investments to increase the ability of firms, both financial and non-financial, to expand these debt levels further.

The crisis also has lessons for regulators and supervisors. Traditionally, the central bank was in charge of banking supervision in many countries. Around the mid-1990s a process of separation began where in many cases banking supervisory responsibilities were removed from central banks and given to an independent body, sometimes called a financial supervisory agency or association, which usually also took onboard supervision of other intermediaries such as insurance companies, pension funds, and investment funds, as well as financial markets generally. Ten years later, it is not clear that this separation model has performed better than the traditional one where banking supervision was under the same roof as central banking activities. In some European countries the separation model is under intense scrutiny while in other non-European Union countries, there seems to be no argument that the separation model has proven resilient.

The lesson that needs to be learned is probably less about supervisory architecture—whether a separation model can work well in one country and badly in another and, conversely, whether an integration model can be perfectly suitable for some countries and not for others—and much more about the intensity of regulation and its application through supervision policies. In fact, some decisions may make a significant difference. One good example that has already been mentioned is dynamic provisions. Spanish banks were against raising extra provisions in good times when competing banks at the international level were not doing so. When IFRS came into force in Spain it was even more difficult to argue in favor of countercyclical provisions. To be frank, it is really difficult to find a banker who wants to set aside around 15 percent of net operating income to

form coverage for incurred losses not yet individually identified or to provision expected losses through the cycle. Banco de España forced Spanish banks to be transparent on those provisions so that earnings management concerns and investor protection were properly handled.

Another example relates to off-balance-sheet vehicles such as conduits and structured investment vehicles (SIVs). When Spanish banks asked about the accounting and capital treatment for those vehicles being widely used abroad by large international banks, we replied that they should apply IFRS and consolidate those vehicles. Once consolidated, the usual capital requirement applied: put capital against those consolidated exposures. Confronted with these requirements, Spanish banks decided not to develop conduits and SIVs, which probably spared them a significant part of the impact of the first wave of losses coming from structured product markets. All in all, the lesson here is not a new one: the enforcement of the rules, if they make sense, is the right answer of the supervisor to the arbitraging exercises of banks.

The most important lesson for supervisors of this crisis is the importance of an intrusive approach regarding bank risk-taking. This is the key pillar on which to build the whole prudential supervision framework. After this crisis, maybe the intrusive approach should go so far as to interfere with banks' business models, if supervisors deem them unsustainable.

NEW LESSONS TO BE DRAWN FROM THE CRISIS

Some business lines are inherently riskier than others and should be treated accordingly from a risk management perspective. Trading book profits are much more volatile than retail banking profits, in particular if retail banking is properly provisioned along the lending cycle. Therefore, internal capital requirements for these activities should rise accordingly. Until this crisis we probably did not fully realize the order of magnitude of the income volatility of some bank portfolios as well as the impact of their losses on the bottom line of the banks.

Moreover, some trading book activities are usually concentrated among a few large players that are heavily interconnected and often operate across opaque markets for which we have almost no

information. For instance, we do not have much information about credit default swaps' market liquidity because only a handful of large banks operate in them. We have almost no idea about counterparty risk in that market. This comment extends to other over-the-counter markets. Therefore, the potential toxicity of some banking activities goes beyond each individual bank and extends over the whole system.

Another key lesson for bankers and supervisors is the need to manage carefully exposures to the *shadow banking system*. Some of the defining characteristics of the shadow banking system are that it is subject to much lighter supervision and its ability to increase leverage. This is a recipe for potentially serious problems. Therefore, bankers should ponder their exposures, even if fee income and interest rate income is high from such activities. Supervisors should also assess how to deal with those bank exposures.[10]

Another lesson is the challenges that increasing complexity pose to financial institution risk managers as well as to supervisors. Financial products incorporate an increasing degree of complexity. Some banks have become the holders of truly complex portfolios of securities funded through other intricate products, and they have established a presence in new and complex markets about which the information is scant. Some observers seem to favor a two-stage banking system where we would have plain vanilla banks carrying out mainly traditional banking activities, while riskier activities could be left to those institutions that risk only their own funds. Certainly this will simplify deposit-taking and lending activities, reducing their risk and establishing a lower expected return on investment (ROI) matching a lower risk level. Apart from the fact that this would kill some scale and scope economies, it is far from clear how feasible these proposals are, given the level of development of banking activities today. On top of that, a two-stage banking system may deliver much less innovation and growth in financial markets, which may in turn have an additional impact on the real economy.

Basel II has been criticized as being responsible for the current crisis, but we wonder how that can be possible if the crisis started before it was enacted. On top of that, the epicenter of the crisis was a country, the United States, that is still not applying Basel II at the time we write these lines. The crisis has shown that the Basel I framework was not enough to cope with the risks and complexities of the financial system of the new millennium. What we need is not less Basel regulation but, on the contrary, a better Basel II framework.

What does a better Basel II framework mean? It means higher capital levels, improved capital quality, minimum liquidity requirements—as has now been adequately demonstrated, banks will absolutely fail when they have no more access to liquidity—countercyclical capital, and a worldwide implementation of these rules under a tough supervisory approach. The Basel Committee on Banking Supervision has delivered a proposal that goes along these lines, and the Financial Stability Board and the G-20 leaders support these moves. In addition, trading book positions—when carried out separately from an investment bank, inside a commercial bank, by a non-bank financial institution, or even by a non-financial institution—merit much tougher supervision and regulation in terms of both capital and liquidity requirements. They should be treated as what the current crisis has shown them to be: risky and toxic activities that benefit only a few but pose significant risk to the rest, who are ultimately saddled with losses as a result. Unless we toughen risk control over these activities, we run the risk of repeating the current crisis.

This does not mean that plain vanilla retail banking activities pose no threat to the financial system or the economy. Certainly, credit risk and interest rate risk, among many other risks, also threaten those banks. But it seems to us that these risks are much better harnessed using a simple prudential toolkit, with provisions and capital (including a countercyclical component) and some liquidity requirements, together with a macroprudential approach that complements those former microprudential measures. The toolkit also focuses on the cross-correlations across bank exposures as well as on the close relationship between lending and business cycles and its impact on each financial institution.

CONCLUSION

After the worst financial crisis in nearly 100 years we do need to analyze what went wrong and what helped us resolve it. We also need to have better regulation and supervision for the next crisis. There is no silver bullet or magic remedy that will prevent the appearance of future banking crises, but there are some useful tools that may help to decrease the probability of a new crisis occurring as well as reducing its impact. The lessons drawn from this current crisis will help us to improve the toolkit.

Probably the most important lessons to be learned from this crisis from a risk management point of view are old ones. Lending standards are key, including collateral and concentration of exposures. Provisions and capital need to be present in a sufficient amount to cover both expected and unexpected losses as well as to align the incentives of shareholders and bank managers with those of the rest of the stakeholders of banks, including the deposit guarantee fund and, in the end, the taxpayer. Finally, liquidity positions and maturity mismatches need careful monitoring. These are traditional and very basic lessons about credit and liquidity risk management. They should have been on the radar screen of bank risk managers. Unfortunately, for some large international banks, they were not taken into account, with a disastrous result for most of the stakeholders of those banks. We do hope that the magnitude of this crisis will be enough to keep these basic lessons fresh in the minds of bankers.

A specific lesson for regulators and supervisors is the need for more intrusive supervision. In particular, they need to make sure that the old lessons learned in this crisis and former crises do not easily fade away, and interference with unsustainable business models should be one of the options available for supervisors.

It is possible that the next crisis will not be different; but we do hope that if regulatory reform is properly implemented and duly enforced—remember *Don Quixote*—by supervisors and if banks learn the right lessons for improving effectively their risk management, the probability of the next crisis being less harmful to our economies will increase significantly.[11]

ENDNOTES

1. The views expressed in this chapter are those of the authors and should not be attributed to the Banco de España or the Eurosystem.
2. Financial Services Authority, "The Turner Review: A Regulatory Response to the Global Banking Crisis," March 2009, FSA, London, http://www.fsa.gov.uk/pubs/other/turner_review.pdf.
3. We have robust evidence (Gabriel Jiménez and Jesús Saurina, "Credit Risk, Credit Cycles and Prudential Regulation," *International Journal of Central Banking*, 2 (2006): 65–98) that loans granted in good times, when credit is fueled to borrowers, both individuals and firms, are riskier than loans granted in the middle of a recession, when banks

are particularly careful in screening potential borrowers and lend only to their long-term proven sound borrowers.

4. This is why government help should come with a significant punishment for those taking it otherwise the level playing field is substantially altered and moral hazard and wrong incentives are delivered, sowing the seeds for the next crisis.
5. Where E is the equity of the bank and A the total assets. For the same ROA, ROE can increase if leverage declines, which in turn can be achieved by increasing equity at a lower path than total assets.
6. An analysis of the impact of dynamic provisions in Spain can be found in Jesús Saurina, "Loan Loss Provisions in Spain. A Working Macroprudential Tool," Report no. 17, pp. 9–26, 2009, Estabilidad Financiera, Banco de España, http://bde.eu/webbde/Secciones/Publicaciones/InformesBoletinesRevistas/RevistaEstabilidadFinanciera/09/Noviembre/ief0117.pdf. How this system of provisions interacts with IFRS can be seen in José María Roldán and Jesús Saurina, "Dynamic Provisioning in Spain" (paper presented at the International Accounting Standards Board (IASB) Meeting, London, June 2009). A detailed description of the Spanish dynamic provisioning system is in Jesús Saurina, "Dynamic Provisioning: The experience of Spain," Crisis Response, Public Policy for the Private Sector, Note Number 7, July 2009, The World Bank, Washington, DC.
7. McKinsey Global Institute, "Debt and Deleveraging: The Global Credit Bubble and Its Economic Consequences," January 2010, MGI, San Francisco.
8. Of course, banks have also increased their leverage by increasing their capital at a rate below the growth of rate in total assets.
9. Despite their name, equity funds use significant amounts of leverage, in particular loans from banks, to carry out their investments and operations.
10. The Group of Thirty, under the chairmanship of Paul Volcker, is one of the few international groups that dealt with regulatory measures for the shadow banking system. See "The Group of Thirty, Financial Reform: A Framework for Financial Stability," January 2009, The Group of Thirty, Washington, DC.
11. See, for a similar view, Jaime Caruana, "Financial Stability: 10 Questions and About Seven Answers" (speech delivered by the General Manager of the Bank for International Settlements at the 50th Anniversary Symposium of the Reserve Bank of Australia, Sydney, February 9, 2010).

Part Two
The Practitioners

Chapter 5

Introduction

WITH GREAT SIZE COMES LOW RISK

If the process of bank building can be described as a herculean task, there are few who truly fit the bill to take it up. Richard Kovacevich, the former chairman and CEO of Wells Fargo, is one of those who do. When he joined a small bank with limited operations in a small corner of the United States, Kovacevich saw an opportunity to build a leading institution. What he accomplished in over 30 years was to build a bank that is not only one of the largest in the United States, but also one of the best run, keeping all the while a firm foot in a rootsy sort of risk management practice that grew out of a keen understanding of a few golden rules, which have been applied rigorously.

Having completed his education in 1967 and with a brief stint with food producer General Mills under his belt, Kovacevich went off to work for Citibank as a regional retail banking executive where he helped build the bank's foothold in retail banking in the regions it operated in into serious market share. In 1984, Kovacevich took up an opportunity to join a smaller operation, Norwest Bank, which had only US$21 billion in assets, as the chief operating officer (COO) and head of retail banking, where he was part of a management team tasked with turning around the struggling lender. Norwest operated in only seven U.S. states and had large businesses in agricultural finance and international lending, which Kovacevich curtailed while setting himself to the task of weeding out inefficiencies as he had done at Citibank. Kovacevich also pushed the bank into newer businesses such as wealth management and insurance. He became the bank's president in 1989 and its CEO in 1993, shoring up the bank's scale with a series of small acquisitions and building the bank into a profitable institution that was the thirtieth largest bank in the United States.

With Norwest in fighting shape, Kovacevich presided over a merger with a larger but poorly managed regional institution called Wells Fargo in 1998. The merged institution was the eleventh largest bank in the United States, with a presence in 16 states—this was the largest distribution for any bank at the time, giving it a decidedly

retail banking focus through its use of a large branch network to raise capital from retail deposits. This concept of fund raising—along with its good risk management—stood it in good stead when the global financial crisis hit and stable sources of funding were worth their weight in gold. In the years since 1998, which saw major banking mergers such as the formation of Citigroup from Citibank and Travellers, the Norwest-Wells Fargo merger has been considered one of the better combinations, largely due to the instilment of a strong corporate culture laced with good risk management and a strong network of main street branches.

A NEW JUGGERNAUT

The new entity took the Wells Fargo name, and began a trek to build a serious coast-to-coast financial institution. This ambition was finally fulfilled in 2008 when Wells Fargo completed a long-anticipated acquisition of Wachovia Corporation—an east coast institution that had overstepped itself with the expensive acquisition of subprime lending unit Golden West—with which the west coast-based Wells Fargo had very little overlap. By 2010 Wells Fargo was still the U.S. bank with the broadest distribution (a presence in 40 states) as well as the second largest bank by deposits, the third largest by market capitalization, and the fourth largest by assets. It competes with Bank of America and JPMorgan Chase in U.S. markets, banks which have also remained relatively strong throughout the global financial crisis despite the former's near-disastrous acquisition of Merrill Lynch. But throughout the years leading to the crisis, it was Wells Fargo's branch-level view of the United States that gave its management insight into subprime mortgage mania and its questionable practices—which clashed with Kovacevich's folksy basic banking sensibilities—allowing it to remain relatively safe from that danger.

Since its humble beginnings, Wells Fargo has not only expanded across most U.S. states, but also entered 80 different business lines, with an eye that diversification can provide a bank with an opportunity to naturally distribute risk and avoid the type of concentration that had hobbled institutions like the smaller Norwest Bank, or even mortgage lending-based institutions such as Washington Mutual. All the while it has developed a business culture that knows the fine points of banking and risk management.

This culture has led to a confidence in Wells Fargo's methods that has at times clashed with the goals and opinions of others, especially when crisis management measures were applied to the financial system as a whole. Kovacevich himself has become known as one of the more controversial and outspoken thinkers in financial services as a result, and he has referred to the U.S. administration's plan for stress testing banks as "asinine," while pushing for the Federal Deposit Insurance Corporation program to be privatized and for the Federal National Mortgage Association (Fannie Mae) and the Federal Home Loan Mortgage Corporation (Freddie Mac) to be allowed to move into bankruptcy.

Kovacevich turned his role as CEO over to bank president and COO John Stumpf in July 2007, announcing his retirement as chairman in September 2009 in what is regarded as one of the most orderly succession plans in financial services (compared, for example, to the change in senior management at HSBC in September 2010, which seemed poorly managed, misinformed, or just badly orchestrated). Stumpf had been with the bank two years longer than Kovacevich and groomed over the long term for the top role. The succession program seems to have paid off, and Stumpf's success leading Wells Fargo made him the highest-paid U.S. bank CEO in 2009.

In terms of the heads of the largest world banks, Kovacevich has long been seen as an old-school banker. With his iron-clad faith in the value of risk management, as well as a clear love for the art of gathering deposits through a broad base of retail branches such as would exist in developing markets, Kovacevich clearly has no love for sophisticated practices, and only recently has become interested in investment banking as a business division. The most successful banker of his generation seems to have picked up his skills in a bygone era.

But if Kovacevich seems like a holdout of a simpler era that relished the type of risk management practices that regulators refer to when they talk about "going back to basics" or that held as its main tenets "boring banking" with "plain vanilla" products, he is still very much a man of his times. Being consigned as boring may seem like a harsh fate but it is a better alternative than belonging to the type of leveraged "casino banking" that can threaten to bring down entire financial systems. Nevertheless, boring banking as applied by Kovacevich is anything but, as the Wells Fargo tale is also one of rapid expansion—both geographic and along business lines—and success in a land of opportunity where there is no need to fail.

At the time of Kovacevich's retirement, Wells Fargo had assets of more than $1.5 trillion, over 200 times what Norwest had when he joined it nearly 25 years earlier. That the bank avoided some of the pitfalls that larger rivals fell into is not at all a matter of dumb luck, but a testament to Kovacevich's strong sense of business values and the culture he instilled at the institution over his years as its head. Over 40 years Kovacevich has seen plenty of crises and fixed his fair share of problems along the way, and the perspectives he has gathered from the global financial crisis, which unfolded in his own backyard, give a clear outline of what makes good banking sense and what doesn't.

Banks at Risk: Global Best Practices in an Age of Turbulence
By Peter Hoflich

Chapter 5

Observations from the Epicenter

Richard Kovacevich
Former Chairman and CEO, Wells Fargo

Many people agree that the financial crisis was started by subprime real estate loans in the United States. Wells Fargo, with our headquarters in San Francisco and operations all across California and many other states where subprime mortgage lending was going on in full fury, was at the epicenter of this financial crisis. We made many public and private statements during the buildup, warning of a potential bubble brewing. Between 2005 and 2007, our belief was that almost all asset classes had become overvalued. We became very cautious during that time because we thought that market valuations were assuming there was little risk in any of these classes of asset, while we believed there was significant risk in almost all of them.

There was one asset class that was of particular concern to us: subprime mortgages. We were at that time the largest mortgage originator in the United States, and we saw that while increasing risks were being taken in the market, valuations of subprime mortgages were not reflecting that risk. Questionable features that were being offered for subprime mortgages included negative amortization loans, stated income loans, low documentation and no documentation mortgages, and adjustable rate mortgages with teaser rates. Almost every kind of vehicle was being used to court the subprime segment. We believed that marketing these product features was an irresponsible practice and that subprime borrowers shouldn't have access to these types of loans; we did not offer these products to subprime borrowers. Consequently, our market share in mortgages in that timeframe fell four percentage points. Our originations in 2006 alone dropped US$160 billion. We did not participate in offering exotic products to subprime borrowers simply because we thought it was wrong both for the borrowers, whom we believed wouldn't be able to

meet their obligations, and for our investors, who would buy those loans from us—even though we could have originated these types of loans and sold them to investors at presumably no risk to ourselves. To do so would have been, in our opinion, simply ethically irresponsible.

The amazing thing to me about the subprime debacle is the widely held assumption that no one could have predicted the problems that occurred from subprime lending given that the largest mortgage issuer in the country was saying, "we're not going to do this business," and there were others who seemed to have noticed the warning signs too, including hedge fund manager John Paulson. Clearly this problem of irresponsible lending and the bundling of these loans into doomed investment products was known by some people—what were the others smoking?

We were convinced there would be massive defaults coming out of the lending to the subprime segment. We saw that defaults began as early as three months after purchase, with many borrowers not making even a single payment, and there were more defaults after only six months. Many subprime borrowers had no ability to pay even the teaser rates. But this news was being masked because house prices were increasing to record highs, so no one was losing money on the defaults, even after foreclosure. But all you had to realize was that once house prices stopped increasing, subprime investors would start to feel huge losses. History has shown that real estate prices can only go up for so long before they have to come down, so it was only a matter of time before this would happen this time around.

I don't think many originators cared about the default rates as they were pursuing an originate and distribute model. Originators thought they were not taking any risk because they were selling their loans to others—they assumed an "if someone's dumb enough to buy this stuff, that's their problem" line of thinking—and buyers did not really understand what they were buying because of the false sense of security they had as many tranches were stamped AAA by the ratings agencies. It appears that even so-called sophisticated investors didn't understand what was going on.

Actual loss rates were low because house price increases were offsetting the defaults, everyone was looking for a little more yield because all asset spreads were low, and AAA-rated subprime-linked securitized products gave more yield than other asset classes. It may seem like a sad story, but I don't have much sympathy for anybody in

this process: if he or she had done the least amount of homework, he or she might have noticed what Wells Fargo was doing (or rather wasn't doing) and asked why the biggest mortgage issuer in the country was not aggressively pursuing subprime business and was instead losing market share. We were quite vocal at that period of time that we were not providing exotic mortgages to subprime borrowers. It's inexcusable for all of the players involved in this business to have done an inadequate amount of due diligence on the securitized products based on subprime mortgages that they were buying.

THE SAFETY VALVES FAILED

I have seen several real estate booms and busts in my 40 years as a banker, but there were several things that were different this time around. The most important difference was the behavior of the ratings agencies. I don't remember any other time when something as toxic as subprime mortgage-linked securities was rated AAA. This was a crucial element in turning a local issue into a global problem, because I don't think that German savings banks would have been investing in U.S. subprime mortgages without the AAA seal of approval from internationally recognized rating institutions.

Besides the ratings agencies, there were at least four other safety valve failures. One was Congress, which let Federal National Mortgage Association (Fannie Mae) and Federal Home Loan Mortgage Corporation (Freddie Mac) become as large as they did. Seventy-one percent of all subprime and Alternative A-paper (Alt-A) mortgages that were originated from 2005 to 2007 were guaranteed and bought by Fannie Mae, Freddie Mac, and other government agencies. The subprime problem could not have gotten to the level that it did if the agencies had not been allowed to buy 71 percent of the production of these subprime and Alt-A mortgages.

People assume that Congress and these agencies knew what they were doing, but that is not the case. The fact that their model was broken was known to me and many others for quite some time. In fact, for more than 10 years I had been telling members of Congress, at very senior levels, that and telling them that Fannie Mae and Freddie Mac were taking excessive risks in their portfolios and were in fact accidents waiting to happen. I wasn't alone. As far back as the Clinton administration, Robert Rubin, Larry Summers, and almost all

of the bank regulators came out publicly to say that it had become necessary to rein in Fannie Mae and Freddie Mac to reduce their roles and limit their portfolios. But Rubin and Summers had their heads handed to them by Congressional Democrats, who said "stay out of this." The financial subprime and mortgage bubble could not have reached the level it did, even with AAA ratings, if Fannie Mae and Freddie Mac hadn't been guaranteeing so many subprime mortgages. Fannie Mae and Freddie Mac are going to cost the government and taxpayers $400 to $500 billion, or even more—far more than all other taxpayer bailouts of U.S. institutions in the financial crisis combined. Given this fact, the key question is why wasn't a full reform of Fannie Mae and Freddie Mac the first thing to be addressed in the financial reform package recently passed? Is Congress afraid to open up this can of worms? Congress has ignored the reform of Freddie Mac and Fannie Mae in the past and continues to do so—to this day, Congress hasn't stepped up and admitted its mistake, but has instead laid blame on others. But it's quite simple: Congress failed us.

The Securities and Exchange Commission (SEC) failed us. How could the SEC let the ratings agencies do what they did? How could the SEC allow investment banks to have leverage ratios of 30 to 40 times shareholder equity? The SEC didn't even require investment banks to have adequate liquidity plans—the investment banks didn't fail because of inadequate capital levels, they failed because of illiquidity. Some investment banks had $800 billion of wholesale funding at 30-day and 60-day durations—a big no-no according to Liquidity Management 101—but the SEC didn't require liquidity plans of the financial firms they were supervising. Consequently, many of those firms failed, but the SEC has not come clean on its culpability in the matter.

State regulators failed us. Seventy percent of all subprime originations were by brokers who were regulated and licensed by the states. State attorney generals have got more gall than anyone I've ever seen in the way they have been saying that federal regulators failed—it's the state regulators who failed. They were the regulators who licensed the brokers, many of whom intentionally committed fraud, in my opinion. They put down income levels that they knew were wrong, they put down that mortgages were for owner-occupied houses although many of them were not, and they put down employment histories that were untrue. This was not the accidental recording of incorrect information—this was full and premeditated fraud.

Finally, I am convinced that the federal bank regulators failed us, about which I ask this rhetorical question: What regulatory authority did the New York Federal Reserve—most of the problems in this financial crisis culminated in New York and under its jurisdiction—lack to rein in the risk of financial institutions like Citigroup? The regulators were not powerless; they were the financial authorities. And yet now we are crafting new regulations, pretending that the previous regulations were toothless. What good are regulations if regulators don't use them?

What we have to understand for the future is that all five of the safety valves we have historically relied upon—rating agencies, Congress, SEC, state regulators, and federal regulators—failed us. We've had one or the other safety valves fail us from time to time but never before have all of them failed at the same time. And that's why this bubble got as big as it did.

PASSING THE BUCK

I'm not trying to defend the management of about a dozen financial institutions—most of which were in investment banking—for their malfeasance, unethical behavior, and complete lack of sensible risk management. The management of these institutions is certainly the main culprit of the current crisis, but we must admit that those who managed the checks and balances process also failed us.

The fact that we had institutional checks and balances that weren't activated is an important key to the size of the problem. Ineffective regulation is far worse than no regulation at all because investors develop a false sense of security if they operate with the assumption that someone is watching what is going on. This has been most painfully evident among unsophisticated investors, the ones who are the most vulnerable, who have placed in regulators a confidence that isn't deserved and have been tricked into a false sense of security. If you have independent and objective ratings agencies, the SEC, federal regulators, state regulators, and Congress supposedly watching the financial services industry on your behalf, you should naturally feel that you're relatively safe. When they all failed, it was small investors who were the main victims. The only parties that are being castigated right now are the managers of banks, even though only about a dozen of these banks actually sinned and many were not even commercial banks at the time. Eight thousand commercial banks that had nothing

to do with the toxic products have been judged as being guilty by association, and they are still being vilified. They will also be subject to further regulation and other indignities. Why can't it be that only the guilty banks are punished and the banks that acted appropriately are rewarded?

A CONSPIRACY OF SILENCE

Let me ask a rhetorical question: Who is guiltier of not reining in the risk of a bank like Citigroup, or any of the other prime suspects, in a situation like this? Is it the institution's board of directors, who may meet one day a month and who typically do not have a deep knowledge of the financial services business (because if they did, they would not be considered independent by the New York Stock Exchange)? Or is it the 150 full-time regulators who are in Citigroup all the time, each with an average of 20 years of experience as a regulator?

My great fear is that we're going to repeat all of the mistakes of the crisis. If we don't get to the truth of what happened, we're not going to recognize the mistakes that were made when we see them again or be able to correct them so that they don't happen again. This crisis should never have happened. The failure belonged both to the management of those dozen financial institutions that had the most problems and needed the most support and to those who were supposedly watching and regulating the institutions to ensure that they did not take excessive risk. The excessive risks that these big institutions were taking were obvious enough and there should be no excuses for any of the parties involved.

I don't see any actions being taken to ensure that the safety valves that failed this time won't fail next time. The announced improvements so far have been minor, simply because the conversation and actions around financial services industry reform is going the wrong way. Some of the legislative changes that have been passed concern things that had nothing to do with this crisis. Proprietary trading had nothing to do with this crisis; derivatives had nothing to do with this crisis; debit card rates had nothing to do with this crisis. You have to go to where the failures were, and the failures were with the management of the dozen bad apples and the regulators who had the responsibility to supervise responsibly but failed to use whatever authority they had to rein in the bad apples' risk. It was a major

failure due to incompetence, lack of talent, or lack of supervision; it had little to do with lack of legislation.

Each of the five failed safety valves needs to commit to making major changes. For the ratings agencies, I think there are massive problems with the whole process, starting with the concept of the issuer paying and the fact that there are only three or so rating agencies. That the SEC sanctions them and that pension funds and other investment firms aren't allowed to invest in securities that don't have a certain level of rating from these agencies are fundamental flaws, and give the impression that the SEC believes that the ratings agencies actually know what they are doing. The ratings system needs to be completely rebuilt from a brand new foundation: the issuer of the security should not be paying for its rating—it should be the receiver of the information who pays for information when they believe it is robust and of value. If buyers don't think that the information is worthwhile, then the ratings agencies would go out of business and somebody else, who is a better provider of information, would get the business. It's a wonderful model for the ratings agencies, but it doesn't reward people for providing a service that the users believe is of value.

The regulators had all the authority they needed, but they did not execute it. The problem all comes back to the same questions of what regulatory authority the SEC did not have, the federal reserve banks did not have, the Office of the Comptroller of the Currency did not have, and the state examiners did not have to rein in the risks that were taken by mortgage brokers, commercial banks, and investment banks. It's a failure of execution. What they should be saying is, "we had the authority, we failed, and we're going to make the following changes." Instead, they're saying, "we didn't fail—we didn't have the authority, and therefore Congress needs to give us more authority." New regulations already propagated by Congress aren't going to keep us from future crises, they're simply going to slow down the recovery of our economy without reducing risk much at all.

STRESS TESTING

One of the solutions to the crisis that the government came up with in 2009 was to conduct stress testing. The problem of the stress tests was not that they were done. Stress tests are regular occurrences in the

banking system—they're done all the time and they're a valuable tool. Banks apply them to themselves on their own and together with regulators. The terrible mistake that was made was to announce that the stress tests were going to be conducted 12 weeks before the results would be known.

The people who came up with this plan must not have had any idea of how markets operate because what happened is that bank stocks went down 80 percent and short sellers made billions of dollars. The perception caused by the announcement of the stress testing was that every bank was going to fail, short sellers were feeding misinformation to the market, and people were shorting the stocks. As well as bank stocks falling by 80 percent, the market went down 40 percent after the stress tests were announced. When the results finally came in 12 weeks later showing that banks had performed well, there was a huge sigh of relief, and the stocks recovered. Even more important, before the stress test results were announced, banks reported better-than-expected first quarter earnings. Wells Fargo even achieved record earnings.

What should have been done is to do the stress tests and announce the results at the same time, to the effect of "We have just completed stress tests of these 12 banks and here are the results." Then you wouldn't have had an 80 percent decline in bank stocks followed by a strong recovery.

Who lost? The small, unsophisticated investor, who sold at the bottom and who couldn't understand what was going on. Who won? The short sellers on the way down and the short sellers who bought near the bottom because they knew that this was an over-reaction and made money on the way up. Why didn't officials understand that all of this was likely to happen? Does anyone care about the small, unsophisticated investor?

OPPORTUNITIES FOR POSITIVE CHANGE

We won't have positive change and avoid future crises until we admit what worked and what didn't. Hopefully, the companies themselves, and our institutional safety valves, have learned enough that they will improve their risk management and regulatory oversight practices and start doing the things that they should have been doing all along.

Of course, there are plenty of opportunities for strong players in an environment that has been completely shaken up. In the case of banks

like Wells Fargo, there are tremendous opportunities. Because of the disarray caused by the crisis, our market share and wallet share are actually increasing. We're getting new customers. Because of this crisis, Wells Fargo did the biggest acquisition in the history of banking when we acquired Wachovia in October 2008. We took advantage of this malaise, even though we wish it had not occurred. But we've been doing exactly that for 25 years—we have done most of our deals and gained most of our market share in bad times, not in good times. Many of our competitors have to clean up their messes, and because they're not paying attention to their customers it gives us the opportunity to serve those customers at Wells Fargo.

Because of the new environment, whole new business lines have been altered forever. We believe that there's been a fundamental change in the investment banking culture and ethics, for example. By acquiring Wachovia, Wells Fargo gained an investment banking platform. We're now very involved in bread and butter investment banking—nothing exotic, no structured products, no proprietary trading—but we do provide debt, equity, and hedging products to our clients. I believe that over the next few years, Wells Fargo will be one of the top five domestic investment banks, and we were barely a minor player before.

The investment banks that are still in business are now going to have to have liquidity plans. They're going to have to behave in a more responsible manner. The playing field is being leveled and that allows Wells Fargo to participate in an industry that we did not participate in before because we thought that the ethics and the culture were incompatible with ours. It's a major change in the competitive environment and very favorable to companies like ours.

COMPENSATION AND THE ROLE OF RISK MANAGEMENT

From what I have read, the agents of financial services reform in the government still haven't asked the right questions, so I don't think they'll come to the right answers. The questions they should be asking are: What regulatory authority did those five institutions that were trusted to act as safety valves lack? Why did they not perform their functions? The next natural question should be: Given they had the authority, why did they not use it? The other question that has not

been asked is: What are they going to do now to fix the problem of inadequate financial services regulation and supervision? But instead of finding answers to these questions, a lot of blame has been put on the compensation models that institutions have put in place to incentivize risk.

Compensation has been very much a key issue to this debate about the causes of the financial crisis. Compensation is, of course, a very important tool to motivate proper behavior. It starts with the proposition that line management of a financial institution must be responsible and accountable for risk *and* reward. This is not about having an originating group on one side and a risk management group on the other and then imagining that as long as the risk management group doesn't object it is permissible to do anything. That's the way many of the companies that ran into trouble were run, but you can't do it that way—you have to have the people running a business accountable for risk *and* reward. You then need another group, which isn't rewarded based on the results of the first group, to act as a check and balance on the first group.

This second group comprises the people who say of the first group, "I don't know if this should be done; I think they're taking too much risk." If a disagreement occurs, then it goes up the line for the bosses to decide what to do, bosses who are responsible for both risk and reward. Your incentive system must be long-term because you don't really know whether the right decision has been made until three, four, or five years after it has been made.

There should also be clawback provisions. I can tell you how we compensate staff at Wells Fargo. For our senior people, 50 percent or more of their total compensation is in stock options, and 50 percent of all stock options cannot be sold until retirement. This forces you to be a team player, because stock options are about the results of the whole company, not just your results. Stock options are aligned with the owners' interests as well. Retirement lasts a long time, so you're incentivized to do the right thing for the long term. It's just common sense again. You have to align your incentive system to incentivize the behavior you want, and the behavior you want is that people make the right risk-reward trade-offs for the long term. You must also have a group of auditors and risk assurance review managers who provide a check and balance on line management and ensure they are adhering to the agreed upon risk policies and procedures. Risk review departments are not substitutes for the line being responsible for

risk—they are a check for the line manager's boss that the line is taking only appropriate risks.

There are many cultural things you need to do to get the compensation structure right and the structure is very complex. But the point is that it's not the tactics so much that everyone in the line, from the CEO to the head of commercial lending to the head of investment banking, is responsible for risk and reward, and you don't give somebody all the reward until the period of the risk has been completed and the risk has dissipated.

The other important thing to be aware of is that banks are fundamentally in the risk business and must be entirely focused on understanding the risks they are assuming. Banks have the opportunity to make a return above a commodity return only if they understand risk well. We get rewarded for taking risk because it's a skill that others don't have. You cannot be the best financial institution in the world unless you're the best at managing risk.

Wells Fargo is one of the only large banks in the United States that still has a commercial lending training program. We take people out of their jobs and put them through intense college-level courses for six months, during which 100 percent of their time is spent learning the theory of managing risk and managing credit, accounting skills, and all the basic academic skills required to be a good banker. The teachers are our best lenders, and after the six-month program, the students go to a work-on-the job program with mentors to learn the practical side of the business. Only after nearly two years are they ready to start making loans. We're about the only bank still doing this kind of program.

If managing risk is the most important skill in banking, why would you not have training courses to give your people the proper tools they need to do their jobs correctly? One reason is that a lot of banks today are originators and distributors, not originators and holders the way Wells Fargo is. Banking is basically a business of effective risk management. We need to get back to the basics. The basics of commercial lending start with the five C's, which are not being talked about any more but have been in existence for 100 years. They are character, capacity to pay, collateral, capital, and conditions. You don't make a loan until you've analyzed the five C's of the company involved and feel confident that it and its management passes all five. Few financial institutions do this anymore.

The most frequent type of call I get from our bankers is, "I understand that you know this individual: what kind of a person is he

or she?" We won't lend to someone whose character is not consistent with our values.

The question has been asked if there should be an upper limit to compensation. I'm a free enterprise guy and I do believe that we're in an industry where the talents and skills of individuals have a dramatic influence on results: there are no patents here, market share can move in an instant, it's highly competitive, and it is individuals who do the business and make the decisions about what risks to take each and every day. Wells Fargo made $12.4 billion last year: if somebody is so good at balancing risks and rewards, making judgments, and selecting people who manage risk prudently that they can make the stockholder an extra $1 billion, wouldn't you find it reasonable to pay him or her as much as an extra $10 or $20 million, which is 1 to 2 percent of that extra $1 billion of profit?

The payment level has to be consistent with the risk that is being taken, and you shouldn't get paid in total until the risk has been mitigated. If the tail of the risk is five years, you shouldn't get paid completely for the risk you took for five years; if the risk that you are taking is forever, you shouldn't get fully paid until you retire. It isn't the level of compensation that should be of concern; the process of when and how results are paid for should be. In our business the tails are often relatively long, and they are certainly not only one year—that's the failure of a short-term compensation system, not the amount.

I don't know whether people think that I was overpaid or underpaid as the president, chairman, and CEO in my almost 20 years in those roles at Wells Fargo and its predecessor organization, Norwest Bank. I can tell you that I was never once told by any large long-time shareholder that I was overpaid. When I joined Norwest in 1986, the market capitalization of the company was $800 million. Today the market capitalization of Wells Fargo, which grew out of Norwest, is between $150 and $170 billion. Take any amount of money you think I've received over the course of my career—say $100 or $150 million—and you'll see that it's less than 0.1 percent of the wealth generated to all stockholders. I don't know of anybody who doesn't think that I had a major influence on the growth and success of that institution, well beyond 0.1 percent, so what difference does it make if I received twice or three times that much? By the way, about 80 percent of my compensation was in stock options, stock that I still own and could not sell more than 50 percent of, according to the Wells Fargo compensation policy, until a year after retirement.

The reason compensation gets attacked, and rightfully so, is when situations come to light in which someone gets paid a lot of money one year but a few years later the place falls apart. It's the way bankers are compensated that's the problem rather than the level of compensation. The key point is simply that nobody should get rewarded for failure. I think that there was no objection to my pay because it was a very small percentage of the value that was created. Even if you were to double or triple it, it would still be a nit. But there have been a lot of abuses in financial services, which is why there is a need for a process in which you don't get rewarded until the majority of the risk has been resolved. The rewards should be based principally on long-term value creation consistent with the value created for the owners.

Compensation needs to be tied to risk management, and in many ways, some hedge funds and others outside traditional banking do a better job at risk management than many banks because these guys have their own capital at risk. They are looking at the risk-reward balance all the time and they are on their own through all of it. They don't have ratings agencies providing a false sense of security, and they don't have the presumed protection of regulation. Ineffective regulation, after all, is a far greater risk than no regulation at all, and that's the world that these companies live in.

One company that I think does a good job, although I believe their acquisition of Household Finance was a mistake, is HSBC. This institution has a great culture, experienced people who usually stay with it for their entire career, a great risk management process, and great oversight. HSBC does a very good job at risk management around the world.

JPMorgan Chase also does a relatively good job of risk management, even though their business model is more of an originate and distribute one and Wells Fargo's is more of an originate and hold our portfolio one. Many institutions that use originate and hold models don't thoroughly underwrite their loans. To them a good loan is one they can sell and a bad loan is one they can't. When we syndicate (distribute) a loan, on the other hand, we still underwrite it on the basis that if we had to own the whole thing we would be happy about holding the whole thing; in other words, we underwrite each and every loan on the basis that we're going to portfolio it. The reason that we don't portfolio it is more of a concentration risk not because we think that the risk reward doesn't make sense. I don't think in most cases that originate and hold models do that. If institutions think they

can sell portfolios of subprime assets, it's off their balance sheet and they don't care anymore. We come from the old school: even if we can sell it, we still underwrite it. Furthermore, if we are going to sell investors more loans in the future, we want to sell loans to them that we are comfortable holding ourselves. I think our counterparties appreciate that we are side-by-side with them.

Someone told me that, in the Goldman Sachs John Paulson subprime deal, when Paulson was telling whatever company it was which mortgages it wanted in the synthetic pool and which it didn't, supposedly in the documents it was stated that it didn't want any Wells Fargo mortgages in there because Wells Fargo knows what they're doing. That's the reputation we want, not a reputation that we got away with something because the counterparty was unsophisticated. We want our reputation to be stellar, because in the long run we believe that that reputation is going to reward us more than the reputation of being a company that says to customers, "you should have known better, too bad; but you're a big boy, now deal with it."

RISK MANAGEMENT IS IN A BANK'S DNA

There are many other things that are important to properly running a financial company and succession is one of the most important. There are some people who appear to have been successful when they were managing a company but who totally fail in managing management succession. There have been no financial consequences of that either, which is why Wells Fargo has a policy that 50 percent of a banker's variable pay is kept until retirement and he or she can't sell shares until a year after retiring. That's particularly important at the most senior levels; you may have different policies at lower levels. We're in the risk business, and risk is the most important element of what may go wrong—it's also the most important element of why you may achieve extraordinary returns, because it's really the value added, and I don't think that risk is being considered in that vein by most financial companies. They don't invest in risk learning, they don't train for risk, and they don't incentivize for risk in the proper ways. They also don't understand that because risk is so critical it is the responsibility of line management, and that risk staff are an important check and balance to ensure line management is adhering to the company's risk policies and procedures. It is so important that you want to have someone else—not someone making the lending

decisions—looking over people's shoulders in an independent and objective role. If you build your company like that, train for it, and have a corresponding culture, you have a good chance of being successful over a long period of time and making a lot of money for your stockholders and your people.

As the ultimate disagreement with conventional wisdom, I believe that Wells Fargo today, with its $1.2 trillion in assets and 100 different businesses across almost all of the United States, is less risky than its underlying institution Norwest, which had only $20 billion in assets and was in five states when I joined it in 1985. It was highly concentrated in the agricultural markets of the Midwest and was in only 15 businesses, which made it highly concentrated geographically and by revenue stream. And yet the conventional wisdom is that the bigger you are the riskier you are.

Risk is not about size but about concentration. If Wells Fargo had $1.2 trillion today in five upper-Midwest states and only 15 businesses, then we would be a lot riskier than we were in 1985. All the things that we did to grow and expand were aimed at reducing our risk, not increasing it. We reduced our risk by expanding geographically and increasing our revenue streams.

Let's take the Wells Fargo merger with Wachovia to illustrate this point. Wells Fargo was in 23 states in the West before the merger while Wachovia was in 20 states in the East. I would argue that if we do basically the same things now in the East as we are doing in the West, we are less risky, not more risky. When you grow by getting into new businesses and new geographies, it reduces risk, it doesn't increase risk.

People say that as a bank gets bigger it becomes riskier—that's not true. The 300 banks that have already failed in this crisis, big and small, went out of business because they were concentrated geographically in the United States and also concentrated in a handful of products: they were concentrated in subprime mortgages, commercial real estate, structured products, investment banking, and short-term wholesale funding. A small community bank geographically concentrated in a couple of towns whose loan portfolio consists primarily of commercial real estate has a much greater probability of failing than a well-diversified company such as Wells Fargo, in my opinion. I would say that there are some large institutions today that are so concentrated that they will be riskier if they get larger, but Wells Fargo is not one of them.

Wells Fargo's growth was through geographic and product expansion, making us less concentrated and thus less risky. Risk concentration is what will kill you. I don't care how good you are at underwriting or risk management, every segment of financial services will have a problem someday due to macroeconomic factors and other factors you cannot control. Our view is that you've got to underwrite well, but you also must spread the risk. We can't have any business that is such an important element of our company that when things beyond our control cause that business to have problems, it brings down our whole institution.

Chapter 6

Introduction

BANK LEADERS ON THE MOVE

In 2010, two years after the global financial crisis hit its stride in the ides of September 2008, it seemed unlikely that there could be any survivors at the top of the big global banks. The crisis, of course, saw several significant early casualties, such as Wachovia CEO Ken Thompson and Merrill Lynch CEO John Thain, most of the top management of UBS, and a long line of post-Hank Greenberg CEOs of AIG, who all left their institutions. These were followed by the departures of near-term holdouts such as Ken Lewis, the head of Bank of America of eight years whose continuation of the behemoth-building acquisition spree of his predecessor Hugh McColl ended when his acquisition of a very expensive and toxic Merrill Lynch at the height of the crisis proved too big to digest, as well as the hapless CEOs of Mizuho Financial Group and its affiliates Mizuho Bank and Mizuho Corporate Bank. Then there were later-term casualties such as Eric Daniels, head of Lloyds Banking Group, and Alessandro Profumo, the head for 15 years of Unicredit, Italy's largest bank. Even well-run institutions like HSBC, Barclays, and Morgan Stanley have seen new leaders come in to replace leaders of very long tenure, following what would otherwise look like a well-planned succession process.

The main survivors have been Vikram Pandit, head of Citigroup; Jamie Dimon, head of J.P. Morgan; Lloyd Blankfein, CEO of Goldman Sachs; and Josef Ackermann, head of Deutsche Bank. But there have been more survivors—the heads of the Spanish banks have remained in place as have nearly all of the top banking regulators and supervisors.

The onset of the global financial crisis has seen a few interesting second acts. One of these is John Thain, who stepped into the top job at SME lender CIT, and another is John Corzine, a former co-CEO of Goldman Sachs and New Jersey politician (he has served both as governor and as senator for the state) who now runs a small futures brokerage, MF Global.

One of the most amazing new leadership stories actually happened slightly ahead of the full force of the crisis but nonetheless eventually

became a part of it: the reinvention of Mike Smith, the former CEO of the Hongkong and Shanghai Banking Corporation, also known as the Asia business of HSBC (which is the historical root of HSBC's businesses and the bulk of practically everything it does).

Smith's career at HSBC began in 1978 upon his graduation from the Economic Sciences department of the City University of London. As a member of the bank's international manager program, he was moved around the HSBC world, taking up positions first in Hong Kong, then the Solomon Islands, Oman, Japan, Australia, Malaysia, Argentina, and London at several points, where he became involved in the bank's 1992 acquisition of Midland Bank, one of the United Kingdom's four biggest banks at the time. The appointments covered work in commercial, institutional, and investment banking; planning and strategy; operations; and general management. He saw HSBC move through ups and downs, nearly paying for them with his life during the Argentine currency and debt crisis of 2001 and 2002 when hitmen rained his car with bullets, killing his chauffeur and severely injuring Smith himself. Smith speaks of having lived through seven crises in his career, but surely this one was the one that was the most dangerous.

ACT TWO

After leaving HSBC in early 2007, Smith took up the CEO position at ANZ, Australia's third largest bank at the time, on October 1 of that year, replacing John McFarlane, who had led the bank for 10 years but who in the end had fallen out with several key staff, including the chairman of the board, Charles Goode. This falling out was most likely over large risk management failings in the form of large loans to troubled institutions that had marred his last years in office, and one of Smith's first tasks in the bank was to clean up the bank's non-performing loan (NPL) problems as well as its risk management culture and systems; given his long experience working his way through the machinery of a bank with a reputation for strong risk management, this task was something he was well suited for. Because of Smith's experience working at HSBC, which had acquired a significant subprime mortgage business in the United States in 2002, he had an early view of the problems that were occurring in the financial services industry, one which was probably unique in the Australian context—the Australian industry had grown as complacent about risk management as financial services industries all around the world had,

taking growth for granted and being in denial over the growth of asset and credit bubbles. While still at HSBC, Smith became one of the first to talk about a downturn of the credit cycle, although even he was ultimately surprised at the depth and severity of the crisis.[1] Nonetheless, having lived through several crippling crises, he was not concerned about being underprepared for it.

Another task Smith had was to make the Australian lender into a regional one, a role for which he was also well suited. Since leading the bank, Smith has continued the overseas push that McFarlane initiated. While still at HSBC, Smith described himself as a frustrated investment banker with a taste for corporate finance deals[2] and since joining ANZ he has worked to build the bank into a regional player—it is the only Australian bank to attempt significant acquisitions in Asia. ANZ is famous for selling its Indian franchise Grindlays Bank, once the largest foreign-owned bank in the subcontinent, to Standard Chartered Bank in 2000, and Smith and others in ANZ want to make up for that mistake. In 2008 Smith and ANZ tried to buy Wing Lung Bank in Hong Kong, Smith's old stomping ground from his HSBC days and a market he knows well, but the bank was overpriced. One year later, ANZ bought RBS' retail and commercial banking businesses in six Asian markets (including Hong Kong), and in 2010 ANZ was looking at Korea Exchange Bank, the often-marketed-but-never-sold Korean lender. Given that Korea had frustrated HSBC in the past—it had attempted to buy various banks in 1999, 2004, and 2007, including Korea Exchange Bank—this would seem to be both an extension of ANZ's regional expansion dreams and Smith's personal full-career vindication.

In his new role, Smith has been an outspoken critic of some banking practices in Australia, particularly the country's *Four Pillars* policy, which disallows the country's four biggest banks from merging with each other for competitive reasons, as well as Australia's crisis-era funding guarantees. According to reports, the Four Pillars policy has already stymied Smith's plans for growth, when ANZ pursued a merger with NAB, Australia's largest bank by assets, in 2008.

Australia's financial services industry sits in an interesting space—a developed market that is in some ways expanding as steadily and rapidly as a developing market because of its large frontier land and massive natural resources sector. The financial services industry has a financial regulator that takes risk management very seriously because it is regulating a system dominated by banks that

are too big to fail—Australia's four biggest banks (NAB, ANZ, Commonwealth Bank of Australia, and Westpac Banking Corporation) now have an 83.6 percent market share on all bank lending in Australia. Besides Australia, only a few other markets are dominated by a handful of very large banks—Canada and Singapore have emerged as being well protected, while Iceland and Ireland were exposed and mismanaged.

While a role at an Australian bank with regional aspirations is a step back from the regional role Smith once had at a global bank (and the global role he may have won if he had stayed—Smith left too early to take part in HSBC's leadership change in September 2010), he is still in a position to make an impact in several key global markets. His view on the global financial crisis and the role of risk management, regulation, and reform in the financial services industry is a unique one and offers valuable insights.

Banks at Risk: Global Best Practices in an Age of Turbulence
By Peter Hoflich

Chapter 6

The Financial Crisis: Epicenters and Antipodes

Mike Smith
CEO, ANZ Group

The recent global financial crisis is the seventh financial crisis I've experienced in my career. This time around the crisis featured a meltdown in subprime mortgages, which I had the advantage of seeing from its beginnings when I was in a senior executive role at HSBC, a bank that has operations all over the world. In late 2002, HSBC acquired a subprime business in the United States called Household Finance and what I saw going on there while working at HSBC was quite interesting. HSBC was a financially conservative institution that also happened to own the second-largest subprime business in the United States, and because of that the bank was probably among the first to call the problems with the subprime book when it took a US$3.4 billion charge against looming losses in May 2007.

What I thought was extraordinary at the time was that the other commercial and investment banks involved in this business really didn't see that they had a problem or that there was any issue with risk management in lending to the subprime segment and turning these mortgage loans into securitized products. I felt that there was going to be extraordinary fallout from this situation, and it was going to lead to a liquidity problem globally due to the sheer amount of interbank lending that, in turn, would lead to some sort of credit problem. Of course, how quickly that would play out was difficult to foresee at the time.

In the midst of all this, I left HSBC to take up the role of CEO at Australia and New Zealand Banking Group (ANZ) in Australia. During the three months of gardening leave I took in the middle of 2007, I found myself sitting in a deckchair in France considering where the world was going and all that I could see was that the water was getting choppier and choppier. By the time I got to Australia in

October 2007, I thought that we were really in a situation where there would be a financial tsunami of some form, and that it would inevitably wash across Australia and New Zealand.

CALLING THE CRISIS

I think I was originally regarded as some sort of eccentric outsider in Australia because the country was still riding the wave of 20 years of continuous economic growth and expansion. I could see that credit standards had slipped, common banking practices such as lending covenants were not as strong as they should have been, money was not properly priced for risk, and the country's banking system had effectively become too used to good times. So my words of warning didn't resonate initially.

When I started running ANZ, I reduced the bank's exposure to the United States immediately, particularly counterparty risk to highly leveraged hedge funds and some of the investment banks as well as to highly leveraged players from other regions, including Europe and Asia. What I didn't anticipate was the sheer depth of the problem and the speed with which it would all start to unravel. And while I anticipated that there would be a liquidity issue, I hadn't appreciated just how serious that would get.

Having lived through so many crises in my 32-year career as a banker, I knew that in a crisis situation the immediate priorities that must be set are liquidity, liquidity, and liquidity. In a crisis it's absolutely essential that you have a complete understanding of your cash flow, and what I found was that information on the bank's position was quite hard to get from the systems we had. I did have time to create a crisis committee, and there was still enough time to allow the committee to gather reasonable information. So while the approach wasn't 100 percent of what we needed, it was roughly right, and we were able to manage the liquidity issue fairly well.

The problem is that after liquidity issues you inevitably have credit problems. So I asked the relationship managers to go through their books to make sure their customers and their cash flows were okay and that the documentation we held was up to the standard we needed. Now I'm not perfect, but the problem was that some thought I was crying wolf, and in many cases people were just too close to their customers and didn't believe there would be a problem. Of course, it was only a matter of time and in these situations it tends to

be the big end of town that is impacted first. Problems then move into the middle market, and finally, issues emerge with the consumer segment. And while anyone who has lived through one of these crises realizes that it's quite a long and drawn-out process, the start is still a shock to everybody.

Whenever this sort of thing happens, the first casualties inside the bank tend to be the cottage industries—the small, nontraditional businesses that have been created within the institutional bank. Little areas of specialization that perhaps just aren't core create problems. They certainly did for us. Fortunately, the preparations we put in place meant that, although we weren't immune, we were a bit ahead of the curve. We were able to take some remedial actions before the wall of water hit although they weren't complete—if I'd had another six months, we would have been in a much better position.

What we really fell victim to was the fact that the whole risk management ethos was based on good times—deceptively favorable economic conditions and constant economic growth year in and year out. That's not the real world. We had to adjust that ethos, and what I did was use a major problem that we had with the failed securities company Opes Prime—for which ANZ was the chief secured creditor—as the catalyst to initiate change. Sometimes it's difficult to make changes when you don't have problems; people just say, "why are you doing this, it's working fine." However, if you have an example problem—and Opes Prime was a classic one for us—you can leverage that to shake people out of a business-as-usual way of thinking and make substantial change.

Business-as-usual thinking wasn't unique to ANZ or to Australian banks generally. It was the only way of thinking in the financial services world in the years leading up to the financial crisis, a world that started to show cracks in 2007 with the failure of a number of hedge funds and Northern Rock and that finally blew up in September 2008 with the failure of Lehman Brothers. In the commercial banking world I think that HSBC, to its credit, was a lone voice in predicting the onslaught of the crisis.

But caution wasn't valued at the time, and before the crisis hit in full, various institutional shareholders were saying that they didn't like the way some banks were being too cautious. For example, Eric Knight from the activist hedge fund Knight Vinke, which owned around 1 percent of HSBC, criticized the bank's management for being too cautious and not aggressive enough in chasing business.[3] At

the time in the commercial banking space there wasn't a huge amount of understanding about HSBC's stance on the coming storm. And while HSBC was unfortunate to own Household Finance, which later became known as HSBC Finance, it was that vehicle that made clear the depth of the problem.

The quality of the loans that subprime lenders were making, and the subsequent process of bundling them and lending them onward, was actually quite shocking to traditional bankers. Then there was the problem of the trading book as well, because this stuff was being traded between the banks and the investment banks in a very sizeable way. We couldn't understand why anybody would want to have a trading book of subquality assets—it just didn't make any sense. It was growing the balance sheet for the sake of growing the balance sheet and that was another clear warning right there.

All in all, we managed through the situation well at ANZ. We remained profitable, maintained our AA rating, and didn't require any government support.

MANAGING CRISES

The crises that I've seen have varied in their magnitude, and I've been able to learn different things from all of them. The worst one I've lived through was the Argentine debt crisis of 2000 and 2001. While the meltdown of Argentina was not as dramatic as the global financial crisis in terms of scale—although it did have a major impact on emerging markets—in terms of its impact on an individual country it was quite extraordinary. To have survived the Argentine debt crisis is the banking equivalent of living through the Battle of Stalingrad—it doesn't get any worse. With the Argentine crisis, the key lessons were as always the importance of liquidity, the importance of having contingency plans all the time, always being one step ahead, trying to think through where markets would go, and always keeping in mind that the completely unexpected can occur.

When managing a major crisis, we tend to be driven by the norms that we've grown accustomed to and we don't believe that things will get dramatically worse. It becomes important to remove yourself from the situation and look at it with a wide-angle lens and be prepared for the possibility that it *can* actually get even worse. That was the lesson I learned early on in Argentina, because at the time I didn't

believe it was possible that bond prices could drop so much. The situation became violent and very unpleasant, and you had your own personal safety and that of your staff and customers to worry about. In that crisis, I saw the destitution of the whole middle class of Argentina and it was quite frightening.

Some of this is playing out in Europe now, where there's been an ostrich mentality. The Greek bond crisis is an issue that has really been on the table for some time. The European Union has allowed matters to get to a point where it has no other choice but to do something; it could have acted in a more systematic and considered way when it became apparent that Greece wasn't keeping to its fiscal policy commitments.

GOVERNMENT INVOLVEMENT

In such a crisis of confidence as we have recently seen, a national government can step in and introduce sweeping measures. In terms of the banking crisis, in the United States the government came up with the idea of conducting stress tests to return confidence to the market and then publishing the results of those stress tests. That was a brave move and the U.S. regulators handled it well, because it could have worked against them. It basically brought back market confidence.

Now the market is not quite as confident about Europe because there are still structural questions there that are not resolved. Is it possible for southern Europe to comply with demands for austerity? What are the social implications and barriers to change? The situation around market confidence is a huge problem. When the Americans did their stress tests it was early in the crisis. They needed to put a line under the problem and they felt that a stress test exercise was just one way of doing that: creating a situation where it became well known which banks would succeed and which would fail. This was a better scenario than the complete lack of trust and the lack of confidence that had been in the whole market.

More recently, stress tests in Europe addressed the health of European banks. And while this process and the results of the stress testing weren't really what people had expected, most banks appear to be in a much better position than had been envisioned. But the issue that these stress tests raised was the quality of the stress, particularly around a number of institutions that didn't mark to market their bond holdings, especially in sovereign debt.

I am a little more sanguine about the less-than-dramatic results of these stress tests, where only a few institutions were shown to not hold enough capital to survive a sharp economic downturn. People who expected more institutions to fail seem to have forgotten that in the 13-month period between the May 2009 announcement of the U.S. stress tests and the July 2010 resolution of a similar exercise in Europe, the European banks have raised something like €300 billion in additional capital, and as a result it is only natural that they looked stronger than they would have had they been stress tested at the time that the American banks were tested. But overall the process of stress testing is quite a good thing, as it's drawn another line in the sand. I feel that even if the financial institutions were not tested as severely as they could have been, the tests were not too bad in terms of showing where we are with the overall capital strength of these institutions.

Stress testing should form a part of the normal prudential supervision of a financial institution, and the regulator needs to conduct the testing. Discussions around the conduct of stress tests, along with the CAMEL reviews[4] and the various other models used, should be shared only between the regulator and the institution, because that type of information can be misinterpreted very easily. But these sorts of private discussions between bankers and regulators are also something for calmer times; when you have a systemic issue such as in recent years, going public is the best way to draw a line in the sand and say, "this is a test, we have put the banks through it and this is the outcome: these banks have passed; these banks have failed."

But with this crisis, many things have changed, and regulators will need to do more rigorous stress testing than they have done before. It still has to be very dynamic because what is right today is not necessarily what is going to be right tomorrow, and people need to consider the depth of the market in terms of instruments being held on the balance sheet, and indeed the complicated structure of some products, which are probably inherently more risky.

REGULATION

Whenever there is a crisis, the first thing that people demand is regulatory change. I have no issue with that in the sense that the need for change quickly becomes obvious, but I think that some people confuse regulation with supervision. In my view what happened did

not come about because there was a lack of regulation, it was because there was a lack of adequate supervision. With the type of supervision that existed in countries like the United States, and to an extent in the United Kingdom, at times some of the serious issues that caused the crisis fell between the cracks because there were multiple regulators.

Among the regulators there was also a lack of understanding of a number of the products, which exacerbated the problem. Some of the products that were being sold going into the crisis were incredibly sophisticated—even with a wet towel around the head, figuring out the workings of this stuff is beyond most people. If you are a bank and you don't understand these products, then you should say "no" to selling them, and if you are a regulator you probably need to say "no" to allowing them. If you can't explain a product or a business that you're in then you simply shouldn't sell that product or engage in that business. This is a basic rule, not just of banking but of any business activity, and it wasn't heeded. Banks and regulators really should have learned this lesson before.

For regulatory change to be effective, we need to see coordination in terms of what changes are to take place and how they are to be implemented, and this coordination is happening best at the Bank for International Settlements (BIS), which manages the Basel Committee on Banking Supervision (BCBS). But otherwise, there is very limited coordination in terms of global regulation because, like in any of these situations, national interest will always be paramount. More compliant nations, such as Australia, Canada, and some Asian countries, might already be doing their very best to comply with global standards even though they are not appropriate for their specific systems. This is actually the time that they should start thinking like Ireland by standing back a bit and saying "hang on, everybody is about national interest, shouldn't we be as well?" International standards are not necessarily required for all parts of the system, but regulatory standards generally need to be at a very high level.

One thing that was extraordinary about the G-20's initiative on banking reform was its belief that one size can fit all. If countries such as Australia and Canada managed the crisis very effectively through good regulation, good supervision, and good bank management, they shouldn't be tarred with the same brush that everybody else has been, and yet they are still subject to severe regulatory measures introduced as a result of the crisis. The irony is that many of these

new regulations are being proposed by the very countries that created the problem in the first place. There is certainly still much to think about.

We have to be realistic and assume that there will be further regulation as a result of the crisis and the lessons we have learned. I have no problem with that, as long as the regulation is well-considered. The new guidance on capital requirements that is now coming out of the BCBS, which is being called Basel III, has been in the making for some time. The issues around Basel III are the ones we really need to address as an industry: these include issues around the concepts of capital, provisioning, liquidity, and accounting standards. But what occurred early in the process was that Basel III was to an extent hijacked by the G-20 and for a time the agenda was no longer in the experts' hands: it became something of a political football and was kicked around among the more populist politicians, with the experts not allowed to drive the process.

During this time, Basel III basically lost its integrity because some of the more sensible proposals were lost sight of. But now the process has gotten back on track and there are richer discussions taking place with views and considerations being aired by the people who actually know and understand the issues. There has been a fair amount of industry debate, and certainly there has been a lot of debate between regulators from different constituent countries who have very different vested interests.

For example, on a liquidity requirement you could say a certain percentage of the balance sheet needs to be in liquid assets. The composition of those liquid assets should really be for each central bank to determine, because when you have a liquidity crisis you then use whatever assets you can gather and set up sale and repurchase arrangements (repos) with the central bank, or whatever authority is responsible for the stability of the system. The central bank would then make a call to say that it will take, for example, 30 percent mortgages, 50 percent sovereign debt, and 20 percent bank bills, because they have to make sure that the whole system is maintained.

Ideas that are now being proposed that liquid assets can be in the form of only sovereign debt are nonsense, because when you have a systemic problem, what happens to the sovereign debt market? Proposals like these clearly haven't been thought through. There is still a lot of work to be done with liquidity and capital requirements and we have to be very careful not to mix regulation with political populism.

News on Basel III and the form it will eventually take has rolled out gradually, and the BCBS is setting a target of January 1, 2018, for its implementation. There has been some concern that this timeline is too long, but we have to remember that it took 20 years to put Basel II in place—these things don't happen fast, because they really do try to work out what the consequences of new regulatory requirements might be, along with what some of the unintended consequences might be. Of course, it is in nobody's interest to promote the type of overzealous bank regulation that could stall economic growth. In terms of the proposed reforms to the banking system, the concept of risk allocation to capital, which is what Basel started and Basel II was trying to finesse, is the right way to go. The quality of its book should really determine the amount of capital a bank needs to hold.

One of the interesting things to come out of this financial reform process has been the requirement to impose liquidity standards. To a bank, liquidity is just as important as capital, and the issue is that the determination of liquid assets has to work for each country. Capital markets are different in each country, and what may count as a very deep asset in one jurisdiction may not work in another. So there has to be a degree of flexibility in defining what counts as a liquid asset. My view on liquidity is that it is very much a central bank issue, and if the central banks are to support the financial system as a whole, they should be the ones who determine what they are prepared to accept as liquid assets, in terms of repo facilities, or not.

SUPERVISION

Unfortunately, a serious challenge in the area of regulatory response to the financial crisis is coming from the United States, which is marching ahead with its own agenda. To an extent, it doesn't care so much about Basel III; it cares about imposing its own new regulations. I will never argue against regulation—we all live in a regulated world in one way or another—but it is extremely important to consider the impacts and the consequences of regulatory change. Once regulation is put in place, people are inevitably going to start blaming each other that economic growth has been pulled back by a slower flow of financing coming out of the banks or that the brakes have been slammed on various economies.

The two countries that were among the hardest hit by the financial crisis, the United States and the United Kingdom, have both seen great changes in the structure of their financial systems: the former

with the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 and the latter with the restructuring of the Financial Services Authority (FSA). My thoughts on the Dodd-Frank Act is that it has been put into place for political reasons rather than for good, sound prudential reasons and therefore it inevitably contains much that is not very useful, or indeed relevant. Will it result in a fundamentally stronger U.S. banking system? I would say not.

The United States still has a multi-layered regulatory framework and it is unclear who is actually accountable to what. One of the big problems the country has to address is a definition of who should be accountable for liquidity in the system. Liquidity caused the problems in the United Kingdom—was the FSA or the Bank of England (BOE) responsible for liquidity in the system? When a liquidity crisis occurred in the United Kingdom, banks like Northern Rock fell through the cracks. The more regulators you have, and the more opaque the delineation is between who is doing what to whom, the more unclear the situation becomes. That's the danger.

I always quite liked the old BOE model of financial supervision that existed in the United Kingdom until 1998, when its powers were transferred to the FSA. The model was very principles-based, and the central bank controlled regulation, monetary policy, and market conditions. The BOE always had a handle on what the market was doing and where the issues were, and things like liquidity were rarely a major issue. When there was a problem, it was handled discreetly with a number of banks being pulled in to create a lifeboat to help sort the problem out. The solution that banks came up with didn't touch consumer concerns, but it did protect the system.

Regarding the challenges of supervision, some arguments have been made that regulators will always be one step behind the people they are supervising. This is because, although there are many exceptional regulators, relatively low pay scales mean the profession will struggle to attract as much talent as it needs to do the job as thoroughly as needed. We do, however, have examples of where supervision can work: in Hong Kong and Singapore people are paid well to be good supervisors. A much more fundamental issue is where the bank regulators and supervisors are housed. I feel that banking regulation still belongs within the central bank. Central banks around the world will always attract smart, good quality people because this is one of the most prestigious areas in government service. If the bank supervision department is within the central bank, there can also be a deeper process of career

progression, and talented individuals moving through the central bank can spend part of their career within the supervisory unit.

This is what used to happen and I think it is still a good way. Problems arise when people stay too long in these departments and thus it can be argued that it makes good sense to have a separate supervision unit. But paying people well and creating a career path within a prestigious organization is still a better way of attracting talent and ensuring that there are good people coming into the profession than any other way.

I do understand where the idea of a super-regulator such as the FSA came from, but the danger of using that approach is that once you remove the super-regulator from the market, it can quite easily become an ivory tower that loses touch with reality because it's detached from day-to-day information about what is going on in the markets. We're quite fortunate in Australia that the working relationship between the regulator and the central bank is a very good one, and the two parties are in constant contact. In the United Kingdom, the corresponding relationship had clearly fallen apart. Currently there are markets that have a central bank that controls regulation, monetary policy, and market conditions effectively, such as Singapore and Hong Kong.

There are several regulatory models that can be considered for various countries, and the Twin Peaks model of having one regulatory agency that focuses on prudential supervision and another that looks at business conduct and consumer protection works pretty well in Australia. The success of Twin Peaks in Australia is more a result of the very good relationship between the Australian Prudential Regulation Authority (APRA) and the Reserve Bank of Australia, Australia's central bank, which has among its many duties supervision of business conduct. I still believe that bank regulation should come under some sort of control of a central bank that has as part of its charter protection of the financial system. But if the central bank and the prudential regulator can work together well, as they do in Australia, then quite clearly this is a workable model.

GOOD SOLUTIONS IN THE PAST

There has been quite a lot of talk around too big to fail (TBTF) institutions and the problem of systemically important financial institutions. I think that size of an institution is not really the relevant issue; more relevant is the importance of the institution to the

underlying economy. There might be a bank in a small country that by global standards is actually quite small but is in any case important to that country's financial system; that is, it's the relativity to the system that is important. I would say that bank is too important to fail rather than too big to fail.

That is the issue that Lehman Brothers brought to the fore, because in the case of its failure it became clear that counterparty risk had been underestimated. It's an important issue. Ironically, though, the whole system was nearly taken down not by a bank but by an insurance company: AIG. The counterparty risk that it had to the banking system was just so extraordinary that, had it gone down, it could have taken everybody else down with it.

To an extent, politicians who are fixated on the TBTF issue have missed the point a little. The issues of stability, transparent governance, and certainty are the things that everybody looks for. The problem I have with some of the proposals being made around these issues concerns certainty: there is nothing worse than imposing something, changing it, then changing it again, and then changing it into something else so many times that nobody knows where they are. This gives rise to the feeling that the system lacks credibility. Anything that is introduced has to be very well considered and thought through and then imposed with speed and conviction—only then will people know where they stand. If there is an increase in capital requirements, then so be it, but everybody must know about the new requirements. That's very important.

The other observation I'd like to make is that banks are notoriously bad at learning their lessons. This was put quite well by John Stumpf, the CEO at Wells Fargo, who, according to Warren Buffett, said, "It's puzzling why bankers have come up with these new ways to lose money when the old ways were working just fine."[5] There is a good point to this: that we, as an industry, don't learn the lessons of each cycle. One of the reasons is that banking is an incredibly competitive business, the extent of which is very often misunderstood by people outside the industry. People always complain that there isn't enough competition in banking but the truth is that in many places there is too much, and that drives irrationally competitive behavior that results in a slipping of credit and documentation standards.

When it comes to competition, I feel that the number of banks doesn't actually matter; the issue is that there is only so much business to go around the number of players. You could argue that the more

players you have, the more competitive they will be, but I would say that as long as you have two players you're going to have competitive pressure. We just have to be realistic about the fact that one of the things that will occur in a competitive environment is that pricing will become very competitive. Customers will shop around for the best pricing and if one bank is prepared to provide a loan at a lower rate than another it will get the business. You could say that is great news for the consumer, which is important, but what I am saying is that you have to stick to your standards and say, "well, this is the pricing we are prepared to do this type of risk at, and if it goes for less, we will let somebody else do it."

Again, people need to know what they're dealing with and so certainty and consistency are important—but they are also the boring bits. In the face of this competition, bankers need to be brave; to stand up to the market at times when it is starting to become a bit irrational and tell the market, "I don't care, this is the way we operate." You may have activist shareholders saying you are too conservative—to them you simply have to say, "well, buy some other stock then." Banking, frankly, should be boring. It's when it gets exciting that it is actually very dangerous.

The thing that always amazes me is that more shareholders don't ask about the quality of your management—that is something I would ask about. What are the backgrounds of key managers? What experience do they have? Leading on from that is the question of whether the culture of the organization is long-term, sustainable, and healthy. Citibank, for example, has had a really tough time in terms of its culture. When I think back 20 years ago, Citibank had such a great reputation—anyone was proud to work there and its alumni were a who's who of the financial world.

In the old days when banking was boring, loans were very often made strictly on the basis of knowing the bank manager personally and credit wasn't easily available to everyone. We're not talking about going back to those days—we've come a long way in terms of access to products, and the availability of information from credit agencies is better than it has ever been. But the business of banking has gone so far and has been extended beyond what is reasonable; rigidity over credit standards has been swapped for the folly of approving a loan that has a mortgage at a loan-to-value ratio (LVR) of more than 100 percent. You have to question the wisdom of what, to me, is simply irresponsible lending. The borrower may be creditworthy but the level of financing offered to that borrower is inappropriate.

Different banks choose their own business lines to pursue and we have chosen ours at ANZ. There are banks around of varying sizes and credit unions that offer a variety of products, and some of them offer high LVR and low documentation lending. ANZ doesn't, simply because I feel that it is a much more traditional bank that is really based on the middle market. Our client base doesn't really need that sort of product, and I'm not interested in providing it.

It's important for everyone to understand that banking is a long-term, not a short-term, game. Many banks have been driven by investors who were chiefly concerned about earnings per share growth on a quarter-to-quarter basis. All that does is drive an institution up the risk curve. Banking is about actually achieving long-term value for shareholders. It's about determining what an institution is going to look like in 5, 10, 15 years and even further along. If you can keep that in mind and if you've got a management team and a board that understand and accept this strategy, then you're in a pretty good space because you've aligned your stakeholders for long-term growth. I don't really like hedge funds on the share register because their idea of long-term is next Thursday.

The job of a bank is to manage risk, and if its risk systems are better than anyone else's it should do better. But there is also a limit to which any institution will accept certain types of risk, and it is very important that those limits are understood and adhered to, so the board has to be very clear about which risks are acceptable and which are not. You could say that as a result of its risk appetite one bank may be more conservative than another—that's the way to look at it rather than to say that one bank is better run than another. I would say that a well-run bank is one that runs well within its risk appetite and a poorly run bank is one that exceeds or constantly changes its risk appetite or compromises on its standards by saying, "oh well, this has blown out so we will just increase the limits."

The acceptance of blown-out risk appetites and the loss of control of regular banking practices is what happened to the banks that ran into the most problems. On a mark-to-market basis, a lot of these banks with major derivatives books breached all of their limits. The problem was that they had no way of rectifying this because there was no market to transact any sort of hedge. Again, that's the importance of a risk appetite: you have to stress it, ask what happens in a crisis situation, and ask what the liquidity of these sorts of instruments is. Where everybody came unstuck was on the securitization piece, because suddenly there was no market.

PART OF A SYSTEM

There are many components in the global financial system but not so many that they can't be properly monitored and supervised. When a financial crisis comes along, whether it is foreseen or not, there are several stages of reaction: the initial political reaction and the longer-term regulatory and supervisory reactions. There is also the market equation to understand in all of this.

But the financial services industry should also make certain that it maintains several key fundamentals that shouldn't be affected by all of this. Chief among them is the existence of a set of rules, standards, and ethics that safeguards a bank's understanding of the business that it is in. A strong business culture and a sense of limits that cannot be exceeded are also important. The rest is all common sense.

Serious mistakes have been made over the past five years and even earlier as we bridged crises with periods of non-crisis. Some of the mistakes have been made by bankers, some by regulators, and others by political leaders that move in and out of their spheres of influence. Underlying everything, of course, is the need for individuals and businesses to have a financial services industry that can safeguard capital and provide finance where it is needed in order for economies to grow in a stable and orderly manner. This need will never go away; the rest is all about the ability of banks to meet this need in an efficient and orderly manner.

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Chapter 7

Introduction

THE PRIVATE EQUITY WORKOUT

The role of private equity has had a long and colorful history, especially in financial services in Asia. Trailblazing North American firms such as Newbridge, Ripplewood Holdings, Carlyle Group, and Lone Star Funds built consortia to invest in banks in Japan, Korea, China, and Thailand, often earning their investors billions by the time they had completed their missions. Typically, investors moved in on failed banks that local investors were unwilling to take over or were *unable* to take over—either because they lacked the capital or because they were in almost as much trouble as their failed peers—and installed new, professional teams that rolled up their sleeves, stripped out the rot, and instilled new lifeblood in stalled institutions.

To make large, risky deals like this attractive to an outside investor, very often private equity teams also needed to work out a partnership with local governments that would guarantee certain levels of support in resolving the failed bank's bad loans and toxic assets. This situation often caused resentment among the local population, with accusations of string-pulling, pay-offs, and other dirty tricks flung at the private equity funds by incensed pundits who saw rich foreign investment funds getting a free ride on national assets and taking billions in profit with them out of the country to ultimately benefit a squad of wealthy non-locals.

But from the point of view of the governments that approved the takeovers, failed banks that could have been a burden on the system had they been allowed to fail were kept going by the professional managers brought in by private equity owners, who turned most of the banks into well-run, profitable institutions that introduced innovations to the marketplace and allowed healthy competition in financial services to continue. Examples in Japan are Shinsei Bank and Tokyo Star Bank; in South Korea banks turned around by private equity firms are Koram Bank (now Citibank Korea), Korea First Bank (now Standard Chartered First Bank), and Korea Exchange Bank; and in China

Shenzhen Development Bank and Guangdong Development Bank have been run by private equity investors for a number of years.

One of the key names in private equity in Asia is Shan Weijian, the former managing partner of TPG Capital (formerly known in Asia as Newbridge Capital when it was the Asian division of Texas Pacific Group). Shan, who has now joined Asia-focused private equity firm Pacific Alliance Group as chairman and CEO after 12 years with Newbridge/TPG, has had a long and colorful history in private equity and financial services. Starting off at the tail end of China's Cultural Revolution, Shan was sent as a young academic to the Gobi Desert to be a "barefoot doctor" and help build rural communities, after which he returned to the Beijing Institute of Foreign Trade where he majored in English. Graduating in 1979, Shan's path eventually took him to California, where he did an MBA at the University of San Francisco and then a Masters in economics and a PhD at the University of California at Berkeley, and then to a teaching appointment at the Wharton School of the University of Pennsylvania for six years. Eventually joining JPMorgan Chase, Shan rose to become the bank's head of the China business before joining Newbridge in 1998.

Shan has twice made private equity history, leading the first foreign acquisition of an ownership stake in a Korean bank with the Korea First Bank deal of 1999 and then heading the first foreign acquisition of a stake in a Chinese bank with the Shenzhen Development Bank deal of 2004. Through his position at Newbridge/TPG, Shan has served on the boards of several financial institutions, including Bank of China (Hong Kong), Shenzhen Development Bank, and Taishin Financial Holdings of Taiwan.

Private equity is one of many tools to jolt a system that has grown complacent and lazy, and ultimately poisoned and useless. A *Businessweek* article at the time of the Newbridge deal noted that the arrival of Newbridge demonstrated a chink in the armor of the once-mighty Korea Inc., arguing that "by allowing a major bank to fall into foreign hands, the government intends to underscore that the old crony business culture is on the way out. Presidents and bureaucrats have long used banks to shovel funds to favored industries, undermining the health of the financial system."[1]

Firms like Newbridge led a serious jolt in Korea that had been brought on by the Asian Financial Crisis, because when the International Monetary Fund (IMF) bailed Korea out it forced the country to promise to open up its financial services industry. Newbridge went

in and fixed one bank, and it was quickly followed by two more private equity firms, Carlyle Group and Lone Star Funds, which fixed other banks.

HOW TO AVOID LETTING BANKS FAIL

History shows that governments allow financial institutions to fail only very reluctantly. The Lehman Brothers bankruptcy, the biggest in history, was an exception to this unwritten rule, and it was ultimately a test of the bankruptcy resolution process, an "experiment," according to Neel Kashkari, interim U.S. assistant secretary of the Treasury for Financial Stability and the administrator of the U.S. Troubled Asset Relief Program (TARP), which left the administrators terrified of what would happen. "It was worse than we had feared," said Kashkari of the outcome.[2]

Governments are terrified of allowing banks to fail for two reasons: first, they hold deposits of individuals and companies, and second, they efficiently allocate funds for the development of industry and the betterment of the economy for the benefit of all who take part in it. When banks are allowed to fail, the depositors need to be looked after and a hole needs to be plugged in terms of providing capital to industry. And while banks are supposed to be full commercial entities that take their chances in a capitalist world that only rewards those who are efficient enough to succeed, banks have always been special due to the key role they play in an economy and the many interconnected strands they hold with so many industries, companies, and individuals. Put simply, a grocery store may close one day and shoppers will be forced to go to the one around the corner, but individuals with deposits and 20-year mortgages with a bank that closes will not be able to go to the bank around the corner.

The size of banks is also a specific issue. In the United States the Federal Deposit Insurance Corporation (FDIC) has been set up to resolve small institutions that are failing. Accordingly, the 140 small- to medium-sized U.S. banks that failed in 2009 and the 160 that failed in 2010 typically closed on Friday and re-opened on the following Monday under another institutions' wing, with the FDIC having provided a certain amount of support for the white knight that came in to save the day, an arrangement not dissimilar to the private equity process that institutions like Shan's have undertaken on a larger scale and in a cross-border arrangement. But while the FDIC has proven

adept at saving small institutions—the 300 that failed in 2009 and 2010, the two years immediately following the financial crisis, had combined assets of US$270 billion, which is roughly the size of U.S. Bancorp, the eleventh largest institution in the United States[3]—it is not big enough to save a very large bank. Similarly, because the United States is the largest economy in the world, there is no private equity firm that could have stepped in to save Citigroup or AIG. But in smaller economies in the world, private equity can build consortia and pool capital to rebuild systemically important institutions. This has happened in Korea, Japan, and Thailand.

The private equity story has not always been a happy one. Christopher Flowers and Ripplewood Holdings, who invested in Japan's failed Long Term Credit Bank in 2001 with government guarantees and turned it into Shinsei Bank, had by the bank's 2005 initial public offering turned their investment into the most profitable private equity deal ever; however, by 2008 the wheel of fortune had turned, and through bad investments in Europe and a portfolio of collateralized debt obligations it is believed that Shinsei lost as much money for investors as it ever made. Flowers had further misfortune with an investment in Germany's Hypo Verein Real Estate, and TPG Capital lost nearly $1.3 billion in Washington Mutual when it was taken over by the U.S. government and turned over to J.P. Morgan in 2008.

But whether private equity banks succeed or fail, they do represent a private solution to the problem of failing banks, and they take the same chances in a capitalist system that other businesses do, putting everybody roughly on the same playing field (minus whatever government guarantees were part of the deal). Governments go into banks that fail, but once they are in they may not know what to do with them—bureaucrats and civil servants know their own fields of activities but are rarely experienced bankers. And having an efficient solution to revitalizing troubled banks can make a huge difference in an economy undergoing challenges on multiple fronts.

Banks at Risk: Global Best Practices in an Age of Turbulence
By Peter Hoflich

Chapter 7

The Trouble With Troubled Banks

Shan Weijian
Chairman and CEO, Pacific Alliance Group

By now it has been well established that Asian banks have come out of the global financial crisis of 2008–2009 better than the sophisticated banks of the more developed markets of Europe and the United States. The main reason for this can be attributed to the fact that Asian banks have generally stuck to simpler, less risky business models that have built on the strong national gross domestic product (GDP) growth of their home markets. This strength in a time of weakness needn't have been the case, because these banks are just as prone to suffering from the adverse effects of risky business models as banks all over the world are, but in this instance they were also well prepared for the crisis by lessons learned from the Asian Financial Crisis of 1997–1998. At that time, the financial systems of a number of countries in Asia basically collapsed and many banks failed, which led to restructuring and recapitalization of banks on a massive scale, all the way from South Korea to Indonesia. It is fair to say that Asian banks learned costly lessons and were much better prepared when the global crisis of 2008–2009 arrived.

These lessons were even learned by China, which didn't feel the impact of the Asian Financial Crisis nearly as much as the rest of Asia did, largely because the country was insulated by capital controls from the financial turmoil in its neighboring countries. Nonetheless, China saw the devastating effects of the financial storm and in the ensuing years it embarked upon a banking reform as or more fundamental than that of any other Asian country.

Prior to China's banking reform, which began in earnest in 2003, Chinese state-owned banks were laden with non-performing loans, which on the high end represented more than 40 percent of the loan book for some of the largest banks, as a result of lending based

on government policies and *guanxi*—private relationships—without much regard to the creditworthiness of the borrowers. In subsequent years, all of China's major banks went through a massive restructuring process. They carved out hundreds of billions of dollars of bad loans, they were massively recapitalized by the central bank, and they shut down inefficient branches and laid off redundant staff. They transformed themselves into true commercial banks as opposed to policy lenders. They brought in foreign investors, built risk control systems, and adopted governance and reporting structures in line with public market requirements before going public in domestic and overseas stock exchanges.

They became almost like completely reborn institutions. And as they were being changed into commercial entities, these colossal Chinese banks had to learn to manage their risk much better by creating a credit culture, as banks all across Asia had to do in the wake of the 1997–1998 crisis. Today, Chinese banks are among the healthiest banks in the world. Without the banking reform of a few years ago, China could not have relied on its banking system to provide massive credit and liquidity to the economy as part of its stimulus program in the face of the global economic crisis of 2008–2009, and the Chinese economy would not have been able to weather the global financial storm as well as it did.

Prior to 1997, what was conspicuously missing in Asian banks was a credit culture, or the practice of lending based on the creditworthiness of customers. While such lack of a credit culture was not surprising for an economy such as China's, which continues to evolve from being a state-controlled to a market economy, banks in countries such as Korea, and Japan and those in Southeast Asia similarly did their lending largely based on government policies and private relationships. Such policies devastated the banks as customers failed to repay their loans during the crisis.

The Asian Financial Crisis taught banks all across the region that it is important to build a strong credit culture, manage risks, and have adequate capital at all times. In addition, as a result of this and past banking crises, banking regulation was further strengthened. For example, Korea established a new Financial Supervisory Commission to regulate banks and other financial institutions, and China set up a new China Banking Regulatory Commission independent from the central bank (as well as a separate securities regulator and an insurance regulator). Regulators became much more vigilant and strict.

As a result of the new regulatory culture, banks either voluntarily or under the orders of regulators increased their capital ratios so that there was a large buffer against potential bad loans, and they also adopted numerous measures against risks. The combination of enhanced risk management—which is possible only when you have credit culture within the banking system—more capital in the banks throughout Asia in general, and stronger regulations made Asian banks much more resilient to global economic downturns.

Ironically, Asian banks, by and large, were not as sophisticated as their Western counterparts to think they could understand complex structured products such as derivatives, collateralized debt obligations, and so forth. Neither did they have the excess liquidity to invest in those exotic products for their yield. In general, they offered simple products such as corporate loans, mortgages, and credit cards. Therefore, they were not nearly as highly leveraged as their Western counterparts, and they had limited exposure to the structured products that were chiefly responsible for blowing up Western banks.

Being fancy or having complicated products that management doesn't understand or know how to manage the risks of leads to disaster when the market takes an unexpected turn for the worse. This has been proven to be the case time and again when high fliers under normal market conditions crash and burn in financial storms. It seems there is strong merit in keeping things simple and sticking to one's knitting; in other words, staying close to the shore even if you think you are an expert swimmer, as those who drown typically consider themselves good swimmers.

This is true not only in banking but in general—apart from, probably, technology industries, which by definition constantly move into new territories. I recall a conversation I had with an executive of an American automobile manufacturer that highlights the risk of innovation and how it may point the way to either competitive advantage or total disaster. I asked him why his company didn't get into the kind of problems that Toyota had with malfunctioning brakes and accelerators. He said, "our brakes just aren't that advanced and sophisticated."

Loans are simple products, and managing their risk can be relatively simple. But certain ambitious banks got into complicated products such as derivatives, and sometimes even the management didn't understand the nature of the product and the risks involved. A classic case of information asymmetry occurred when some banks

didn't fully understand the transactions between themselves and their counterparties. In a perverse way, basic banking was sidelined and structured transactions seemed to become mainstream. As these innovative products multiplied to permeate the Western banking system to the tune of trillions of U.S. dollars financed by a similar amount of leverage, nobody could possibly understand, let alone manage, their risks. Institutions such as Citibank, AIG, Lehman Brothers, and Bear Stearns became exponentially more difficult to manage because of such risks.

Asian banks fared better this time around, but not because they know how to manage risk better—they don't. They are lucky as they can be quite profitable by doing basic lending to businesses operating in growing economies, whereas many Western banks are forced to seek additional yield through complexity because they sit in slower-growing markets; a complexity that eventually killed them or knocked them unconscious. Western banks need to go back to the basics.

BANKS LED ASTRAY

During the 1997–1998 Asian Financial Crisis, Newbridge Capital, of which I was a partner, acquired control of Korea First Bank, which failed during the crisis and was nationalized by the Korean government. We turned that bank around and made it into one of the most profitable and healthiest banks in Korea. In 2004, Newbridge Capital also acquired the control of a Chinese bank with a national distribution network called Shenzhen Development Bank (SDB). It was a weak bank at the time of our acquisition, with probably the lowest capital ratio in the country—far below regulatory requirements—and the highest bad loan ratio in the country. In five years, however, we transformed SDB into one of the most profitable banks with the lowest non-performing loan ratio in the country after tripling its total assets.

These banks got into trouble in the first place because of the lack of a credit culture and risk controls. They lent without properly assessing the ability of borrowers to pay back the loans with the cash flows generated from their businesses. The banks didn't price their loan products to cover the potential losses from different kinds of risks. They concentrated their lending to some large customers favored by the

government or policymakers. Or worse, the lack of internal control led to lending to customers who had conspired with corrupt bank officers to disguise their true financial conditions. Banks too were engaged in businesses that they didn't quite understand or know how to manage.

Many of the Korean banks were brought down by *investment trust* businesses that offered customers investment products such as mutual funds or bond products. To attract customers, many banks guaranteed the yield of these trust products for their customers. Customers welcomed such investment products as they were perceived as having no downside but much upside. With rather lax regulation prior to the financial crisis, the liabilities arising from the guarantees were kept off balance sheet; that is, not counted as the potential liabilities of the banks and therefore no capital was set aside against these liabilities. Why? Because banks never thought these products would generate a loss and they didn't believe they would ever have to make good on their guarantees. When the financial crisis hit, these investment trust products suffered heavy losses, which naturally had to be borne by the guaranteeing banks.

Similarly, many insurance companies in Asia and elsewhere suffered from the *negative spread* problem for many years: they offered insurance products that guaranteed a certain rate of return to customers, but the companies could only generate a rate of return on their own investments far below the guaranteed level when market conditions changed. Such negative spread drove some insurance companies into insolvency.

Banks can get into trouble even without providing guarantees for third-party products they sell to customers when the selling bank doesn't understand the products they sell or whether the risks associated with these products are suitable for their customers. For example, many Asian banks suffered heavy losses for having sold complex structured *mini-bonds* linked to Lehman Brothers when the bankruptcy of Lehman Brothers rendered these worthless. In theory, the risks for these bonds were supposed to be borne by the investors who bought these bonds, not by the banks that sold them simply as selling agents. But regulators found that some of the banks didn't understand these mini-bonds; although they had marked them as high risk internally, they had nonetheless sold them to customers who expressly wanted to make low risk investments. As a result, the banks that sold them were ordered to pay for a large part of the losses suffered by the retail customers.

RESTRUCTURING BANKS: MANAGEMENT

In our experience, management holds the key to the success or failure of a company or a bank. A good management team can turn around a bad company; a bad management team can run a good company into the ground. We've seen this situation occur repeatedly. To restructure a failed bank, the first thing shareholders need to do is to replace the management team with the best and most experienced talent. Before Newbridge Capital took over Korea First Bank, the government fired the bank's two preceding presidents and put them in jail. We installed a new management team, and the board held it accountable for the performance of the bank. We aligned the interests of management with those of shareholders by providing management with incentive compensation, including stock options. Fixing management is the first thing one needs to do to fix a troubled bank.

It seems in many places in the world, there is a great deal of reluctance to hold management responsible and accountable for the performance of the company it manages, even though that management is highly compensated. In many cases, the compensation system incentivizes management to take excessive risks. A good system should reward good performance but should also penalize poor performance. A system of rewards without proportional punishment amplifies the risks of financial institutions and makes matters worse in a crisis. The rebuilding of a failed or troubled institution cannot meaningfully begin until and unless the management is replaced by a more competent one, which must be held accountable.

The advantage of a market economy compared with a state-controlled system is not so much that privately owned companies are always better run than state-owned ones. Privately run companies fail all the time, just as many state-run firms are inefficient. The key difference is that in a market economy, the penalty for a poorly run company is severe: bad companies go bankrupt and cease to exist. Existing or surviving companies by and large have a good reason to exist—they are better performers. A functioning market system makes sure that those companies that have survived are the better ones, whereas in a state-controlled economic system, inefficient and poorly performing companies may continue to exist.

The market has a way of fixing inefficiencies by eventually forcing poor performers out of the game. It is a rather ruthless system and bankruptcies can cause a lot of pain for shareholders and employees.

Just think about all the shareholders and employees of companies and financial institutions such as Enron, Bear Stearns, and Lehman Brothers that were wiped out. But the market also gives shareholders and the board of a poorly performing company plenty of chances to fix things. More often than not, the only way to make things right is to replace management. In the private equity business, we have seen too often that a competent management team can turn around a bad company and create substantial value.

The search for the right management is never a perfect process and in some ways can appear to be trial and error. It's not that some turnaround specialists like ourselves are better able to identify talent—mainly we are, because we're relentless in looking for the best-qualified people but we also make mistakes from time to time, and we have actually hired the wrong CEOs as often as we have hired the rights ones the first time around for the companies we have acquired. But the strength of how we operate is that if we find that there's a mistake, then we correct that mistake immediately. If someone is not suitable for the job, that person is replaced before irreparable damage is done to the company. You may have to try this a couple of times to get it right, but one must be decisive and act quickly. That is why some buyout firms are known as turnaround specialists. The secrets of their success are to be relentless and decisive in finding the right management and to compensate management with the right incentives.

The problem with many large so-called public companies is that shareholding has become so dispersed that there's almost an absence of true shareholders. Management selects board members who are friends and the management is basically in control of everything. If such management has run the ship into the ground there is very little accountability. Who is to replace it?

For some large institutions, until there is a crisis, the situation is similar to the proverbial frog in the cauldron, who sits pretty while the water is being heated and doesn't notice that it has come to a boil until it is too late. This happened with General Motors and Citigroup. A large company may have historically built a large balance sheet and capital base to allow it to take losses for many years. The management may have become so complacent it doesn't notice the rising temperature. General Motors lost market share year after year for many decades: everybody in the company and in the industry noticed it, but until there was a crisis nobody did anything about the management. A government bailout was required.

For a sound financial institution the most important thing is to get its management right. The management has to be incentivized so that its economic interests are perfectly aligned with shareholders. Until there is an effective governance structure to allow bad management to be replaced whenever necessary, banks aren't safe.

RESTRUCTURING BANKS: CAPITAL

When Asian banks failed in 1997–1998 under the weight of *toxic assets* and bad loans, the IMF advised Asian governments to force the banks to write off, sell off, or mark-to-market the value of all the bad loans on their balance sheet, and then to find ways to recapitalize and restore health. Because the government typically guarantees the liabilities of a bank consisting mostly of the deposits of citizens, the government or taxpayers would have to pay for the hole in the assets of the bank resulting from its losses and recapitalize the bank. After cleaning up a failed bank, the government could sometimes also bring in private investors to recapitalize it. But the problem of returning these banks to health isn't fundamentally solved until the banks have been cleaned up in the sense that the balance sheet correctly reflects the true market value of the assets and liabilities and the bank is fully recapitalized. By and large, this long process of bringing banks back to health with the assistance of government agencies is what happened in Asia in 1997–1998.

During the global financial crisis of 2008–2009, there seemed to have been a great reluctance on the part of Western governments to take the medicine they had prescribed for Asia about a decade before, particularly when it came to marking to market the value of assets and liabilities and a thorough cleansing of the balance sheet. How many toxic assets or bad mortgages remain on the balance sheet of Western banks even today? Have they been all properly marked to market? Have they all been resolved? Where have they gone? Are banks fully capitalized to take into account potential further losses from legacy assets?

To properly recapitalize banks, the market has to be allowed to function. Private capital has to be brought in as the need to bring banks back to full efficiency is just too great. But there is still a very important role for government when financial institutions fail and create systemic risk for the economy; there is no better candidate than the government to solve the type of crisis involving billions, and

sometimes trillions, of dollars at a time when markets are seized up. But eventually a healthy banking system requires market mechanisms to work and also the private ownership of banks.

CONCLUSION

A decade ago, during the Asian Financial Crisis, Asian banks turned to their Western counterparts to learn how to better run a bank. The lessons turned out to be very valuable. They restructured, improved management, adopted risk management systems, and recapitalized themselves. By and large, they have become much healthier and more risk resistant than they were before. They emerged from the 2008–2009 global financial crisis largely unscathed. In contrast, their Western counterparts, particularly American banks, got into serious trouble. Did Western banks not practice what they preached? There is no doubt few could have foreseen the severe economic downturn triggered by the collapse of the housing market. But the bad loan problems caused by the housing slump were greatly exacerbated by so many subprime housing loans underwritten by these same banks. In a way, the housing bubble was caused by banks themselves and so the banks had to eat the bitter fruits of the trees they had planted. As if subprime lending itself weren't complicated enough, the more so-called innovative Western banks discovered a way to chop up, package, re-chop up, and repackage subprime loans many times over into all kinds of structured products that they sold to each other and to other investors. These products were so sophisticated they literally required rocket scientists and mathematicians to put together. In the end, nobody fully understood these products, not even those who put them together, and certainly not those who bought them. Financial institutions used leverage to buy these exotic products, which themselves were highly leveraged. In the end, one spark was sufficient to cause a chain reaction with such power to take down the entire house.

Asian banks were lucky. They learned a good lesson from the Asian Financial Crisis. They were better capitalized and much less leveraged than their Western counterparts going into the global financial crisis. But more important, they never developed the sophistication to either offer or invest in complicated structured products such as their Western counterparts were offering or investing in.

It seems that Asian banks can teach Western ones a lesson or two this time around. The lesson is called going back to basics, and it has

five parts. The first four are borrowed from the lessons taught to Asian banks by Western ones 10 years ago: clean up the balance sheet and get rid of bad loans, replace poor management and hold it accountable, recapitalize the bank with private capital, and have a sound risk management system that constantly stress tests the risk tolerance capability of the institution. But the most important lesson, it seems, would be to do banking as banking was done 20 or 30 years ago, when bankers knew their customers and what they sold to customers. When banking is simple, it is a lot easier to manage risks.

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Part Three
The Risk Managers

Chapter 8

Introduction

THE BIRTH OF RISK: CREATING GLOBAL RISK MITIGATION INFRASTRUCTURE

Banks have a broad range of risks to manage: credit risk, operational risk, market risk, reputation risk, regulatory risk, settlement risk, and many others. While many forms of risk are difficult to manage and control, there are some key risks that can be almost completely mitigated through the use of certain market mechanisms and infrastructures by those participants that see value in making use of them.

One of the key causes of uncertainty in financial services, as in any other business, is entering commercial engagements with counterparties that do not fulfill their sides of the agreement. In the context of financial services, this may be a regular old loan gone bad (the counterparty falling behind on repayments), the bankruptcy of a key client, a default on a bond, or any business as usual gone wrong. Because of the large sums involved, one of the most dangerous types of risk is cross-currency settlement risk, which involves the non-delivery in the event of a bankruptcy of a security (or its value in cash per agreement) by one counterparty, despite the delivery of the agreed-upon property by the other counterparty. This risk is also known as Herstatt risk after Herstatt Bank, which on the day it went bankrupt, June 26, 1974, had received Deutsche Marks as foreign exchange transactions from counterparty banks but, because of time differences between the operating domains of the two counterparties, had declared bankruptcy before it could perform its side of the exchange: this left the counterparties stranded and they had to cover the cost of the lost funds themselves.

Following the Herstatt Bank incident, the Bank for International Settlements (BIS) created the Basel Committee on Banking Supervision to find solutions to problems such as these at banks, although since its establishment its role has evolved significantly and it now "formulates broad supervisory standards and guidelines and recommends statements of best practice in the expectation that individual authorities will take steps to implement them."[1]

Herstatt risk can be mitigated by several practices, including delivery versus payment, settlement via a clearing house, and foreign exchange settlement using continuous linked settlement (CLS). Delivery versus payment is a process managed by depositary systems that have access to central bank accounts, while clearing houses of various types exist in different countries for banks to exchange checks or drafts. The third solution, CLS, has been given a serious institutionalized approach by regulators keen to see an infrastructure available to banks seeking to control risk on growing values of currency trading; an infrastructure that could instill confidence in the financial system during times of great fear of counterparty risk, as was eventually experienced by the collapse of Lehman Brothers in 2008.

GLOBAL AGREEMENT

As a result of the move to develop CLS to handle the risk that can't be mitigated by the other two means, large banks agreed to become shareholders in the CLS Group, which was founded in 1997 to create a mechanism for global foreign exchange (FX) settlements that would eliminate settlement risk and introduce new efficiencies into FX trading. As such, CLS Group also became the first market infrastructure set up specifically to eliminate a certain type of risk from financial services activities. The service went live in 2002, and as of late 2010 it has been shown by the Committee on Payment and Settlement Systems of the central banks of the G-10 countries to be settling 55 percent of FX obligations from the surveyed institutions. It has 17 currencies within its system (the Australian dollar, the Canadian dollar, the Danish krone, the euro, the Hong Kong dollar, the Israeli shekel, the Japanese yen, the Korean won, the Mexican peso, the New Zealand dollar, the Norwegian krone, the Singapore dollar, the South African rand, the Swedish krona, the Swiss franc, the U.K. pound, and the U.S. dollar) but is working on a mechanism to include more; for example, the Thai baht and the Russian ruble. The system has proven a popular piece of market infrastructure, especially during periods of market volatility, and in May 2010 it settled an average of more than one million instructions a day with an average daily value of US$4.2 trillion. In June it settled a new record of nearly 1.76 million sides in a single day, which was beyond the volume witnessed during the week of the Lehman Brothers collapse.

Rob Close was the CEO of CLS Group from January 2006 until mid-2010, when Alan Bozian took over the role. Close has a long career in financial services, working for 29 years with Barclays Global Payment as assistant treasurer, deputy head of the personal sector, deputy head of electronic banking, head of money transmission, and managing director. He was then the group payments strategy director at Barclays Bank, where he had responsibilities for the Group Euro Programme, electronic trust infrastructure, securities settlement, and payment industry management. He has also sat as a director for industry infrastructure bodies such as SWIFT, Identrus, Bankers' Automated Clearing Services (BACS), and Clearing House Automated Payment System (CHAPS). His involvement with CLS goes back to the beginning of the initiative—he was initially responsible for establishing the business requirements specification for CLS' bank service. In 2000 he joined the group formally as its Chief Operating Officer (COO). When founding CEO Joseph De Feo retired in 2006, the group turned to Close, an internal candidate who was already Deputy CEO and CEO of CLS Services, to take over the role rather than sourcing an external candidate, as it ultimately did with Close's successor, a former FX trader who came from roles in the IT industry as well as private banks such as Safra and UBS.

Although mechanisms such as CLS have been successful in helping financial institutions mitigate risk, they will still need to find their post-crisis role: regulation is changing the way that these infrastructures interact with each other and indeed how banks are allowed to operate. The greatest changes will be in how central clearing parties work with over-the-counter financial instruments, of which FX is just one example.

The regulatory reforms that are being put in place are due to remove risky practices from the system but their full implications are difficult to understand at the outset. FX trading, whether done with CLS or without it, has grown to $4 trillion a day on average according to the BIS. And although the growth of trading has slowed from 72 percent in 2007 to only 20 percent in 2010, the growth is still remarkable. There are also new participants in the system compared to several years ago, including algorithmic traders and other types of investment funds such as hedge funds, pension funds, mutual funds, and insurance companies, as well as the banks and central banks.

The CLS concept is complex, but its popularity shows that it is being taken up by industry participants of all stripes, and this trend

promises to continue. With a solid risk-mitigation option available for banks nervous about counterparty and settlement risk, fewer risks need to be taken and fewer losses endured, giving the system support when times are tough. CLS was set up in steadier times and came into its own as a result of a colossal test of the system. The recent crisis may encourage institutions similar to CLS to be founded, or even encourage CLS itself to take on new roles as it seeks to evolve and provide new value for its users and ultimately to return shareholder value. With a strong inspection and evaluation program being launched by national and global regulators, these possibilities are being investigated.

Banks at Risk: Global Best Practices in an Age of Turbulence
By Peter Hoflich

Chapter 8

Global Risk Management in Action

Rob Close
Former President and CEO, CLS Bank International

THE FOREIGN EXCHANGE MARKET

The foreign exchange (FX) market is the most global and, arguably, the most successful of financial markets. It trades trillions of U.S. dollars' worth of currencies around the clock each day and involves a global network of central banks, commercial banks, large and small corporations, and the fund management community. FX is considered by regulators to be the most systemically important market because of its central role in the global economy, the demands it places on local payments systems, and the seemingly unstoppable growth in the sums traded each day. Disruption of the market would instantly affect the global economy because without a price, every participant would struggle to exchange currencies across borders for even the smallest trade flows.

The FX market continued to function, without disruption, throughout the financial market turmoil of 2008 and 2009. Many have attributed this stability to the role played by the global infrastructure provider CLS Bank. At the height of the financial crisis, the so-called Lehman Brothers week beginning September 14, 2008, the CLS Bank settlement infrastructure survived the sternest of tests, delivering orderly settlement of all FX trades for Lehman Brothers, and thus counterparties gained the certainty the service was designed to deliver. Simultaneously, CLS Bank coped with exceptional sustained volumes and values of FX trades, settling US$26.5 trillion and 4.4 million instructions in the week of the Lehman Brothers failure. To emphasize the frenetic nature of the market in which it was operating, CLS Bank set a new volume record for the volume settled in a single day on September 17, 2008: 1.5 million payment

instructions with a value of $8.6 trillion. The existence of established global risk management structures has now had its strongest test, and in this case the CLS system has proven up to the task and able to provide a much-needed risk management function.

SETTLEMENT RISK

Prior to the establishment of the continuous linked settlement (CLS) system, FX settlement risk was a major source of systemic risk to the global banking industry. Settlement risk is the risk that occurs when one party to a trade pays out the sold currency but fails to receive the purchased currency. The combined settlement exposures dwarf that of any other risk category in many institutions. In FX, the largest market by value, transactions can involve settlement exposures amounting to tens of billions of dollars each day to individual counterparties, and in some cases exposure to a single counterparty exceeds that institution's capital.

FX transactions include currencies that, by definition, will settle in two different jurisdictions and potentially in different time zones, and these jurisdiction and time differences create an intraday settlement mismatch. Until the advent of CLS settlement, it was impossible for counterparties to settle both sides of the trade directly and simultaneously due to the different working hours for high value payment systems around the world and the use of intermediaries in the transaction processing chain.

For example, say two banks in Asia want to do a euro-U.S. dollar trade. One would first send the sold euro funds to the other bank via an agent (or *nostro* bank) in Europe. The second bank would send their sold dollars to the buyer's agent (or *nostro* bank) in North America, which would normally credit the purchaser during the U.S. working day to complete the exchange. This intraday settlement mismatch leads to an exposure to settlement risk. Should any bank in this chain fail and thereby default on the deal, one of the parties in the transaction would not receive their purchased currency having paid away their sold currency.

During the 1990s, when the growing values traded daily became a major concern to the regulatory community, regulators identified the systemic impact that a major bank failure could have on the entire financial system. The sheer size and growth in values traded in FX stood out as a particular threat. Regulators challenged the major

banks to develop a solution, and then pressed for the agreed solution to be implemented.

This was not a theoretical risk, as was later demonstrated during the week of the Lehman Brothers bankruptcy when a German bank sent €350 million to Lehman Brothers just hours before it declared itself insolvent. Lehman Brothers did not settle its side of this currency swap with the US$500 million equivalent, leaving the German bank in the queue as a creditor and with a potentially huge loss. This would not have happened if that bank had used CLS settlement. CLS settles both instructions on a linked basis—one settlement does not take place without the second settlement.

Throughout the volatility of the financial crisis, CLS worked exactly as designed, taking huge settlement risk values out of the market. The financial crisis has prompted a distinct shift in attitude, pushing settlement and operational risk management to the top of bank regulators' and legislators' agendas and driving a surge in participation in the CLS settlement service. CLS estimates that in terms of the market for which it provides settlement risk elimination services, its market share is 68 percent as at April 2010. Market participants have also made concerted efforts to maximize their own and other counterparties' participation, resulting in a 200 percent increase in third-party participation since the start of the financial crisis.

WHAT IS CLS?

CLS Group is an industry-owned and used company established to deliver the CLS settlement service to the market. It was founded by the world's largest FX banks in response to the previously described central bank concerns about the impact of an FX settlement failure on the international financial system. The result was an unprecedented straight-through process called *continuous linked settlement* (CLS), which facilitates the simultaneous and irrevocable settlement of FX trades.

Live since September 2002, CLS Bank provides payment-versus-payment (PvP) settlement for payment instructions arising from FX transactions in eligible currencies. It operates a daily settlement cycle with settlement taking place during a five-hour window when all the relevant real-time gross settlement (RTGS) systems are open and able to make and receive payments in that currency. This structure allows both currency settlements to take place simultaneously on a

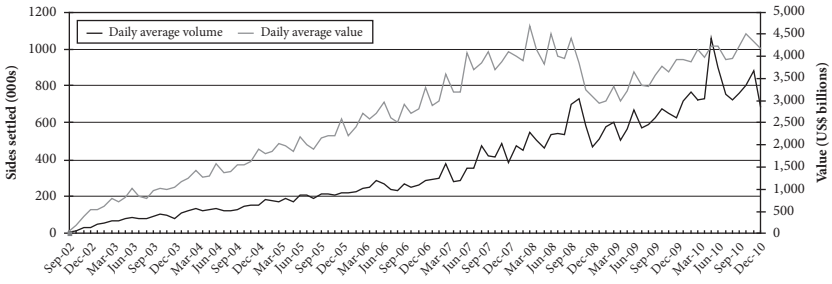

Figure 8.1 Average daily volumes and values
Source: CLS 2010.

real-time basis. On average, in 2010, CLS settled $4.1 trillion a day (see Figure 8.1).

HOW CLS WORKS

Market Participants

FX market participants are diverse and have different motivations for trading: hedging, buying foreign currencies for investment, paying bills, and trading for profit. They include major market-making banks, other banks, large corporations, investment and hedge funds, central banks, and recently also retail FX-market makers.

More than 80 percent of large corporations report they use FX services from their banks. Pension funds, insurance companies, mutual funds, and other institutional investors have increased their trading volumes since the early 2000s as cross-border investment continues to grow and currencies have developed as an asset class in their own right. Central banks also participate in the FX market to align currencies to their economic needs.

The 2010 BIS Survey reported that the interbank market accounts for just under 40 percent of daily traded value, followed by 40 percent for trading between banks and other financial institutions—this includes hedge funds and traditional investment managers. The remaining 17 percent is largely trading between banks and corporations. More than 10,000 funds, banks, and corporations use CLS.

Given the geographic distribution of the markets and the requirement to settle in two countries through local payment systems, automation has been a high priority from the outset. FX transactions are highly standardized and margin compression has continued to

stimulate operational efficiency and straight-through processing (STP). The CLS operational model builds on these standards and adds a disciplined daily cycle for settlement supported by a common service agreement across all customers. To ensure payment-finality the service is also supported by robust legal standards for the payments made in the 17 jurisdictions whose currencies are settled in the service.

CLS settlement currently covers payment instructions related to trades executed in the following instruments: FX spot, forward option exercises, and swaps. CLS also settles cash flows from non-deliverable forwards and certain credit derivatives. Seventeen currencies are currently eligible for settlement in CLS: the U.S. dollar, the Euro, the British pound, the Japanese yen, the Swiss franc, the Canadian dollar, the Australian dollar, the Swedish krona, the Danish krone, the Norwegian krone, the Singapore dollar, the Hong Kong dollar, the New Zealand dollar, the Korean won, the South African rand, the Israeli shekel, and the Mexican peso.

The Settlement Cycle

CLS Bank provides settlement services to participants both directly (for CLS Settlement Members) and indirectly (through settlement banks providing access to third parties). Settlement Members hold a single multi-currency account with CLS Bank. Settlement Members may submit payment instructions relating to their own FX transactions as well as the FX transactions of their third-party customers directly to CLS. CLS Bank also holds RTGS accounts with each of the participating central banks. CLS Bank, Settlement Members, national RTGS systems, and third parties communicate via SWIFTnet.

Following an FX trade, Members submit instructions to CLS on average within 30 minutes of each trade. On arrival at CLS, these instructions are authenticated and matched, and settlement eligible instructions are maintained by the system until settlement date.

On each settlement date, upon determining that the accounts of the submitting Settlement Members satisfy several risk management tests, CLS simultaneously settles each pair of matched instructions by making the corresponding debit and credit entries across the Settlement Members' accounts at CLS Bank. The settlement of the instructions and the associated account movements are final and irrevocable.

This all takes place during a five-hour window when there are overlapping opening times of the eligible currencies' RTGS systems.

Working in real-time enables simultaneous settlement of both sides' payments for an FX trade. At the start and end of the settlement day, each Member has a zero balance on its account. CLS Bank does not hold funds overnight.

Simultaneous settlement of PvP requires overlapping RTGS systems, and this typically means the full business day in Europe, the later part of the day in the Asia Pacific, and the early part of the day in North America.

Daily funding requirements are determined on a multilaterally netted basis, which results in netting efficiencies on average of 98 percent per day. This means that for every $1 trillion of value settled, the CLS community has to fund less than $20 billion in cash. The recent financial crisis reminded commercial banks that market liquidity cannot be taken for granted. CLS' netting efficiency improves as volumes and values grow and on record days exceeds 99 percent, delivering minimized cash demands when they are most needed.

Initial Pay-in Schedule

At the start of the settlement day—00:00 Central European Time (CET)—CLS Bank takes the instructions due for settlement on that day and calculates the overall net position for each currency for each Settlement Member. It then issues an initial pay-in schedule that advises Settlement Members of their settlement position. Between 00:00 CET and 06:30 CET, CLS identifies and calculates any intraday swap opportunities between different Members: in/out (I/O) swaps. These swaps are advised to Members who participate in the I/O swap service and are executed between the banks at their discretion. The purpose of the swaps is to further reduce Members' funding requirements in CLS before the daily settlement cycle commences. Participation in the service has grown steadily over the eight years the service has been live; more than 80 percent of Settlement Members now participate. The service reduces Members' overall liquidity requirements while leaving their overall FX positions unchanged.

What is an I/O swap?

An in/out (I/O) swap comprises two equal and opposite FX transactions that are agreed as an intraday swap. One of the two FX transactions is input to CLS, in order to reduce each

Settlement Member's net position in the two currencies, and the other is settled outside CLS. The combined effect of these two FX transactions is a reduction in the intraday funding requirements of the two Settlement Members, while leaving their overall FX positions unchanged.

Revised Pay-In Schedule

At 06:30 CET, CLS issues a revised pay-in schedule specifying the new net amounts that must be paid, taking into account any same day instructions for I/O swaps or bilateral cancellations for that day; the latter are-rare but allowed at the Members' request. Settlement Members spread their total pay-in amounts over a number of hours to minimize the draw on liquidity in that market. The schedule specifies the minimum amount that must be paid by set times. Each Settlement Member pays in the required currency amounts either directly via an approved payment system, if they are participants, or indirectly by using a *nostro* agent.

Risk Controls

Members' individual, overall account balance must be positive and that the following risk controls must be met throughout the settlement cycle.

Short position limits. The debit position (or short position) in a currency must not exceed the short position limit established by CLS for the relevant currency. The short position limit for each currency is unique and is determined by CLS Bank for all Members based on the amount of its committed liquidity facilities. CLS Bank allows each Member to incur short positions in a currency provided that their position overall is long. This allows settlement to occur even if CLS has not received the currency specified in the payment instruction of the Member whose account has been debited by CLS Bank.

Aggregate short position limit. For each Member the total short position across all currencies must not exceed the aggregate short position limit. The aggregate short position limit takes into consideration capital, rating, and other financial conditions.

Positive adjusted account balance. The net account balance for each Member must always be positive; the total value of the credits must always be greater than the value of the debits.

Account balances are calculated in U.S. dollars. For the exchange rates used in this conversion, a haircut is applied to ensure that there is a positive account value even if exchange rates move. These haircuts have the effect of increasing the value of each short position and reducing the value of each long position to ensure the adjusted account balance does not fall below zero even during periods of extreme FX market volatility.

Settlement Process

The settlement cycle starts at 07:00 CET when the first funding is paid in. The system takes each instruction in turn from the settlement queue and checks whether the settlement amount can be paid. The settlement process then checks whether, if the current instructions were settled, two settlement accounts still meet the risk controls. Normally most instructions are settled via the first pass because as the currency account is paid away, Members receive another currency in exchange and are able to use surpluses in any currencies to settle other instructions.

CLS Bank settles the instructions that have been validated and matched. Instructions that fail this check are queued for the next cycle. They are continually revisited until they settle. This cycle is repeated every few minutes with a completion target time for all instructions of 09:00 CET. This allows sufficient time for funding (pay-ins and pay-outs) to be completed for all Asia Pacific currencies by the close of the business day. In practice and to achieve this timeline, several hundred transactions are processed and settled per second. The settlement cycle is consistently completed by around 08.30 CET (see Figure 8.2).

Pay-ins and Pay-outs

Each Settlement Member is responsible for the funding requirements arising from the settlement of its payment instructions and those of any third party customer transactions. CLS Bank does not guarantee

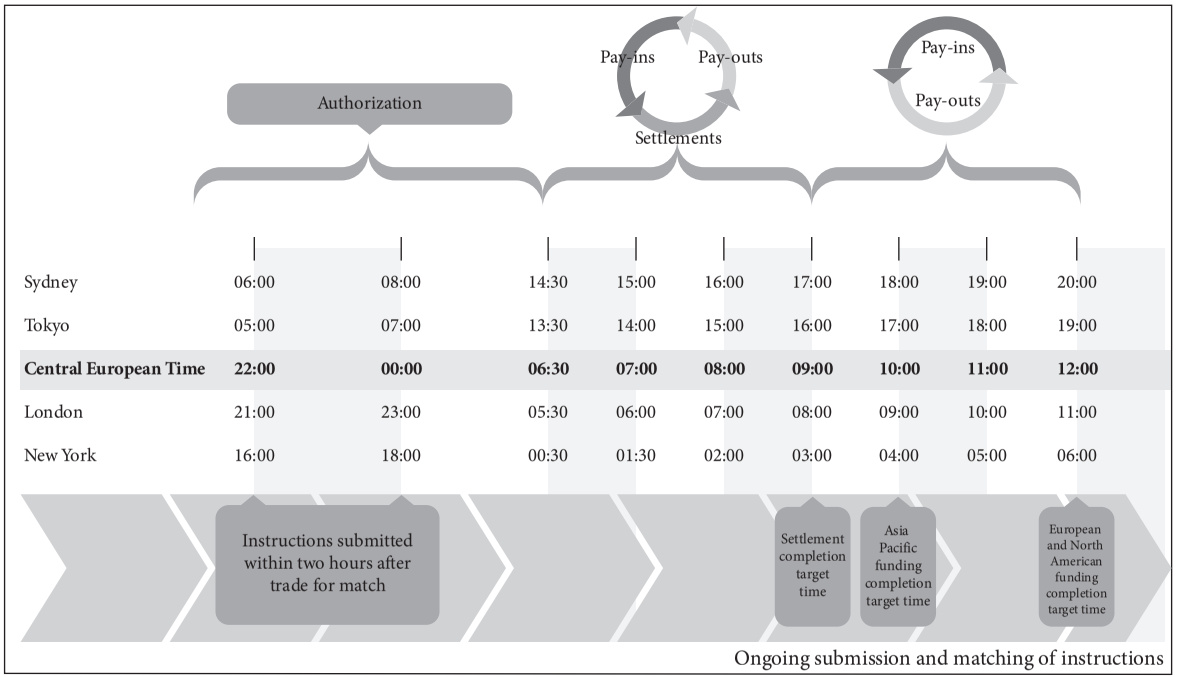

Figure 8.2 CLS operational timeline (24 hours × 5.5 days)
Source: CLS Group, 2011.

the settlement of any payment instruction that is submitted for settlement; however, the PvP process ensures that the principal amount involved in the FX transaction is protected.

A Settlement Member has remaining short positions in some currencies and long positions in others. Each Settlement Member funds its multicurrency account at CLS Bank by making pay-ins to CLS Bank's central bank accounts between 07:00 and 12:00 CET. CLS Bank completes pay-outs of the long balances in its central bank accounts to Settlement Members before the close of each RTGS system. As a result, each Settlement Member will have a zero balance in its account, and CLS Bank will have no funds in its central bank accounts, at the end of each business day.

The benefits associated with participation in this PvP system are maximized and the liquidity implications with such participation are mitigated by funding in central bank money with overlapping RTGS opening hours. The settlement of the instructions and the associated account movements are final and irrevocable.

FAILURE MANAGEMENT

If payments fail to meet the settlement criteria by the end of the settlement cycle, instructions are removed from the CLS system and returned to the Settlement Members who submitted them. Settlement Members don't receive settlement proceeds they were expecting for unsettled instructions, but won't have paid away the currencies they were expected to pay; their unpaid principal amounts having been returned to them.

The Members of CLS incorporate a best practice of matching within two hours of trade execution and achieves an average of 30 minutes to match and report the match to both counterparties; erroneous trades, for whatever reason, are identified promptly. Full intraday trade reconciliation is now the standard for large trading banks and there have been zero settlement failures in CLS for over six years.

SUPERVISORS AND RISK

Because of the critical nature of CLS to global financial markets, it is comprehensively supervised. CLS Bank is an Edge corporation, a

limited purpose institution. As an Edge corporation, CLS Bank is supervised and regulated as a bank by the Federal Reserve Bank of New York (FRBNY). It has been designated as one of the Federal Reserve's six critical market infrastructures and as a result complies with the *Interagency Paper on Sound Practices to Strengthen the Resilience of the US Financial System*, jointly published by the Board of Governors of the Federal Reserve System, the Office of the Comptroller of the Currency, and the Securities and Exchange Commission in the United States in April 2003. The implications of this position are far-reaching.

CLS needs to be able to withstand any regional disaster and resume its service from another location in another region in as little as two hours. The real-time nature of the CLS business—receiving and matching instructions shortly after the trade was executed and operating the daily settlement cycle—means that there cannot be even a momentary lapse leading to a loss of data.

As a result, CLS maintains two data centers located in different regions. The service itself can be run from two continents and CLS offices have robust business continuity plans and processes. As the infrastructure that underpins the FX market, CLS has to show that it can cope and indeed continue with its service in the face of any disruption. The economic uncertainty over the last two years led to periods of extreme market volatility and high trading volumes demonstrating the necessity and effectiveness of this resilience. CLS continued to deliver the settlement service with zero settlement failures throughout this period.

CLS also observes the *Core Principles for Systemically Important Payment Systems* published by the Bank for International Settlements (BIS) Committee on Payment and Settlement Systems of the central banks of the G-10 countries. The Core Principles serve as guidelines for the design and operation of safe and efficient systemically important payment systems by suggesting the key characteristics that these systems should have. CLS must meet or exceed the current international standards for such systems and also publicly disclose self-assessment of compliance with the Core Principles. In addition, CLS complies with applicable policies of individual central banks whose currencies are settled by CLS Bank. This compliance document is publicly available at http://www.cls-group.com/About/Documents/CLS%20Bank%20-%20Core%20Principles%20Assessment.pdf.

REGULATORY ENGAGEMENT

The current regulatory framework for FX has evolved as a result of two structural factors. First, each trade includes two jurisdictions in the form of the two currencies traded. Second, the major market participants are regulated entities, but many other participants are either not regulated or do not fall under the same regulatory regime. This applies to any regulation of trading done at a national level as well as to regulatory oversight of the major market participants, normally by the central bank where they are headquartered. The total market therefore has no overall regulator but the largest participants are regulated.

Recognizing this multi-jurisdiction challenge, though CLS Bank is supervised and regulated as a bank by the Federal Reserve, the Federal Reserve also acts as the lead overseer of CLS Bank in a unique cooperative oversight arrangement with all the central banks whose currencies are settled by CLS Bank. CLS regularly meets with the forum, the CLS Joint Oversight Committee, which is chaired by the Federal Reserve.

Eligibility

A system as complex as CLS is only as strong as the weakest link in its chain. The foundation of the overall risk design is the membership criteria set out to ensure that institutions are capable of successfully participating in CLS Bank without posing unnecessary risk to the other participants and the CLS system.

Currency Eligibility

Requirement	Specifics
Currency	Minimum sovereign rating of BB–/Ba3
	Convertible (not fully) and transferable
Domestic support	Strong endorsement and participation of the central bank and relevant government agencies
	A minimum of one shareholder from the major domestic banks
	Three local currency liquidity providers
Legal	Can achieve finality of settlement and pay-ins
	Acceptable Rule of Law
Stability	Stable local banking system
Operational standards	Can meet timed pay-ins via RTGS
	SWIFT standards

Member Eligibility

Requirement	Specifics
Shareholding	Must be a shareholder (or an affiliate of a shareholder) of CLS Group Holdings
Regulatory	Must be a regulated financial institution
Adequate financial resources and capability	Meet minimum financial and credit requirements Robust internal risk management controls
Operating capability	Ability to submit, amend, and rescind instructions Satisfy requirements to deliver funds in each eligible currency within specified timeframes Have adequate contingency plans for maintaining operational capabilities

The CLS Community

Membership category	Key features
Shareholder	Each shareholder has an equal vote in the governance of CLS Group Holdings Membership in CLS Bank is generally limited to these shareholders and their affiliates Central banks are eligible to become CLS Members without owning shares
Settlement Member	Must have proven financial and operational capabilities and sufficient liquidity to support its financial commitments to CLS Bank Holds a single multi-currency account with CLS Bank May submit payment instructions relating to its own FX transactions as well as those of its customers directly to CLS
Third party	Customers of Settlement Members and User Members

Membership category	Key features
	Members must handle all instructions and funding on behalf of their third party customers because third parties have no direct access to, or relationship with, CLS Bank
Third party service provider	Settlement Members and User Members who offer CLS-related services to their customers
Central bank	CLS Bank links to the RTGS systems of the central banks in whose currencies CLS Bank offers settlement
	CLS Bank holds an account at each eligible currency's central bank, through which funds are received and paid
Vendor	Provide software and services to CLS Members
	CLS maintains formal relationships with vendors through its Vendor Registration Program

DELIVERING EFFICIENCIES AND GROWING BUSINESS OPPORTUNITIES

In addition to CLS' primary purpose of eliminating settlement risk, the service has improved STP and generated a number of operational and liquidity benefits, and therefore, cost savings. Quicker matching and confirmation has been the primary improvement in operational control to identify rogue trades quickly.

FX trades are by definition for cash currency. Settlement therefore involves potentially very large cash pay-outs or receipts. The industry used bilateral netting before CLS started operation to mitigate these pressures on liquidity. As part of the service design, CLS settlement multilaterally nets all Members' positions each day. This proprietary algorithm's netting efficiency continues to climb toward 99 percent. Participants can avoid spreading their operations too widely by rationalizing and consolidating *nostro* relationships.

Trading volume growth has been consistently reported as settlement limits between trading parties are eliminated for CLS settled

trades. This has been reflected at the currency level where central banks for new eligible currencies have commented on the growth in trading following their inclusion in the settlement service.

CLS provides real-time information electronically to Settlement Members, from instruction submission through matching status and settlement. This provides improved operational oversight and allows Members to track settlements, eliminate errors, manage liquidity more effectively, and reduce operational risk. In times of market stress this ability to *see* the precise status of all FX trades in a single venue is considered invaluable for this vast and dispersed over-the-counter (OTC) market.

EXPANDING THE RISK MANAGEMENT ROLE WITH CHANGING NEEDS

If there is one constant in FX trading it is that it is constantly changing and evolving, and CLS has to evolve as well. Working with its owner customers it has extended the scope of its service, leveraging the existing service model and infrastructure to deliver further operational efficiencies to the industry. Examples of this include the settlement of one-way payment instructions relating to non-deliverable forwards (NDF) and CLS Aggregation.

CLS has also partnered with The Depository Trust & Clearing Corporation (DTCC) to provide an integrated global payment processing infrastructure for the OTC credit derivatives market. The service links DTCC Warehouse Trust Company's trade information warehouse with CLS' central multicurrency cash settlement service. This provides a unique STP for all credit default swap (CDS)-related cash flows for users of this central settlement process. The payment netting provided by the combination of warehouse netting of obligations and further multilateral netting in CLS exceeds 99 percent. This arrangement with the DTCC has radically changed the nature of the daily processing of these instruments and helped major dealers achieve the commitments made to regulators to materially improve post-trade processing.

In 2010, CLS launched CLS Aggregation to provide trade aggregation to address the rapid increase in FX trading volumes driven by a widening group of hedge funds, algorithmic traders, and retail and institutional market participants. Advances in trading technology and market data feeds now provide the capability to execute hundreds of FX trades per second. Many of these type of market participants are prime brokerage clients of CLS Settlement Member banks and this

increase in volume, often in surges over short periods of time, has led to capacity, cost, and operational challenges.

CLS Aggregation provides these Settlement Members with a solution to these challenges by compressing trade volumes in currency pairs to significantly lower levels in a structured and controlled process that delivers operational risk management improvements.

A record of all trades is maintained as the trades are settled, improving risk management and transparency by offering near-time consolidated information on the size of the market, the products traded, prices, currencies, the exposures of the participants, and the history of every trade settled since CLS went live. CLS also receives trade data from more than 20 Settlement Members to identify missing counterparties. CLS is well-experienced with analyzing and providing central banks with information in normal and, upon request, stressed situations.

LOOKING TO THE FUTURE

For the FX market, the largest risk—settlement risk—has been largely eliminated through CLS. The industry has successfully demonstrated global cooperation in establishing this industry-led initiative that has yielded material benefits and provided a solid, robust framework that works even in times of extreme market stress.

The primary objective for CLS is to continue to invest in capacity and resilience as the market continues to expand. The second primary objective is to close the gap in terms of increasing participation through currency expansion, extending settlement services to settle short-dated, same-day trades, and continuing to add participants, including new Members.

Regulatory Reform

The OTC post-trade world is currently facing probably the greatest change since the introduction of SWIFT. The market events of 2008–2009 have led inexorably to policy debate on the necessity and desirability of a standardized approach to the storage and dissemination of industry information—the centralized counterparty (CCP) clearing model—as part of the review of the OTC derivatives markets by the U.S. government and European Commission. This debate also includes to what extent FX trades would be subject to the same requirements as those being formulated for traditional derivative transactions.

Counterparty Credit Risk and Clearing

Counterparty credit risk is lower on FX transactions than on many other financial products because the majority of FX trades tend to be short-dated (75 percent of the total value for FX forwards and FX swaps submitted to CLS mature within four months). Historically, the FX industry has addressed counterparty credit risk either via netting, covered within the closeout clause in trading agreements, or through the exchange of collateral between counterparties. Both approaches are standardized under the framework provided by the International Swaps and Derivatives Association and for collateral management by the Credit Support Annex. The collateral process for FX products is, in general, straightforward and does not suffer from the complexities that can cause problems for other products.

Clearly, counterparty credit risk is likely to be much lower on short-dated FX instruments. However, it seems more likely that any mandatory clearing requirement will be at the product level, although at time of writing the debate on which products should be included for mandatory clearing in FX has not concluded. The advent of clearing will alter the post-trade processing workflow fundamentally and introduce margin management disciplines that the vast majority of market participants have not had to process and manage.

Whatever the outcome, cleared trades will still need to be settled. If they are not cleared via CLS, then settlement risk will be reintroduced.

Despite this era of heightened risk concerns and uncertainty, the FX market continues to evolve. It has demonstrated its resilience under periods of extreme stress and has shown the way forward to other markets in terms of infrastructure and best practice. These are challenging times, but we should all reflect that the FX market passed the resilience test and now offers opportunities for change and development in the coming years.

ENDNOTE

1. Basel Committee on Banking Supervision, History of the Basel Committee and its Membership, August 2009, BCBS, Basel, http://www.bis.org/bcbs/history.pdf.

Chapter 9

Introduction

ALL IN THE FAMILY

The family-run bank has been a long-standing tradition around the world as a privately owned counter to the publicly owned state-run bank, in particular in developing markets. The systems of some countries have been characterized by nothing but state-run banks (China, Vietnam, and various African and Latin American states), while others have been largely privately owned (the United States, the United Kingdom, the Philippines, and Hong Kong). Most are a blend (Japan, Korea, France, and Germany), while others have been completely privatized over the course of several years (Australia and Israel). Crises have forced countries to nationalize banks, while keeping in mind a timeline (or *exit strategy*) to return the banks to private hands. During the financial crisis, governments in the United States and the United Kingdom seemingly bent over backward to prevent the nationalization of their banks, believing that the mechanics of finance are best left in private hands where the commercial drive to deliver profits to shareholders leads to efficiency (despite evidence to the contrary coming out of the crisis). In some countries, for example Korea, the belief is that banks are national infrastructure and should provide financial services to the public whether these activities generate profits to the institutions or not.

While some of the best-run financial institutions have been privately held, the idea of family-run businesses is losing credence, and more of these banks are being listed and bought by large competitors or private equity firms. Alternatively, the owners are retreating to non-management positions and turning the day-to-day management of the bank over to professional managers.

This movement is particularly strong in Asia, especially in markets that have a strong presence of the Chinese diaspora—Indonesia, Malaysia, the Philippines, Singapore, Taiwan, and Thailand—where migrants from China built successful trading empires that often included a bank or two. Often driven by commanding personalities—or, in some cases such as Thailand's Kasikornbank, three generations

of commanding personalities—the banks' identities were shared with those of the family owners and their patriarchs. In some countries such as the Philippines, the families in question were the owners not only of banks, but also of conglomerates that included major retail chains, significant real estate development branches, and other heavy duty business divisions, such as Henry Sy's SM Group.

In Singapore, the monolithic state-owned DBS (once known as Development Bank of Singapore) acquired the state-owned Post Office Savings Bank (POSB), while a flotilla of small family-run banks was slowly consolidated into just two: Oversea-Chinese Banking Corporation (OCBC) and United Overseas Bank (UOB). These two family-owned banks have taken somewhat different approaches to their structure and organization as they compete more and more in a consolidated market and regionalize, which implies going head-to-head with sophisticated global banks, especially outside Singapore where they at least have a home advantage.

OCBC has seen its family owners retreating from the bank's day-to-day operations as they turn management over to banking professionals such as CEO David Conner, an alumnus of Citibank. UOB, however, has soldiered on with its leader Wee Cho Yaw—a second-generation manager who succeeded his father Wee Kheng Chiang as the head of the bank—turning management of the bank over to his own son, Wee Ee Cheong in 2007.

Banks like UOB are built on deep relationships with the corporate community. When the banks and their clients are still small, relationships are close and personal, and loans are typically granted after some snooping around and may even be based on the gut feeling of the relationship manager. This arrangement involves some measure of trust in the borrowing institution, its line of business, the government's development policy, and the country's overall development. But as these banks get bigger, as regulations become more sophisticated, as the need for diversification of businesses takes over, and as the banks find that their growth plans require that they build up overseas operations, the need to build systems to accommodate this growth increases sharply. One such system is risk management, which must be robust to satisfy regulators, analysts, and shareholders. In situations like this, where banks evolve from neighborly institutions into real corporate entities, the time-tested practice of gut feeling needs to be expressed and applied in a more scientific way for the stakeholders—customers, staff, shareholders, and regulators.

While risk management is to some degree driven by regulatory and supervisory expectations and by supranational regulatory initiatives such as the Basel Capital Accord that most regulators around the world have required their banks to institute, the bottom line of risk management is an understanding of who to lend to and how much to lend to them as well of the proper pricing of risk in light of the possibility of default. Naturally, these are all practices that banks would need to have a firm grip on even without the presence of regulators and supervisors, unthinkable as that scenario may be.

Since 2006, UOB has been revamping its risk management system to return to the roots of risk management, which includes the idea of *risk discovery* that will ensure financial soundness and at the end of the road improve shareholder returns. Risk discovery is perhaps a concept that had been overlooked in the U.S. subprime business, when mortgage providers, be they banks or specialized agencies, were encouraged to issue as many mortgages as possible—both by investment banks, which needed the loans to churn out the structured products that had come into such high demand and that paid such handsome fees, and by the government, which felt it was close to achieving the goal of home ownership by a very high percentage of the population—the result of which was that the quality of the mortgages issued sank and sank in order to find material to feed the machine. The consequence of all of that, of course, was a corrosion of financial soundness and a deterioration of shareholder returns (in some cases the deterioration was permanent as investments were completely wiped out).

The basis of a sound risk management strategy—indeed the basis of any bank's business—is the need to promote sustainable long-term growth, continually improve risk management capabilities, and facilitate business development. In some cases, the risk management function is seen as a hindrance to business development as it forces a bank to turn away business, but the trick is to ensure it turns away only *bad* business and not *good* business. A proper risk management framework would be able in turn to identify bad business efficiently, and a strict regime should not impact the long-term financial performance of a bank. A similar argument has been made for the higher Basel III capital charges that are being implemented, which will provide the long-term benefit of mitigating crises and relieving businesses and society of the burden of needing to resolve them at great expense, as has been seen in the recent global financial crisis.

UOB may not be a large bank, but in some ways it has found a good model with which to approach sound risk management. Led by Chief Risk Officer Tham Ming Soon, the bank's focus on ensuring effective risk discovery aims to establish effective risk controls, reduce the frequency and severity of operational surprises and losses, align risk appetite with business strategies, and achieve effective capital management. It is surely the process that thousands of banks all over the world will need to go through, if they haven't already, to properly navigate the choppy waters in an era where trust in banking has been reduced or lost altogether.

Tham Ming Soon has been in the financial services industry for more than 25 years, and he has seen it both from the point of view of a regulator, when he served with the Monetary Authority of Singapore as the director of financial risk supervision, and from the business end at Singapore's two family-run banks, OCBC and UOB, where he has had senior positions within the risk management departments.

In his current position as group head of risk management at UOB, Tham Ming Soon provides strategic risk management directions for the group, with responsibilities for credit, market, and operational risk for the group's banking, fund management, and insurance businesses. He serves the industry by chairing the Association of Banks of Singapore's Risk Management Standing Committee, and he is adjunct professor with the National University of Singapore's Risk Management Institute.

Banks at Risk: Global Best Practices in an Age of Turbulence
By Peter Hoflich

Chapter 9

The Credit Crisis and Its Implications for Asian Financial Institutions

Tham Ming Soong
Chief Risk Officer, UOB

> *Always do the right thing. It will gratify some people and astonish the rest.*
>
> —Mark Twain

The new millennium began with a low interest rate environment. Credit spreads were tight. Economies and equity markets flourished. There was optimism in the financial markets. With this optimism, there was perhaps a sense of economic and financial stability, creating the opportunity for relaxation of financial regulations. However, the prolonged period of low levels of interest rates would become the fertile substrate for a financial crisis that was to be described as one not seen since the Great Depression. Much has been said and written about who dropped the proverbial ball. This chapter does not seek to accord blame or responsibility, but to explore the implications and opportunities for Asian financial institutions.

With the advent of the global implementation of the Basel II capital framework, financial regulation was moving toward risk-based supervision. The objective of the Basel II capital framework was to encourage and ensure the comprehensive management of risk and capital within financial institutions. Jurisdictions that demonstrated progress in the implementation of the framework were deemed to be more resilient to economic and financial instability. Implemented

right, the framework should have led to greater global economic and financial stability. However, this was demonstrated to be incorrect as even institutions that were Basel II-compliant had to seek government bailouts. It is important to identify what went wrong and then seek solutions to ensure that the wrongs are not repeated. It is not when we fall flat on our faces that we fail; we fail when we fall flat on our faces and refuse to get up and get on with making sure we do not fall again.

The recession of early 2000 was the beginning of a period of low interest rates lasting almost a decade. The U.S. Federal Funds Rate stayed at 1 percent for almost a year from June 2003. While a low interest rate environment is conducive for economic growth, it also introduces challenges. Margins were also low. This situation presented challenges to debt security investors, particularly those depending on the returns and proceeds to facilitate their retirement plans. Fund managers and insurance companies were pressed to improve their margins and returns that their clients depended on for a comfortable pool of retirement funds. As early as 2003, some U.K. insurance companies were forced to cut their bonus rates, causing policyholders to reassess their retirement plans. The need to meet expected returns led to a quest for yield. And in the heat of that quest, it was easy to forget that there are no free lunches to be had in financial markets.

Investment banks were more than happy to oblige in the quest for yield, helping banks securitize credit exposures and lighten their balance sheets. And there was plenty of interest from capital- and liquidity-rich investors. Investment banks sold portfolios of collateralized debt obligations (CDOs) and collateralized mortgage obligations (CMOs) to a broad range of investors, including insurance companies, commercial banks, and pension funds. It was believed that the sharing of credit risk across a broad spectrum of risk-takers should enhance the stability of global financial systems, reducing concentration risk.[1] Strong investor interests in such credit risk transfer products, coupled with favorable capital treatment, fueled the growth of the credit derivative market. Many of these derivatives were backed by the infamous subprime assets. Typically, banks would securitize the less creditworthy parts of their portfolios, keeping the better credits for themselves. Investment banks also packaged *synthetic* CDOs—CDO portfolios that are not backed by real assets. For a while markets were buoyant. In fact, an asset bubble was beginning to grow, this time in real estate and dubbed by *The Economist* magazine

as the greatest bubble of all time.[2] The assumption that the sharing of risks over a wider spectrum of risk-takers contributes to financial stability did not take into account the issue that many investors lack the ability to understand their investments, let alone reasonably value them. And the credit quality of these portfolios was not what they were made out to be.

THE BEGINNING OF THE END

In April 2007, New Century Financial Corporation, a leading subprime mortgage lender, filed for Chapter 11 bankruptcy protection. This was followed by the rating downgrades of debt securities backed by subprime mortgages. In July 2007, Countrywide Financial Corporation issued a "difficult conditions" warning. But at this time, the attention-getters really were the demise of U.K. mortgage provider Northern Rock (in February 2008) and U.S. investment banks Bear Stearns (March 2008) and Lehman Brothers (September 2008). Many other major financial institutions required government bailout money, resulting in governments becoming major stakeholders in large institutions such as the Royal Bank of Scotland, Lloyds TSB, and Citibank. Even the federal home loan institutions Federal Home Loan Mortgage Corporation (Freddie Mac) and Federal National Mortgage Association (Fannie Mae) were not spared. In September 2008, the Federal Housing Finance Agency (FHFA) announced that these would be placed under its legal control. In Asia, New City Residence, a listed Japanese real estate investment company, and Japanese insurer Yamato Life filed for bankruptcy in October 2008. The list goes on.

Commentators have likened the credit crisis to the Great Depression of the 1930s, with some describing it as a "financial tsunami." To a lesser or greater extent, every corner of the global economy was affected. Free trade agreements and more open economies facilitated capital flows, and also aggravated the impact of credit contraction. In the wake of the crisis, supervisory and industry groups have issued observations, guidance, and recommendations on risk management best practices. In May 2008, the Senior Supervisors Group, a group of financial supervisors from France, Germany, Switzerland, the United Kingdom, and the United States, issued its report evaluating the effectiveness of risk management practices.[3] Following close behind,

in July of the same year, the Institute of International Finance, a global association of financial institutions, issued its proposal to strengthen global financial markets and the finance industry.[4] These reports identified risk management practices that set stronger financial institutions apart from weaker ones. Former Federal Reserve Bank Chairman Alan Greenspan added to the slew of publications with his analysis of the crisis.[5] It would be a great opportunity lost if financial institutions that experienced minor impacts feel strong and secure. Any sense of security is a sign of complacency, which will be a precursor for the next crisis.

Blame has been laid on regulatory failures, weak risk management practices, and misaligned compensation practices. Whichever direction the finger ends up pointing, the bottom line is that the failures were due to insufficient or poorly managed capital or liquidity, or both. Governments had to intervene to provide rescue packages or to ensure the stability of their respective economic and financial systems to avert a global meltdown. A new term, *quantitative easing*, emerged. In the process of providing support, governments became vulnerable and some came close to bankruptcy. It was not unexpected that regulatory reforms followed in the wake of capital and liquidity injections. The U.K.'s Financial Services Authority was among the first regulators to move with the issuance of its consultation paper on strengthening liquidity standards in December 2008.[6] This was to be the first of a series of consultations on liquidity standards before finalizing its new standards in October 2009.[7] As the push for reforms gathered pace, the world's leading industrialized economies took the lead. At its September 2009 meeting in Pittsburgh, the G-20 group of systemically important industrialized and developing economies agreed to adopt U.S. President Obama's *Framework for Strong, Sustainable and Balanced Growth*,[8] which outlines a process for economic cooperation and coordination to help ensure that post-crisis policies avoid a return to dangerous imbalances that undermine long-term economic growth. Following the G-20 leaders' commitment to financial reforms, the Basel Committee on Banking Supervision (BCBS) led global regulators toward higher standards in capital and liquidity management requirements. On December 17, 2009, the Basel Committee issued for consultation, in what is now commonly known as Basel III, proposals to strengthen global capital and liquidity standards.[9] Three months later, the Basel Committee published its consultation paper on enhancing corporate governance.[10]

HIGHER STANDARDS

With the muted impact of the crisis on Asian financial institutions, it is understandable that the proposed reforms were not universally accepted. Japan's National Institute for Research Advancement (NIRA)'s response to the G-20 recommendations highlights that the recommendations should not be equally applicable to Japanese banking institutions given the differences between them and their Western counterparts. After Japan's earlier experience of dealing with a major real-estate-led asset bubble and the resulting crisis, the Japanese authorities had put in place a framework for maintaining financial stability. Japanese financial institutions have very different business models to their Western counterparts, and they know what measures to take to prevent further deterioration in the crisis.[11]

On the whole, Asian financial institutions entered the crisis from very different positions than those in the West, and they have very different future challenges.[12] While the crisis hit Asian economies with unexpected speed and impact, Asian financial institutions were not significantly impacted. This was probably due more to their business models than strong risk management practices. Following the Japanese financial crisis in the 1990s and the Asian Financial Crisis between 1997 and 1998, Asian institutions have become generally better capitalized and more closed to engaging in innovative financial instruments that may have hidden risks or risks that are not fully understood. Liquidity at Asian banks is also generally strong, with a heavy reliance on deposit funding as opposed to wholesale funding.

Asian institutions are also less leveraged than their European and American counterparts. Given the differences between Asian and Western financial institutions, any proposed revision to regulatory standards that focuses on addressing idiosyncratic issues ignoring systemic weaknesses is likely to lead to unintended consequences. Upward revisions to capital and liquidity requirements, if adopted globally without any modifications tailored to fit differing operating environments, are likely to be overly punitive for some economies. Any revision to regulatory standards should, instead, include a robust incentive mechanism that will encourage financial institutions to voluntarily address risk management weaknesses. In addition, the imposition of punitive regulatory requirements is unlikely to prevent the next financial crisis, as financial institutions will simply find a way around the regulations. It would be more effective to encourage

financial institutions to develop internal motivations that are focused on long-term sustainability and financial soundness. However, this may be easier said than done. For this to work, it requires the collective effort of all the stakeholders of the economic and financial systems, with financial institutions, regulators, and rating agencies all working in collaboration.

The goal of reforms should not be to prevent the next financial crisis or remove the possibility of bubbles forming within the system—this is just not possible. Instead, regulatory reforms must encourage financial institutions to develop the motivations to implement comprehensive capabilities and processes aimed at long-term sustainable growth and solvency. To better survive future financial crises, it is important to understand not only what has gone wrong in the past, but also what has gone right. Governments reacted to the crisis with massive injections of liquidity and capital, and regulators are in the process of revising capital and risk management requirements. Liquidity injections have stretched the finances of some nations to their limits. The effect of quantitative easing is likely to last for the next couple of generations. As this takes place it is important to put in place a process to avoid being sucked into a vicious downward spiral. Financial institutions must take a very different approach to the management of the risks and infrastructure required to support a robust corporate governance and risk management framework. Financial institutions must move away from ticking boxes on a regulatory checklist, and instead progress toward an operating model that is driven by effective controls, financial innovation, and financial soundness to achieve long-term sustainable growth.

To implement a framework that facilitates economic and financial stability, it is important to first understand the environment. Most financial institutions start out as either privately owned or state-owned organizations, created to meet the demands of developing economies. They provide the lifeline for commerce and facilitate economic growth. These institutions evolve as the economies and financial markets within which they operate mature. As the economies mature, usually the most visible change is the ownership structure of these organizations. As banks become increasingly corporatized, the need for a stronger governance structure increases. A sustainable governance structure must be supported by comprehensive policies and infrastructure that are designed to meet the institution's internal needs and not just regulatory requirements. Governance structures, business

models, and risk management practices change to meet the different demands of economies at different stages of maturity. It would be ideal if the evolution of these three kept pace with economic maturity. This process is no different for financial institutions anywhere in the world. The sooner this is realized and acted upon, the more likely it is the financial services industry will become stronger, more robust, and better prepared to face future market dislocations. Financial institutions that fared well during periods of crises were those with strong corporate governance structures, supported by policies that ensure robust control functions, and an infrastructure that enables strong business intelligence and analytics.

We live in a dynamic world where change is a constant. Innovations and demographic changes have direct impacts on the way business is conducted. The recent crisis was brought on by the detonation of what was referred to as financial weapons of mass destruction. But this is unlikely to be the last of such financial explosions. The industry has an innate ability to innovate. That is part of human nature. It is this nature that has created the nuclear bomb and sent men to the moon. It is no different with the finance industry. The future survival of the global financial system will not be effected through the removal of innovation in financial products; it will be dependent on the ability to understand and manage exposures created by those products. It will also be dependent on the ability to understand and manage the interplay between credit, market, and liquidity risks. Economies will mature and financial markets will continue to innovate. Financial institutions must evolve to keep pace with these changes and their risk profiles or they will lose relevance or, worse, become insolvent. Asian financial institutions have a unique opportunity here to learn from the institutions that were successful in weathering this crisis and those that were not.

HOLDING CAPITAL: EAST VERSUS WEST

The Basel Committee's initiative toward improving risk and capital management practices has the best intentions—getting financial institutions better prepared to weather bubbles in financial markets. The concept of the Basel capital framework is really quite simple. It has one objective: to achieve economic and financial stability. To date, there have been two accords. In the second accord, commonly known as Basel II, there are three pillars. The second pillar addresses the

all-important assessment by financial institutions of capital adequacy in supporting their respective levels of risk. And within this all-important pillar, there are five basic principles. While this may all sound simple, the devil is in the implementation.

The Basel capital framework was the result of the banking crises experienced by banks in the Western hemisphere; in particular, those experienced by U.S. banks in the 1970s through the 1990s. In the wake of these crises, there was a realization that banks need to move away from relationship lending and toward a better understanding of the ability of their borrowers to repay their debts. The result of this realization was the collection of data to determine borrowers' likelihood of defaulting on their loans. The development of decision-support systems coupled with advances in computational technology facilitated high-speed data analyses and the implementation of sophisticated algorithms. This served U.S. banks well, as they were fairly mature and had reasonably comprehensive governance structures and U.S. bank shareholders were demanding that more be done to ensure the security of their investments.

Looking toward the East, Asian banks were relatively insulated from banking crises, even though relationship lending was still very much the practice of the day. Some Asian banks were still very much focused on top-line performance measures, not risk-adjusted performance. Such was the banking landscape prior to the introduction of the New Basel Capital Accord. While banking organizations had some borrower default information, in relationship lending there is little need for this information, and it was not systematically collected, stored, and analyzed. Investment in information systems was largely to meet regulatory requirements for financial reporting. This operating environment created some challenges when it came to implementation of the Basel II initiatives.

Regulators set high expectations for the depth of data used in the development of credit loss models. In Asia, the implementation of Basel II began picking up pace between 2002 and 2003. However, regulators look at a minimum of five years' worth of data for the development of credit loss models, including data covering periods of economic downturn, and most banks were unable to provide such a high level of robust data. In addition, there was a need for sufficient data for model validation and reviews. But the perceived notion that adoption of the New Basel Capital Accord could result in capital savings was encouraging banks to move quickly to seek regulatory approval.

Financial markets that were Basel II-compliant were deemed to have greater economic and financial stability. With the competition to implement Basel II going on around Asia and the world, data needed to be collected quickly. But it was simply not possible to overcome the physical constraint of time in assembling the required library of historical data.

The finalized Basel II framework was published in June 2004. A financial institution would have needed to possess the foresight and discipline to begin collecting the relevant data far before the publication of the framework in order to fulfill the requirement for historical data. Existing information systems would also have needed to have been enhanced or new systems implemented to facilitate the management of the data and the computational intensity associated with the estimation of potential losses. With these data and system challenges, it does seem that only banks with sufficient foresight and deep pockets would be prepared and thus qualify for the adoption of the Basel II standards. These challenges, however, presented an opportunity for Asian banking institutions to propel themselves to a level of sophistication that would enhance their governance framework.

With hindsight, it does seem that the implementation of Basel II could have been more robust if the focus was to implement Pillar 2[13] ahead of Pillar 1.[14] Most regulatory jurisdictions began the Basel II compliance process by implementing Pillar 1 of the Accord with its focus on credit rating and loss models. However, the heart of the Accord is the effective management of a financial institution's capital in supporting all the risks associated with its business activities. For financial institutions that are Basel II-compliant and for those that are planning to implement Basel II, there is an opportunity to enhance the systems they have implemented or need to implement to achieve effective business intelligence and analytics. Traditionally, financial institutions have managed different risk classes separately and in silos. There are separate systems for credit, market, and liquidity risks. While there is recognition that there are connections between the risk classes, the move toward an integrated approach and platform is not widespread.

Asian banks are largely commercial banks with the major part of their risk residing in their loan portfolios. The focus of their risk management efforts had been in the development of credit processes. However, the current crisis has demonstrated that the cause of most

bank failures was not just a failure in the credit process but also a failure to recognize and compensate for this weakness with additional funding liquidity and capital. It is often the seemingly low risk that is overlooked and that will become the hole that sinks the ship. It is important for a financial institution to realize that the day it finds out that it has funding difficulties is a day too late. Certainly, governments and central banks have emerged to provide guarantees and liquidity. But this has long-term cost implications and is simply not sustainable. The most effective approach is for the financial institution to develop a good understanding of its risks, the means to quantify risks in its portfolio, and a comprehensive process for managing those risks. With the crisis underscoring the interconnectivity of the different risk classes, the challenge and opportunity now lie in seeing that the ability to integrate data of the different risk classes enables a better understanding of this connectivity. This enabling business analytic will not only contribute to long-term and sustainable growth, but also enhance economic and financial stability.

Most Asian banks operate with an originate and hold business model rather than the originate and distribute model favored in markets in the West, and the securitization of credit is almost nonexistent. Loans and assets are funded by a combination of consumer, corporate, and interbank deposits. Without the ability to securitize loans, banks must ensure they have sufficient capital and funding liquidity. This is to ensure survival in times of financial stress when credit losses can be expected to be significant, affecting both credit ratings and borrowing capacity. It is therefore important to be able to integrate credit loss estimates into a financial institution's asset and liability management (ALM) systems, in particular liquidity risk management systems.

Financial institutions also need to consider the frequency and granularity of data collection. Most financial institutions' management information systems (MIS) were designed for financial reporting. This tended to be point-in-time and fairly infrequent. However, for effective risk management, it is important to gather data that are sufficiently granular and frequent. This is to ensure a data-rich environment, which allows for more effective and useful business analytics. The Monetary Authority of Singapore (MAS) was among a handful of Asian regulators that required daily reporting and management of funding liquidity for systemically important banks operating within its jurisdiction.[15] This encouraged banks under its

supervision to develop the systems and the necessary analytic skills to manage liquidity more effectively.

Beyond being able to assess the likelihood of a borrower defaulting, it is necessary to appropriately incorporate this likelihood into the loan or facility pricing. There are common arguments that if such costs are incorporated into the pricing of loans, it could adversely affect their competitiveness. While true, this should not preclude the need to have a clear understanding of the true cost of extending the loan. Loans need to be funded. A financial institution needs to ensure that it has sufficient liquidity over a wide range of economic conditions. The cost of maintaining this level of liquidity must also be factored into the pricing of the loan. Of course there will be instances when business management decides not to apply the full cost of credit and liquidity. This is perfectly fine provided business management is making a fully informed decision and is aware of the degree of pricing deviation.

TESTING THE SYSTEM

The crisis has precipitated a greater focus on stress testing and scenario analysis, and also has added the dimension of reverse stress testing. At the onset of the crisis, regulators imposed increased stress testing requirements on financial institutions to determine the adequacy of their capital to support the risks embedded within their businesses. Reverse stress testing, to determine the conditions under which a financial institution is likely to enter into insolvency, was also introduced. Reverse stress testing starts with a known outcome, such as the breach of regulatory capital requirements, illiquidity, or insolvency, and then moves to determining the scenarios that could lead to such an outcome. It is important to include extreme scenarios that would lead to a financial institution's insolvency. This is a challenging exercise requiring data on all material risk areas across the institution. Such analyses facilitate a better understanding of the vulnerabilities of the financial institution's risk portfolio.

With the publication of the BCBS' consultation paper on capital and liquidity, banking regulators and supervisors are conducting quantitative impact studies (QIS) to determine the potential impact of the proposed regulations on financial institutions. These stress tests are over and above the financial institutions' regular stress testing regime. Stress tests are computationally intensive; increase the number

of stress factors and introduce possible contagion effects across stress factors and you will see the computational complexity and intensity increase. In January 2010, the World Economic Forum warned of "the long shadow of the Financial Crisis."[16] In its latest report on global risk,[17] the Forum identified a number of slow-moving risks that were exacerbated by the financial crisis and global economic downturn, and emphasized the continued need to further enhance global resilience to risks. The report also highlighted the systemic nature and interconnectivity of risks. In light of these findings, for a financial institution to understand to the fullest extent possible the risks that it is exposed to, the institution absolutely has to leverage available technology to facilitate its stress testing efforts. If stress testing is to be of any value to the management of risks, it has to be able to incorporate the interconnectivity of as many risk factors and stress events as possible. It also has to be able to deliver the results on a timely basis to facilitate an informed decision-making process. Stress test results based on dated risk exposures are unlikely to be of much value as any remedial actions are unlikely to be effective.

PREPARING SYSTEMS

The importance of timely analyses necessitates that these risk management system requirements be incorporated into a financial institution's strategic plans and initiatives. It is quite natural for organizations to curtail investments in capability and capacity building during times of economic slowdown. And during times of economic growth it is not uncommon to hear arguments that such investments may not be necessary. But it is during economic downturns that financial institutions really should take advantage of depressed costs to build business analytic capabilities in order for the organization to capitalize on opportunities when the economy recovers. Notwithstanding this, the management owes it to its shareholders to make every possible effort to identify, assess, and manage the risks the organization is exposed to. New and technologically advanced consumer products are readily snapped up; people want to be able to apply the latest technology to enhance their personal lives. Organizations should similarly apply appropriate technology that can best improve their ability to attain long-term sustainable growth, enhance stakeholders' experience, and achieve shareholder accountability.

Current technology enables the processing of vast amounts of data in a reasonably short period of time. Such technology can be applied to the entire *water column* of a financial institution's decision-making process, from strategic planning to contingency planning to product pricing. The scope of application is limited only by creativity. Financial institutions must capitalize on technology to be able to better understand and better price risks to maintain and achieve higher levels of competitive advantage. The most robust solutions are those that are developed to meet the need for a better understanding of the business, providing the appropriate information on a timely basis. J.P.Morgan's 4:15 report is one such example of a best practice that was created out of a need to be better informed of the organization's market risk at the end of each business day. The widely applied *value at risk* (VaR) methodology evolved from this report. Improvements in computational power allowed for more sophisticated VaR approaches.

Many would highlight the weakness and dangers of the VaR methodology. Indeed, it has been said that "all models are wrong, but some are useful."[18] It is not the models but their application that is in question. It is like asking if guns kill people or if people kill people. The crisis has underscored the inappropriate application of models. However, models remain useful in providing a reference point. Sadly, it seems that the Basel II initiative may have created an obsession with models that has not been balanced by good old-fashioned common sense. It is clear that the lessons from the failure of Long-Term Capital Management seem to have been forgotten.

The implementation of a well thought through technology-based risk management solution would allow for a better understanding of the interconnectivity of risks, including both risk factors and potential stress scenarios. Perhaps the holy grail of managing the risks of a financial institution is to be able to achieve a true enterprise-wide risk management (ERM) approach. While the interconnectivity of risks seems to suggest an almost entirely quantitative approach, ERM is not about models only. ERM is about understanding how the entire institution takes ownership of the identification, assessment, and management of the risks that are inherent to its business model. It is about how the risk management process is embedded within every level of the organization and is not solely the responsibility of the risk management function. It would be unfortunate if financial institutions reacted to the recent guidance on corporate governance by financial regulators by focusing only on their governance framework

and structure. Any framework is only as effective as the infrastructure that supports it. An effective governance framework requires accurate, complete, and timely information to facilitate its decision-making process. As the environment within which financial institutions operate grows in diversity and complexity, investments in risk management infrastructure must match this growth. It is no longer good enough to be able to anticipate emerging risk trends and potential crises. It is equally, if not more, important to be able to develop risk management strategies to deal with such uncertainties.

The current crisis is a wake-up call. While governments have taken unprecedented steps to prevent their systemically important institutions from failing, such bailouts come with heavy social and economic costs. It is no longer a guarantee that compliance with regulatory requirements results in financial soundness, and simply ticking the boxes of a regulatory requirement checklist is just not good enough. Financial institutions must develop internal motivations and do what is right for themselves and their shareholders. In Asia, where there are still many financial institutions that boast large single shareholder blocks, the time for change will come. To prepare to face the future, institutions have a unique opportunity to learn from the current crisis and leverage on currently available technology to develop and implement comprehensive and effective risk management processes and systems.

Driven by strong internal motivations, there are not many reasons why Asian institutions should not come to the fore as institutions of excellence. As the world evolves and as more Asian economies move from emerging to developing to mature, Asian financial institutions will have to change to remain relevant and participate in such developments. And the time for change is now. Solutions and processes driven by an internal desire to better understand and manage a financial institution's risks will always be more robust compared to solutions imposed by regulatory requirements. If every financial institution adopts a proactive approach to managing the risks that are inherent to its business and operating environment, economic and financial systems are likely to be more stable.

The Andrew Mellons of Asian banking build solid financial institutions because it is always their own money that is at stake. One day they will no longer be around, and the institutions they built will be corporatized. There is a great opportunity now to prepare for that day. Preparation will require a significant change in risk culture and

the first steps will not be easy. However, they are not impossible. If the dream of robust and stable economic and financial systems is to be realized, those first few courageous steps of commitment must be taken; and they must be taken now. Unless there is commitment, there will always be hesitancy. Actualize the dream and release the genius, power, and magic, or this will be an opportunity squandered, and the lessons of this crisis will be lost.

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Chapter 10

Introduction

LEARNING FROM A CRISIS, AGAIN AND AGAIN AND AGAIN. . .

While the great financial crisis may have seemed like an unparalleled disaster for Western economies, the truth is that Japan went through this crisis nearly 20 years ago—and is still suffering from its after-effects. For the countries of Southeast Asia and Korea the crisis of 1997 was severe, but it was overcome relatively quickly as it was based on a credit bubble. Japan was less fortunate, for reasons of structure, scale, and policy, and because its crisis was based on a real estate bubble. If there are parallels to be drawn from Japan's crisis, then their lessons should be heeded if the curse of helplessness and stagnation is to be avoided.

In Japan, a real estate bubble had been observed already in the 1980s, but when it burst in the early 1990s it was initially believed that the Japanese economy would experience a correction and be able to resume its growth trajectory. Sadly, this has not been the case. As Tsuyoshi Oyama points out in his excellent book *Post-Crisis Risk Management* (John Wiley & Sons, 2010), asset prices in Japan fell significantly until 2004, particularly in the real estate sector, unleashing a long period of slow growth or negative growth. Financial institutions went bankrupt and were either thrown a long lifeline (as of the end of 2010, several institutions have yet to repay government moneys lent a decade ago) or sold to foreign private equity rehabilitators. The latter move was controversial, as the guarantees and other terms received by outside investors stirred resentment among Japanese taxpayers that private equity investors were benefiting from the weakness of Japan's financial institutions—when these investments eventually soured for the investors alongside Japan's economy, any victory for the private equity investors was bittersweet. But for Japan's banks, it was already too late, for their day was done. Japan may have had the biggest banks in the world at one point in time, but shriveling growth means that the banks will never regain their stature (save through another ill-advised megamerger) and will simply be overtaken by other institutions.

The collapse of the Japanese real estate sector meant that the goose that laid the golden eggs really had died, as Japan's postwar growth had been predicated on lending against real estate collateral, a practice based on the assumption that the value of real estate would only appreciate. The collapse also meant that there would need to be an end to cozy relationship banking and cross-shareholdings between banks and corporations, something that has not happened yet, and which causes acute suffering at the banks every time the Japanese stock market takes a nose dive.

Oyama observes in his book that the current global financial crisis is an evolved crisis, with its roots in the "regular" financial crises in Japan in the early 1990s and the rest of Asia in 1997. With regular lending against economic growth proving difficult and overly risky, the answer was to redistribute the risk by slicing and dicing it via the originate and distribute model of risk distribution, whereby loans are securitized through complex repackages and taken off bank balance sheets. But the panacea proved to be poison, and the companies that were laid low by amplified risk were larger than any of the Japanese banks laid low in the 1990s. And while larger banks should have been able to withstand a crisis better, they were humbled by the unexpected ferocity of a crisis rippling through a sophisticated industry that had an over-reliance on products that were untested and upon which it was basing its risk management and capital management.

Through the 1990s and the early years of the new millennium, Japanese banks have been slowly rehabilitated, with new capital and a new approach to risk management that takes into consideration the new business paradigm. For the most part, they have stuck to simple business models of taking in deposits and lending some of them out, and what they cannot lend goes into Japanese government bonds. As a result of this plain vanilla approach to their business they have not suffered from the key maladies that the Western banks have; they have also had an unexciting story that entails low growth and low profitability with a basic stay-the-course approach to business banking.

An important exception to this is Mizuho Financial Group. At one time the largest bank (by assets) in Asia, Mizuho decided to give Wall Street investment banking a try, assembling a team to package subprime real estate collateralized debt obligations. Luckily it was late in the game, and Mizuho enjoyed neither the highs of 2006 nor the depths of 2008, although it did suffer more subprime damage than any other bank in Asia. It also had a clean sweep of its senior

management, replacing the CEOs of Mizuho Group, Mizuho Bank, and Mizuho Corporate Bank.

Having taken their lumps early on, and with challenges enough at home, none of the Japanese banks—besides the overambitious Mizuho—has shown interest in the types of business model that led to the crisis, focusing instead on home markets and trying to build up fee revenues.

For this reason, Japan has been the prime non-crisis country to be maligned by global regulations that paint banks as irresponsible, greedy, and out of control. Japanese bankers, who are modestly compensated compared to their Western peers, are probably right to be angered that their well-balanced business models are being torn apart by new impositions based on business models that they have not been foolish enough to follow.

Japanese banks are still among the largest in the Asia Pacific region, and there are many, many, *many* of them. Regulators in Japan have a significant task at hand in regulating so many very large institutions in an economy experiencing such slow growth. The banks also have major efficiency problems, and according to Asian Banker Research, they have the highest cost-to-income ratios, at least among the 123 institutions that fall into the research house's survey of the region's 500 largest banks. But given these factors, their business models have already been trimmed of excessive risk to the extent that profitability has also been sacrificed; they are simpler, safer institutions and their key challenges are surviving in a struggling economy. Japanese banking has learned to be boring and less profitable, one of the clear lessons of the crisis. But will acceptance of this new reality ever really sink in outside Japan?

One of the key commentators on risk management among Asian institutions vis-à-vis Western lenders is Tsuyoshi Oyama. Having taken a BA from Hitotsubashi University in Tokyo in 1985, Oyama joined the Bank of Japan (BOJ) that year. Originally working as an economist in the Financial and Payment System Department at the BOJ, Oyama designed the framework of the Japanese interbank wholesale payment system as well as the new real-time settlement system. From June 2000, Oyama worked as the deputy director of the Bank Examination and Surveillance Department, where he analyzed macroprudential issues in Japan, conducting several research projects on the bad loan and risk management problems of Japanese banks, introducing several econometric techniques into the department's

analysis. He published two influential reports in 2002: one on financial system stability and the other on Japan's non-performing loan problem. Later, as the head of the Risk Assessment Division of the Bank Examination and Surveillance Department, he conducted on-site examinations for major banks, also developing a methodology of assessing banks' risk management frameworks.

His final role at the BOJ was that of deputy director-general and head of the Risk Assessment Division at the Center for Advanced Financial Technology in the International Affairs Division of the Financial Systems and Bank Examination Department, where he initiated several projects for the newly set-up center, including four international workshops focusing on Basel II implementation and four study groups that discussed Japanese major banks' focus on risk management issues. Oyama has also represented the BOJ in several meetings related to the Basel Committee on Banking Supervision.

In 2008, Oyama left the BOJ, first moving to Pricewaterhouse-Coopers in Aarata to become a director of its risk and regulatory advisory group. In 2010 he moved to Deloitte Touche Tohmatsu in Tokyo providing risk management and regulatory advisory services for large Japanese and Asian financial institutions.

Self-studied in English, Oyama remains one of the best communicators in English about the Japanese financial services industry, which quite understandably holds mysteries for non-Japanese, and he has spoken at various international financial services industry forums, such as The Asian Banker Summit. In 2008, Oyama published a book in the Japanese language discussing the roots of the Great Financial Crisis, which he subsequently translated himself and published under the title *Post-Crisis Risk Management*.

Banks at Risk: Global Best Practices in an Age of Turbulence
By Peter Hoflich

Chapter 10

Missing Viewpoints of Current Global Regulatory Discussions

The Non-epicenter View

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CAUSES OF THE NORTH ATLANTIC FINANCIAL CRISIS: THE EPICENTER VIEW

The financial crisis that was triggered by the U.S. subprime loan problem in 2007, and which later intensified with several other events, including the so-called Paribas shock and Lehman shock, highlighted among the lessons it taught us the difficulties in capturing and dealing with risks in a scientific way, including risk management tools such as value at risk (VaR), when real-world conditions depart from those assumed by science. Another great lesson learned from this crisis is how the judgment of bankers, risk managers, and regulators can easily become biased by science; by scientific sounds that echo the name of famous academics or reference some Greek terms used by banks located in glorious financial centers; and by the high confidence levels whipped up by VaR calculations that seemingly guarantee eternal world peace.

Now that global regulators are rushing to establish the new world order of a financial system that will stop repeating the same mistakes it has made since it was created, they are naturally expected first to identify the real causes of the financial crisis, or more specifically, the North Atlantic Financial Crisis (NAFC), in an unbiased way and then tackle these problems. So what are the factors behind this crisis that

have been identified by the global regulators and how will they be addressed?

In this chapter of *Banks at Risk*, I will first discuss the crisis factors that have already been identified mainly by epicenter countries, and then contrast them with the factor analysis of the NAFC based on a non-epicenter (thus hopefully more neutral) perspective. Next, I will assess the current regulatory reactions in terms of the distance of possible departures from the optimal reactions to be provided by the above factor analysis. Finally, I will show another possible approach to reduce the impacts of the financial crisis based on the lessons that non-epicenter countries learned from our own past crises.

ANATOMY OF THE NORTH ATLANTIC FINANCIAL CRISIS: THE EPICENTER PERSPECTIVE

In this section I will demonstrate the typical factors that triggered the crisis and caused financial stability to deteriorate, factors that have already been identified by other organizations within the global regulatory and banking community.[2,3,4,5]

Problems of individual banks:

- Excessive risk-taking by financial institutions against a background of moral hazard.
- Inadequate risk management that was too dependent on VaR outcomes, lacking the perspective of enterprise-wide risk management beyond silos and proper liquidity risk management.

Problems of the financial system:

- Improper design of securitization that encouraged originators to abuse the information asymmetry between originators and investors.
- Improper process of rating assignment by the rating agencies and too heavy a dependence by financial institutions on them.
- Fair value accounting system that amplified shocks to the market.

Problem of supervisors:

- Improper supervision of some non-bank industries, including U.S. investment banks.

Recently, Stefan Walter[6] indicated as a representative understanding of the Basel Committee on Banking Supervision (BCBS) that the following financial system weaknesses actually amplified the crisis:

- Too much leverage and not enough high quality capital.
- Excessive credit growth based on weak underwriting standards and underpricing of liquidity and credit risk.
- Insufficient liquidity buffers and overly aggressive maturity transformation.
- Inadequate risk governance and poor incentives to manage risks toward prudent long-term outcomes.
- Inadequate cushions in banks to mitigate the inherent procyclicality.
- Too much systemic risk and inadequate oversight that should have served to mitigate the too big to fail (TBTF) problem.

In summary, the causes of the subprime loan problem and the Paribas shock that shook the world financial markets up to mid-2008 were that the regulators tended to criticize banks for being too reckless in taking risks without considering their real severities, and also the financial system itself, which promoted banks' reckless behavior (e.g. securitization). After the Lehman shock, the regulators' emphasis tended to shift more toward the systemic risk that was materialized by the failure of Lehman Brothers, the moral hazard of banks caused by the idea of them being TBTF, and the generally insufficient level of banks' capital and liquidity to overcome the crises. These types of global regulatory reactions were surely influenced by political initiatives, well represented by French President Nicholas Sarkozy's remarks at the Davos World Economic Forum in 2010 when he explained, "by prioritizing short-term logic, we have paved the way for our entry into a time of scarcity" and "indecent behaviors will no longer be tolerated by public opinion."[7]

Given the urgency and some political biases of the issues to be tackled, global regulators should identify a sufficient number of factors, each of which surely contributed to the current crisis, and also pave the way for establishing the brave new world of regulatory structures, which could never be realized under normal conditions. However, from the point of view of non-epicenter countries (including Japan), regulators' factor analysis stopped short of being neutral or robust enough to be challenged by third party commentators. Unfortunately, global

regulators, particularly the regulators of epicenter countries, are among the main parties that were deeply involved in the development of the crisis. They might be seen as one of the important hosts of the dance party called the NAFC that showed that many banks could indeed not stop dancing until their dance floor crumbled. If any of the major culprits of this accident play a leading role in identifying the responsible parties to be criticized or penalized and the financial system problems to be addressed, we naturally have some concerns about "conflicts of interest" and suspect biases in their findings.

ANATOMY OF THE NORTH ATLANTIC FINANCIAL CRISIS: THE NON-EPICENTER PERSPECTIVE

There are many academic studies that have tried to find some common features and causes among past financial stress events.[8] Whether we can identify the causes becomes particularly important because it influences the effectiveness of early warning indicators of future financial crises. For the purpose of factor analysis of the NAFC, I used the multi-dimensional framework proposed by Philip Davis[9] and thereby identified different factors for different dimensions. Davis stated that "following the 'financial fragility' theory, in our view crises follow a pattern whereby there is an initial positive shock (what Charles Kindleberger (1978)[10] calls a 'displacement') which leads to propagation of vulnerability via credit expansion, asset price rises, etc. Finally, there is a secondary negative shock or trigger, which leads to the crisis."

This multi-dimensional method is quite useful in analyzing the large, complicated, and long-lasting crisis, which usually has different phases in its development and thus different types of cause. In this chapter, following the work of Davis and also some benchmarking analysis of the Japanese banking crisis in my earlier work,[11] I have tried to break down the crisis into the following four phases: the trigger phase, the system breakdown phase, the policy failure and shock amplifying phase, and the adjustment of macroimbalances phase.

The main methodology of this factor analysis is to break down the NAFC into phases using some typical commonalities observed in past events, and then identify different factors for different phases based on some anecdotal evidence stated by many banks and regulators in this crisis. Thus, this analysis is still very intuitive and thus naive, and

not yet ensured or challenged by any statistical or econometrical validations.

The Trigger Phase

The *subprime loan crisis* up to mid-2007 can be seen as the trigger phase of the NAFC. The causes of this phase have already been well highlighted by the regulators. The causes were mainly concerned with the breakdown in discipline in loan origination and also with insufficient supervision and regulation of non-banks. There were also some factors that were highlighted less, however. For example, the role of government-sponsored enterprises (GSEs), including U.S. mortgage giants Federal National Mortgage Association (Fannie Mae) and Federal Home Loan Mortgage Corporation (Freddie Mac), in accounting scandal cases in 2003 and 2004 constrained the activities of GSEs in loan origination, which surely spurred the role of private non-bank industries and consequent excessive origination. The U.S. government's social policy in favor of increasing the ratio of home-owning families also seems to have played a very important role in justifying the increase in loan origination.[12]

These harbingers of the NAFC actually look quite similar to the Japanese *Jusen* problem in 1993–1995,[13] which was a harbinger of the full-scale Japanese banking crisis in the late 1990s. In both cases, quasi-fraudulent loans backed by real estate collateral assuming constant future increase in these prices and originated by non-banks that were only loosely or not at all supervised by governmental agencies produced massive non-performing loans once the increases in real estate prices were curbed. Again, in both cases, the size of the problem was shocking enough to intimidate the financial authorities, but still stopped short of shaking the whole banking system or macroeconomy. After all, they were regarded as the problem of very special markets caused by non-regulated entities. In an analogy, the occurrence of a series of atrocious crimes would surely be shocking but not so intimidating to many so long as they occurred only in high-crime areas, which are, after all, not properly controlled by police.

The System Breakdown Phase

The financial system breakdown phase for the NAFC, which was supposed to follow the trigger phase, could be the Paribas shock of

August 2007 and the global financial market turbulence that followed that event. This phase was distinguished from the trigger phase because at issue was the banking business model that had been supporting the robust macroeconomies of the United States and some European countries: the famous *originate to distribute model*. An analogy of the shock that the collapse of this business model produced and the confusion that resulted is that of a seemingly normal residential area in which a series of atrocious crimes has suddenly started to occur without any clear reason. In this environment, everyone panics and begins suspecting good neighbors and reliable police that they had trusted up to the previous day.

Before this crisis, everyone believed in the existence of a delicate mechanism of risk dispersal among divergent risk seekers—that is, the system of securitization, rating agencies, sophisticated risk management, and accounting systems that supported the originate to distribute model—only to find the mechanism was faulty and had been malfunctioning for quite some time. In this sense, this was the problem of good neighbors, which was already highlighted by the authorities as indicated earlier.

However, there were also issues that were not well highlighted by the authorities: the problems of the reliable police, or the regulatory and supervisory frameworks for financial institutions that were supposed to have supervised and disciplined the originate to distribute banking business model. In other words, the regulators embodied the problem of improper supervision of investment banks and insurance companies in the United States, and the problem of improper emphasis of supervision of banks in many epicenter countries (discussed later).[14] Less-highlighted treatments of regulatory and supervisory problems might be a sign of the aforementioned conflict of interest, as the authorities of epicenter countries (they might be supervisors or regulators against politicians, or epicenter authorities against non-epicenter authorities) were naturally motivated to emphasize less their role in the crisis.

This phase of the NAFC looks similar, again, to the Japanese banking crisis of the late 1990s. This crisis demonstrated that the ultra powerful turbo engine of the Japanese economy, which had supported miraculous and rapid economic growth after World War II for more than three decades, could not function any more. The main elements of this engine were a relationship banking system and banks' function of absorbing the risk of obligors based on cross-shareholding and

real-estate-collateral-backed lending. So long as real estate and stock prices rose continuously, this system worked quite effectively to support the Japanese economy. Once these assumptions about rising real estate and stock prices became invalid, however, the system's strong point easily turned into its weak point. As everyone has already seen, the Japanese economy suffered the so-called lost two decades after this crisis, providing sufficient evidence of the serious impacts of this type of shock.

The causality between trigger events and system breakdown events is an interesting issue. In terms of sequence, the trigger events are without question the events that cause the system breakdown events. However, a more important question is whether prevention of the trigger events could stop the occurrence of the system breakdown events. In the case of the NAFC, the subprime loan problem surely played an important role in raising market suspicions about the system of securitization and of rating assignments, which were the core of the originate to distribute model. Still, the subprime loan problem was not necessarily an indispensable step in the development of a system-wide crisis. In other words, the banking system breakdown phase might come regardless of the trigger events. This may have been the case, as possible causes of the banking system breakdown indicated above existed independently from the subprime loan problem. So there might be an opposite direction of causality: the increasing pressures on the financial system coming from incorrect (or, at the very least, no longer valid) assumptions of the business model might have induced quasi-fraudulent events. This was also the case in the Japanese *Jusen* problem. If this understanding of the relation between trigger events and system breakdown events is correct, regulatory reactions that mainly focus on the causes of trigger events could not avert the recurrence of the system breakdown event.

The Policy Failure and Shock Amplification Phase

For the NAFC, the policy failure and shock amplification phase was set in motion by the Lehman shock in September 2008 and the deepening global financial and macroeconomic crisis after this event. The basic causes of this phase were more or less the same as those of the system breakdown phase but a big difference was that incorrect policy reactions deepened the uncertainty and market suspicions

about the authorities' capability of managing the crisis, and consequently further intensified the crisis.

The U.S. authorities' policy decision of not rescuing Lehman Brothers in September 2008[15] was in two regards an evident policy failure in terms of containing the global crisis. First, if the decision to allow the investment bank to fail was made because the authorities did not recognize that Lehman Brothers was a TBTF bank, or at least that its systemic risk was not serious enough to accept banks' moral hazard, this decision was clearly derived from the underestimation of systemic risk. But if this decision was made because discouraging banks from having moral hazard was seen as a top priority issue regardless of its cost, it highlights the fact that the authorities should not have allowed the existence of institutions that were TBTF in the first place. If there existed some large financial institutions whose failures could cause huge systemic risk materialization, the market naturally supposed that the authorities substantially accepted the existence of these institutions as truly TBTF and thus were ready to rescue them once they faced critical situations. The idea of *constructive ambiguity* might have been well accepted during the 1980s to contain banks' moral hazard when the realization of systemic risk was still limited to the *bank run* in the local market; however, when banks' businesses became so globally connected and market liquidity was so easily and massively evaporated, this ambiguity only increased market uncertainty and intensified the crisis.

According to the testimonies of U.S. policymakers (e.g., Ben Bernanke[16] and Henry Paulson[17]), their first answer to the question of whether they should have engaged in moral hazard and rescued any large, failing bank is that they had no tools to provide liquidity, and this was the case for Lehman Brothers when it was failing. Federal Reserve Board (FRB) Chairman Ben Bernanke testified before the Committee of Financial Services of the U.S. House of Representatives on April 20, 2010, that "The Federal Reserve fully understood that the failure of Lehman would shake the financial system and the economy. However, the only tool available to the Federal Reserve to address the situation was its ability to provide short-term liquidity against adequate collateral." This statement seems to be a little strange, however, given that the FRB decided to provide a bridging loan of US$85 billion to AIG the same week Lehman Brothers collapsed. As I indicated in my previous work,[18] this FRB lending to AIG was a straight loan without any collateral based on Article 13(3) of the Federal Reserve Act (1913).

This type of lending is normally understood to be a procedure used only for emergency purposes, and even in such a case, the government usually guarantees the lending. This time, however, the government announced only a *plan* to purchase AIG preferred securities corresponding to 80 percent of its capital. The question why the FRB could do this for AIG but not for Lehman Brothers is naturally raised. This question forces us to ponder again the original question of the U.S. authorities' judgment: Did they underestimate the systemic risk, or were they overtaken by the need to be seen as tough regulators?

The above points, and also the massive negative impacts on the global financial system and macroeconomies after the Lehman shock, gives rise to my conclusion that the U.S. authorities' policy decision of not rescuing Lehman Brothers was not optimal, at least from the global point of view. This evaluation, however, might be different from the U.S. point of view: for the U.S. authorities, rescuing Lehman Brothers might have attracted much harsher criticism from politicians for using taxpayers' money to bail out a greedy investment bank. The failure of a big U.S. investment bank surely caused huge negative impacts on the markets and economies of foreign countries, but they were *externalities* from the U.S. point of view, as these were losses suffered by banks and people outside their jurisdiction. The U.S. authorities had no obligation to consider them when they decided the policy reactions to the crisis.

This situation contrasts starkly with the case of other countries. For example, in the midst of the Japanese banking crisis in the late 1990s, the Japanese authorities received enormous pressure from foreign authorities not to allow large Japanese banks to go into bankruptcy without minimizing the consequent systemic impacts on the global market.[19] These pressures actually encouraged the Japanese authorities to internalize the externalities associated with the failures of Japanese TBTF institutions. In the case of the United States, no external authorities or international organizations could have enough power to encourage the United States to internalize their externalities. Indeed, the United States was the last among major countries to implement Basel II and to accept the Financial Sector Assessment Program of the IMF. And the United States became the epicenter of the global financial crisis. The arguments for relating the latter with the former are still rarely heard.

Again, compared to past events, the policy failure and shock amplification phase looks similar to the second phase of the Japanese

banking crisis of the late 1990s. In both cases, the authorities' reactions to the crisis were lukewarm and stopped short of using taxpayers' money to address the problems, only to lose the confidence of the market and consequently intensify the crisis. Unlike the Japanese case, the U.S. authorities decided swiftly to inject public capital into many TBTF banks. But this happened only after the Lehman Brothers' failure, which had already induced losses too significant to be absorbed by the private sector.

The Adjustment of Macroimbalances Phase

The adjustment of macroimbalances occurs only as the result of a macroeconomic shock that has developed into systemic breakdown, policy failure, and shock amplification. In the case of the NAFC, for example, the ratio of U.S. current account deficit against GDP declined dramatically, from 6.0 percent in 2006 to 2.6 percent in 2009. Alan Greenspan[20] and many others have indicated, however, that large crises are usually seen as a kind of large correction movement of macroeconomic imbalances. If this is the case, macroimbalances can be seen as deep root causes of the financial crises, which then correct these imbalances. This situation may be compared to a large earthquake. Usually, large earthquakes occur when one plate is spooled up by another plate until it bounces back at the point it cannot stand any more binding pressure. The binding pressure can be compared to global imbalances and the motion of bouncing back to the bubble bursting or the financial crisis occurring.

Indeed, if you look at the U.S. current deficit ratio against its GDP, you can easily find some close relations between the past financial crisis and this imbalance development (Fig. 10.1). The U.S. current deficit ratio experienced three peaks over the past 40 years. The first peak came around the late 1970s after the oil shock and subsequent stagflation. This imbalance was corrected mainly by policy reactions; that is, the tightening of monetary policy by then Federal Reserve Chairman Paul Volcker. The second peak came around the late 1980s after the long boom period, which was initiated by the Reagan administration's economic policies. This imbalance was finally corrected in 1987 thanks to Black Monday and the subsequent Plaza Accord to modify the high dollar policy. The third peak came in 2007 after the great moderation initiated by then Federal Reserve Chairman Alan Greenspan. It goes without saying that this imbalance was

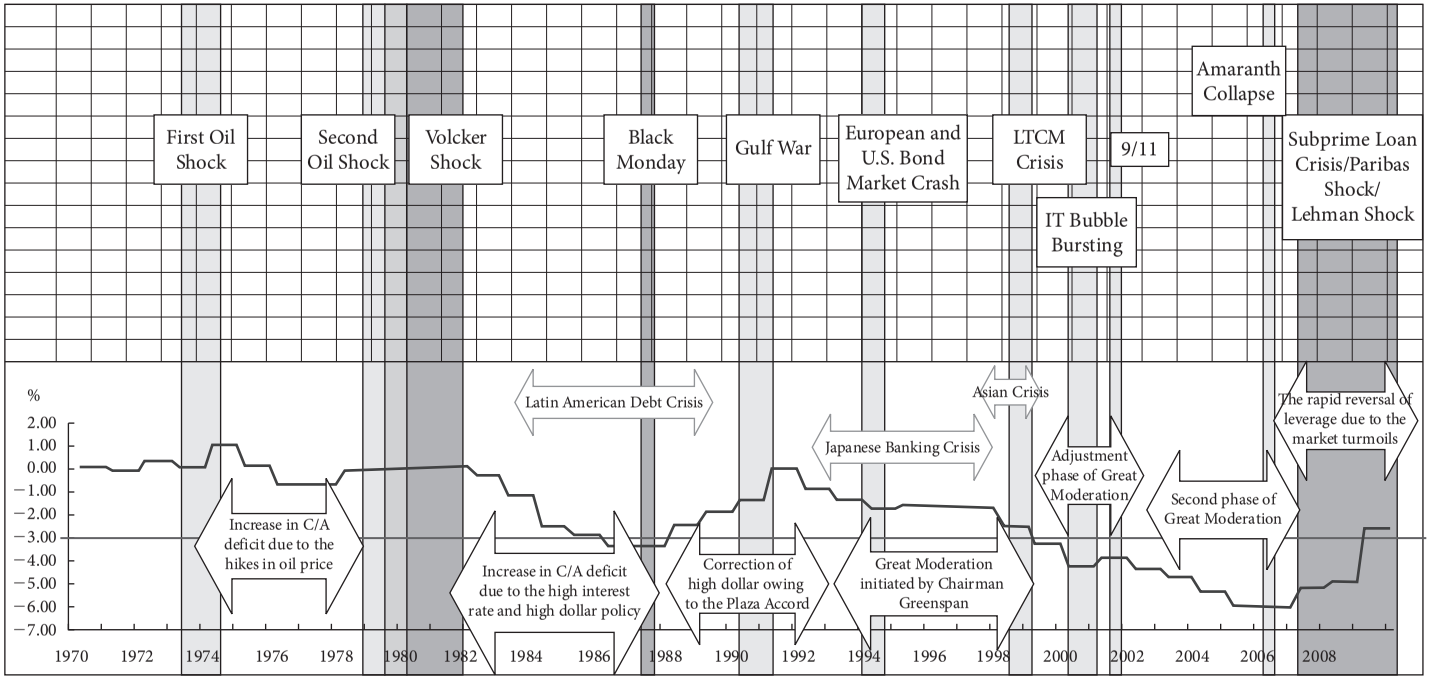

Figure 10.1 Development of the ratio of U.S. current account (C/A) deficit against gross domestic product (GDP)
Source: Bureau of Economic Analysis, U.S. Department of Commerce

corrected by the NAFC, as discussed. These events imply that large imbalances represented by the current account deficit of the United States tend to be followed by large financial shocks.[21]

Another remarkable finding is that the impacts of the U.S. imbalances (or even the U.S. balances) were not limited simply to the U.S. financial system or to the U.S. economy. The historical development of the U.S. current account deficit implies that financial imbalances or financial asset bubbles in other countries tended to mount up during the correction process of U.S. imbalances and burst when U.S. imbalances were no longer corrected and started to increase again. For example, when the U.S. current account deficit started to increase during the early 1980s, the decade-long Latin American external debt crisis occurred. Then, when the U.S. imbalance started to increase during the early 1990s, the decade-long Japanese banking crisis intensified. Finally, when the U.S. imbalance started to increase during the late 1990s after a long period of leveling-off, the Asian Financial Crisis occurred. Thus, although we need to confirm the causality relationship by more robust statistical tests, many financial shocks in the world seem to be influenced by one financial indicator: the U.S. imbalances represented by the U.S. current account deficit.

The idea that macroeconomic imbalances are a cause of financial crises has already been introduced in many academic discussions and has been used as a policy tool for developing early warning indicators. However, as Claudio Borio and Mathias Drehmann indicated,[22] not many indicators could have enough power to predict the financial crisis, particularly in the case of out-sample estimation.[23] This assertion partly implies the changeability of the form of the crisis. It might also imply that the size of an imbalance is closely associated with the severity of a shock but only loosely associated with the frequency of crises. Ironically, this independence between severity and frequency of shocks might be related to the advancement of policy tools to contain the occurrence of financial crises. There is a sign of some adjustment of U.S. imbalance when the current account deficit against GDP hit 3 percent in the early 2000s, which was the previous peak level before the reversal by Black Monday: that adjustment was the IT bubble bursting in 2000 (Fig. 10.1). This event surely corrected irrational exuberance in the U.S. stock market, but stopped short of correcting exuberance in the real estate market and also the current account deficit of the United States.

The above history reminds me of the article "The Great California Fires" in *TIME* magazine on October 25, 2007.[24]

> Even when we try to be smart about fires, we often just make things worse. For more than a century, the US Forest Service—the federal agency responsible for combating wildfires—has pursued a policy of stamping out blazes wherever they occur and doing so all the more aggressively as populations grew in endangered regions. For those accustomed to living in urban areas, that makes sense—the job of a city fire department is to stop blazes before they damage property. But that's not how things work in the great Western forests. Paradoxically, trying to put out every minor blaze may raise the risk for the occasional megafire since the forests are not permitted to do their important work of occasionally clearing out accumulated vegetation. This is a little like letting newspapers pile up in your kitchen: If a fire occurs, the place is primed to blow. "These larger and more severe wildfires are an unintended consequence of a suppression policy that doesn't work," says Richard Minnich, a wildfire ecologist at the University of California at Riverside. "If anything, suppression actually endangers society. . . "

The story suggests to me that the efforts and advanced systems of fire agencies (central banks) surely succeed in reducing the frequency of wildfires (inflation or other macroeconomic shocks) but fail to control the vegetation (macroeconomic imbalances—deep root causes of shocks) that really determines the severity of the crisis.

ASSESSING THE CURRENT GLOBAL REGULATORY REACTIONS

As indicated earlier in the chapter, the epicenter's diagnostic of the crisis can be summarized as *greedy financial institutions seeking excessive returns and taking too many risks are the main suspect of this crisis and too industry-friendly regulators and supervisors might be possible accomplices.* According to this analysis, idiosyncratic factors come first and only then do systemic factors follow.[25] In other words, this analysis implies that banks' high morals and efforts to advance their risk management, supported by regulators' tough attitude toward banks, could avoid the recurrence of a financial crisis.

Indeed, the key themes of the current global regulatory reactions to the crisis can be represented by the chorus of more capital, more good capital, and less discretion and more simplification in bank regulations.[26] I may not need to mention it, but the idea of more good capital means an introduction of minimum core Tier 1 capital regulation, and less discretion and more simplification is represented by the introduction of intentionally risk *insensitive* leverage ratios and many prescriptive, one-size-fits-all-type new regulations.

The argument for more capital was justified for addressing the underestimation of some risks (e.g., risks associated with securitization and trading transactions) under Basel II, the need for a capital buffer for mitigating procyclicality, and also to help banks prepare for a wider scope of risk, including systemic risk, and a decline in risk allowance of regulators. The argument for more good capital was justified for the purpose of enhancing banks' survivability and thereby minimizing the realization of systemic risk. Finally, less discretion and more simplification was justified due to the changes in the concept of the limits of regulators and supervisors.

Regulators and supervisors are, of course, not superhuman. We could not expect them to be perfect in disciplining banks, which, by their nature, are deemed to be haunted by moral hazard incentives. Basel II acknowledged this limitation. It correctly understood that it might be too hard for regulators and supervisors to follow the rapid speed of innovation and subsequent complexities of financial transactions and risk management. Still, it rejected the idea of suffocating financial innovations or banks' incentives to develop their own risk management in order to gain financial stability. Instead, Basel II introduced the idea of Pillar 2, in which regulators and supervisors tried to align banks' risk appetite and management on their own through the Supervisory Review and Evaluation Process (SREP) of banks' Internal Capital Adequacy Assessment Process (ICAAP). SREP was expected to be supplemented by Pillar 3; that is, by a market based on disclosed information.

Unfortunately, the NAFC changed the above philosophy, mainly in epicenter countries, in two ways. First, the NAFC showed that it is quite hard for regulators and supervisors to align banks' risk appetite and management with regulators and supervisors' risk appetite through only dialogue and discretional measures. Second, the price of encouraging banks to innovate financial technology and corresponding risk management is too high to be accepted. The only remaining

option for epicenter countries is to introduce tough, simple and thus one-size-fits-all or less discretionary regulation regardless of banks' risk profiles and levels of risk management.

In addition to the introduction of tough regulations, the authorities also emphasized the importance of the enhancement of banks' governance and risk management. Their requests included enhancement of stress testing, liquidity risk management, establishment of a firm-wide perspective, management of risk concentration, management of others' risk caused by own failures (i.e., systemic risk), simplification of businesses or the writing of living wills, enhancement of governance, and development of a less dynamic remuneration system.

To be fair to global regulators, they were surely all along discussing issues of systemic factors; that is, the issues of management of the financial system. The issues included establishing a body of macroprudential policy, monitoring financial system stability, discussing possible macroprudential pro-active measures to mitigate procyclical impacts or prevent emerging financial bubbles, and improving fragmented or too lenient supervisory systems in some countries. Compared to the enhancement of regulations against and the request of enhancing risk management for banks, however, the reactions of regulators still tended to be ad hoc, slow to develop, and with no clear prospect of their realization.

Meanwhile, the outcome of the non-epicenter's anatomy of the NAFC explained earlier in the chapter implies very different policy measures, with very different policy priorities, to avoid the recurrence of a financial crisis. Using the analogy of the California wildfires, I would like to summarize the possible policy questions to be posed based on the non-epicenter's anatomy of the NAFC.[27]

Problem: great Western forests (deep root causes)

- How should we identify global imbalances?
- How should we establish mechanisms for correcting the global imbalances?

Problem: California state government (root causes)

- How should we fix the flawed financial system and regulatory framework, which could not properly manage the moral hazard of banks?
- How should we establish an incentive-compatible regulatory framework?

Problem: California residents (direct causes)

- How should we fix the flawed governance and risk management of financial institutions?

In the following section, I summarize some possible policy reactions to be taken to answer the above questions, some of which were already emphasized in my earlier work[28] and in that of the National Institute for Research Advancement (NIRA),[29] and I then compare these reactions with any current actual policy reactions.

Correction of Global Imbalances: Top Priority Issue

Reactions to be considered

- We need an internationally agreed mechanism to pressure global economies to reduce imbalances that push beyond a certain threshold.
- In each jurisdiction, regulatory agencies and central banks should further enhance their policy coordination and dialogue to jointly conduct effective macroprudential policy. As an objective of macroprudential policy, the authorities should be clearly charged with preempting the massive financial crises that could occur once every 10 to 20 years. As a tool of macroprudential policy, the authorities should decide the macrostress scenarios to be assumed by financial institutions to assess their capital adequacy. These scenarios should vary with the different phases of the credit cycle, demonstrating the events that require banks to have much higher capital than otherwise required during a bubble period and only a little higher or almost the same level during a recession period.

Actual reactions

- Regarding the global imbalances, some ad hoc discussions have been initiated by the IMF, the G-20, and bilateral talks between the United States and China to address them, but they were not necessarily regarded as the central issues of preventing the recurrence of financial crises.
- The "countercyclical capital buffer proposal" made by the BCBS (in 2010)[30] was surely a first important step to prevent the

emerging financial bubbles as well as to mitigate procyclical impacts but stopped at the very early stage of designing the system.

Gap assessment

- Without global agreement on any effective measures to reduce the possible deep root causes of the great financial crisis, it is very likely that another very serious crisis will hit the world economy; however, it is likely to appear in a different form than the one we've just seen.
- Given the cold, hard reality of world and domestic politics, it may be difficult to agree on effective measures in this area in the near future. In this case, as a second best measure, we should focus on the second priority issue as this may lessen the severity of shocks to some extent although it may not stop the occurrence of a crisis altogether.

Management of the Moral Hazard of Banks: Second Priority Issue

Reactions to be considered

- Enhancing supervisory capability to assess banks' risk profile.
- Introducing incentive-compatible regulation that the regulator could use to *tame the moral hazard* of banks. For this purpose, the regulatory and supervisory agencies should establish a framework that influences the corporate governance of financial institutions to have them reflect regulatory expectations in their risk tolerance.
- Preparing the degree of stress, both by banks and by the authorities, that should be clearly shown so that moral hazard of regulators as well as banks can be minimized.[31] For example, the authorities should clarify the degree of stress to be supposed by financial institutions for their capital adequacy assessment and thereby indicate the image of *backstop* to the private sector when a financial crisis is officially declared by the government. Financial institutions should assess their capital adequacy based on the macrostress scenarios indicated by the authorities. This is basically the same as the idea of a pre-commitment approach. If a bank cannot stand the pre-committed degree of stress, it is the bank's fault. If a bank faces a bigger-than-pre-committed degree of stress, it is the role of a regulator to rescue the bank.

- Lowering regulators' capabilities vis-à-vis the complexity of financial institutions' businesses should lead to a narrower scope of banking businesses, as is the case of the *Volcker Rule* that would bar banks from engaging in speculative activities with their own money.
- Putting banks' compensation policies in line with the regulator, one of the most important stakeholders of banks.

Actual reactions

- Eliminating the moral hazard of banks completely, regardless of costs, has been the intention of current regulatory reactions.
- Enhancing supervisory capability was discussed, but not necessarily with a sense of urgency.
- Discussing the authorities' intervention into banks' compensation, although this discussion was not conclusive.

Gap analysis

- There is a stark contrast between the reactions to be considered and actual reactions regarding the moral hazard of banks. Actual reactions argued for a complete elimination of the source of moral hazard of banks at any cost given the regulators' and supervisors' incapability of managing it. My proposal of the reactions to be considered does not necessarily reject this idea, but allows for authorities with high capabilities of managing the moral hazard of banks. Increasing the capability of regulators and supervisors to assess banks' risk management should lead to more room for taming the moral hazard of banks. Meanwhile, the global introduction of the policy of zero tolerance against banks' moral hazard implicitly assumes that all the regulators and supervisors in the world could overlook improper risk management of banks, as is the case with epicenter countries, an argument that is very difficult for non-epicenter countries to accept.
- This may sound harsh, but the regulatory and supervisory system of the United States and United Kingdom, the two main epicenter countries, had been fundamentally flawed up to this crisis from a non-epicenter point of view. In the case of the United States, the fragmented structure of the regulatory and supervisory system has

long been a lone wolf against the global trend of establishing a single regulatory and supervisory body covering various types of financial services industry. The fact that substantially no meaningful oversight was done against non-deposit-taking TBTF institutions, such as some investment banks and insurance companies, was simply scandalous to non-epicenter countries. This aloofness implied that there are still many easy things (or the things considered usual that have been done in many other countries) to be done before discussing difficult things (e.g. how to contain moral hazard and systemic risk). In the case of the United Kingdom, *light touch regulation* seems to have been strongly biased toward banks' self-judgment through off-site dialogue (and less toward supervisors' challenges through on-site examinations), and there has been too much focus on visible risk or risk quantification (and less focus on invisible risk or qualitative aspects of risk management). Again, many non-epicenter countries have cast doubts on this lightness although they still share the idea of a *principle-based approach*.

- After I disclosed my idea arguing for the introduction of the clear loss sharing rule between banks and the authorities under the severe stress situation in my earlier work,[32] some expressed concerns that this mechanism could cause another moral hazard of banks as authorities would then shoulder some tail risk. My answer to these concerns depends on whether banks can intentionally control the tail risk that is shouldered by the authorities. If banks can control it, they naturally face a moral hazard situation and try to increase this risk. If they cannot control it, they cannot arbitrage the system. Very important (and often forgotten), we also have to pose the same question to the authorities in designing the moral-hazard-free system. In other words, we should consider whether the authorities can intentionally control the tail risk (including policy failures) that is shouldered by banks or not in order to minimize the moral hazard of the authorities. Of course, it is not so easy to clearly distinguish the risks to be attributed to banks (which can be called idiosyncratic behaviors) and the risks to be attributed to the authorities (which are considered systemic phenomena). Still, the system that forces banks to shoulder huge risks that can be controlled only by the authorities costs a lot.

Buffer Against Coming Crises: Third Priority Issue

Reactions to be considered

- The level of buffer should be decided not only by the capital (against risks taken) prepared by banks, but also by banks' and regulators' abilities to react swiftly to stress events.

Actual reactions

- Discussing the level of capital against risk to be prepared by banks.

Gap analysis

- The big difference between the above two reactions is in the priority assigned for capital buffers. In the world of the great Western forests the buffer against coming crises is only the third priority issue, but in the real world, it seems to be the number one priority issue. Many empirical analyses have suggested the difficulties in identifying stable statistical relationships between the low capital adequacy ratio of a banking system and the high frequency of banking crises, with some exceptions.[33] Still, the argument that high capital requirements lead to a more stable banking system is appealing to the intuition and thus still very popular. As the Federal Reserve Bank of Chicago put it more than 10 years ago,[34] "the command regulations may induce unintended perverse behavior by the regulated firm." This approach could encourage banks to take aggressively more risks that are not well captured by supervisors; taking these risks would satisfy the appetite of shareholders, who are required to offer additional capital. Hence, we need to make more efforts to construct the incentive-compatible mechanism discussed earlier, which motivates banks to internalize regulatory objectives and thereby aligns the risk appetite of banks with that of regulators.
- Also, we need to explicitly consider banks' capabilities to react dynamically to a crisis. This element sometimes works as a more important source of resilience of banks, as already confirmed by the Senior Supervisors Group (SSG).[35] Again, for this purpose, we need supervisors with the necessary capability to assess banks' capability of dynamic reactions to a crisis.

Banks' Preparation for Crisis Management: Fourth Priority Issue

Reactions to be considered

- Banks should enhance their risk governance and management in the areas indicated in the first section of this chapter under the Pillar 2 framework.

Actual reactions

- Discussing the same items, but mainly under Pillar 1.

Gap analysis

- The only difference between the considered and actual reactions to banks' preparation for crisis management is whether to use Pillar 2 or Pillar 1. Given the possible divergence in risk management practices and environments surrounding these risks, the use of Pillar 2 for this purpose should be more appropriate, at least from a global point of view.

CONCLUSION

This chapter of *Banks at Risk* tries to show some missing viewpoints of the current global regulatory discussion, particularly from a non-epicenter point of view. In other words, the points I have made here are a reflection of possible frustrations felt by many regulators and banks in non-epicenter countries.

Of course, this frustration should not be a mere reflection of a feeling of jealousy of non-epicenter countries that they could not influence the formation of global banking regulation to their satisfaction. Similarly, the main interests of non-epicenter countries should not be to just criticize the authorities of epicenter countries. Rather, the arguments should be constructed focusing on how we can effectively avert the next possible financial crisis, partly because the next big losers in the crisis could be non-epicenter (particularly Asian) countries, where the memory of past crises has rapidly been evaporated partly due to a continued booming economy.

As discussed in the chapter, the current global regulatory reactions are very likely to be biased mainly toward the possible conflict of interest of global governance. The reactions have not necessarily

touched the root causes of the financial crisis, because they are too political or because they might ignite more criticism against the regulators (i.e., the authors of the current regulatory reactions). This situation induces the biases of policy measures (i.e., more capital and more simple and less discretionary regulations) to put too much emphasis on banks' misbehavior and (only implicitly) regulators' and supervisors' incapability. This chapter's conclusion is that these types of stopgap measure could not have changed the deep root causes of the present crisis, and much worse, might increase the probability of another financial crisis occurring in a different form.

The chapter instead advocates the introduction of (1) a mechanism for global policy coordination to reduce imbalances and flexible macroprudential policy to pre-empt financial bubble pressures; (2) an incentive-compatible regulatory framework that encourages banks to align their risk appetites with those of regulators; and (3) a framework to assess banks' capabilities of overcoming a crisis, depending not only on the capital they hold, but also on their capability to dynamically react to a crisis. New global regulations should not put us at risk again.

ENDNOTES

1. This article comprises the author's own views and does not reflect the opinions of Deloitte Touche Tohmatsu LLC.
2. For example, see Senior Supervisors Group, "Observation on Risk Management Practices during the Recent Market Turbulence," 2008, SSG, Basel, http://www.ny.frb.org/newsevents/news/banking/2008/SSG_Risk_Mgt_doc_final.pdf.
3. For example, see Financial Stability Forum, Final Report of the Financial Stability Forum on Enhancing Market and Institutional Resilience, 2008, FSF, Basel, http://www.financialstabilityboard.org/publications/r_0804.pdf.
4. For example, see Institute of International Finance, Final Report of the IIF Committee on Market Best Practices: Principles of Conduct and Best Practice Recommendations, 2008, IIF, Washington, DC, http://www.ieco.clarin.com/2008/07/17/iff.pdf.
5. For example, see Institute of International Finance, "Reform in the Financial Service Industry: Strengthening Practices for a More Stable System," December 2009, IIF, Washington, DC, http://www.fide.org.my/publications/reports/0010_rep_20091214.pdf.

6. Stefan Walter, "Basel II and Revisions to the Capital Requirements Directive" (BIS speeches, Basel, May 3, 2010), http://www.bis.org/speeches/sp100503.htm.
7. Nicholas Sarkozy, Opening Plenary Speech at the World Economic Forum, Davos, January 29, 2010, http://www.cfr.org/publication/21346/sarkozys_speech_at_the_world_economic_forum_january_2010.html.
8. The recent studies include International Monetary Fund, "How Linkages Fuel the Fire: The Transmission of Financial Stress from Advanced to Emerging Economies," in the IMF *World Economic Outlook*, April 2009; International Monetary Fund, "Detecting Systemic Risk," in the Global Financial Stability Report, April 2009; M. Carmen Reihhart and Kenneth S. Rogoff, "This Time is Different: A Panoramic View of Eight Centuries of Financial Crises," 2008, National Bureau of Economic Research, Cambridge, Massachusetts, http://www.nber.org/papers/w13882; and Claudio Borio and Mathias Drehmann, "Assessing the Risk of Banking Crises—Revisited," *BIS Quarterly Review*, March 2009.
9. E. Philip Davis, "Towards a Typology for Systemic Financial Instability," Brunel University and NIESR, 2003, http://bura.brunel.ac.uk/handle/2438/916.
10. Charles P. Kindleberger, *Manias, Panics, and Crushes, A History of Financial Crises* (New York: Basic Books, 1978).
11. Tsuyoshi Oyama, *Post-Crisis Risk Management: Bracing for the Next Perfect Storm* (New York: John Wiley & Sons, 2009), 18.
12. See, for example, footnote 9 of Alan Greenspan, "The Crisis," 2010, http://www.brookings.edu/~/media/Files/Programs/ES/BPEA/2010_spring_bpea_papers/spring2010_greenspan.pdf.
13. *Jusen* comprised seven non-bank financial institutions founded by banks and other financial institutions in the 1970s as housing loan corporations with the mandate of complementing the mortgages they offered. In the 1980s, these companies shifted their lending toward real estate developers. This strategy failed because they had little expertise in commercial lending, leading to aggregate losses of ¥6,410 billion in the summer of 1995. See Hiroshi Nakaso, "The Financial Crisis in Japan During the 1990s: How the Bank of Japan Responded and the Lessons Learnt" (BIS Papers No. 6, Bank for International Settlements, Basel, 2001).
14. Meanwhile, there were some policy discussions on the problem of liquidity provision by the central bank in cooperation with the supervisory agency in a stress situation and the problem of a global macroprudential supervisory framework, although these were not necessarily regarded as the central causes of the crisis.

15. More correctly speaking, the U.S. authorities put the parent holding company for the global group into bankruptcy but allowed the U.S. broker-dealer subsidiary to remain in operation. See Thomas F. Huertas, "Living Wills: How Can the Concept be Implemented?" 2010, FSA, London.
16. Ben Bernanke, "Lessons from the Failures of Lehman Brothers" (testimony before the Committee of Financial Services, U.S. House of Representatives, Washington, DC, April 22, 2010), http://www.federalreserve.gov/newsevents/testimony/bernanke20100420a.htm.
17. Henry Paulson, *On the Brink: Inside the Race to Stop the Collapse of the Global Financial System* (New York: Business Plus, 2010).
18. Oyama, *Post-Crisis Risk Management*, 8.
19. The situation faced by the FRB in September 2008 was quite similar to the situation faced by the Bank of Japan (BOJ) in November 1997 when one of four big security houses, Yamaichi Securities, collapsed. As Nakaso ("The Financial Crisis in Japan") indicated, Yamaichi was severely damaged by the revelation of huge off-the-book liabilities as in the case of Lehman's "Repo 105," an off-balance-sheet device that temporarily removed securities inventory from its balance sheet, usually for a period of seven to ten days, and created a misleading picture of the firm's financial condition. At that time, Fuji Bank, a major Japanese bank, was expected to be a white knight as was the case of Barclays bank for Lehman Brothers, but in vain. About a week after the revelation, it was announced that Yamaichi had suspended its engagement in new contracts as a step toward closing down and dissolving the firm. Still, Yamaichi was allowed to continue its operations to settle existing contracts thanks to the BOJ's provision of liquidity to Yamaichi. Nakaso noted that "the authorities recognized that default by Yamaichi would have a devastating effect on both domestic and overseas markets given the size and complexity of the firm." Based on this recognition, the BOJ decided to extend liquidity to Yamaichi although the prospect of recovery of its loans was not certain (BOJ ended up suffering a loss of ¥111 billion from this loan).
20. Greenspan, "The Crisis."
21. In "The Crisis," Greenspan similarly notes that "the roots of the crisis reach back, as best I can judge, to the aftermath of the Cold War" (p. 3), "a pronounced fall from 2000 to 2005 in both global real long-term interest rates and nominal long-term rates which indicated that global saving intentions, of necessity, had chronically exceeded global intentions to invest" (p. 4) and "in short, geo-political events ultimately led

to a fall in long-term mortgage interest rates that in turn led, with a lag, to the boom in house prices globally" (p. 5) However, he also mentioned that "the U.S. current account deficit did not play a prominent role in the timing of the 2007 crisis" (p. 36).

22. Claudio and Drehmann, "Assessing the Risk of Banking Crises."
23. In "The Crisis," Greenspan also mentioned that "with rare exceptions, it has proved impossible to identify the point at which a bubble will burst; but its emergence and development is visible in credit spreads."
24. "The Great California Fires," *TIME*, October 25, 2007, http://www.time.com/time/nation/article/0,8599,1675380,00.html.
25. Idiosyncratic factors represent the impacts of unique judgments and the management of individual financial institutions, while systemic factors represent the impacts of the external environments where financial institutions operate, such as institutional settings and practices and financial bubbles. They influence the financial industry as a whole.
26. See, for example, Basel Committee on Banking Supervision, "Strengthening the Resilience of the Banking Sector" (Consultative Document, BCBS, Basel, 2009).
27. The same issue was emphasized in Adrian Blundell-Wignall and Paul Atkinson, "The Sub-prime Crisis: Causal Distortions and Regulatory Reform," (paper presented at Reserve Bank of Australia Conference, Sydney, July 14–15, 2008), http://www.rba.gov.au/publications/confs/2008/blundell-wignall-atkinson.pdf. They noted, "understanding causality is a pre-condition for correct policy making. . . . The reform process needs to think about the conditioning factors, and improve them. But bubbles and crises will still occur if the causal distortions are not addressed directly. Think of the analogy of a flood of running water from a badly-made and bursting dam: the gullies, rocks and branches in its way are conditioning factors that influence the speed and direction of the flow—but the excess water will always find its way around these obstacles. . . . A bad dam is causal, the obstacles, levies etc. may moderate or exacerbate the situation—but most fundamentally we need to understand what good and bad infrastructure is."
28. Oyama, *Post-Crisis Risk Management*, 109–59.
29. National Institute for Research Advancement, "Preparing for the Next Financial Crisis—Proposal for a New Financial System Beyond Present Stopgap Measure," October 2009, NIRA, Tokyo, http://www.nira.or.jp/pdf/0902english_summary.pdf.

30. Basel Committee on Banking Supervision, "Countercyclical Capital Buffer Proposal" (Consultative Document, BCBS, Basel, 2010).
31. In "The Crisis," Greenspan noted, "there is [a] . . . difficult problem of risk management that central bankers confront every day, . . . how much of the underlying risk in a financial system should be shouldered [solely] by banks and other financial institutions." In this sense, my proposal (the reactions to be considered) is to decide the share of risk to be shouldered by the authorities including central banks and share this understanding with banks and the market. Meanwhile, the actual reactions are to make banks shoulder every risk.
32. Oyama, *Post-Crisis Risk Management*, 86.
33. In chart 3 of the IMF's "Detecting Systemic Risk", for example, it was noted that "capital adequacy ratios were unable to clearly identify institutions requiring intervention. In fact, contrary to the common belief that low capital adequacy ratios would signal weakness for a FI, all four capital adequacy ratios examined for intervened commercial banks were significantly higher than (or similar to) the non-intervened commercial banks as a whole." See International Monetary Fund, "Detecting Systemic Risk," January 2010, IMF, Washington, DC, 5–6, http://www.imf.org/external/pubs/ft/gfsr/2009/01/pdf/chap3.pdf.
34. Federal Reserve Bank of Chicago, "Bank Capital for Market Risk: A Study in Incentive-Compatible Regulation" (Chicago Fed Letter Number 104, Chicago, Illinois, 1996), 1, http://www.chicagofed.org/digital_assets/publications/chicago_fed_letter/1996/cflapr96.pdf.
35. Senior Supervisors Group, Observation on Risk Management Practices.

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