Conference Proceedings

20th Annual Hyman P. Minsky Conference on the State of the US and World Economies

Financial Reform and the Real Economy

April 13–15, 2011, New York City

A conference organized by the Levy Economics Institute of Bard College
with support from the

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The proceedings consist of transcripts of the speakers' remarks and summaries of session participants' presentations.

Foreword

Welcome to the 20th Annual Hyman P. Minsky Conference, "Financial Reform and the Real Economy." Organized by the Levy Economics Institute with support from the Ford Foundation, this year's conference marks the Institute's 25th anniversary, and the third year of its joint initiative on reforming global financial governance. As part of its monetary policy research, that the Institute is partnering with the Ford Foundation to examine financial instability and reregulation within the context of Minsky's work on financial crises. Minsky was convinced that a program of financial reform must be based on a critique of the existing system that identifies not only what went wrong but also why it happened, and his approach provides the theoretical framework for this initiative.

This year's conference addresses the ongoing effects of the global financial crisis on the real economy, and examines proposed and recently enacted policy responses. The European, Latin American, and Asian responses to the crisis are compared, and proposals for reforming the international financial architecture are reviewed. Central bank exit strategies are also considered.

I look forward to seeing you again at future Levy Institute events.

Dimitri B. Papadimitriou
President, The Levy Economics Institute, and *Jerome Levy Professor of Economics,* Bard College

Program

Wednesday, April 13

9:00–9:30 a.m.

WELCOME AND INTRODUCTION

Leonardo Burlamaqui, *Ford Foundation*

Dimitri B. Papadimitriou, *Levy Institute*

9:30–11:00 a.m.

SESSION 1

The Ford–Levy Institute Project on Financial Instability and the Reregulation of Financial Institutions and Markets

Jan Kregel, *Levy Institute and Tallinn Technical University*

L. Randall Wray, *Levy Institute and University of Missouri–Kansas City*

Éric Tymoigne, *Levy Institute and Lewis and Clark College*

11:15 a.m. – 1:00 p.m.

SESSION 2

Financial Journalism and Financial Reform: What's Missing from the Headlines?

Moderator: John Cassidy, The New Yorker

Jeff Madrick, Challenge, *Roosevelt Institute, and Bernard Schwartz Center for Economic Policy Analysis, The New School*

Joe Nocera, The New York Times

Steve Randy Waldman, *Interfluidity.com*

Francesco Guerrera, Financial Times

1:00–2:45 p.m.

SPEAKER

Gary Gensler, *US Commodity Futures Trading Commission*

"Bringing Oversight to the Swaps Market"

2:45–3:45 p.m.

SPEAKER

Stephen S. Roach, *Morgan Stanley and Yale University*

"The Next China"

4:00–5:00 p.m.

SESSION 3

Swaps Regulation

Moderator: Justin Lahart, The Wall Street Journal

José Gabilondo, *Florida International University*

Michael Greenberger, *The University of Maryland*

Michael W. Masters, *Masters Capital Management, LLC*

5:00 p.m.

SPEAKER

Paul A. McCulley, *Society of Fellows, Global Interdependence Center*

"Triangulating the Triangle"

Thursday, April 14

9:00–10:15 a.m.

SPEAKER

Andrew Sheng, *China Banking Regulatory Commission and Tsinghua University*
"'Finance Cannot Be Left to Free Markets': An Asian Tribute to Minsky"

10:15–11:15 a.m.

SESSION 4

Financial Reform and the GATS: Challenges and Opportunities

Moderator: Roger Lowenstein, The New York Times; *author,* The End of Wall Street

William H. Janeway, *Warburg Pincus and Cambridge in America*

Philip Suttle, *The Institute of International Finance*

Lori M. Wallach, *Global Trade Watch, Public Citizen*

11:30 a.m. – 12:30 p.m.

SPEAKER

Phil Angelides, *Financial Crisis Inquiry Commission*
"Justice, Reform, and Rebuilding in the Wake of the Financial Crisis"

12:30–2:15 p.m.

SPEAKER

Charles I. Plosser, Federal Reserve Bank of Philadelphia
"Strengthening Our Monetary Policy Framework"

2:15–3:30 p.m.

SESSION 5

Fiscal Constraints and Macro Perspectives

Moderator: Louis Uchitelle, The New York Times

Robert W. Parenteau, *Levy Institute and MacroStrategy Edge*

Richard Berner, *Morgan Stanley*

Peter Hooper, *Deutsche Bank Securities*

Marshall Auerback, *Levy Institute and Roosevelt Institute*

3:30–4:30 p.m.

SPEAKER

Gary B. Gorton, *Yale University and National Bureau of Economic Research*
"The Financial Crisis and the Future"

4:45–6:15 p.m.

Policy and Regulatory Responses of Emerging Markets: Latin America

Mercedes Marco Del Pont, *Central Bank of Argentina*
"International Crisis and Policy Space: Challenges for Emerging Countries"

Discussant: Arturo O'Connell, *Central Bank of Argentina*

6:15 p.m.

SPEAKER

Paul Tucker, *Bank of England*
"Financial Stability and the UK's Macroprudential Regime"

Friday, April 15

9:00–10:00 a.m.

SPEAKER

Athanasios Orphanides, *Central Bank of Cyprus and Governing Council, European Central Bank*

10:00–11:00 a.m.

SPEAKER

Charles L. Evans, Federal Reserve Bank of Chicago
"Four Lessons from the Financial Crisis"

11:15 a.m.–12:15 p.m.

SPEAKER

Vítor Constâncio, European Central Bank
"Financial Regulatory Reform and the Economy"

12:15-2:30 p.m.

SPEAKER

Sheila C. Bair, Federal Deposit Insurance Corporation
"Financial Reform: The Road Ahead"

2:30–3:45 p.m.

SESSION 6

Reregulating the US Financial System: Beyond Dodd-Frank

Moderator: Eric Dash, The New York Times

James K. Galbraith, *Levy Institute and University of Texas at Austin*

Robert A. Johnson, *Institute for New Economic Thinking*

Alex J. Pollock, *American Enterprise Institute for Public Policy Research*

3:45–4:15 p.m.

SPEAKER

Martin Mayer, *The Brookings Institution*
"The Man Who Got It Right: Hyman P. Minsky and the Economics of Trouble"

Welcome and Introduction

LEONARDO BURLAMAQUI
Program Officer, Governance and Civil Society, Ford Foundation

DIMITRI B. PAPADIMITRIOU
President, Levy Economics Institute

LEONARDO BURLAMAQUI: Good morning, everyone. Welcome to the Ford Foundation and the 20th Annual Minsky Conference. I am Leonardo Burlamaqui, program officer here at Ford, and I'm leading our initiative on reforming global financial governance. On behalf of our president, Luis Urbiñas, and our program vice president, Maya Harris, I welcome you once again to the Ford Foundation. This is the third time that we've had the privilege of hosting this very prestigious event, and both Luis and Maya regret that their traveling schedules . . . did not permit them to attend. But as always, we're delighted to have such distinguished guests joining us as speakers, as panelists, and as a very engaged audience.

Once again, this year's conference is immensely timely and pertinent. The link between this initiative and Minsky should be obvious to most of you by now, especially those who have become regulars at the conference. . . . In one sentence: Minsky's approach is the theoretical framework guiding our initiative . . . on reforming global financial governance. The initiative is very much Minsky going global. So what I'll do is give you, disguised as an opening remark, a snapshot of what we see as the global financial systems map. I'll raise five quick points that I hope will follow from just observing the map, and I'll conclude by asking a Minsky question, which is something I believe Dimitri will talk about when introducing the conference. . . .

Ladies and gentlemen, welcome to the Global Financial System. If this looks like kind of a messy slide, it is, and that's because the global financial system itself is messy. But let's try to give it a little bit more order so that I can make very quick comments on what we're seeing. Let's reorganize it in terms of coordinating bodies, regulatory mechanisms, fiscal shelters, financial players, and customers. Let's go very quickly through them.

Coordinating bodies: we have here the G20, BIS, Financial Stability Board, OECD, IMF. Let me make clear, this is not exhaustive—we could have more here. The coordinators themselves are not very well coordinated, so that's a first problem.

If we go to regulatory mechanisms, we have the public regulatory system—and again, I'm not exhausting what could be here, but just looking at that, the comment that I think applies is that we have actually very shallow corporations in the sense that national interests are taking priority over what we'll call the global loopholes.

Let me introduce you to another concept that is equivalent to the shadow financial banking system. I want to suggest that we also have a shadow regulatory system, which is composed of those entities that not many people acknowledge exist. When they do, they generally don't know precisely what those entities do. This is a very poorly understood set of institutions, yet they are very influential, because by issuing standard-setting norms in lobbying in several sets of institutions, including inside the Financial Stability Board, . . . they are extremely influential. . . . It's an interesting aspect to look at.

Treaties and agreements: again, we . . . have a panel in the conference to address some of the key questions under this rubric. . . . Under this label we can see disguised financial deregulation rules under trade agreements in a display of a whole set of contradictory pieces of rule making. A prime example is the GATS trying to consolidate financial deregulation, versus the G20 plea for financial reform. It's very contradictory, and I think the upcoming panel is going to be exploring that.

Fiscal shelters are self-explanatory. They're very effective in sheltering a lot of operations from regulatory practices and supervision.

Private financial institutions: that's a very complex set of different kinds of institutions, but the banking system is obviously at the core. . . . As we already know, this system is extremely interconnected, very opaque, and it mixes a poorly regulated banking system with a mostly unregulated shadow banking system. This is another area that people don't pay as much attention to as they should.

We also have a public financial system, and this is an increasingly important and vastly under-researched system or piece within this realm. When we try to understand the debates and the mechanisms of financial reform, this is largely not in the picture, and I would suggest it should be.

The other big player: corporations. Just to give you a snapshot, almost every corporation and the ways they interact or participate—and there are several; I'm just suggesting the most important of them—the comment here is that these are key players. They are not just customers in the financial system.

Then we have the financial markets: stocks and commodities. Those are fast and furious in the sense that the transactions there reach several times world GDP, and they are a big source of instability.

Then we have the real customers: the global population. In that sense, I would say that everybody is affected on a daily basis by how the financial system works. Let's keep in mind, the financial system largely operates with other people's money. That's another important note. If they use other people's money, what kind of supervision, what kind of regulation, should they be subjected to?

Then we're back to the system as a whole, and I'm going to go to my five very quick points. . . .

First, the obvious: this is an extremely complex system.

The second point is, its overwhelming interconnectiveness and interdependence makes the idea of achieving and maintaining financial stability through self-regulation by individual entities a bad joke.

Third, as a result of the first and second points, plus the predominance of the market-based, market-friendly economic theory—the efficient markets hypothesis, markets as self-regulating entities, et

cetera—this made it virtually impossible for the prevailing economic theory to capture those features. As a result, a poor understanding the way the financial system as a whole works is in place. Its key players, including CEOs, money managers, policymakers, and regulators—not all of them, but most—just don't get it. Mr. Greenspan and the Wall Street CEOs' testimonies are flagships here, of course. As you all know, the documentary *Inside Job* (2010) also did a fine job in displaying another depressing set of ideas by preeminent economists in the same vein. Consequently, the debate that is unfolding on how to properly reorganize, supervise, and regulate the financial system is in general very simplistic.

Finally, my hope is that this map illustrates a key point, made by both John Maynard Keynes and Joseph Schumpeter . . . and reinforced by Minsky, on the nature of the system, which is, capitalism is essentially a financial system that includes corporations, no matter what they fiscally produce. From that perspective, the conventional wisdom of a separation between the financial and the real economy simply does not hold. Finance—meaning credit, debt, assets, liability, cash flows, and cash commitments—is everywhere in the system. If we acknowledge this fact, this should make us pause and bring financial governance to the core of any attempt to reorganize the economic system as a whole and not just the financial system, both domestically and globally.

To conclude, let me throw out my Minsky question, which concerns the US regulatory debate. Assuming that Dodd-Frank is not a Minsky-inspired bill—and I'll make that assumption—what would be the key points or rules of a Minskyan response to Dodd-Frank? Maybe the first panel will answer the question. If not, we still have three days to get to it.

To properly introduce the conference, let me invite the president of the Levy Institute, Dimitri Papadimitriou, to the podium.

DIMITRI B. PAPADIMITRIOU: Thank you very much, Leonardo.

I want to welcome you to the Levy Institute's 20th Annual Hyman P. Minsky Conference, "Financial Reform and the Real Economy." This year, the Institute celebrates its 25th year of existence. In one sense, 25 years is an arbitrary period of time, but the end of that period is a traditional moment for reflection. This quarter-century anniversary is an appropriate point at which not only to review our programs over the past 25 years, but also to look to the future.

Our attention over these past years has been focused on strategic issues of economic policy with far-reaching implications, including problems in achieving long-term economic growth and higher employment in an era of low inflation, decreasing public expenditures on intellectual and physical infrastructure resulting from federal budget procedures, the relationship of monetary and fiscal policies to wage stagnation, and, most important, the systemic risks in the financial services sector deriving from technological innovation and diffusion. We plan to maintain our commitment to these issues and to increase their relevance in the years ahead.

The research and monetary policy program of financial sector reform was conceived and led by Hyman Minsky when he joined the Institute in 1990 and until his untimely death in 1996.

I want to thank the Ford Foundation and especially Leonardo Burlamaqui for supporting this program and these Minsky conferences—not only in financial terms, but also by hosting them here at the Foundation's headquarters. I also want to thank Jan Kregel, the Institute's senior scholar who directs our Monetary Policy and Financial Structure research program.

The Ford–Levy Institute Project on Financial Instability and the Reregulation of Financial Institutions and Markets has undertaken an investigation of the causes and development of the recent financial crisis from the point of view of Hyman P. Minsky. It draws on Minsky's extensive work on regulation to review and analyze the recent Dodd-Frank Wall Street Reform and Consumer Protection Act enacted in response to the crisis in the US subprime mortgage market, and to assess whether this new regulatory structure will prevent "It"—a debt deflation on the order of the Great Depression—from happening again. It seeks to assess the extent to which the Dodd-Frank Act will be capable of identifying and responding to the endogenous generation of financial fragility that Minsky believed to be the root cause of financial instability.

An understanding of the nature and the dynamics of the crisis may provide the framework within which the pressing issues presently facing the banking and financial system can be addressed. The pre-Dodd-Frank regulatory structure was designed for a financial system that no longer exists. Today, the main sources of private sector financing are not commercial or investment banks, but rather private investment vehicles such as hedge funds, pension funds, and sovereign wealth funds—the prime movers of what Minsky called "money manager capitalism." Many of these vehicles are highly leveraged via securitized loans originating from financial holding companies, making the ultimate risk holders difficult to identify. Moreover, this porous financial structure allows the crossing of multiple lines of regulatory jurisdiction as well as national borders, as evidenced by how quickly the US subprime crisis became systemic and global. The overextension of the safety net due to the government's de facto underwriting of institutions deemed "too big to fail," the lack of market discipline, and lax supervision were the main culprits in the banking and financial disruption of 2008.

Minsky also believed that regulation should be linked to the structure of the financial system. One of the major drawbacks of the current legislation is that it does not propose an alternative to the financial structure that produced the recent crisis. Indeed, Minsky viewed the "decline of traditional banking" as one of the causes of financial instability, and he had very clear views on what the ideal structure should look like. For Minsky, any regulatory regime must be consistent with, and sensitive to, the evolving nature of financial innovation, and should seek to foster two critical structural objectives: (1) ensuring the long-term stability of the financial system, and (2) promoting the capital development of the economy.

The monograph included in your conference folder[1] draws from Minsky's views found in his published and unpublished work, his official testimony, and his unfinished draft manuscript on the subject. In particular, his views are in concert with those who believe that the only way to make the large, "too big to regulate, and too big to fail" banks is to break them down into smaller units. In 1990, the 10 largest US financial institutions held about 10 percent of US financial assets. Today, the corresponding number is 70 percent. This extraordinary concentration of assets held by a small number of large financial institutions is one of the more vexing problems of our financial system. There is also a close correlation between the "originate and distribute" model of banking that produced the crisis and large bank size. Smaller banks, more closely linked to their borrowers and the community, would provide the possibility of restoring the "originate and hold" banking model that concentrated on the loan officer's "hard reading" of private information obtained in the process of deciding the creditworthiness of borrowers, rather than maximizing the generation of doubtful assets to be sold via securitization.

Irrespective of the emergent financial structure, regulators will have to be more cognizant of the endogenous processes that, in Minsky's view, are the root of the instability that produces crises. Indeed,

one of the tasks of the new Financial Stability Oversight Council is to identify and take measures to prevent financial instability. The monograph offers suggestions on how Minsky's analytical framework can be used to develop measures of financial instability, in the form of fragility indices for various sectors of the economy to help regulators detect emerging crises.

Whether the Dodd-Frank—designed "to promote the financial stability in the United States by improving accountability and transparency in the financial system, to end 'too big to fail,' to protect the American taxpayer by ending bailouts, to protect consumers from abusive financial services practices, and for other purposes"—will be able to fulfill the promise of its title is an open question. Minsky repeatedly pointed out that a financial crisis, rather than being a peculiar event, is the natural response of markets to a period of relative stability and innovations in risk management. He argued that issues of financial instability were not important simply because of their impact on the financial system, but because a stable financial system is central to the productive investment needed for income growth and full employment.

Indeed, this was the main object of Minsky's research at the Levy Institute. His proposal for financial stability was to shift the emphasis from capital-intensive investment in growth to investment in jobs as a means of ensuring both stability and an equitable income distribution. Employment, Minsky argued, should be the major objective of economic policy, with government acting as employer of last resort. A direct, federally funded employment guarantee program, one providing a job opportunity to any individual willing and able to work, would act as an automatic economic stabilizer, enabling households to meet their financial commitments and substantially reducing the impact of financial shocks.

As Minsky put it in his landmark work *Stabilizing an Unstable Economy*, "A new era of reform cannot be simply a series of piecemeal changes. Rather, a thorough, integrated approach to our economic problems must be developed; policy must range over the entire economic landscape and fit the pieces together in a consistent, workable way: Piecemeal approaches and patchwork changes will only make a bad situation worse."[2] This has been one of the organizing principles of the project that has generated this monograph. We invite your close scrutiny of it and would welcome your comments.

Thank you very much for coming, and enjoy the conference. We expect that you will find the presentations and the discussion thoughtful and, we hope, thought provoking.

Notes

1. *Minsky on the Reregulation and Restructuring of the Financial System: Will Dodd-Frank Prevent "It" from Happening Again*? (Annandale-on-Hudson, N.Y.: Levy Economics Institute of Bard College, 2011). Available at www.levyinstitute.org/publications/?docid=1376.
2. Hyman P. Minsky, *Stabilizing an Unstable Economy* (New York: McGraw-Hill, 2008 [1986]), 323.

Speakers

GARY GENSLER

Chairman, US Commodity Futures Trading Commission (CFTC)

Bringing Oversight to the Swaps Market

Good afternoon. I thank the Levy Economics Institute and Bard College for inviting me to speak today. When first contacted by Bard College to speak at this event, I thought it might have something to do with my daughter Lee, who is a freshman at their beautiful campus in Annandale-on-Hudson. I was glad that everything was fine with Lee and that it wasn't yet another call to say I had been late getting the tuition check in. Far better and an honor to boot, the call was to invite me to speak with you today about the important topic of "Financial Reform and the Real Economy."

As chairman of the Commodity Futures Trading Commission, I swim in the derivatives lane. Thus, I'm going to spend my time with you this afternoon discussing how regulatory reform of certain derivatives, called swaps, will bring tangible benefits to the real economy. Derivatives markets and effective oversight of those markets matter to corporations, farmers, homeowners, and small businesses. The recent increases in commodity prices highlight the need for effective oversight that promotes fair and orderly derivatives markets. Before I get into detail on financial reform, I will provide some background on the role that derivatives play in the economy and a history of their regulation. I also will briefly discuss the 2008 financial crisis before returning to how reform relates to the real economy.

The Role of Derivatives in the Economy

Each part of our nation's economy relies on a well-functioning derivatives marketplace. It is essential, so that producers, merchants, and other end users can manage their risks. It allows those companies to lock in prices for the future. These markets have been around since the time of the Civil War. Initially, there were futures on agricultural commodities, such as wheat, corn, and cotton. They allowed farmers to get price certainty on their crops before harvest time. They also allowed farmers and producers to get the benefit of prices on a central market rather than just relying on the local merchants.

The markets have grown to include contracts on energy and metals commodities, such as crude oil, heating oil, gasoline, gold, and silver; and contracts on financial products, such as interest rates, stock indexes and foreign currency. These markets benefit tens of thousands of end users, including farmers, ranchers, oil producers, corporations, municipalities, pension funds, and anybody else who wants to hedge a risk and get the benefits of transparent pricing in competitive markets. The price certainty that derivatives markets provide allows companies to better make essential business decisions and investments.

Every consumer is touched by corporations that use derivatives. You likely bought something recently from a corporation that hedged an interest rate risk or a currency risk. The airline that you use the next time you take a trip most likely hedged its risk that the price of jet fuel would increase.

Changes in the Derivatives Markets

These early derivatives, called futures, are currently regulated by the CFTC. After much debate, futures markets first came under regulation in the 1920s—more than 60 years after the first contracts were traded—and have been comprehensively regulated since.

Things started to change in 1981, when a new derivatives product appeared that was transacted off-exchange. These derivatives, called swaps, were unregulated and remained so until the passage of the Dodd-Frank Wall Street Reform and Consumer Protection Act last summer.

In the meantime, the swaps marketplace has grown up, and it played a significant role in the financial crisis of 2008. From total notional amounts of less than $1 trillion in the 1980s, the notional value of this market has ballooned to about $300 trillion in the United States—that's approximately $20 of swaps for every dollar in the US economy.

It has now been more than two years since the financial crisis, when both the financial system and the financial regulatory system failed. So many people in the United States who never had any connection to derivatives or exotic financial contracts had their lives hurt by the risks taken by financial actors. Still, the effects of that crisis remain. We still have high unemployment, homes that are worth less than their mortgages, and pension funds that have not regained the value they had before the crisis. We still have significant uncertainty in the financial system.

Though there were many causes of the crisis, it is clear that swaps played a central role. They added leverage to the financial system with more risk being backed up by less capital. US taxpayers bailed out AIG with $180 billion when that company's ineffectively regulated $2 trillion swaps portfolio, which was cancerously interconnected to other financial institutions, nearly brought down the financial system. These events demonstrate how swaps—initially developed to help manage and lower risk—can actually concentrate and heighten risk in the economy and to the public.

Markets work best when they are transparent, open, and competitive. The American public has benefited from these attributes in the futures and securities markets since the great regulatory reforms of the 1930s. The Dodd-Frank Act brings similar features to the swaps market for the first time.

Promoting Transparency in the Swaps Markets

The Dodd-Frank Act includes essential reforms to bring sunshine to the opaque swaps markets. The real economy benefits from such transparency. Economists and policymakers for decades have recognized that market transparency benefits the public. The more transparent a marketplace is, the more liquid it is for standardized instruments, the more competitive it is and the lower the costs for hedgers, borrowers, and, ultimately, their customers.

The Dodd-Frank Act helps end users of swaps by bringing transparency in each of the three phases of a transaction. First, it brings transparency to before the transaction is completed, which we call pre-trade transparency. This is done by requiring standardized swaps—those that are cleared and made available for trading—to be traded on exchanges or swap execution facilities (SEFs). SEFs are a new type of swaps trading platform created by the Dodd-Frank Act.

Exchanges and SEFs will allow investors, hedgers, and speculators to meet in a transparent, open, and competitive central market. This will benefit end users by providing better pricing on derivatives transactions.

Second, the Dodd-Frank Act brings real-time transparency to the pricing immediately after a swaps transaction takes place. This post-trade transparency provides all end users and market participants with important pricing information as they consider their investments and whether to lower their risk through a similar transaction.

Third, the Dodd-Frank Act brings transparency to swaps over the lifetime of the contracts. End users and the public will benefit from knowing the valuations of outstanding swaps on a daily basis. If the contract is cleared, the clearinghouse will be required to publicly disclose the pricing of the swap. If the contract is bilateral, swap dealers will be required to share midmarket pricing with their counterparties. This daily valuation will help prevent similar scenarios to 2008 when we were unable to price "toxic assets."

Additionally, the Dodd-Frank Act brings transparency of the swaps markets to regulators. The Act includes robust recordkeeping and reporting requirements for all swaps transactions, so that regulators can have a window into the risks posed in the system and can police the markets for fraud, manipulation, and other abuses.

Lowering Risk in the Swaps Markets

In addition to promoting transparency, the Dodd-Frank Act lowers the risk that the swap market poses to the American public in two key ways: requiring central clearing and bringing oversight to swap dealers.

Central clearing

Currently, swap transactions stay on the books of the dealers that arrange them, often for many years after they are executed. Like AIG did, these dealers engage in many other businesses, such as lending, underwriting, asset management, securities trading, and deposit taking. These dealers often are part of institutions that are both "too big to fail" and "too interconnected to fail." This interconnectedness heightens the risk that a dealer's failure will reverberate throughout the economy as a whole. Uncleared swaps allow the failure of one institution to potentially cascade, like dominoes, throughout the financial system and ultimately crash down on the public.

The Dodd-Frank Act addresses this interconnectedness by requiring that standardized swaps transactions between financial entities be brought to clearinghouses. Central clearing has been a feature of the US futures markets since the late 19th century. Clearinghouses act as middlemen between the two parties to a derivatives transaction after the trade is arranged. They protect the real economy from the failure of a swap dealer. They require dealers to post collateral so that if one party fails, its failure does not harm its counterparties and reverberate throughout the financial system. They have functioned both in clear skies and during stormy times—through the Great Depression, numerous bank failures, two world wars, and the 2008 financial crisis—to lower risk to the economy.

Regulating the dealers

Leading up to the financial crisis, it was assumed that the banks that deal in swaps were already regulated and thus did not need to be explicitly regulated for their swaps transactions. The financial crisis demonstrated that this was a flawed assumption. While banks and securities firms were regulated by their

prudential regulators, their affiliates that traded swaps often were left ineffectively regulated—that was the case for Lehman Brothers and AIG. Even when swaps were traded inside a regulated bank, the banks were not regulated explicitly for their derivatives trading.

The Dodd-Frank Act addresses this by requiring comprehensive oversight of swap dealers. The Act includes capital requirements to reduce the risk of a swap dealer's failure. It also includes margin—or collateral—requirements to help prevent one financial entity's failure from spreading to other financial entities and the broader economy. The Act also authorizes regulators to write business conduct standards, including documentation, confirmation, and portfolio reconciliation requirements. Each of these is an important tool to lower risk that the swap markets pose to the real economy.

Further, the Dodd-Frank Act provides regulators with authority to write business conduct rules and set position limits to promote market integrity and protect against fraud, manipulation, and other abuses. This helps ensure that the users of derivatives get the benefit of transparent, open, and competitive markets.

Closing

Financial markets are complex, global, and interconnected. They perform essential functions for American businesses, their customers, and the real economy. The derivatives markets allow producers, merchants, corporations, municipalities, nonprofit organizations, pension funds, and other end users to lower their risk by locking in prices and rates in the future. This helps promote a vibrant economy.

But we also must remember that the financial crisis was real, and the effects remain in our economy. It is essential that we have comprehensive oversight of these markets to protect and benefit both end users of derivatives and the broader American public. The Dodd-Frank Act was essential in bringing this oversight, but reform will only be effective once rules are completed and regulators have additional resources aligned with their expanded missions.

I thank you for inviting me to speak with you today.

Q&A

Q: You spoke about the issue of nonstandardized contracts from the standpoint of systemic risk. . . . What do you see as the dimensions of that market going forward, what the degree of remaining systemic risk on systemically critical financial institutions is likely to be, and what do you think we need to do at the regulatory level?

GG: So if I understand the question, it's about that part of the market that will remain customized, and what the risks are, and what regulators need to do.

Q: The bespoke market, yes.

GG: A great deal of this market has become standardized and can come into clearinghouses and benefit from a central market structure. But Congress and the president all recognize that there is still much to be customized, and that's important: hedgers need that ability to be very customized. There are various estimates—it's very hard to say because we don't have the data—but in the rates market, meaning interest rates, in currencies, it's probably very significant—the vast majority could come into clearinghouses. I've heard various estimates, but it could be 20 or 30 percent. If you go into other parts of the markets,

agriculture swaps and commodity swaps, I have heard various estimates—from a third to a half could be customized. These are not CFTC numbers; these are just numbers that people are sharing with us. But about that part of the market that is customized, Congress really said a number of things. One hundred percent of transactions have to be reported into a data repository and the regulators have to be able to see them. We have to aggregate them and put that information out in aggregate form at least every six months. It's our ultimate goal at the CFTC to do . . . a weekly commitment and traders report. We do that in the futures marketplace. We're not going to get there anytime soon, but I think that that's a very constructive part of how we serve the public, by aggregating this data. It won't be soon, but I would hope that we could do that over a number of years. Real-time reporting: all of these transactions, Congress said, still have to be reported to the public, transaction by transaction—with delays, because they're customized. Then it's about regulating the dealers themselves for capital and business conduct. There's a lot of risk reduction in the bill. There's transparency to the public through real-time reporting, transparency to the regulators, and a lot of risk reducing through capital and business conduct.

Q: The ICE [Intercontinental Exchange], the new derivatives exchange, was set up with a Cayman Islands structure, so that the big banks that are owners of the exchange can bring margin back from oversees without paying taxes on it. So they've finessed the IRS rule that says companies have to pay taxes on repatriated profits. Is there a public purpose for allowing them to do that?

GG: It's funny—we didn't even prep for that question *[laughter]*.

I'm not familiar with that specific structure. We regulate clearinghouses and exchanges around the globe. The CFTC, in its statute and its history, is neutral about where they are, as long as they are well regulated. . . . Clearinghouses have to be robustly regulated and up to international standards. We regulate some in London, Germany, Canada, and elsewhere. We are not a tax collector; we are a market regulator—that is what we do. . . .

L Randall Wray: I imagine you're familiar with the work of Mike Masters, who argued that the first commodities boom in 2004–08 was due to one-way bets that are placed by managed money, and it looks like it's déjà-vu all over again. . . . First, what's wrong with his argument? And second, whether he's right or wrong, does it make sense to have pension funds and other managed money that actually are not hedging crop prices or oil prices but possibly are hedging equities prices by going into the commodity markets—does it make sense to allow this in the public purpose?

GG: You'll get to ask Mike directly, because he'll be speaking later today, and he does terrific work. This is something that has been debated since at least the 1920s in our country, and it may well be that it's been debated since Roman times—I don't know for sure. Hedgers—initially, farmers and grain merchants—needed to hedge something. And yes, there was somebody on the other side that was never going to take delivery, possibly, who was a speculator. So speculators and hedgers are parts of this marketplace. Our regulatory regime initially was, 100 percent of those transactions had to come to a transparent, central marketplace—that was our regulatory regime. That a regulator would be given tools to fight manipulation and fraud and be able to set position limits so that the market didn't become concentrated—that there was a diversity of speculators. Those are the types of tools. You ask, is there a role? There has been a role

for centuries, that hedgers and speculators meet in marketplaces. Some of the changes in the last 10 years—and Mike's done a lot of these statistics—is that as the markets have become, not only more electronic trading, but also, that there are more asset managers that have looked at commodities as an asset class, that the percentages of noncommercial participants in the marketplace—which are sometimes thought to be the speculative piece—have gone up. You can see in the statistics, in agricultural products or oil products or natural gas over these last 5–15 years, you'll see that it's a higher percentage now in pretty much each group. What we do is basically regulate, not for prices—we're not a price regulator. Rather, we regulate for the integrity of markets, the transparency of markets, and, through position limits, the diversity of those markets.

LRW: But the new thing is, as Mike can explain, they're only making one-way bets. They're not really speculators—or rather, they're one-way speculators.

GG: But they're not people who are in the physical marketing channel, so that's why I was using that term.

Q: I want to ask you a question about position limits. There has been some controversy, and perhaps you could clear this up, on the concentration in the silver market by just a handful of banks, . . . that they have something between 70 and 90 percent of the transactions in silver. I understand that JPMorgan Chase may have as much as 70 percent, and I understand that you have been investigating this over the last couple of years. I would like to know the status of that, and if this is all somehow true, how you can somehow countenance such lopsided positions.

GG: If you look at our Commitments of Traders report, which comes out every Friday, you can see that your statistics are not consistent with the actual statistics. You can go to our website today or any day, but the report comes out every Friday. We don't break down by individual trader because that would be a felony—I couldn't answer your question and avoid jail. But we do say what are the top four or top eight, and you can look in that regard.

The position limit rule that we put out has 11,000 comments in the Comment file. We've put out 46 other rules, and I think there are somewhere between 3,000 and 4,000 comments in all 46, so you can see, there's a lot of interest. Some of these are repetitive. We got one from Charlie Sheen *[laughter]*. It said, under Organization, Two and a Half Men. We pulled that out and we checked: it wasn't Charlie's letter. More seriously, we take very seriously our responsibilities to pursue manipulation, whether it's in the oil markets, the silver markets, the corn, wheat, or eurodollar markets—across the board, We take very seriously Congress's direction about position limits. We've proposed them, we've had enormous public interest in it, and we have to sort through 11,000 comments. It's going to take a little while because of the depth of those comments.

Q: I wanted to ask you more about the regulatory process. You alluded to the difficulties that the agency faces in simply implementing it, so just to remind us, what is the burden on the agency in implementing Dodd-Frank? And then, particularly, . . . do you feel you are getting representative comments, from public interest groups—you said the public, broadly, is affected. You'd expect them more to be from financial institutions, but do you feel like you are hearing from other folks as well that have an important interest in what you laid out in your speech?

GG: We are very grateful for all the comments. I think it is the nature of our representative democracy that with these regulatory processes, there are more resources brought to bear by large institutions than by investor advocates, consumer advocates, or market advocates. There tend to be a lot more resources, whether it be at a large bank, a large exchange, or so forth. We try to bring some adjustments to that. We've voluntarily put all of our meetings on our website . . . and put the topics and who's there and any documents they give us. So we try to bring greater transparency to it.

I would say in terms of our process, Congress gave us one year to do this. We will not complete it in one year. We will complete our proposal phase probably in a few weeks, and when we do that, it will be about 50 different proposals and hundreds of pages of the Federal Register releases, maybe over a thousand pages. And we'll have to sort through all those comments. . . . In terms of resources, we are only at the size we were in the late '90s—we are about 670 people. There is a great challenge for our nation because of the budget deficit, so I am always a bit amazed when I can get the words out of my mouth when meeting with people in the House and the Senate, but I am saying, "We need more money." If we are going to cover a market that is seven times the size of what we currently cover—we cover a market today that is about $40 trillion notional, the futures market, and Congress has just asked that we cover something that is seven times that size. We need more resources. We are not aligned. We are fortunate that in this recent compromise, we are not going to get cut, but we are a very unusual agency in government right now that has just been asked to take on something seven times the size. So we need significantly more resources. The president has asked for $308 million for 2012, and it looks like Congress is taking up $202 million for us. So you can see, that is about a 50 percent gap, and without significant resources, we cannot significantly address this problem. . . .

I think I would say to anyone in corporate America that we are a good investment. We help ensure that you can have confidence in the markets that you need so much. You need these markets to lock in your input prices, your interest rate prices, and if you look at the size of an agency that is 600 or 700 people that only needs to grow to 1,100 people, this is the part of your government that actually is a really good investment, and the reason is because you need these markets to be free of manipulations, you need these markets to be where the prices are transparent in that marketplace.

Q: A technical question, if I may. You mentioned swap transaction facilities and clearinghouses. Would both ICE and CME [Chicago Mercantile Exchange] be in those two categories, and roughly how many are in each of those categories?

GG: We currently oversee 15 clearinghouses, and both of those organizations you mentioned are, I think, have been registered—it's on our website—and we think that will grow to 20 or 21, because we have between five and six that are knocking on the door. In terms of trading facilities, . . . there are about 20 of what are called designation contracts markets right now, and both organizations have those, but we anticipate these swap execution facilities somewhere in 30 to 40, maybe 25 to 40, will initially register. That doesn't mean they'll all be there two, three, or four years from now, but given the number of market participants that are knocking on our door asking for feedback—and this is another thing: without funding, we can't give that feedback. . . .

Michael Hudson: I have a follow-up question to what Randy asked. I understand what you said about transparency, but could you explain how it is that the speculation on the derivatives actually ends up pushing up the price of commodities? That is the point, I think, they were trying to get at. In other words, you are not just betting on a horse race, you are actually influencing the outcome. How does that occur?

GG: That's what Mike Masters is going to be talking about this afternoon. As a regulator, we don't regulate prices. What we're about and what we've been about for decades is making sure that buyers and sellers meet in a marketplace that is transparent and free of manipulation. So it can be hedgers, speculators, or the like—all influence the price. It would be a hard case to make that only hedgers influence the price. They are only part of the marketplace. They are all coming into that marketplace at a given time. A news event comes out in the Middle East. It could be hedgers or speculators that react to that news event. So our agency is there to ensure that it is transparent, and as I have said, that it is free of manipulation. We use this tool from the 1930s of position limits [to ensure] that there's a diverse number of speculators and that it is not concentrated within that. But I think that, probably since time immemorial, if speculators meet hedgers in the markets, hedgers influence prices but speculators do too, because they are both part of that market structure.

Q: Because of the budget issues and because a lot of the recent proposed rules you've come out with have attracted some political questions, there has been a lot more press and talking points and stories that have appeared in the press. What you are doing is really complicated—massively complicated. I was wondering if you would comment on the burden you have to try to address the talking points in the press when what you are doing is so very complicated to explain to the general public.

GG: I bring it back to there [having been] a very real crisis in 2008. Seven million people are probably still out of work because of the crisis and millions of people don't have the pension funds that they once had. In this complex and, yes, sometimes removed market, this derivatives market, is intertwined in everything that we do. We know that because it is 20 times our national economy. It is important that we bring the transparency, that you can see the pricing, that you can lower the risk, as is done in the securities market. Mostly, in terms of the burden, I think, Can I explain it to my three daughters? One is a Bard student, an anthropology major, who's, like, What's Daddy doing? Can I explain it to my 84-year-old mother, who once in a while asks, "Can you remind what the difference between a future and a swap is?" *[Laughter.]* Those are usually some of my tests.

Q: You mentioned . . . that when there are major failures in these derivative markets, typically it's the taxpayer that has to come to the rescue. In seems like in democratic capitalism there should be a way to structure it so that the costs for the rescue could be internalized to the derivatives industry. Is there a way that that could be done?

GG: It is a great question. I think it is in part at the heart of what this bill was trying to do: lower the risk as much as possible. Some of the costs are in the capital the dealer has to hold, and the margin—we just proposed margin requirements yesterday. I think we got it right, but we will get thousands of comments on that. But as you probably are aware, there is quite a sensitivity that "we not raise the cost to end users."

I think that what we proposed yesterday would not do that. I think, in fact, hopefully, that the transparency of these markets will lower the cost to the end user. But I think the best measure is to make sure that we cut the interconnectiveness, that as much of this product as we can gets into these clearinghouses, that the dealers themselves are better regulated than they were, because with the political economy the way it is, it's hard to get that fully done.

Q: How independent would the clearinghouses be as intermediaries between the swap trader and the counterparty? If they need cash, would they borrow from the megabanks that brought us into this problem in the first place? Where would they get their cash needs from, the clearinghouses?

GG: The question is about clearinghouses and how independent they are from the dealers and the banks. Most of the cash . . . comes from all of the counterparties in the clearinghouse, because they have to post what's called initial margin and variation margin. So in that case, it's all of the counterparties. But it is the case that the largest members of clearinghouses tend to be the dealers themselves, or the clearing members, and so their default fund, their capital fund, and so forth, is there. That's why Congress recognized there can be some conflicts of interest. They recognized this and said there must be open access to promote competition. Now, I would say that the futures clearinghouses have had a good history of open access, really promoting lots of competition. The swaps clearinghouses to date have been more of an exclusive, concentrated model. We proposed something in December, and we welcome your comments if you wish, that we open that up, that that model be opened up to membership. We also proposed some rules on corporate governance of clearinghouses with regard to their boards and ownership, and we have received some lively letters in support of that.

Thank you very much.

STEPHEN S. ROACH

Non-Executive Chairman of Asia, Morgan Stanley, and Professor, Yale University

The Next China

China's role in the global economy is inextricably tied to the role of most other major economies in the world today, and it's absolutely critical that we deepen our analysis of the hows and whys of this extraordinary phenomenon.

I'm going to try to look at this from two angles today: one, focusing on how China itself responds to the lingering fragilities of a postcrisis world; and two, looking at the other side of the coin and how the world itself deals with what I believe is an extraordinary transition that's about to unfold in China. I'll attempt to weave both aspects of this story around the broad fabric of the globalization debate in particular, emphasizing how China and the rest of us fit into an IT-enabled globalization whose breadth and speed really challenges so much of what we thought we knew about the way the world works.

Just to dispense with the obvious, I think few can dispute the fact that China matters a lot. The second largest economy in the world, it's taken off like a rocket. Thirty years of 10 percent growth. A tenfold increase in per capita incomes. Largest source of demand for a broad range of natural resources and commodities. Largest trading partner for Japan, Korea, Taiwan, Australia, and Brazil. Major trading partner and source of external demand growth for Canada, Germany, and the United States. There was a book put out several years ago by James Kynge, formally of the *FT*, *China Shakes the World*—great title. He had it dead right and, if anything, underestimated the impacts that he was trying to anticipate.

China distinguished itself not just on the basis of scale and speed, however. I think the real story is in the mix of its aggregate demand. You can't do China just by extrapolation, and it does worry me that there's an awful lot of mindless extrapolation going on about China right now. "It's big today, it's going to get bigger." "What year, what hour, will it be the largest economy in the world?" There are some rocket scientists who have lumped China together with India, Brazil, and Russia—created a clever acronym [BRIC], and said, "Wow, aren't they big." I don't want you to think that I'm being resentful of a competitor, but that doesn't strike me as really being a deep set of insights into the growth of large emerging economies.

I think the story of China is about to change in a dramatic fashion. For 30 years, China has been a producer system dominated by extraordinary growth on the supply side of its macro equation, fixed investment and exports. Collectively, those two sectors were 35 percent of the Chinese GDP back in 1979, and in the first half of 2007, they were close to 80 percent of the Chinese GDP. Meanwhile, ironic for the People's Republic of China, the people had been on the outside looking in, and internal private consumption fell to a record low of 35 percent of GDP in 2008.

“The Next China,” which is the title of my presentation, is about a role reversal, the producer economy becomes a consumer society. What I want to do is explain why, how, and what some of the risks will be. I think the story starts for the next China where the crisis of ’08 and ’09 leaves off. History tells us that postcrisis damage is lasting in terms of its impacts on financial systems, financial markets, and real economies. In part, that’s because the precrisis boom not only distorts markets but it also very much infects the real side of asset- and debt-dependent economies. So when the boom goes bust, it is important for these excesses to get unwound before healing can begin in earnest—and that, of course, takes time.

That’s pretty much what happened in Japan over the last 20 years, and what now appears to be unfolding, in my opinion, in the United States and Europe. In Japan, zombie companies, the walking dead, were the epicenter of a protracted postcrisis shakeout. And in the United States, I don’t think it’s a stretch to say that we have a new generation of zombie consumers. Those afflicted by acute labor market distress, underwater mortgages, excess debt, and subpar saving, yet are sustained by the life support measures of extended unemployment insurance benefits, foreclosure containment programs, and extraordinary monetary accommodation. I don’t want to be too harsh here. I do concede that safety nets are critical to the moral fabric of any society, but they can have the unintended consequence of impeding the creative destruction that is necessary to purge a system of its excesses. So, just as Japan’s corporate zombies prevented the painful but necessary adjustments in its postbubble economy, I think America’s zombie consumers could play the same role in hobbling the deleveraging and balance-sheet repair that, ultimately, a postcrisis American economy will need as well.

What I’m trying to get to on this point is that, as has been the case for postcrisis Japan, wreaking havoc on the corporate sector, this crisis is going to have a lasting impact on the consumer sector, and I think consolidation of the American consumer is going to be a key factor in driving the United States and the global economy for years to come. Personal consumption today still stands at 70 percent of US GDP. In the final quarter of the 20th century, that number was 66. At 70, it’s down one percentage point from its high of 71.4 percent in 2006. But I think that, lacking in support from income, from wealth, and still facing the imperatives of major balance-sheet repair, there is a distinct possibility that we’ll see a mean reversion of that consumption share back to 66 percent. So we’ve done one of the five percentage points of mean reversion. By higher math, that tells me we completed only about 20 percent of the likely retrenchment.

Stories are different elsewhere in the developed world, but I think the outcomes are comparable. Major headwinds in aggregate demand, both in Europe and the United States. In Europe it’s mainly a combination of the restrictive implications of fiscal consolidation, as an outgrowth of the sovereign debt crisis together with the ongoing pressures of a weakened bankcentric system of credit intermediation. And in Japan, it’s the risk of two lost decades turning into a third, as structural productivity impediments are exacerbated by very powerful demographic headwinds and the overhang of sovereign debt, which is . . . pretty big. So I think the global context in which an export-led emerging economy like China has to operate in, has been, not permanently, but it is likely to be impaired for a long time by lingering shortfall of aggregate demand in the major developed economies in the world. And that’s a big deal. It’s a big deal for any export-led economy, especially China; but it’s also a big deal for developing Asia where the export share of developing Asia’s panregional GDP went from 35 percent in the late ’90s to 45 percent on the eve of the subprime crisis in early 2007.

So, let me just get right to "The Next China." The Chinese story, as I've already told you, is about an economy coming to grips with a very, very different global climate than it has been accustomed to during the first 30 years of its modern miracle. And before I get to how it comes to grips with this, let me just take you on a brief digression.

The miracle of modern China, in my view, comes from its unwavering commitment to growth. I remember all too well when I first started fixating on China. It was in the depth of the Asian financial crisis in the late 1990s, and I started making repeated trips to China back then, because I had this great global economics team that was marking down its global GDP forecasts by about half a point a week during that period, and we were clueless. I had a hunch that China would hold the key to the end game of that crisis and it was somewhere on these multiple trips in late '97 – early '98, that it quickly became evident to me that China scarred, deeply scarred by an economy that was literally in shambles 20 years earlier in the aftermath of the cultural revolution, would stop at literally nothing to maintain social stability and keep the growth miracle alive.

China had, at least in my view by then, an unwavering, incredible wherewithal to deliver on this commitment—a vast reservoir of domestic saving, commitment to the ownership transition of state-owned enterprises, massive rural-urban migration, and population control. You may not like it, but that's what they did, and the rest is now history. The first phase was the standard export-led miracle of economic development, but, like all trends, as many have tried to humorously and seriously tell us, they are sustainable until they're not. The sustainability of export-led China has actually been a subject of intense debate inside of China for several years. Premier Wen Jiabao, I think, put it best in early 2007, four years ago last month, when he first spoke of what I've called the paradox of the "Four 'Uns'"—a Chinese economy that appeared strong on the surface, but beneath the surface it was increasingly unstable, unbalanced, uncoordinated, and ultimately unsustainable. The premier elaborated on this, and actually packed an awful lot into that diagnosis. He raised a broad range of concerns from income disparities and fragmented governance to excess energy consumption, environmental degradation. But his biggest complaint was about the lopsided character of China's macro structure—too much supply, too little demand, too export-led and not enough support from internal private consumption.

Fast forward four years and bingo, he's got it, because the external demand shock unmasked the imbalances and took China in late '08 and early '09 into the functional equivalent of its own dreaded recession. There's a deeper analytical point that you need to think about in looking at the sustainability of the Chinese model, and this has less to do with the external climate and more to do with some of the internal pressure points in China. The manufacturing-led growth dynamic is really a problem for a surplus labor economy. The main reason is that the recipe for manufacturing productivity enhancement is all about capital labor substitution. By replacing workers with machines, the Chinese economy—manufacturing led, unbalanced, driving exports in investment—has morphed into a recipe for labor-saving growth. Look at the numbers: 10 percent GDP growth, and since the year 2000 employment growth of 0.5 percent a year, by far the weakest in Asia. So, for a nation with daunting labor absorption imperatives, the labor-saving growth model presents China with an enormous challenge. It generates too few jobs per unit of GDP, but given the social-stability imperatives, that leaves China (at least it believes) with no other choice than to deliver more units of GDP growth.

Meanwhile, despite all the talk about so-called scientific development methods, China's a very inefficient user of energy and other natural resources; and so, given the hyper growth requirements of labor absorption, China ends up with also a very resource-intensive model of economic growth that has led to severe environmental degradation and pollution. Services, in one sense, are an antidote to a lot of what I've talked about in terms of the current labor-saving, resource-intensive, pollution-prone, manufacturing-led growth model. They offer the alternative of a more labor-intensive resource-efficient approach to growth. By the way, the newly enacted 12th Five-Year Plan approved by a close vote last month in the National People's Congress, places … a very heavy emphasis on services as a pivotal element of China's structural transformation. Services in China do have enormous potential, for several reasons. One, they're small. Services' share of GDP is 43 percent—there's no country with such a small services sector. Two, services per unit of GDP in China generate about 35 percent more jobs than do manufacturing and construction together. So, it's a really important labor-intensive alternative to labor-saving manufacturing and if China wants to boost labor income to drive personal consumption as part of its new macro structure, services have to be an important part of the answer.

China's transition, as I see it, is a very important segue into the broader globalization debate, which is the final point I want to just lay out to you this afternoon. China is probably undeniably the greatest beneficiary of globalization. Since its economic take off in the early 1980s, according to research by the International Monetary Fund, China's share of global trade has increased about eight times. That's about 50 percent faster than the average gains of the newly industrialized economies of Asia—Korea, Taiwan, Hong Kong and Singapore. It's about three times the gain of the major Asian economies and it's more than five times the gains of Japan during comparable phases of their respective development trajectories.

Globalization, of course, tells us that nothing happens in isolation. So, if China pulls off this transition, there are important implications for the rest of the world. Here I would stress the opportunities, especially in East Asia, where China has now replaced the United States and Europe as the largest export destination for Japan, for Korean, and, of course, for Taiwan. In over the past dozen years, China has replaced the United States as a very important export market—the largest export market for Brazil and major export markets for Canada and Australia, and in the United States, China is now our third largest and most rapidly growing export market.

Despite the opportunities that might be offered by a proconsumption, transformed China, the rest of the world is not too thrilled about what's going on in China. I think what's going on here are a lot of dark and, in some cases, understandable fears about the way globalization is stacking the cards against us. You know, poor us, wealthiest economy in the world, there's fear that we're being treated unfairly in the rough-and-tumble arena of globalization. The theory is understandable in some respects, especially given the degree of labor market distress in the United States, of a decade and a half of stagnation of real wages. Workers in many respects are being squeezed as never before, and the response has been, whether it's amongst the grass roots or the elected representatives in Washington, that it's China's fault. China runs a large bilateral trade deficit with the United States. China "manipulates the currency, and if they don't change the currency, let's get 'em." That's sort of the logic expressed by many politicians as well as by some very prominent academics. I will not name any, but there's a guy with a beard who writes a column for the local paper on Mondays and Fridays who's very sympathetic to this point of view.

Now, I get this and don't want to minimize the pressures bearing down on American workers. But you have to sort of think about how these large bilateral trade deficits occur and why, before you jump

to these very inflammatory and potentially dangerous conclusions. The United States, truth be known, runs bilateral trade deficits today with 90 countries. So, yes, China is one of them. It's the biggest one, but by higher math, that probably leaves another 89 countries. With apologies to Al Gore, who I've met once in my life, the inconvenient truth of our multilateral trade imbalance is that savings-short America has this multilateral imbalance because it doesn't save, and you can't fix a multilateral imbalance by putting sanctions on a bilateral trading partner no matter who that partner is. If Washington, for example, were to close down trade with China and fail to address our national savings problem—and by the way, that doesn't seem like a stretch given what's going on in Washington these days on the budget deficit—then the Chinese piece of the multilateral trade deficit would just go somewhere else, and that somewhere else would most likely be a higher-cost producer, in effect putting a tax on hard-pressed middle-class US workers. What happens then? If we smack China down, we still have a problem. What do we do? Do we go after America's other 89 trading partners, picking them off one by one? I don't think that's the way to run a great economy like the United States. At the heart of this is the saving issue. Saving, of course, in this very contentious debate we're in right now, has been dubbed a four-letter word by some very aggressive bearded pundits. . . .

In any case, the point I want to leave you with is the following. As you look at this very contentious set of forces bearing down simultaneously, both on China and the United States, with broad global implications, I think you have to sort of step back and recognize what's really at stake here. In my opinion, what we've got at the heart of this dilemma is a dichotomy between a true and a false prosperity. In the former, an economy lives within its means—in a true prosperity, as those means are largely delineated by current production, and by the labor income associated with that production. In more of a false prosperity, I would say the economy lives beyond its means and relies on surplus saving and suppressed consumption of others to fund its newfound prosperity.

So that takes me full circle to globalization and to the imbalances that it has spawned. Trust me, these imbalances are not sustainable. China's proconsumption 12th Five-Year Plan speaks very strongly to one surplus saver who's figured this out. The budget battles in Washington speak to a deficit saver, in my opinion, that has not figured this out. In that context, the risk is that the great crisis of '08 and '09, which you're all here to talk about over these few days, could well be a warning shot of what lies ahead if we don't face up to challenges, pitfalls, and opportunities of a new globalization. China is going to play an important role in shaping and driving that globalization. The United States, Europe, and Japan are all going to play important roles in driving that globalization. We all have very different perspectives of value propositions that shape our respective roles in that globalization. We don't seem to be on the same page.

China is moving ahead, unwavering in its commitment not just to strong growth, but also to a different texture, a different balance, and a more sustainable growth model. . . . A lot of people make the point about the race between China and Japan, China and the United States. This is not about, again, mindless extrapolation, it's about sustainable growth models. China is far from perfect—there are a lot of issues in China, believe me. I grant that and see that every day. There are a lot of issues in every economy—I might say our own as well—but China is on a very strong course. It's a course, however, of change and transition, and we need to think long and hard about that. The Chinese talk a lot about capitalism with Chinese characteristics. Not to offend anyone here, but we might think about our own blend of capitalism with a few Chinese characteristics in that as well.

Thank you very much.

PAUL A. MCCULLEY

Chairman, Society of Fellows, Global Interdependence Center

Triangulating the Triangle

It is an absolute pleasure to be here. This is actually, in many respects, my coming-out speech since I retired from PIMCO at the end of last year. I explicitly took off the last quarter not to work, and I rather enjoyed it. I don't think the fish were terribly happy about it and probably Gillette wasn't terribly happy about it either, but here I am in April, back before friends. I use "friends" in every meaning of the word here at the Levy Institute, the home of Professor Minsky, for a great tenure. I feel like I'm joined at the hip with this institute, and I'm quite sure that the Global Interdependence Center (GIC) in Philadelphia will be doing some joint ventures, hopefully, with the Levy Institute as we try, in our humble way—and I want to stress *humble* both with respect to what the GIC has been as well as what the Levy Institute has been—in our humble endeavors to try to enlighten the world occasionally on the simple but very rare commodity called common sense, which is not terribly common in this discourse these days.

What I want to talk about tonight is going to be two or three levels up from the standpoint of what we were hearing a great deal about today, and I'm not complaining about what we were hearing about today at all. It's a continuum over the years. We go back five or 10 years ago and those of us who would preach the message of the financial instability hypothesis were considered at least half a bubble off plumb or maybe three-quarters of a bubble, or maybe you couldn't even *see* the bubble. . . . And then the level started coming up and you could start seeing the bubble, literally—in the real world. . . . Two thousand eight was a disaster for the global financial system and an even greater disaster for the efficient market hypothesis, in case anyone happens to be a big fan of that hypothesis, which actually underscored the wisdom of the simple proposition that stability is ultimately destabilizing because it begets more risky debt arrangements. It validated the simple proposition that people, whether engaged in government, private commerce, or international relations, are human beings. We're good at some things, we're bad at other things, but we're not inherently at all times embodied with perfect, rational foresight—just the way that is. We're given to extrapolating the most recent past into infinity and levering the eyeballs out of it. That's how we work.

Now, away from 2008, away from the discussion today about whether or not Washington is totally screwing up financial reform. I think the general consensus was that it was. I'm not sure if I have a viewpoint on that or I don't have to have a viewpoint on that. But what I do want to articulate is that when we do our analysis of our societies, as well as investment opportunities—and I spent a lot more time thinking about society than I do investment opportunities in my retirement, and that's kind of cool—we really need to think in terms of three different spheres, and those spheres are ways of organizing

ourselves. When we put those three spheres together, we get human nature, and we'll get all sorts of interesting outcomes. Bear with me as we walk down this path.

Democracy—I think there's a general sort of warm and fuzzy feeling about democracy. Most people think it's a pretty good form of organizing ourselves as a people. . . . I'm not a heretic here, but if you break down democracy as a way of organizing ourselves, it is inherently a very socialist system. It's founded on the proposition of one person, one vote. It's founded on the notion of equity, and here I'm not talking about what's on the right hand side of a balance sheet, but equity in a philosophical context—that we're all created equal and we have equal votes. That's called democracy—kind of a cool ideal. So that's one aspect of how we organize our society, in the various forms of democracy. There are some people who don't' believe in democracy, and if they don't believe in democracy, we shoot them. So democracy sort of has the pole position in this race.

That's how we think in terms of organizing ourselves as people. In turn, how do we organize commerce? Commerce, if we look at it through a capitalist lens, is a cumulative voting system. It's not one person, one vote; it's one monetary unit, one vote. As an American, I would say one dollar, one vote, but that would be considered the arrogance of an American; therefore, I will say one monetary unit, one vote. The more units you have, the more votes you have, right? When you get on an airplane, you can turn right or you can turn left. Who determines, and how is the process determined, whether you turn right or turn left? Well, you've got to have more votes to turn left, correct? What are the votes called? You can answer this—*dollars*. There's nothing egalitarian about the distribution of seats on a plane. It's not one person, one seat; it's a cumulative voting system. The more bucks you have, the bigger your seat, and you turn left versus turning right. So capitalism doesn't start with the proposition that we're all created equal, at all. It doesn't have at its foundation the concept of a high form of equity. Capitalism is immoral or amoral, depending upon your viewpoint, but it certainly doesn't start with the proposition that we're all created equal. It's a cumulative voting system.

Then we have a third way of governing ourselves. Any individual country can decide the question, How do we want to organize ourselves as people and how we want to organize our commerce? Here in the United States, we say democracy and capitalism, and that's echoed in lots of other places, with varying degrees of harmony. But then we think, in terms of the third dimension, How do we govern ourselves between nations? And we have this concept of sovereignty of nations. The United States is a sovereign country. We have the right to determine our destiny. Canada is a sovereign country, and those countries respect each other's sovereignty. That's sort of the founding philosophical tenant. We had democracy, one person, one vote; capitalism, one monetary unit, one vote; and for global governance, the concept of the sanctity of the sovereignty of nations. . . .

Now, what does that mean, the sanctity of nations? If we always respected the sovereignty of nations, then we wouldn't have wars, and by definition, that's not history. Therefore, there is something missing in the calculus in trying to figure out how this global organizational scheme works. What's missing is the currency of the global organizational scheme, which is loosely defined as one gun, one vote. Isn't that kind of the foundation of imperialism? So you get these three competing systems: one person, one vote; one dollar, one vote; and one gun, one vote. So when we're looking at the world, and looking at the interaction between the government sector and the private sector and the relationship between nations, we need to think in terms of three-dimensional space. Quite frankly, the older I get, . . . the less dogmatic I get about what ought to be. Because I recognize that most decisions that we grapple with within society,

and how we think in terms of how we're going to allocate our assets, have to be looked at through three prisms that are very, very different.

Let me focus first on the first two, in the United States, and then I want to turn to all three and look at Euroland for a moment, and then I'm going to . . . try to end up with some room and time for questions. Because, since I no longer have fiduciary responsibility for money at risk in the marketplace, I can actually answer your questions. I am a *retired* PIMCO partner, not an *active* PIMCO partner, so I can actually answer your questions.

In the United States, capitalism in the financial system was the coin of the realm for 20 or 25 years—that was discussed a great deal in meetings today, that we had a long train of deregulation, deregulation, deregulation. And whether you thought that was good or bad was up to you. The fact that it happened is reality. It was essentially shifting control of our financial system from the democratic process to the capitalist arena. Regulation, for good or for bad, inherently comes through the democratic process. You may not like it; you may think that democracy is highly inefficient (and you would also be correct). But regulation is essentially the government defining property rights according to the will of the people. Let me say that again, this is important: *regulation is defining property rights according to the will of the people as expressed through the democratic process.* We have child labor laws in this country. Did capitalists choose child labor laws? The answer is no. They were imposed upon capitalism by we, the people. Regulation was imposed upon the financial system after the debacle of 1929–32. Essentially, capitalism was ruled not to be able to take care of itself. It needed adult supervision—or, more generically put, it needed regulatory control. And actually, that was not bad, because the one thing that capitalism really can't do, or at least can't do very well, is establish the rule of law. Because if you told capitalists to go figure out the rule of law, their first tenet would be, Capitalism is founded on the proposition of one dollar, one vote. If we take that tenet and move it into the concept of the rule of law, that means that you get the best justice that money can buy. Wouldn't that be the logical extension of a cumulative voting system? The more bucks you have, the more votes you have? Well, that happened in the 1920s, and it didn't end particularly well. Therefore, you had regulatory *encroachment.* I use that word loudly because it's fun to say it. *Encroachment* upon the invisible of capitalism, God forbid, ushered in what Gary Gorton, who will be here tomorrow, speaks of that wonderful quiet period where finance tends to be the handmaiden of commerce, not the other way around.

And then you had a long period of deregulation. Capitalists always want to be deregulated—particularly bankers, because banking is uniquely a joint venture between the public sector and the private sector; because reserve banking doesn't work without a lender of last resort. It's that simple. And if we're going to have a lender of last resort, then, by definition, the lender of last resort should have some degree of regulatory authority. I'm the lender of last resort to my 21-year-old son. It's the only lever I have over him. I see a few parents smiling. If he wants access to the Bank of Dad, there are conditions. If he wants to totally go it alone, that's fine. I find that he's willing to go along with certain conditions, but he's always trying to negotiate them down.

That's what deregulation was. The banking system can't live without a lender of last resort, but it wants it negotiated down. That's what 20 years' worth of deregulation was like. And one of the big areas of whatever was negotiated down was the whole explosion of the shadow banking system. Let's run like a bank but not have the regulation of a bank. I talked about that last year. And ultimately, that didn't work very well. The liability of the shadow banking system became the triparty repo system, and ultimately, the

Fed had to step in and become the lender of last resort to the triparty repo system. That was the essence of the financial crisis of 2008: the Feds putting its balance sheet into play as the lender of last resort in the triparty repo system, which wasn't just for regulated banks but for any financial institution, period, end of paragraph.

That is fact. That is the *essential* fact of what happened in 2008, and quite rationally, we got a regulatory response. Now, the bill that was debated all day long today philosophically reins in the degrees of freedom of the capitalist model. But it has to be implemented. And during the process of implementation, as we heard time and time and time again today, there seems to be an effort by capitalist bankers to weaken the regulation. Well, *gee golly*, what do you expect capitalists to do? Same thing my son does—"Yeah, I recognized you had to bail me out, Dad, but you know, I'm now bailed and I'm on the straight and narrow. This notion that I had to be in at 10 o'clock—I think that's really a bit much." "Okay, son, you've got a point. You have to be in by 11." To which he responds, "No, 10 o'clock was okay. I take it back, Dad. Let's just make it 10 a.m. as opposed to 10 p.m." Wall Street, just south of here, would like to have it still 10 but they want it to be 10 a.m.: "I still get to stay out all night." It's nothing irrational on the part of bankers, what they're doing. They're operating on the capitalist principle. We get the best justice that money can buy; they simply want the best moral hazard that money can buy. I would too. So maybe we'll find a meeting ground. I'm not nearly so pessimist about the outlook in the years ahead as what I was picking up on today. Democracy and capitalism, as it comes to banking, are in a marriage. The marriage got really, really close to divorce court. But ultimately, both parties decided they really do love each other. Well, they don't love each other; they're going to pretend for a while for the sake of the children, and they're going to go to counseling on a weekly basis, and they're going to take a yearly vacation, and they'll patch things up. Now, inherently, is this marriage made in heaven? No, because you have democracy and capitalism together in a bank like no other institution. Because the bankers are driven by the capitalist motive but need the safety net of a lender of last resort. So there's an inherent conflict. One likes to fish and the other likes to go to the theater. You can make a marriage work that way. You could have a play at the lake, presumably; perhaps you could have a fishing pond behind the theater. I don't know, but you figure out a way. Actually, we're doing that in the United States, so I'm not worried about having another repeat of 2008 anytime soon, even if Wall Street seems to be making a great deal of money relative to the sins that it committed. I agree with that proposition. It's also reality. No one said that capitalism is necessarily fair. Does it offend me? Yes. But it doesn't offend me nearly as much as the gross inequities in our democratic process wrought by fiscal policy more broadly. That wrought by the preferential treatment of the financial system is offensive, but unequal income distribution on the proportion of 70 years ago in America is not a function of the repeal of Glass-Steagall—you heard it here. It's a function of a whole lot of other things. We've taken the concept of capitalism pretty far, and the democratic notion of equity being an important value in society has been downgraded. So if I'm going to lose sleep at night—and I try not to do that too much, but with a 21-year-old, that naturally happens, I'm not going to lose it about another financial crisis anytime soon in the United States. I'm going to worry about the very fabric of our society as the income and wealth distribution becomes more and more rent by our system.

So, enough on the United States. We're a going concern. Capitalism and democracy have a going marriage that requires constant sustenance from counseling. Europe worries me a great deal more, because Europe—or let's call it Euroland after those who use the euro—Euroland is a monetary union without fiscal union and without political union. We all know that Americans talked about that;

academics talked about that a great deal 15 years ago in the run-up to monetary union, and we were all told to shut up. At least I was; I assume that you were as well. I'm not sure if Euroland was an optimal currency zone, to use the language of the academic field; but even if it was an optimal currency zone, monetary union without political union, and therefore without fiscal union, was not a particularly bright idea because it was a hothouse for moral hazard—an absolute *hothouse* for moral hazard. We can grow tomatoes in three weeks. It really was a very fertile hothouse. I remember when . . . early in my career I was at UBS, in a little part of the '90s, and I was on the global investment committee, and we would have constant debates about who would and wouldn't be in the monetary union. I was the arrogant American on the committee—by definition, as an American on a European committee, I was arrogant—and my colleagues would all say, "We will never let the Club Med countries in. We just won't let them in. They don't understand the concept of fiscal discipline, they don't understand the discipline concept in any form or manner, and we've set the bar high enough that it will never pass muster and they won't get in. So all these concerns you're having that it won't work are void, because we will never let them in because they can't *get* in." Of course, my response was, "You're wrong. They *will* get in." Very simple logic: if the Club Med countries were willing to suck it up for two to three years, I said, and get in, then they could abuse the German credit rating for the next 50. That's a really, really good trade. Suck it up for two to three years, then abuse the German credit rating for the next 50. Well, I was right in the first part of my forecast. The 50 years seems to be a tad bit long, but my forecast that they would abuse it was, I think, a pretty robust forecast based on the simple proposition: "Moral hazard is as moral hazard does," to quote that famous economist Forrest Gump. So it was pretty easy to forecast what was going to happen.

And now we are at the point where it's decision time. It's decision time, and I don't know with any sense of forecasting conviction how this is going to come out in Euroland. What I do know is that my triangle of ways to look at governance matters— democracy, capitalism, and the relation between sovereign nations. You had monetary union but you didn't have political union, and monetary union was implemented by something called the European Central Bank, which is a unique institution not because it has a solo mandate of inflation targeting; it's a unique institution because it is a central bank with awesome political power and undefined accountability. If you told Jean-Claude Trichet to call his boss, who would he call? "Okay, just tell me to call my wife, I'll understand." "No, I mean call your boss, Jean-Claude." Who would he call? I really don't know. What I do know is, when the stuff was hitting the oscillator in Euroland, that people called Jean-Claude and said, "You will use your balance sheet to prevent a cascading, a domino, a European version of what happened post–Lehman Brothers." And Germany wasn't really keen about this whole idea. Mr. Weber [Bundesbank President Axel Weber] wasn't particularly keen about it, but he was speaking essentially for his country and voted against the proposition of using the ECB's balance sheet as a fiscal agent. But that's exactly what the ECB did, underscoring the proposition that monetary union without political union and therefore fiscal union is not going to ultimately endure. You have to have fiscal union by hook or by crook, and the ECB balance sheet is the hook in the crook. They did it with all the enthusiasm of a person going to the dentist, of course, but they did it.

But their lack of enthusiasm has been the problem. They prevented a disaster. They bought Greece, they bought Italy, they bought Portugal. When the markets are under intense stress, they do what they have to do until somebody in Brussels can form a committee to study the problem. But the fundamental issue is very, very real. To have monetary union endure, you have to have fiscal union. You can do it explicitly or you can do it implicitly. The nations—all sovereign nations— don't want to do it explicitly.

But they could do it explicitly. The north can simply say, like Hank Paulson does, that we didn't put the full faith and credit behind Frannie and Freddie's deck in the beginning, but right now you can consider it full faith and credit. Paulson—actually, I think it was a good trade, so I'm not criticizing John at all. It needed to be done; it was distasteful but it needed to be done. If it hadn't been done, we would have had an unholy mess. The fiscal authorities of Europe don't want to do it explicitly; they just don't want to do it. Or, if they want to do it, they want to do it in a way that makes absolutely no sense, which is that, yes, we will guarantee your debt as long as you will impose upon yourself a depression for the next 20 years. Okay? We got a deal here? It doesn't work—*it doesn't work*.

Mr. Keynes wrote a rather famous track called "The Consequences of the Peace." All his logic applies—here it's an inside sort of conversation, but I think those of you who know what I'm talking about, know what I'm talking about—that hat doesn't work. And so the answer here is, will the ECB do it? But at conception, the ECB can put the full faith and credit of the Union behind everybody's debt and then have a restructuring and then recapitalize the ECB. As a flow chart, it's pretty easy to do. So therefore, you do it one step removed. You don't explicitly do it; you don't have fiscal transfers. You have the ECB do it and then you recapitalize the ECB. The ECB says, "Over my dead body!" And, in order to underscore that last week, they decided, on the day after Portugal raised its hand and said, "Call me out, I can't do this anymore," to hike interest rates. I understand why they did it. Since I don't have a risk position, I don't have to bet how it's going to unfold in the next two weeks. But it was an incredibly pregnant moment, if I could put it that way. To hike interest rates when one of your members just went to the IMF within the last 24 hours, to underscore your independence—it's like a man going golfing on the afternoon when he has a meeting with the judge to discuss his divorce. I guess golfing is a good idea. But that's what happened.

I don't know what's going to happen out of this out of Europe. But what I do know is that that triangle I'm talking about matters. Capitalism would say that bond holders of the weak members should take a loss—right? They made a bad decision—they bet that monetary union without fiscal union would work, that the strong would pull up the weak, that in extremis the strong would do what Hank Paulson did for the weak. They played the moral hazard trade. And, occasionally, some may need to lose the moral hazard to clean the system. That would be the capitalist response, right, when you're dealing with the banking system of Ireland. And in isolation it makes a lot of sense. The problem is that that risk is indirectly owned by the fiscal authority in the people of the strong countries, because the banking systems of the strong countries put the moral hazard trade on. Therefore, if you make those who play the moral hazard game take their medicine, you're actually talking about the taxpayers of the strong countries, because they'll have to recapitalize their domestic banking system that was playing the moral hazard trade. Therefore, governments don't want to do that, which is why the stress test has always been a fiction, because the real issue is, can you handle a sovereign default? So you have the capitalist instinct to punish those who are in the moral hazard trade, and then you have the democratic reality, as those who were in the moral hazard trade were actually the banks of the stronger countries.

Then you have the third element: nations. Presumably, the weaker members of a monetary union remain sovereign countries; but essentially, they are being asked to give up their domestic political sovereignty and being told to take directions from other countries, because other countries don't want to admit they lent money to somebody who can't pay them back. Therefore, let's pretend you can pay me back if I put you into depression for the next 20 years. It really doesn't make a lot of sense to me, and when

I take those three elements—capitalism, democracy, and the sovereignty of nations—and try to make them solve in a general equilibrium way into some type of going concern, it's really difficult for me. For the United States, it's really, really easy. It really is. Is Wall Street going to get by with a lot of things that disgust us? Yes. Am I going to moan about it forever? No. It's just reality. Our system is a going concern. Is it a society I'm particularly happy about? No, but it's got a general equilibrium condition—it works. You don't have to like it, but it works; whereas when I apply my triangle to Euroland, I can't make it solve—I can't make it solve. I wish I could, but I can't.

Let me conclude with a very simple thought. As we apply the lessons and the thinking and the analytical framework of Professor Minsky and all of those who have done associated work—and I'm looking at a table full of them right here—I give you a charge, or mission, or challenge. Let's spend less time debating and arguing the fine points of how we're going to do financial reform in the United States and spend more time and more energy applying these constructs that we have—and those who are students of Minsky understand banking and the relationship between capitalism and government better than anyone else—let's apply our analytical tool case, our higher-order brain power, to thinking more about Europe than thinking about Jamie Dimon's salary. It is what it is, but the lack of equilibrium in my triangle and in Euroland is absolutely frightening, and we should apply our analytical horsepower to problems that are frightening, not simply problems that are annoying out of a baser instinct of jealousy.

Thank you very much.

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"Finance Cannot Be Left to Free Markets":[1] An Asian Tribute to Minsky

It is a distinct honor to be invited to the 20th Hyman P. Minsky Conference. . . . I want to thank President Papadimitriou and Jan Kregel for inviting me to honor someone whose work will have lasting impact on the development of economic thought, even though it was not fully recognized as such in his lifetime.

It is my deep personal regret that when I was at the World Bank from 1989 to 1993, working on banking crises and restructuring, I never read Minsky's works in the original. Although I referred to Minsky's work in my book *From Asian to Global Financial Crisis* (2009), it was in the context of his more popular term "Ponzi financing." Last year, after I read his books in the original, it was, as the Chinese say, "My eyes did not see Mount Tai"—meaning I had not appreciated what an intellectual giant we had in this true disciple of Keynes. Perhaps I was not alone in this error of omission, as I could not find any reference to him in the memoirs of Alan Greenspan, Robert Rubin, and Hank Paulson, surely some of the most influential players in the recent crisis.[2]

The annual Hyman P. Minsky Summer Seminar and Conference has done much to propagate Minsky's thinking in the West, but the influence of his work in the East is only just beginning. This is a situation that I intend to correct, with the help of a few friends. My lecture this morning is therefore an Asian student's belated but personal tribute to a great economist, an original mind, and banking master who truly understood his craft. Just as Keynes's insights owed much to his renowned speculative activities, Minsky was grounded in practical banking and accounting. He was able to integrate the micro with the big picture, into a long-term historical and cyclical perspective. Like all pioneers, he is not easy to read, but his insights are a revelation and have brought new tools to the analysis of current global and Asian problems.

In my view, Minsky's framework is the best I have come across for the analysis of the Asian (including the Chinese) growth story, because it is stock-flow consistent. As a trained accountant, I have always had the sneaky feeling that neoclassical flow analysis never quite added up. Even today, the implementation of the UN System of National Accounts, on which we base most of our statistics, concentrated on flow data whilst grossly ignoring the construction of national and sectoral balance sheets, particularly in developing countries. Thus, incomplete economic analysis was made on incomplete data. Minsky's analysis brought the fragility of the balance sheet into the analytical framework, particularly its funding part. The result is a framework that is much more practical and useful for the analysis of developments in Asian finance and Chinese banking. As is usual for all financial regulators, my comments and opinions are solely my own and not those of any institution that I am associated with.

To begin with, every disciple likes to build on the gems or comments of their master. Last year's conference has already introduced Minsky's relevance to emerging markets.[3] Due to time constraints, I present, tentatively, 10 Minsky insights that are relevant to the Asian growth story:

- The need for system-wide thinking
- Big Government creates employment—Asia, particularly China, believes in Big Government
- Investment drives profits—the Chinese economy is investment driven
- Two-price system—asset bubbles are inherent in a capitalist system
- Regulation of finance and investments—Financial Instability Hypothesis
- Debt is uncertain; only cash flow matters—uncertainty and information asymmetry
- Positive disequilibrating feedbacks—liquidity hides all sins
- What should the authorities do?
- Hard budget constraint—the design of the tax system is vital
- The art of convincing decision makers

Of course, the above list of Minsky's insights are neither complete nor comprehensive, partly because of my own shallow understanding (limited to essentially the two works *John Maynard Keynes* (1975) and *Stabilizing an Unstable Economy* (1986). Moreover, the context of Minsky's analysis has changed with time, with greater complexity in financial innovation and tools available for improving governance.

I hope with your expert help I shall be able to study Minsky much more thoroughly, in order to assist in this critical stage of Asian development. I say this in all humility and sincerity, because in the coming decade Asia will face all the stresses and strains of global financialization—of volatile capital flows, asset bubbles, appreciating exchange rates, inflation, and social inequality. All these are precursors of major financial crises—not if, but when. The need is ever urgent for a complete and convincing diagnosis and prognosis for economic management in a national and global collective-action trap that is increasingly unstable and volatile.

1. System-wide Analysis

Unlike the mainstream school of economists who are artificially divided into specialized streams, Minsky saw very clearly that we need a system-wide approach that integrates macro- with micro-institutional details, together with a historical perspective. To quote, "A new era of reform cannot be simply a series of piecemeal changes. Rather, a thorough, integrated approach to our economic problems must be developed; policy must range over the entire economic landscape and fit the pieces together in a consistent, workable way: Piecemeal approaches and patchwork changes will only make a bad situation worse" (1986, 323).

This, of course, is what is not widely acknowledged as the flaw in the analysis of the current crisis—that it is a system-wide crisis and that mainstream economic thought and bureaucratic division of government roles are all fragmented and segmented at the national and global levels. To paraphrase Mervyn King, we have financial giants that are global in life, national in death, regulated partially by Lilliputs blinded by their own cognitive prejudices that the market will take care of these growing zombies, and heavily subsidized by national guarantees.[4]

Chinese policymakers, being much more pragmatic and less grounded in theory, take an agnostic, but historical and practical, approach to policymaking. Almost all of them are trained as engineers, and

they instinctively take a system-wide approach to problems. Unlike the Western approach to policymaking as a choice of trade-offs between different policies and different instruments, Chinese policymakers approach development as a process of learning by experimenting, because in a continent-wide economy with a complex institutional structure, the outcomes are often unpredictable. "You cross the river by feeling the stones," in which the outcome (the other side of river) is itself unclear, especially if the whole society has never experienced or been there before.

2. Big Government Creates Employment

Minsky noted two conditions for preventing depressions. The first is that "Big Government stabilizes not only employment and income but also business cash flows (profits) and as a result asset value." The second condition is that the central bank acts as a lender of last resort. He further argued that "the combined behavior of the government and of the central bank, in the face of financial disarray and declining income, not only prevents deep depressions but also sets the stage for a serious and accelerating inflation to follow" (1986, 17).

It is almost self-evident to say that Asian governments have always emphasized the primacy of the state in relation to the market. One of the puzzles of the current Great Moderation is that despite excessively loose monetary, fiscal, and regulatory policies, inflation has not, until recently, been a major threat. Of course, there has been huge depreciation of fiat money in relation to gold and other commodities.

Big Governments have also meant that the state has owned banks and enterprises. "Public control, if not out-and-out public ownership, of large-scale capital intensive production units is essential" (1986, 325). As you are aware, in India, China and Vietnam, the state controls the banking systems and large state-owned enterprises and local governments undertake the bulk of the infrastructure investments. This option avoids the problem of allowing finance to politically capture government, but does not solve the problem presciently pointed out by Minsky that is applicable to advanced and emerging markets alike:

> The emphasis on investment and "economic growth" rather than on employment as a policy objective is a mistake. A full-employment economy is bound to expand, whereas an economy that aims at accelerating growth through devices that induce capital-intensive private investment not only may not grow, but may be increasingly inequitable in its income distribution, inefficient in its choices of techniques, and unstable in its overall performance. (1986, 325)

Indeed, Minsky also recognized the defects of Big Government: "Policy must always recognize that there are limitations to what can be administered competently. This limited competence to administer biases policy toward mechanisms that require the minimum of administration; in particular, mechanisms that use and rig markets are to be preferred to regulations and controls that affect the details of the economy" (1986, 326).

Exactly. The economic debate within Asia and China, particularly, is, What is the right balance between the state and the market? What are the right parameters or benchmarks to guide government intervention in markets, so that such intervention can be assessed objectively as to its fairness and accountable as to its economic efficiency? I do not have all the answers, but that surely must be the agenda of urgent future research.

3. Investment Drives Profit

The Asian economy has been spectacularly successful and profitable for multinational companies and domestic enterprises because of the huge investment drive by the state in infrastructure and human education that paved the way for private investments, initially for exports. China's investment ratio has now reached nearly 50 percent of GDP, with almost all economists drawing attention to the inefficiency of such investments, as evidenced by the high ICOR [incremental capital-output ratio] numbers. However, we cannot deny that it was the large-scale RMB4 trillion (US$680 billion) investment stimulus package in late 2008 that revived global commodity prices and stirred hope in the midst of the global crisis. Nevertheless, this stimulus package gave impetus to possible overexpansion of investments by local governments as well as overfinancing by the banking system that requires careful management to avoid another round of nonperforming loans.

Minsky also noted that "in truth, inept and inappropriate investment and investment financing deters full employment, consumption, economic growth, and price stability" (1986, 326).

We are currently at the crossroads of Big Government, by design or by default. How do we measure and evaluate investment, especially the underpricing of natural resources and environmental pollution that comes with inappropriate investment? How do we price the environmental externalities into the production and investment process?

For example, the Chinese 12th Five-Year Plan (2011–15) aims to switch the current export-driven growth toward domestic consumption. Multinationals are now beginning to enjoy the fruits of switching export production toward meeting the needs of the Chinese consumer. In the medium term, this will reduce the Chinese current account surplus and consequently the global imbalance.

4. A Two-price System and Asset Bubbles

Minsky's fundamental alternative interpretation of Keynes hinged on his recognition that "a basic characteristic of a capitalist economy, then, is the existence of two sets of prices: one set for current output, the other for capital assets" (1986, 195). Namely, there is one set of prices for real sector activity (enterprise) and another for funding, which can be speculative. Keynes himself distinguished between enterprise and speculation:

> The term *speculation* for the activity of forecasting the psychology of the market and the term *enterprise* for the activity of forecasting the prospective yield of assets over their whole life. . . . As the organisation of investment markets improves, the risk of the predominance of speculation does, however, increase. (*The General Theory*, 158; quoted in 1975, 118)

Minsky also noted that "the main reason why our economy behaves in different ways at different times is that financial practices and the structure of financial commitments change" (1986, 219).

The classic Asian investment-financing story can be explained through the two-price model. Initially, investment was driven by the state, funded by a mildly repressed and state-controlled banking system. However, the lagged development of the private sector–driven stock markets enabled enterprises to fund their investments through speculation (in stock markets, real estate markets, and foreign exchange markets). The result was the Asian financial crisis of 1997–99. That unfortunate sequencing of financing convinced many Asian policymakers to be much more cautious on the need for financial liberalization.

Minsky's work suggests that one should look at the self-serving behavior of speculative markets with some degree of suspicion. Speculation in financial assets, as Keynes eloquently noted, is a bubble when the real sector also engages in speculative activities:

> But the position is serious when enterprise becomes the bubble on a whirlpool of speculation. When the capital development of a country becomes a by-product of the activities of a casino, the job is likely to be ill-done. (*The General Theory*, 159; quoted in 1975, 118)

Specifically, one should begin to examine the "tipping point," where speculative financial activities move from value-creation to value-destruction. Despite the work of people like Andrew Haldane at the Bank of England, there is too much vested interest trying to convince the world that finance is socially too valuable to cut down to size.

5. The Financial Instability Hypothesis Applies Globally and Nationally

A major contribution of Minsky is his Financial Instability Hypothesis (FIH), that "the major flaw of our type of economy is that it is unstable. This instability is not due to external shocks or to the incompetence or ignorance of policymakers. Instability is due to the internal processes of our type of economy" (1986, 11). He also noted (1986, Introduction, note 9) that "almost all systems which are multidimensional, nonlinear and time dependent are endogenously unstable." This was in contrast to the mainstream neoclassical analysis that assumed that shocks were exogenous.

Whilst the FIH restores the attention of policymakers toward internal sources of instability rather than blaming foreigners for their savings glut, Chinese policymakers have always understood historically that instability has two complex, mutually interactive roots: internal chaos and external threats.

In other words, there is a collective-action trap of national policymaking trying to deal simultaneously with domestic internal instability that can be further destabilized by global market distortions and highly leveraged capital flows. Given imperfect capital account controls, no single emerging market can increase interest rates and exchange rates without inviting a tsunami of capital inflows that threaten to generate large domestic asset bubbles and domestic financial stability. The rapid outflow of short-term funds can precipitate financial crises.

The reality is that current global economy suffers from massive price distortions. The reserve currency economies have had to resort to quantitative easing and zero interest rate policies as a result of the global crisis. This means that the price of capital (determined by the largest reserve currency economies) is nearly zero. Due to global demographics and integration of emerging markets into the global economy, the price of labor is excessively cheap. Is it therefore surprising that the price of land and other real commodities have been excessively high and volatile?

6. Debt, Cash Flow, and Uncertainty

We now enter into the heart of Minsky's contributions—the understanding of every practical banker and accountant that in banking, cash flow is everything.

It is no accident that Minsky has more followers in the hedge fund community, which thrives on debt and understands the relationship between liquidity and solvency, than in the economics profession, which never quite grasped balance sheets. In my view, chapters 9 and 10 of his 1986 work are compulsory

reading for all economists, because they integrated the Keynesian concept of uncertainty with financial fragility. Minsky understood that the link between the profit and loss account and the balance sheet is the cash flow. This is immediately understandable for any experienced, practicing accountant and banker, but almost ignored by most economists.

First, the profit and loss in one year (flow) is the first-order differential of an entity's net wealth:

$$P/L = dNW/dt, \text{ where } NW = dA - dL \text{ (change in asset and liability composition)}$$

Therefore, P/L equals net cash flow (in cash and liquid assets) from operations plus/minus change in long-term assets plus/minus funding (from banks and external sources).

This is the taxonomy of what Minsky called income cash flow (from operations), portfolio cash flow (from transaction in capital and financial assets), and balance sheet cash flows (funding flows) (1986, 223).

But accounting cash flow is different from economic cash flow, due to the uncertainty in collection of accruals. Accruals are debt at point of balance sheet date which carry both liquidity and credit risk, since if the accrual is not realized, the entity faces both liquidity as well as credit loss. A cash flow consisting only of accruals runs huge credit and liquidity risk, which is what happens when the market liquidity dries up.

Thus, Minsky astutely observed that "financial instability is linked to the relative importance of income, balance-sheet and portfolio cash flows in an economy" (1986, 226).

7. Positive Disequilibrating Feedbacks: Liquidity Hides All Sins

In the area of feedbacks, Minsky in fact predated George Soros in understanding that there is reflexivity between the willingness of financial institutions to lend and asset prices: "Endogenous increases in money and liquid assets raise the price of capital assets relative to money and current output prices" (1986, 237). But, "Endogenous forces make a situation dominated by hedge finance unstable and endogenous disequilibrating forces will become greater as the weight of speculative and Ponzi finance increases" (1986, 238). In contrast to the assumption in neoclassical mainstream that financial markets have negative feedback, moving back to equilibrium, Minsky argued that positive disequilibrating feedback exists, which turned out to be so in the current crisis.

In the first reference to feedback mechanisms and uncertainty, Minsky noted that "since we live in a world of uncertainty and current views about the future affect capital asset prices, the governor mechanism by way of financing terms is often dominated by positive, disequilibrating feedbacks" (1986, 255). In his famous phrase "Everyone can create money; the problem is to get it accepted" (1986, 255), he foresaw the rise of shadow banking, since, ultimately, their money was accepted by the central banks and converted into central bank liabilities.

The above analysis applied very well to the sharp increase in bank lending in China after the reforms in 2003. As is well known, the leading Chinese banks were publicly listed, with their audits being undertaken by international auditors. As their corporate governance and risk management improved, the ratio of nonperforming loans declined. The acceleration in bank credit after the stimulus package in late 2008 gave rise to better understanding of the role of information asymmetry and the positive feedback mechanism between bank credit, interest rates, and nonperforming loans.

Firstly, there is an inherent fallacy of composition in individual bank lending to finance local government financing platforms, as individual banks would not be able to assess whether the infrastructure

investment by individual local governments are duplicative and therefore may pose problems of long-term economic viability, due to oversupply. Such information should have been available under central planning, but the data collection was dismantled in the move toward allowing market forces to work. The bank supervisory authority had to collect the data from case-by-case analysis and to request that each bank reassess project viability, cash flow repayment capacity, and project collateral.

Secondly, whilst the large-scale investments in infrastructure were stimulative for economic recovery during 2009, there was concern in 2010 whether such continued lending would give rise to growing future credit risks and to revival of inflation.

Third, the higher liquidity in the banking system had the effect of disguising inherent borrower solvency problems, as problem debtors could easily borrow from a new lending bank to repay old loans. The credit information base of the banking system had to be improved in order to detect such "evergreening" of default risk.

Indeed, the above effect of the financial system procyclically generating credit-driven liquidity booms could also be observed in the rise of the global shadow banking system, whose US$20 trillion worth of credit was neither captured in the advanced countries' monetary survey nor actively supervised for its systemic risks.

In chapter 10, "Banking in a Capitalist Economy," Minsky identified that "a bank that increases leverage without adversely affecting profits per dollar of assets increases its profitability. The combination of retained earnings and the profitability from increased leverage can make the supply of financing from banks grow so fast that the price of capital assets, the prices of investment output, and finally, the prices of consumption output all rise" (1986, 264). He further recognized that the game that is played between the central banks and profit-seeking banks is "an unfair game. The entrepreneurs of the banking community have much more at stake than the bureaucrats of the central banks. . . . The profit-seeking bankers almost always win their game with the authorities, but, in winning, the banking community destabilizes the economy; the true losers are those who are hurt by unemployment and inflation (1986, 279).

As far as I am aware, Minsky did not explicitly identify the interest rate as the link between asset prices, bank liabilities and bank solvency. Simply put, the greater the level of bank lending, the lower the nominal rate of interest. Under current accounting standards for derivatives, assets are valued as the discounted present value of future cash flows, whilst liabilities are calculated below the line. When interest rates decline, profits are shown because risks are deferred or hidden, resulting in higher bonuses for bank management who push for higher levels of proprietary trading and larger leverage. The collateral situation (loan to value ratio) appears to improve with lower interest rates, as the value of collateral also rises with lower interest rates.

This is exactly the modus operandi of money manager capitalism, where the shadow bankers profit at the expense of public guarantees.

Unfortunately, when real interest rates rise, the reverse procyclical deflation process occurs, and bank solvency quickly disappears as liquidity declines, increasing counterparty credit risks as every holder of debt tries to exit first. However, central bank lending of last resort that takes toxic assets off the books and zero interest rate policies in effect socialize private sector losses.

By doing so, central banks confirm moral hazard. Bank nonperforming loans and losses have become quasi-fiscal deficits, with central banking engaging in quasi-fiscal action, a de facto taxation without representation.

8. What Should the Authorities Do?

In chapter 11, "The Agenda for Reform," Minsky clearly recognized that "financial reform needs to confront the public nature of much that is private. Big or giant organizations carry an implied public guarantee (i.e., contingent liability) on their debts. This introduces a financing bias favoring giant corporations and giant banks, for the implicit public liability leads to preferred market treatment" (1986, 354).

In other words, Big Government is needed to check big corporations or big banks. His solution is to allow exits and to regulate banks more thoroughly. "Bankruptcy, which transforms a nonsustainable speculative or Ponzi financing structure into a sustainable hedge structure, should be made cheap and easy" (1986, 354). Consequently, "in order to contain the destabilizing effect of banking, it is necessary to regulate the amount and rate of increase of bank assets. The major control device is the permitted capital-asset ratio and the rate of growth of bank capital" (1986, 356).

In essence, Minsky tries to limit bank credit to the Real Bills Doctrine that finance should fundamentally not grow faster than real assets. In a prescient comment on the current state of central banking, Minsky opined that "central banking can only be successful only if central bankers know how the institutional structure behaves and correctly assess how changes affect the system. Central banks have to steer the evolution of the financial structure" (1986, 359). This is exactly what the Asian central banks and bank supervisors are trying to do.

9. The Hard Budget Constraint

As early as 1975, Minsky had understood that in a system with unstable financing, the real issue is the hard budget constraint:

> Inasmuch as the effective demand for current output by a sector is determined not only by the current income flows and current external finance but also by the sector's cash-payment commitments due to past debt, the alternative interpretation can be summarized by a theory of the determination of the effective budget constraints. The economics of the determination of the budget constraints logically precedes and sets the stage for the economics of the selection of particular items of investment and consumption. (1975, 132)

In other words, what is the hard budget constraint to stop the banking system from increasing its leverage that benefits bankers but imposes larger and larger quasi-fiscal liabilities on the public debt through the deposit guarantee?

Minsky's answer is in the tax system. "Once government is big, its tax take must be big and the structure of taxes will have a significant effect on relative prices, supply conditions, and financing practices" (1986, 339). "Thus, the design of the tax system is vital, as taxes introduce allocational inefficiencies as well as inducing behavior designed to avoid or evade taxation" (1986, 325).

So far, Asian governments have been relatively prudent in the fiscal field, partly because Japan has given an example how fiscal policies in a post-bubble era, combined with an aging population, can have serious consequences if not properly managed.

10. The Art of Convincing Decision Makers

I cannot end this litany of Minsky insights without touching on how he understood that even if his framework was superior to the neoclassical paradigm, the policymakers may not listen. He recounted how Nobel Laureate James Tobin framed the agenda for public debate as "censoring evidence and phrasing questions for his prince's attention . . . to be precise, the most important concern in court politics is access to the mind of the prince. And if economics is too important to be left to the economists, it is certainly too important to be left to economist-courtiers" (1986, 321).

Every Asian economist would immediately recognize that Minsky has struck a chord on the central stumbling block of all economic or financial advisers—how to convince the powers-that-be in Big Government on the right course of action, particularly if it involved tough medicine or against huge vested interests. In the 2nd century BCE, the leading Chinese Legalist philosopher/courtier, Han Feizu, wrote a prescient piece called *The Difficulty of Speaking* (he was a stutterer), in which he argued before a feeble lord how administrative reforms were urgent in the face of rising competition from neighboring states. Like Minsky, he had a poor hearing in his lifetime.

Twenty-two centuries later, Minsky understood clearly that management that is part of the problem cannot be part of the solution: "Meaningful reforms cannot be put over by an advisory and administrative elite that is itself the architect of the existing situation. Unless the public understands the reason for change they will not accept its costs; understanding is the foundation of legitimacy for reform" (1986, 321).

Conclusion

From the foregoing, you can easily conclude that I am an ardent admirer of Minsky. Much of what he has propounded has come to pass, especially in the East. I would be negligent if I were not to point out two areas where we should be undertaking more work.

The first is to operationalize Minsky, especially in the area of cash-flow analysis and the identification of when a financial system was to "tip over" into Ponzi financing. The current "five loan classification systems" do not capture the problem of cash flow weaknesses in evaluating credit risks. The concepts of hedge, speculative, and Ponzi financing are already well understood, but it is surprising that no regulatory authority or central bank has tried to operationalize their usage in practical terms. To my mind, Minsky's work will not have lasting impact on finance unless we are able to operationalize his analytical concepts in the same way that the Hicksian IS-LM curves were embedded in economic models.

The second is to look at the global ramifications of Minsky's work. Jan Kregel and others have already begun to do so, but it is clear in my mind that unless we solve the problem of an unstable global economy, we may have grave difficulties stabilizing an unstable domestic economy. The two are interactive and reflexive.

To sum up, Minsky's analytical framework has proved helpful to understanding not only the importance of investment in driving growth in Asia, but also its inherent financial fragility. His vision of Big Government has become reality, one by design in the East and one by default in the West. Big Government needs higher taxation, to prevent fiscal deficits debasing the currency, distorting market prices, passing losses to savers, and worsening income and wealth inequality. These are the political economy issues of inefficiency, growing unemployment, and social inequality that were the concerns of Keynes. To this list has been added the inherent instability of modern finance, leading both Walter Bagehot and Minsky to conclude that finance is too important to be left to bankers and the free market respectively.

The problem is that Big national government may be sufficient to deal with Big national finance, but it may not be sufficient to deal with [the institutions of] Big global finance, which are "too big to fail, too big to jail." This is a political economy question that clearly deserves more reflection.

I conclude with a comment by Minsky that displayed his social conscience and concern for the environment, an issue highly relevant and topical in Asia:

> We are inevitably forced back to the normative question of for whom should the game be fixed and what kind of output should be produced. It is clear that if reasonably full employment is the dominant goal, then the scheme of perpetual waste and want has to date succeeded. The combination of investment that leads to no, or a minimal, net increment to useful capital, perennial war preparations, and consumption fads has succeeded in maintaining employment. But such a resolution of the problem of unemployment and depression does not lead a corresponding increase in felt well-being. It rather seems to put all—the affluent, the poor, and those in between—on a fruitless inflationary treadmill, accompanied by what is taken to be deterioration in the biological and social environment. (1975, 164)

Thank you for your patience and understanding.

Notes

1. Hyman P. Minsky, *Stabilizing an Unstable Economy* (New York: McGraw-Hill, 1986), 324.
2. Indeed, in the most widely read recent book on financial crises, Carmen M. Reinhart and Kenneth S. Rogoff's *This Time Is Different: Eight Centuries of Financial Folly* (2010), there is no reference at all to Minsky, nor in *Q-Finance* (2009), an encyclopedia on finance.
3. See Nicholas Snowden and Jesús Muñoz, "Financial Stability and Growth in Post-reform India: A Minskyan Enquiry," The Hyman P. Minsky Summer Seminar and Conference, 2010.
4. For an overview analysis, see Sheng, "Too Big to Fail, Too Big to Jail," address to the Institute for New Economic Thinking, Bretton Woods, April 9, 2011.

Q&A

Q: You alluded to the growth of shadow banking—shadow money, or funny money—as one of the major causes of the bubble and the financial crisis. Should banks—noncommercial banks, nonregulated banks—be able to create financial instruments denominated in the currency of a nation and repayable from the national economy in this way, or should they be restricted from doing so?

AS: You know, that's why Minsky was brilliant—brilliant, because he said, "Money creation—anybody can create money. The problem is getting it accepted." As long as somebody's willing to accept it, you can create money. Now, if you really look at the massive debate we had in 2008–09, we argued about the perimeter of regulation. That was the big debate—where should we draw that line? The answer is, it's not difficult to draw that line, because everybody can create money. But it's quite clear that those giants that can actually create money—because they all happen to be giants, right?—should fall under the regulatory net. But then we have a very fundamental question, which is reflexive: . . . when the giants are bigger and more powerful than their national regulators, who regulates these Godzillas? That's the heart of

the problem, the fundamental problem. To sort of summarize this paper, what is the hard budget constraint to stop these Godzillas growing bigger, . . . and can they be stopped at the national level because they've grown global? That's the real issue.

The corollary of this—which, after reading Minsky, I suddenly realized this—is that the myth of the "level playing field" market is gone, because whenever you have a crisis, the Godzillas become bigger. They absorb some of the failed smaller ones, and so concentration is increasing more and more, and these big players . . . see your position when you trade with them because they are no longer an agent; they are proprietary trading, so they are principals in their own right. That's the heart of the problem. The minute they become proprietary traders, they actually compete with all their customers—that's the first major conflict of interest. But there is also a size problem. There's not only a size problem, there's also an informational problem, because you will never be able to see the flaws of all the other people. Yet the big guy who's right in the middle sees everybody's flaws, or most people's flaws, especially if they're one-fifth of the market. The top five count for two-thirds of the national transactions in major financial markets and in exotic derivatives—it could even be up to 90 percent. So they basically know where the flaws are.

But the problem is, who does the regulation? Who is going to be able to see this, and to what extent? That's the hard budget constraint and the informational symmetry problem and the principle agent problem. These large, too–big-to-fail institutions are no longer agents of the real sector; they have become a major principle competing with the real sector. But the unfairness is that, if the two of us trade, I see your position and I get rescued; but if you fail, who rescues you? And why isn't there a taxation to compensate between that exorbitant privilege of the "too big to fail" institutions? That's the heart of the problem. So I'm very grateful to Minsky for actually bringing this into a consistent framework in which to think about this issue. . . .

Q: One of the things that systems dynamics teaches is that, if you don't have a negative feedback loop, a self-correcting mechanism, the system blows up. It used to be the case in the United States and in the world as well that the negative feedback loop in the monetary structure was that some of the money being created out of nothing, by law, was redeemable for gold. However, after that linkage was broken in 1971 by President Nixon, who defaulted on that sovereign promise, now there's no longer a negative feedback loop on increasing leverage, increasing debt, and increasing the money supply. So what I'd like you to address is, why didn't Minsky recognize the benefit of having gold as money, which was what we were supposed to have in the United States according to our Constitution? Why didn't he make that an issue?

AS: . . . I think you should really ask the experts. My own assessment is that we are all creatures of our environment. At the time when Minsky was discussing it, the question of the dollar was not in that critical position, and therefore the gold-dollar fiat money issue wasn't the priority. In his view, the priority—and I think he's right in this—is about employment. So, you know, that's a really shallow reading. . . .

Q: So where's the negative feedback loop on increasing leverage, increasing debt, and increasing the money supply if irredeemable paper-ticket money can be created without limit? That's really the situation that you have all over the world, including China.

AS: But your question, as I understood it, is why Minsky didn't see it. But I can't answer for Minsky because, I'm not, as I said, the expert on the subject. The issue now is that, if you extend Minsky—that was the second point I suggested, that we really need to extend the Minsky framework of thinking to this global collective-action trap at the national level to the global level, and the feedback mechanism between the two. That's the right way, in my view. I don't have the answers. I'm just suggesting we need to think along those lines. . . .

Q: My question is about inflation, particularly in China, just to diverge a little bit from the theoretical and talk about what's happening on the ground. I hear so many conflicting reports about the inflation situation in China, as well as nascent social unrest, and I was wondering if you can comment briefly on how you see those trends developing in China at the moment.

AS: The issue is, is inflation purely a monetary phenomenon or is it also related to real factors? In the context of China, it could be either. At the moment, the food prices and the energy prices are partly due to external conditions. China is not a producer of oil, so if oil prices increase, clearly, that energy price will slowly feed back into this. But within China, the issue that is both monetary and real is the Lewis turning point, . . . which basically says that for emerging markets, initially, the excess labor that exists within the economy will actually suppress wages as they enter into the labor force. But at a certain point of time, the supply of excess labor will not be sufficient to meet the demand for labor, and the wage levels will increase. Today, if you really look at the 12th Five-Year Plan, it already incorporates into it the increase in the wage cost. Once the wage cost increases, there will be an element of inflation. Then the question is, is that level of inflation problematic for the economy as a whole? If the labor force gets a real increase in wages higher than the growth rate of the economy, it's not a problem. In fact, it solves the inequality issues that you talked about. But if the inflation rate rises faster, so that the real rate of interest for savers and the real rate of wages is lower than the inflation rate, then you are in trouble. So I think it's a very delicate balance. The only recent experience you can look at is Japan in the 1960s and 1970s, when Japan also had a growth rate of nearly 10 percent but an inflation rate of around 5 percent. Within the Asian environment, a level somewhere between 3 and 5 percent is tolerable. But, like all central bankers, people are worried that, once you go over the 5 percent level, it can get into a chute. So the delicate balance is, how do you manage this? So if you really look at the 12th Five-Year Plan, the official target for growth is more like 7 percent. And that's a very strong signal. It means that China recognizes that growth will slow, partly because of the supply and demand constraints within the economy, and secondly, the slow growth rate will generate lower inflation. I hope that answers the question. . . .

Q: I have a question on the "too big to fail" issue that you addressed. Yesterday, there was a reference to the UK [Independent Commission on Banking, chaired by Sir John Vickers], which came out [with its interim report on reform options] on Monday. . . . They chose the easy way by sort of ring-fencing the retail side of the bank rather than spinning off the proprietary trading side. I was wondering if you had some reflection on whether these two are good ways to go. One would be almost what was discussed yesterday, going back to Glass-Steagall—to that type of regulation—or whether the UK proposal may be sufficient.

AS: Unfortunately, I just came from the INET [Institute for New Economic Thinking] meeting in Bretton Woods, where I gave a paper on Too Big to Fail; you can see that on the INET website. But the Vickers report came in just in the middle of that, and the jetlag and my preparations for this lecture didn't give me enough time to think about that issue. So I can't comment on Vickers . . . until I have actually properly read it and thought about it, and then I will give my views on it. But let me give you the issue that I'm thinking about. Why do I say this problem is not regulatory but political? Economists tend to think in marginal terms. We tweak a little thing *there* and we tweak a little thing *there*, and things will move. Politicians and political scientists think stochastically: "*It's got to be stopped, it's got to be stopped.*" Can we at the margins slow down this natural concentration of financial giants? And no longer at the national level, but at the global level. It's a fundamental political-economy question that we need to answer, and until we answer that question, I'm not sure the regulatory question can be framed in the right way.

The second answer to your question is in Tolstoy's *Anna Karenina*: every happy family is happy for the same reasons, every unhappy family is unhappy for its own unhappy reasons. Each nation would have different approaches to this issue. But then comes the Anna Karenina problem: what happens when we are a global family? Put it this way: are we in a Potemkin village? I'm sorry to use Russian examples *[laughter]*. . . .

Q: This may be an intellectual-blind-spot question, and it has to do with feedback. One of the most conspicuous developments, it seems to me, across disciplines over the 20th and early 21st centuries is attention to self-referential matters, or feedback effects. In mathematics, you've got fixed-point theorems; in mathematical logic, you've got Gödel's incompleteness theorem; in architecture, you've got Post-Modernism, which is self-referential; in literature, since you were talking about literature—again, self-reference. Why is it that economics or the economics profession has been so slow to discover position feedback loops or phenomena? Why is it that only a few people—Keynes, Minsky, a couple of others, and Soros, of course—in the economics profession seem to have cottoned on to the importance of feedback or recursion or self-reference? Any thoughts on that?

AS: Well, the old saying is, "Can a doctor heal himself?"

Q: But the other doctors did.

AS: The real trouble is that when you're in the mainstream, you actually don't see. You start praising each other until you think that your theory must be the right one, and you tend to ignore other points of view. That's the Hun mentality, the positive feedback, which can be very dangerous. Therefore, if you read Mendel's work—and this is the environmental person thinking about the systemic issue—prevention is absolutely critical. Because once the momentum starts going, it's almost impossible to stop.

Q: Can you comment . . . from a pragmatic rather than a theoretical standpoint on the correlation between the necessity for growth, the demand on resources, the impracticality of alternative energy at the moment, and the need for employment? Because you addressed the comment from the standpoint that if the world continues to demand scarce resources, obviously, the consequences are increased inflation, increased commodity prices, et cetera. But countries demand growth in order to sustain employment. Otherwise, you've stopped.

AS: You raise a very important question, and I think this is the heart of the issue: is growth the right objective or is employment the right objective? When you think about it, growth doesn't mean employment. I mean, people equate the two, but it's not necessarily the case. If you go back to the [Harrison] Brown report and [1972's] *The Limits to Growth*, you realize there *are* limits to growth, because this current growth model is highly material resource–consumptive growth. So it does not add up if the natural resources are that limited. So we come back to the second law of thermal dynamics, which people tend to forget: that what enters comes out as entropy, . . . that when we think about growth, we don't think about the pollution and this externality that it brings. So if we're not careful, a headlong march toward growth could actually end up with real problems. So then you have to come back to the question, What is the creative destruction that is necessary to bring excess consumption back to an equilibrating level? That is, equilibrating human demand with human production that is *consistent with* Mother Earth. The trouble with traditional neoclassical thinking is [that the focus is on] human demand, human production, but the cost to Mother Earth is discounted—it is blind to the system. But what is *true* systemic thinking is that human demands cannot make too much demand on Mother Earth without all the future costs of polluting our environment and consuming all our natural resources. Ultimately, we will end up exactly like the dinosaur. So these things we do need to think about, but I'm afraid in its existing state, neoclassical thinking is the wrong way to think about this problem. It's better, instead of asking how many more pieces of paper should we print to get ourselves out of this problem, to get beyond the finance, which is a derivative, a virtual issue, and into the real-sector problems. . . . Finance must serve the real sector, . . . Ultimately, finance cannot be divorced from the real sector, because you really need to go through it to see what the real problems are. And the real problems, clearly, are unemployment, and the balance between government and the market area and the environment. These are the issues we need to explore, and not think about just the growth issue. Asia has 4,000 years of history—no, maybe more—of ups and downs, where excess population outran the natural resources, and then when nature collapses, governance collapses. Having lived through that, we tend to forget that that cycle cannot be avoided in real terms. You can disguise this with pieces of paper that basically distribute the gains and losses amongst those who are willing to hold those pieces of paper, but it sort of obscures . . . what is happening in the real world. And the real world is now staring us in the eye. There are two crises: one is finance, and the other is global warming. People tend to pay attention to the finance area, whereas we should really be paying attention to the problem of excess consumption, which is creating a global warming problem. How we should adjust in terms of lifestyle, et cetera, is a very difficult issue. . . .

Q: Your mentioning the need for sensible consumption brings up the question of inequality, which is very large in our country and around the world. What sort of suggestion do you have about that?

AS: I'm reminded of the old joke, "Capitalism is where man exploits man, and socialism is the other way around." That's a joke, but the issue of inequality is a serious issue. We face a very fundamental problem that is a principle Asian problem, which is that we need government to sort out inequality. Markets can't sort it out automatically—that's the unfortunate reality we now face. But if government is the agent, and if it does not achieve that, what is the equilibrating mechanism to ensure that that inequality is resolved? I don't have an answer.

Thank you very much indeed.

PHIL ANGELIDES

Chairman, Financial Crisis Inquiry Commission

Justice, Reform, and Rebuilding in the Wake of the Financial Crisis

I want to start by saying what an honor it is to be here today at this esteemed conference that makes such a contribution to our understanding of our financial system, and, of course, a conference that honors the great work and contributions of Hyman Minsky, who taught us so much, and presciently so, about the systems, the stages, and the cycles of financial booms and busts; a man whose work turned out to be extraordinarily foresighted in terms of what this country has endured over the past several years….

Before I begin my remarks today, … I would like to speak briefly about the nature of our inquiry, what we found in the course of our work, and some observations about where we are today in the wake of the greatest financial crisis since the Great Depression.

A couple of personal notes: I served as Treasurer of the State of California. I also spent two decades of my life in the real estate development and investment world as a practitioner, raising debt and equity in the marketplace. I sat on the boards of the two largest pension funds in America, with $400 billion in assets. I managed the short-term money of the State of California and 3,000 local agencies—a pool of $60 billion. In any given year, the State of California would issue $20 billion to $30 billion in debt.

I came into my position as chairman of the commission with what I thought was a reasonable understanding of the American financial system, and I had this quaint notion that it was a system designed to allocate capital to the economy for the purposes of creating jobs in enterprise and long-term sustained wealth for our society. I must tell you that over the course of the last year and half, I, along with my fellow commissioners, undertook a journey of revelation. As we did our investigation, we were surprised, we were shocked, we were fascinated and often appalled at what we found. I often felt as if I had entered my local community bank, had opened a door that I wasn't suppose to open, and when I opened it, I saw a casino floor as big as New York, New York. And, I may add, that unlike Claude Raines in *Casablanca*, I was truly shocked at the level of gambling that was going on on Wall Street.

On a more sober note, I will also tell you that along our investigative journey we met many people whose aspirations had been crushed by this crisis. In a way that no previous recession, certainly in my lifetime, had occurred, people had followed all the rules, done everything right, had worked hard, and now found themselves losing their jobs, their homes, their economic security. We saw whole communities and neighborhoods wiped out and devastated by this set of events, and as we did our work, I kept these people in mind, with the fervent hope that we would learn the lessons of this crisis, so that never (in our lifetimes at least) would we have to have a set of investigative commissions look at a set of consequences as devastating as what we have experienced.

The financial and economic upheaval through which we've been through has been of no small consequence to this country and to the world. On the day we released our report, there were 26 million Americans who had lost their jobs, were out of work, couldn't find full-time work, or had stopped looking for work. Four million families had lost their homes to foreclosure, with credible estimates being that that number would rise from eight to 13 million. Eleven trillion dollars of household wealth retirement savings had been wiped away like some day trade gone bad. And as you and I know, . . . there is now no easy path to economic recovery for this nation. In many respects, we use the enormous foreign investment, the cheap capital that we had in this country, not to build jobs in enterprise and wealth, but to build an economy built on money making money—in a sense, a sand castle economy that, when the wave came in and wiped it away, we were left with nothing.

There is now an effort, I believe, by many on Wall Street and in Washington to wipe away the memory of what has occurred, to consign this set of events to an episode in the normal cycle of a free-market economy. In that regard, I felt that one of the important things that we could do at the commission was to expose the facts, to identify responsibility, to unravel myths, to help everyone better understand how this crisis could have been avoided. In a sense, our report is our attempt to record history, not to rewrite it; and, as important as anything else, to make sure it could not be rewritten. As I said, I would like to talk a little bit about our inquiry and our findings, and then where we are today and where I believe we must go. . . .

First of all, about our inquiry: We were charged by the Congress and the president with examining the causes of the financial and economic crisis. We were charged with probing the collapse of the major financial institutions that collapsed or would have collapsed but for extraordinary financial assistance from the taxpayers of this country. And we were directed that if, in the course of our inquiry, we found potential violations of law, we were to report those to the Attorney General of the United States and appropriate state attorneys general. We fulfilled all our mandates.

Our job, in essence, was to find out what happened and how it happened, and then determine why it happened. In the course of our investigation, we reviewed millions of pages of documents, we interviewed over 700 witnesses, and we held 19 days of public hearings in Washington, in New York, and in cities hard hit across this country. Now, there's been a lot of debate in the United States, and there will continue to be a passionate debate, about whether the decision to bail out the financial industry and individual companies was the right choice, and I suspect that that debate, which consumed a lot of energy, will continue for decades.

But we felt that our central mission, the question we were to pose and to answer, was something quite different, and it was, How did it come to pass that in 2008 we were faced with two painful and stark alternatives? One was to risk the total collapse of our financial and economic system, and the other was to inject trillions of dollars of taxpayer money into individual financial firms, the financial system as a whole, and an array of nonfinancial firms, even while millions of Americans still lost their jobs, their homes, and their life savings. At the end of our inquiry, we came to six fundamental conclusions, and I want to visit with you very briefly on those and say that I hope everyone here will read our report. You can go to our website, which is http://fcic.law.stanford.edu. It is a joint project with Stanford University, where they have agreed to maintain essentially the historical archive of our work. You can download the report, you can buy the report at bookstores all over this country, or you can order it online.

But I want to talk now, briefly about our six major conclusions. The first of those conclusions, central to all our conclusions and one that runs counter to the narrative that is spun by many on Wall Street and in Washington, was that this crisis was avoidable. It was not an act of Mother Nature; it was not a matter of computer models going haywire. It was a result of deliberate policy decisions, human action, inaction, and misjudgment. All along the path to the crisis of 2007 and 2008, the road to that crisis was lined with yellow and red flashing lights, many stop signs, many warning signs. The tragedy is, they were ignored or discounted. At the end of the day, the captains of finance who led the major financial institutions in this country and the public stewards of our financial system failed to avert this crisis, and I must say that theirs was a big miss, not a stumble. Despite the expressed view of many in the financial sector and those in the circles of political power, there were many warnings. Their line is that nothing could have been foreseen, nothing could have been done, this was the perfect storm; as Lloyd Blankfein has said, it was akin to a hurricane that blew from offshore.

But take a look at all the red flags that were there: the unsustainable rise in housing prices, the widespread reports of growing and … egregious predatory lending practices, warnings about mortgage fraud that began emanating from the FBI in 2004 and 2005. In September 2004, the assistant director of the FBI warned about an epidemic of mortgage fraud that was so pervasive that it could result in losses as large as those experienced in the savings-and-loan crisis. There was the growth in risky trading practices, a fundamental shift in the nature of the major financial institutions that moved away from deploying capital to really focusing on trading on their own account and trading for their clients. And, of course, there was that very small matter of the doubling of this nation's mortgage debt within a period of seven years where we incurred more mortgage debt than we had in the previous 200 years of this country's history and the creation of $13 trillion of mortgage securities that polluted our financial system.

Richard Breeden, the former head of the Securities and Exchange Commission under George H. W. Bush, I think put it well. He noted in our report that this crisis did not happen on Pluto or Mars. You do not create trillions of dollars of mortgages and have no one notice. Probably the prime example of failure—and there are many examples where we deregulated derivatives and the market exploded in terms of its size and risk and lack of transparency, decisions to allow the big money-center banks to become bigger and bigger and bigger, concentrating risk—but probably one of the best examples of a place and a time where a difference could have been made is what didn't happen at the Federal Reserve, the dog that didn't bark.

When we interviewed Alan Greenspan privately and publicly, he indicated to the commission that he felt that during his 21 years as head of the Federal Reserve that he had made the right decision 70 percent of the time and the wrong decision 30 percent of the time. I subsequently observed that the captain of the *Titanic* made the right decision 99 percent of the time and the wrong decision 1 percent of the time. But … what happened at the Federal Reserve is, starting in the 1990s, there is growing evidence about widespread unfair lending practices, predatory lending practices, fraudulent lending practices. And those reports begin to build. By 2001, the Federal Reserve staff is urging action. So the Federal Reserve finally takes action; they adopt a set of rules that they project will cover 38 percent of the subprime lending then occurring in the marketplace. Turns out, their rules are so weak, they only cover 1 percent, and so the flow of toxic mortgages continues to infect our financial system and our economy.

By 2005, evidence is presenting about the overwhelming nature of the risk being taken by lenders and what it poses to the marketplace. It then takes one year for the Federal Reserve and other regulators to

finally act and at that point all they do is adopt voluntary guidance to banks. It's not until July 2008 that the Federal Reserve finally closes the door by adopting a rule that says you cannot make loans to people who cannot afford to take those loans, but by that time, our system is fully in collapse. I want to say with respect to our first finding, that none of what happened was an act of God. I think Hyman Minsky would agree. There are systems in place, there are cycles that occur; but they are driven by human action, and the greatest tragedy would be to accept the idea that no one could have seen this coming—that nothing could have been done. If that notion takes hold, I guarantee you: it will happen again.

Secondly, we found widespread failures in financial regulation that devastated the stability of our financial markets, and these came in two forms. The first is, as our financial system evolved over the last 30 years in this country, our regulatory framework did not adapt by policy choice. But also, there was a new ideology, driven by Greenspan and others, that we had now entered an era of "great moderation," that human behavior had been fundamentally tamed by mathematical models, and that the markets had become wonderfully efficient in such a way that the major financial institutions were capable of self-policing themselves. The light hand of regulation was all that was needed; and, in fact, what came to be the governing ethos of our policymakers was that somehow the self-preservation instincts of private institutions would cumulatively add up to a protection of the self, of the public interest and how wrong that ideology was. But even though there were gaps in the system, where we depart from common orthodoxy or what is articulated by Secretary Geithner or Federal Reserve Chairman Bernanke, is, not withstanding all the gaps that existed, our regulators had immense power. The Securities and Exchange Commission could have reined in risk and leverage at the investment banks; they chose not to. The Federal Reserve Bank of New York could have reined in the excesses at big bank holding companies like Citigroup; they chose not to. Time and time again, we see instances where regulators rated financial institutions as safe and sound literally almost until the week that they collapsed.

Thirdly, our report describes dramatic breakdowns in corporate governance fueled by compensation systems that rewarded the quick deal, the big transaction, the big bet, without any consequence for the long term. So if you look at our report, you'll be astounded at what you see—both what CEOs knew and, even more disturbingly, what they claimed not to know. You'll see how at AIG they wrote $79 billion of credit protection on subprime securities, contracts that require that they post collateral if there's a market decline in the value of securities. But neither the CEO, the CFO, the Chief Risk Officer, nor any other senior official of that company had any awareness that they had to place collateral up if market values declined. So when Goldman Sachs came knocking in July 2007 with the first $1.8 billion collateral call, they were stunned. By September 2008, the collateral calls from the various counterparties had grown to $30 billion, AIG was in full collapse, and the taxpayers of the United States had to come forward with $180 billion.

You'll read about Fannie Mae and Freddie Mac, which, interestingly enough, are often segmented in discussions as if they are somehow unique beasts. They're unique in the sense of the support they had from the US government, but they're publicly traded corporations that, in essence, pioneered the notion of privatizing gain and socializing loss—a notion now widely adopted on Wall Street. You'll read about how, in 2005, as they were losing market share, they ramped up their purchases and securitization of risky loans in quest of a bigger market share, profits, and bonuses for their executives. And you'll read about how at Citigroup and Merrill Lynch they accumulated portfolios of what they thought were super-safe and "super senior" subprime securities in excess of $50 billion each without the knowledge of the leaders of those corporations.

Fourth, and this goes along with the last two findings, as a result of lax governmental supervision and recklessness by corporate executives we witnessed excessive borrowing, risky investments that, coupled with a lack of transparency in the end put our financial system on a collision course with catastrophe. By 2008, the shadow banking system, the lightly regulated if regulated at all nonbank financial system, had grown to $13 trillion in assets—bigger than the regulated financial system, commercial bank, and thrift system, with $11 trillion in assets. In a sense, we had reconstructed a 19th-century financial system, without the protections of deposit insurance, lender of last resort, or transparency, that was subject to the same kind of risk and runs that we saw in this country all throughout the 19th century. We saw an explosion in derivatives following the conscious decision to deregulate that market and create an enormous dark market. But we also saw enormous risk at individual firms, leverage ratios of 40-to-1, and, often, true leverage ratios that were hidden. At all the major investment banks, the leverage ratios were 40-to-1 or so. Even Citigroup, a regulated bank and thrift when you take in all the off-balance-sheet exposures, by the end of 2007 had a leverage ratio of 48-to-1. A good example of this is Bear Stearns itself. Bear Stearns, $11 billion in equity at the end of 2007, $390 billion in liabilities, and borrowing $70 billion each and every night in the overnight markets, each and every day, like a small business that has $50,000 in equity borrowing $1.6 million and having to renew a loan of $300,000 *each day*. All it takes is a market devaluation of assets of 2 to 3 percent or any kind of liquidity disruption for the system to unravel. And it did.

Fifth, and perhaps most disturbingly, we found that the key policymakers, the people we depended on to protect the public and our economy—the Department of Treasury led by Hank Paulson, the New York Federal Reserve led by Mr. Geithner, and the Federal Reserve led by Mr. Bernanke—that when this crisis hits in 2007, they were wholly unprepared for the crisis, because they no longer understand the financial system they are overseeing. They don’t have a window on the $2.8 trillion repo market; they have no sense of it because there’s no information on the $600 trillion derivatives markets. As I said, the shadow banking system had outraced and outrun our regulators, so when the crisis hit, there was no plan for containment because there was and is very little understanding of the inner connections that now define our current system.

I’ll just give you two examples of how this plays out. In June 2007, when the Bear Stearns hedge funds, the two funds heavily invested in subprime securities, blew up and went bankrupt, the Federal Open Market Committee held an emergency meeting to discuss the matter, but they came away with a judgment that those two funds were relatively unique, that very few institutions had those kinds of concentrations of subprime securities. What’s even more frightening, it was only four weeks before the collapse of Lehman Brothers that the Federal Reserve Bank of New York said we had better find out what would happen if Lehman went down, that we’d better find out who were the counterparties for 900,000 derivatives contracts. They didn’t have the information. They didn’t have the knowledge, and therefore, in fighting the crisis, our government leaders were flying blind. And the fact is, their inconsistent responses— saving Bear, putting Fannie and Freddie in conservancy, letting Lehman go down, saving AIG, seizing WaMu—all those actions of inconsistency did, in fact, exacerbate the crisis.

And finally, in our report we document widespread and systemic breaches and breakdowns in ethics and accountability at all levels. Yes, borrowers who took out loans that they never had the ability or intention to repay. Lenders and mortgage brokers who deliberately steered borrowers into the highest-possible-cost loans because mortgage brokers were often compensated by what were called yield-spread premiums, an accelerating scale of payment in which the higher-cost loan I put you in, the higher compensation I

get. We had a dramatic rise in fraud, as I indicated. Between 1996 and 2005, the number of SARs, or suspicious activity reports—these are reports that financial institutions are supposed to file on the suspicion of a financial crime—the number of SARs related to mortgage fraud grew by 20 fold between 1996 and 2005, and then doubled again by 2009. One study that we reviewed in our report indicated that between 2005 and 2007 there was $1 trillion worth of mortgage loans made with proven fraud that resulted in $112 billion in loses. But all of this happened in a nonregulated, crime-facilitative environment.

And finally, we catalogue striking new evidence of financial firms that bought and packaged securities, sold them to investors around the world, and knew the defective nature of those mortgage loans and never revealed them. In our report, we attribute responsibility—and I want to say, this was the work of a few bad actors. . . . Minsky was right: systemic forces were at work. But it is also not true to say that everyone was at fault. At the end of the day, I believe we must place special responsibility with the CEOs of the companies and the public leaders who are in charge of our financial system, because they are the folks who sought and accepted responsibility to manage our financial affairs in this country.

We set out to write a report that was readable, understandable, and, as I've said, I hope that as many people read this as possible. There's been an intense interest in the report (notwithstanding the fact that it can be downloaded for free). We have been on the best-seller list for the *New York Times* and the *Washington Post.* Yes, because we tried to make it accessible, but more importantly, I believe, because the American people still have a tremendous hunger to understand how we got here, why our country's economy collapsed, particularly when—and I find this among many businesspeople across the country—they don't understand what brought us to this time and this place.

So let me talk a little about where we are. First of all, let me say clearly, … by no means do I believe, nor do my fellow commissioners believe, that our report should be viewed as the end of the nation's examination and investigation of this crisis. There is still much to learn, much to investigate, much to fix. If you think about it for a minute, the crisis unfolds in 2007–08. Two thousand nine is a year in which the country was struggling to avoid another Great Depression. In many respects, the inquiry, the examination, the question of what occurred, really just began in 2010 and must not be allowed to stop. Because as we meet here today, I think it is fair to say that, in many respects, little has changed. There is more power concentrated in fewer bigger banks than there was before the crisis. Two weeks ago, Bloomberg had new data out that showed that 77 percent of banking assets are now held by the 10 biggest banks in this country. By the end of 2009, according to the New York State Comptroller, profits on Wall Street had reached triple the level what they were in 2006, the year before the collapse. And, of course, Wall Street has its own unique law of gravity that's back in full force. Compensation in 2010 hit record levels—$135 billion at the publicly traded Wall Street banks and securities firms. What is perhaps most disturbing, though, is there seems to be little correlation between who drove this crisis and who is now paying the price for it, and almost no consequences for those who are most responsible for this crisis. It's as if we had a devastating earthquake and, at the end of the day, the gleaming skyscrapers at its epic center were left standing while rubble was strewn everywhere else. Many hardworking Americans are rightly wondering who will help them dig out.

In the context of all this, what is even perhaps more troubling is that we are now seeing tremendous pushback from the financial industry and their political allies in Washington. We're seeing complaint from bankers about too-tough treatment from policymakers, the media, and the public. We're seeing efforts to undermine the Dodd-Frank financial bill, and consistent efforts in the House of Representatives

to cut the funding of the Securities and Exchange Commission. And let me make an observation on this: this is not about budgetary reform; it is about constraining regulators. The SEC brings in $1.8 billion a year in fees and fines; its budget is $1.2 billion. Yet, through the spring of this year, the Republicans tried consistently to slice $200 million out of that budget. There are efforts to cut the budget of the Commodities Future Trading Commission, which is charged with the Herculean task of bringing the derivatives market into the sunshine of transparency and regulation. And now, of all things, we see Alan Greenspan back out on the road saying that the reason we have a slow recovery is too much government activism. He decries what he calls the "frenetic pace of new financial regulations" and, ironically, the current "anything goes" regulatory ethos, which you would think would have been a reference to his tenure. Let me just say, this is quite something, this is the man who had his hand on the steering wheel, had his foot on the gas pedal as we drove over the cliff, and now he wants to give the nation driving lessons once again.

But even more deeply, there is an attempt to change the subject about what brought us to where we are today, an attempt to focus on working people and somehow the wages and pensions of working folks having brought on the current financial crisis in which we find ourselves. Let me be very clear on this point: the teachers of the United States did not cause this crisis. The average pay of teachers in the United States is $50,000 a year, and even in a high-cost state like California, the medium stipend, retirement stipend for retired teachers who have an average tenure in the classroom of 30 years is $2,400 a month, and they get no Social Security.

My own state's budgetary woes are a good example of what the truth is about where we find ourselves. I was treasurer of the state and I ran for governor in 2006 on a platform of balancing the budget. Reinstituting the higher income brackets for the wealthiest in our state, that went well for me. But it is true that we had budgetary irresponsibility. The State of California was spending $8–$10 billion more a year, even in the good times, than it was taking in. But make no mistake about it, the reason California has a massive deficit today is because of the loss of jobs and spending power. The revenues of the state are $41 billion a year less than were projected in November 2007 because of a reported unemployment rate of 12 percent—a real unemployment rate when you count underemployment and those who have stopped looking for work of 17 percent. What brought us to where we are today is the financial recklessness and the lack of public policy to protect our financial system.

Now, in the wake of all this, there is tremendous anger, and I might say justifiably so. I will tell you that I'm angry at what I learned and what I saw during the course of this inquiry. But anger is not a policy prescription, and what I would like to do today is talk about three things I think we need to do at this point to move forward.

First, the matter of justice, and Dimitri referred to that. The question I do get asked most often is, Where are the prosecutions for wrongdoing; why has no one paid a price? There's a sense that there are two systems of justice in this country: one for people of enormous wealth and power, and one for everyone else. This is particularly striking in light of the fact that, in the wake of the savings-and-loan crisis of the late 1980s and early 1990s, there were 1,000 felony convictions of bank and savings-and-loan executives and a very aggressive collaboration between regulators and prosecutors to bring to justice those who had crossed the line.

Let me make one observation. There is the matter of crossing the line, but also, even if people bellied up to the line, these are matters of ethics and morality with which we must be concerned. But as of

today, there's been almost no consequence, legal or otherwise. Many Americans have paid more in parking tickets than folks on Wall Street have paid for transgressions that have occurred. We did our job at the commission. We weren't appointed to be prosecutors, but we did lay out a set of facts, and in the same way that I urge every American to read our report, I would urge prosecutors to do the same. But here's what I want to say: We don't want vengeance. We don't want hangman justice in the United States of America. We want fair application of the law. The second thing that we want, and it's fundamentally important, is, we need deterrence. When you see these settlements, where firms and institutions have made tens and hundreds and billions of dollars, and they settle for pennies on the dollar with no admission of wrongdoing, it does not serve well the cause of deterrence. You take a look at a case like Citigroup, where they misrepresented during the course of 2007 their holdings and subprime securities, telling the investing public consistently that they had $13 billion of exposure when they had $55 billion of exposure. So what was the penalty for Gary Crittenden, who made $19 million in 2007? It was a $100,000 fine. Take the case of Angelo Mozilo who made half a billion dollars at Countrywide and a $140 million gain as his company was falling apart, and he was selling stock at the same time that e-mails were going back and forth among executives warning about their practices leading to "financial and reputational catastrophe for the firm" and warning about these loans leading to foreclosures. At the end of the day, he was fined $67 million, of which Bank of America and Countrywide paid $40 million, with an ultimate bill of $22 million. Let me make a simple observation: if someone robbed a 7-Eleven and they took $500, and the next morning they could settle for $25 and no admission of wrongdoing, they would knock it over again. So deterrence is important.

Secondly, we need to make sure that the Dodd-Frank bill, which is a good and strong bill and will help shore up our financial system, is implemented, and implemented vigorously. I just want to say that what we need is a Congress of the United States that's doing oversight to make sure the regulators are doing their job, not to stop them from doing their job; and we need the resources, capacity, and talent in the private sector to be guardians for the public interest. This will be an ongoing struggle, yes, because of the compensation mismatch between Wall Street and the public sector, and we need to try to close that gap. But it will also be a struggle because Wall Street moves fast, and yesterday's products will be replaced with a whole new set of practices and products in the same way that the products in the Enron–WorldCom time period morphed in the mid-2000s the mortgage securities. Look, the folks on Wall Street are nimble and fast. Another way to put it is, they're like greased pigs. They're hard to catch and they move quickly, and we need a regulatory system that is as nimble in order to protect the public interest.

Finally, and I think most importantly, we must commit ourselves to building a more sustainable economy in which the financial sector more truly contributes to our long-term growth by more effectively deploying capital to build jobs, enterprises, and broadly shared prosperity. This must be accompanied by a new sense of corporate responsibility characterized by a stronger ethical and moral compass. The greatest tragedy of the past decade, and I particularly feel this the further and further away I get from our inquiry, is that we squandered so much capital on creating trillions of dollars of defective mortgage securities rather than focusing on investments in infrastructure and technology and clean energy that could increase our productivity and our wealth and strengthen our society. In the years before the crisis, our economy became one that was more about money making money than money being utilized to create value for our economy.

Even where laws were not broken, standards of conduct deteriorated in ways that weakened the very foundations of economic progress. In the United States, the share of corporate profits from the financial

sector rose from 15 percent in 1980 to over 30 percent by 2003. From 1978 to 2007, the amount of debt held by the US financial sector soared from $3 trillion to $36 trillion, doubling as a share of our gross domestic product. In 1980, for every $13 borrowed by financial companies, $100 was borrowed by non-financial companies, companies producing products and services of value to our economy. By 2007, it was $51 in the financial sector for every $100 in the nonfinancial sector. In many respects, we became a country that valued the Big Bet rather than betting on value. So I hope and believe that, as we come out of this crisis, the time has come to refocus our economy in concert with others around the world so that the financial sector is not the master but rather the servant of our economic progress.

In closing, let me observe that I believe that the story of the financial and economic crisis that has befallen our nation is not yet finished. Collectively, if we have the courage, if we have the strength, we will have the chance to write the final chapter of this crisis. And it now falls to us to make difference choices if we want different results.

Thank you very much for having me here today.

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Strengthening Our Monetary Policy Framework

Introduction

I appreciate the invitation to participate in the 20th annual Hyman P. Minsky Conference on the State of the US and World Economies. The purpose of this year's conference is to discuss the effects of the global financial crisis on the real economy and to examine some of the proposed policy responses that might prevent or mitigate the effects of such crises in the future. In that spirit, today I would like to recommend a way to strengthen our monetary policy framework. . . .

For the past three years, policymakers have been focused on near-term efforts to stabilize financial markets and the real economy in the face of the worst financial and economic crisis since the Great Depression. Today, there is ample evidence that our economy is on the mend and that a moderate but sustainable recovery is under way.

As the economic outlook improves, we have not only the opportunity but also the duty to begin focusing on the longer run and to consider important monetary policy reforms that will lower the chances of experiencing such a severe crisis again. I believe adopting an explicit numerical inflation objective will enhance the ability of monetary policy to achieve the Federal Reserve's statutory mandates of price stability, moderate long-term interest rates, and maximum employment. As always, my remarks reflect my own views and do not necessarily represent the views of the Federal Reserve Board or my colleagues on the Federal Open Market Committee.

Recent events on the inflation front, I believe, are a useful place to start. In the last few months we have witnessed sharp increases in the prices of energy, food, and other commodities, and some are concerned that this will result in higher than desired overall price inflation. This is a remarkable turn of events. Less than a year ago, the prevailing concern was not that inflation was becoming too high but that it was becoming too low. Indeed, some feared that the US economy was on the verge of a deflationary spiral. I was not one of them; nor do I believe that we are in imminent danger of a strong acceleration in inflation. Yet the swing in views does concern me. It suggests that the public's confidence in the Federal Reserve's commitment to maintain price stability is not as firmly established as I would like. This is problematic for monetary policymakers, since this confidence is essential for a central bank's ability to actually deliver on the goal of price stability for the economy.

One need only remember the period of the Great Inflation, from the late 1960s to the early 1980s, to understand the importance of credibility, commitment, and expectations for economic performance. The Great Inflation occurred after a decade of very low and stable inflation, a period that seemed to firmly establish the Fed's reputation for maintaining price stability. Like today, many thought that the Fed's

reputation was secure. Yet it didn't take long for accommodative monetary policy and gradually rising inflation to erode this reputation. Once that public confidence was lost, increases in the prices of oil and other commodities in the early 1970s were quickly incorporated into expectations of higher inflation and then transmitted to the prices of other goods and services, including wages. Attempts to quell the inflation with monetary policy were timid, and rising unemployment made policymakers reluctant to undertake the necessary actions. The result was an unprecedented surge in inflation that did not end until the Fed, under Chairman Paul Volcker, took aggressive steps to reestablish the Fed's reputation and commitment to low inflation. This came, though, at the cost of the recession of 1981–82, which took its toll on both individuals and businesses.

Over the past two decades, central banks around the world have grappled with ways to deliver on their price stability mandates and incorporate the lessons of the 1970s into a monetary policy framework. There is now broad agreement among monetary economists and policymakers that having a clear numerical objective for inflation—often referred to as an inflation target—can help a central bank maintain low and stable inflation by anchoring inflation expectations, enhancing policy transparency, and increasing central bank accountability for its actions. Countries that have adopted such a target have tended to have lower and more stable inflation, better-anchored inflation expectations, and real activity that is at least as stable as it was before adoption.[1]

And now more than 20 central banks, including the Reserve Bank of Australia, the Bank of Canada, the Bank of England, the European Central Bank (ECB), and the Reserve Bank of New Zealand, have adopted an explicit inflation target. A glaring exception to this worldwide trend is the US Federal Reserve.

As monetary policymakers begin to contemplate strategies for exiting this episode of extraordinary accommodation, I believe now is an opportune time for the Federal Reserve to move its monetary policy framework into the 21st century. We should adopt an explicit numerical inflation objective, communicate it to the public, and accept the responsibility for the outcomes relative to that objective. Let me talk about how such an objective would fit into the policy framework in the United States.

The Benefits of Price Stability

Congress has directed the Federal Reserve to conduct monetary policy "so as to promote effectively the goals of maximum employment, stable prices, and moderate long-term interest rates." These long-run objectives complement one another. In fact, most monetary economists, myself included, agree that focusing on price stability is the most effective way for monetary policy to achieve its two other goals. Thus, price stability is at the core of any sound monetary policy framework.

Price stability plays a critical role in the health of the economy in at least four ways. First, it allows the economy to function in a more efficient and, therefore, more productive fashion. If prices are stable, then individuals and businesses can be confident that the purchasing power of their money will not erode. They will not have to divert their energies from productive activities in order to hedge against the risks of inflation or deflation and that allows them to make better long-run financial plans.

Second, price stability also supports the efficient functioning of product markets. In a market economy, changes in prices send signals about the relative supply of and demand for goods and services. These signals allow individuals and businesses to make informed decisions about where to allocate scarce resources. Inflation distorts those signals and makes it more difficult to determine if a price change reflects a true change in supply or demand or is simply a symptom of inflation. We see this today in the ongoing

debate about the degree to which the sharp rise in oil prices is a relative price shock, simply reflecting global supply and demand conditions, or an early indicator of a general rise in inflation. This uncertainty can delay firms and households from making the appropriate reallocations of consumption and investment to alternative sources of energy or other adjustments that may be called for in response to such a relative supply shock.

Third, price stability allows tax laws, accounting rules, and contracts to be stated in dollar terms without concerns about changes in the value or purchasing power of the dollar. For example, tax rates are often based on dollar amounts or dollar thresholds that are not indexed by inflation. This means inflation can force individuals into higher tax brackets even though their real incomes are not rising. This has been particularly evident in recent years with the alternative minimum tax, or AMT. Because of the steady upward drift of the price level, Congress has had to increase the exemption level several times over the years in order to avoid subjecting more and more individuals to this additional tax that was once intended to affect only the very wealthy.

Fourth, price stability avoids the unexpected wealth transfers between lenders and borrowers that occur when there are unexpected changes in inflation. The S&L crisis of the 1980s was precipitated in part by the unanticipated inflation in the late 1970s. The S&Ls had made long-term loans in a low-inflation environment, and then saw the value of these loans plunge and net income turn negative as inflation rose in the late 1970s and debtors repaid their loans in substantially devalued dollars. By minimizing these sorts of effects, price stability helps promote financial stability.

But price stability is more than just an end unto itself. Economists have come to understand that price stability also promotes the other two goals of the Federal Reserve's mandate. First, price stability works to promote moderate long-term interest rates. Long-term interest rates include compensation to make up for the loss of the purchasing power of money that inflation causes. They also include an additional risk premium to compensate the holders of long-term assets for uncertainty about future inflation. For these reasons, when inflation is high, long-term rates tend to be high. Thus, price stability is an effective means to achieve moderate long-term interest rates. Indeed, over the medium term, it is the only way in which monetary policy can achieve such an objective.

Price stability also promotes maximum employment in the medium to longer term. However, it is important to recognize that monetary policy's relationship to the employment part of the Fed's mandate is different from its relationship to inflation. While monetary policy determines the inflation rate over the medium to long run, it cannot achieve a long-run employment objective that is inconsistent with economic fundamentals. Maximum employment will vary over time due to changes in demographics, productivity, and technology, labor laws and practices, taxes, and many other factors that are not influenced by monetary policy. So, while inflation over the medium term is both observable and controllable through monetary policy, maximum employment is neither observable nor directly controllable with monetary policy.

Still, price stability can improve the prospects for growth and employment. When the public knows that the central bank is committed to low and stable inflation, inflation expectations will remain well anchored. This increases the central bank's ability to respond optimally to economic disturbances that affect real activity in the near term. If a negative shock implies that the short-term policy rate should fall, then with stable inflation, long rates will fall as well, making the impact of the policy change more effective. If the central bank lacks the commitment or credibility to keep inflation low and stable, lowering the

policy rate could quickly lead to increases in expectations of inflation that can either completely or partially negate the effectiveness of the policy change. This is a large part of the reason why both unemployment and inflation rose together in the 1970s.

Economic instability often goes hand in hand with price instability. The Great Depression and the Great Inflation were periods of both economic instability and price instability. In contrast, the period between the end of the Korean War and the mid-1960s, and the period from the late 1980s through the end of the century, known as the Great Moderation, were characterized by low inflation and a growing economy.

I believe that price stability is an important goal for monetary policy in the United States and the most effective means for promoting the two other parts of our statutory mandate. In a modern world of fiat currencies, only the central bank can deliver on price stability. Thus, it behooves us as monetary policymakers to contemplate changes to our policy framework to improve our ability to meet that goal. I believe setting a numerical inflation objective is one important way to do that.

The Benefits of an Inflation Target

It is no secret that I have long advocated that the Fed make explicit its commitment to a numerical inflation objective. It is consistent with the view of central bankers and monetary economists around the world and widely viewed as a best practice of central banking. I see at least three interrelated advantages to being explicit and public about the goal.

First, it would increase transparency by clarifying what the Fed means by price stability. By reducing uncertainty, an inflation target would better align the public's view of monetary policy with the central bank's objectives. This would make policy more effective in promoting our long-term goals of price stability, maximum employment, and moderate long-term interest rates.

Second, the willingness of the central bank to publicly announce a numerical inflation goal it expects to achieve would help make explicit the Fed's commitment to price stability, thereby making that commitment more credible in the minds of the public and market participants. This would help anchor inflation expectations. Since, as I have discussed, expectations of inflation influence actual inflation, anchored inflation expectations would benefit the economy by helping to keep inflation stable.

Third, an explicit numerical target will increase the Fed's accountability and improve communication by making it easier for the public to monitor the Fed's monetary policy performance relative to its mandate. If the Fed failed to achieve its objective, a numerical target would require the central bank to communicate why it deviated and, more important, how it planned to return inflation to its objective. In a democracy, central banks owe the public this transparency and accountability. In addition, an explicit target would make it harder for the Fed to use its discretion to deviate from a stable inflation policy. This, in turn, will increase the credibility of the Fed's commitment to establish and maintain price stability, which will help anchor inflation expectations and produce better economic outcomes.

Now Is the Time for the Fed to Adopt an Inflation Target

These advantages persuade me that the Fed should adopt an explicit numerical inflation objective. Moreover, in my view, now is an opportune time to do so. The apparent strengthening of the US economy suggests that, in the not-too-distant future, monetary policy will have to begin reversing course from a very accommodative policy stance. As we choreograph that exit, I believe that the Fed should do all it can to underscore its commitment to maintaining price stability.

During the recent crisis, many feared that the economy would enter into a sustained deflationary environment. We had a similar deflationary scare in 2003. Yet, over the course of both episodes, inflation expectations remained relatively stable, a circumstance that helped us avoid this potentially dire situation. Now we are experiencing sharp increases in oil and other commodity prices. While such price increases are typically associated with changes in relative supply and demand, we must not be too sanguine that high unemployment and output gaps will guarantee that these relative price shocks won't pass through to higher general inflation rates, particularly in an environment where monetary policy is very accommodative. By declaring an inflation objective, the Fed can underscore its commitment to keep inflation low and stable and protect against a loss of credibility, which, in turn will keep inflation expectations anchored despite volatile commodity prices.

Some people may argue that there is no need to articulate a numerical inflation objective because the Fed has established a strong record of maintaining low and stable inflation over the last two decades. But this is not an argument against an explicit target. It is an argument against commitment. As such, it is an argument that runs counter to the lessons of the 1970s and the theoretical and empirical research of the past two decades.

Another argument often heard against establishing an explicit inflation objective is that it downgrades the maximum employment goal within the Fed's mandate. Adopting an inflation objective does not mean controlling inflation at the expense of economic stability. On the contrary, it is arguably one of the best means by which the Fed can set policy that most effectively promotes all parts of its mandate.

At the same time, adopting a numerical objective for inflation does not imply that we should adopt a numerical target for maximum employment. Because monetary policy cannot influence the long-term maximum level of employment or how that maximum rate evolves over time, it doesn't make sense to set a numerical target for employment. Indeed, attempting to chase such a target with monetary policy would likely result in more instability in both inflation and the real economy, not less.

Conclusion

Although the Fed has been mostly successful over the past two decades at maintaining low and stable inflation, adopting an explicit numerical inflation objective would help ensure that this success continues. I believe having such an objective in place would prove particularly useful when we begin to unwind the extraordinary accommodation measures that we took to mitigate the crisis.

Inflation targets are employed by most of the major central banks around the world and are considered a best practice of central banking. Adopting an explicit numerical inflation goal is an important and natural next step in strengthening the Fed's monetary policy framework so that we are better able to deliver on our statutory mandate of long-run price stability, moderate long-term interest rates, and maximum employment.

Note

1. See Dotsey (2006), Truman (2003), and Walsh (2009).

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Q&A

Q: About 20 years ago, Robert Pringle, then the editor of a trade publication called *The Central Banks*, and Marjorie Dean, then the deputy editor of the *Economist*, wrote a book about central banks. Paul Volcker wrote the foreword, and what he said was that, if it's price stability that we're after, we did better with the 19th-century gold standard. Did Mr. Volcker have that wrong in your view?

CP: . . . Don't think the gold standard is a panacea for price stability. We had lots of price instability during that period. We had prices declining at 4 percent a year for 30 years in the late 1800s. We had periods of inflation. And I think we have to remember that one of the contributing factors to the onset and development of the Great Depression was the gold standard, because the United States was forced to shrink the money supply, in effect because of outflows of gold. So I . . . don't think that a commodities standard . . . is necessarily a solution. So I do disagree with that point. But I do think there are better ways. We do live in a world where we don't have commodities standards anymore. As I said, we're a fiat money system and . . . central banks are the only ones that can deliver on price stability in that institutional environment. Therefore we need to take that task very seriously and be committed to it, because we're the only ones that can deliver on it.

Q: So what about a rate target of zero?

CP: I think that that would benefit price stability, but I also think we have to be a little careful about where we set the target. That's a different set of arguments we could talk about, but I didn't really address those in these remarks. There are measurement problems. There are people saying that price indices are not perfect measures of inflation, that they're biased in different ways. So, you know, if I could get to a situation where we actually say, "Okay we're going to have it, now let's decide what the target ought to be," I'd welcome that debate, but we're not quite there yet. [A rate target of 0] would not be necessarily bad from my perspective, but other people would rather have inflation at 1.5 or 2 percent, partly because the measures we have are biased upward, and also because central bankers, for better or for worse, don't like to get trapped at the zero bound of nominal interest rates. And so there is an argument that people make, saying, "Gee, you know if you make your inflation target zero, the likelihood of bumping up against the zero bound goes way up. So there are some arguments there about how you pick the right number. I want to stress that I care less about what the number is precisely. I don't want it 4, 5, or 6 percent. I care more about the commitment part of it, that we as a central bank commit to something and then be held accountable for delivering on it. That's the part that's most important to me. . . . Fiscal policy can't deliver price stability.

Q: That I understand, but I'm saying it may stimulate the economy or withdraw money from the economy depending on what your objectives are, and that leads to unemployment, et cetera. Can you address, if monetary and fiscal policy coincide, what the benefits are in that respect or what they would have been over the past couple of years, versus monetary policy taking the primary role?

CP: Let me try to answer it in the following way. I've been a student of monetary policy and theory for 40 years, and one of the things that I've come to believe we have some challenges with is that I believe the public, policymakers, and, to a degree, a lot of economists have come to believe that the central bank and its actions are the solutions to all our economic woes. If only the central bank would lower interest rates or raise interest rates or do this or do that, we could solve all our problems. I don't believe that's true in the first place, and in the second place, it's a dangerous expectation to set up. Because what that leads to is forcing the central bank into taking actions or undertaking activities to address problems that they're not well suited to address. So, for example, even in the last several years you've heard the argument that, well, the central bank has to act because Congress or the fiscal authorities are unable to act. That's the wrong reason to take monetary policy actions. When an economy is facing challenges, you're kind of like a doctor, and in order to make the patient better you've got to correctly diagnose the disease, and if you feed the patient the wrong medicine, you could actually make the patient worse. Just because fiscal policy can act, that's not a reason for monetary policy to act, because that may be the wrong medicine. So it's more complicated, and the expectation that many people seem to have, that monetary policy is this kind of magic elixir—we can inflate away our debts, we can solve the housing problem, or we can solve some other problem—I think it's a dangerous place for us to be. I think . . . the economy would be healthier if we were a little more humble about what it is we can and can't do. . . . I think we've come to expect a little too much, and I would be more than happy to see somewhat of a ratcheting down of those expectations.

Q: Wouldn't a numerical target end up with kind of the wrong policy? I'm not talking about today, but if you go back to 2008, the Fed would have had to stay much tighter for longer in the face of all the stuff that was happening. Because inflation was really very, very strong into July 2008, and having a numerical target would have caused you to stay tighter for longer in order maintain the credibility that you talked about. So today, you would also start tightening much sooner than it seems that you're wont to do because of the emergence of inflation.

CP: This works both ways. It's symmetric in that sense. Let's go back to 2008. One of the things that you hear Fed speakers talk a lot about is this anchoring of expectations and how important that is to what they can and can't do in the short run. . . . By the way, having an inflation target is not a rule. It is not . . . a *rule* for conducting policy, it's a *framework*. . . . Nor is an inflation target some panacea to all the judgments that policymakers have to make. . . . Having an inflation target does not tell you when the right time is to reverse course, for example, going forward. However, if you kept expectations stable and you weren't worried about expectations becoming unhinged, then you wouldn't have to react to the kind of 2008 or even the 2010 or '11 crisis, because if you're confident and committed that those expectations would be stable, you might not have to react to those things at all. So that's how, in fact, establishing credibility in those expectations being anchored actually reduces the necessity of the Fed to make short-run adjustments, as you're alluding to, in the near term, and actually, it frees you up more than constraining you in some respects.

Q: Regarding your proposal about numerical targets for inflation, what measures of inflation do you have in mind, and over what time period?

CP: Those are two operational questions. I have my own views on some of that. Again, to me, most important is making a commitment. We need to define what the inflation metric is that we're going to use to measure what our success or failures are. Some people have advocated the Consumer Price Index. Some people have advocated the Personal Consumption Expenditures Price Index. The Fed, over the last six, eight, ten years, has focused on the PC index instead of the CPI. That would be fine with me. I think there are some advantages to the CPI, partly because it's not revised like the PC is. So there're some advantages to not having a number that, after it's all over with, gets revised to be a different outcome. But a lot of people like the PC because of the mixture of products, and the weights that it has in the bundle are a little different. But, you know, I'm open to alternative suggestions there. Somebody asked me what the right number was before and I said, if it was up to me, I think you get price stability or zero inflation, however that's appropriately measured. But again, I think there are arguments about well, you need a little cushion—we don't like being at the lower bound because that really constrains monetary policy actions to a degree. So if you look at where the Fed is now, publishing forecasts from the FOMC [Federal Open Market Committee] members four times a year, if you look at . . . where those forecasts on inflation are, they almost all fall between 1.5 and 2 percent. So somewhere in that range, I think, is perfectly reasonable, and it seems to be a widely held view that that's a reasonable place to be.

The last question you asked is sort of the horizon, and that's a really important question. I do think, whatever price index we use, that it needs to be the headline index and not the core measure. The Fed really doesn't care about core inflation. The only reason core inflation is interesting to us is that it helps us predict where headline inflation is going to be over a period of time, on average. So it needs to be headline inflation and it ought to be over a horizon that we think we can control with some precision. The Fed cannot control inflation month to month, never has been and never will be; but I would think a number like two to three—over a horizon of two to three years. You go around the world and you look at the Bank of England or the Riksbank or the Nordbank or the ECB or other banks that have been practicing inflation targeting for some time, they tend to have horizons of two to three years or two to four years—in that range. So I think that's a reasonable horizon, and it's reasonable to expect that's exactly the horizon over which the Fed should be able to achieve whatever target we happen to pick.

Q: In view of the success of inflation targeting in other countries over the past decade and your own convincing argument, why did the Fed not adopt this policy 10 years ago, and what are the arguments against your views?

CP: I can't answer the question of why it wasn't adopted 10 years ago. I wasn't in the central bank then. Over 10 years ago, I was advocating this. In fact, I've been advocating this for almost 20 years. So I'm not sure why it didn't happen earlier. Why doesn't it happen now or what are the arguments against it? I think a lot of the arguments against it are people unwilling to make commitments. In my remarks, I actually . . . skipped a paragraph. Let me read you that paragraph, because I think it's pertinent to your question. If I can find it . . . Here we go:

There are people who make the argument that the Fed doesn't need an inflation target because we've established this reputation for low and stable inflation, and therefore everybody knows the Fed has a 2 percent inflation target, so why do you need to say it? I don't buy that argument. As I argued earlier, the middle of the 1960s, the Fed had a pretty good reputation for low inflation, and within a few years it was gone. Reputations are hard to earn and easy to lose. So . . . that's not an argument against an explicit target. What it really is, is an argument against commitment. What economists have learned over the last 30 years is [how important it is for] policymakers to have commitment, to have plans and follow through on them. We can see that debate right now. Forget monetary policy—it's going on in fiscal policy right now. . . . Given the fiscal challenges that we face, how do you commit to delivering on a long-term fiscal plan that's sustainable? The people who say our reputation is enough are basically saying "I don't want to commit. I want to retain discretion to act how I want to act sometime in the future." Policymakers are loath to tie their hands, and yet game theory, economic theory, has taught us the value of commitment and what it means for making policy more predictable and thus less destabilizing, and anchoring expectations about inflation and other ways you're going to conduct policy. So I would rather you ask the people who oppose it why they oppose it. I see no compelling reason not to do this. I think all the economics is on the side of doing this, and part of it is that [it's so engrained in us to think] about monetary policy in one way. In the public arena and the political arena, it's hard to change things very much. But hopefully we can.

Q: A great governor of the Fed once took Oscar Wilde's line about experience is the name we give to our past mistakes and amended it with "Policy is the name we give to our future mistakes." We have known nothing but fractional reserve banking in this country, ever. That's been destroyed in the last few years. We now have quantitative expansion and we have excess reserves—we have an end to fractional reserve banking. Where are we going?

CP: Well, we have that because we have a trillion-plus dollars in excess reserves sitting on our balance sheet in this banking system. Elsewhere I've talked about what it means for monetary policy to renormalize, to get back into doing policy—I think it will be imperative at some point. The Fed's balance sheet has gone from about $800 or $900 billion three years ago to $2.7 trillion. There're many of us within the Federal Reserve system and economists who worry a lot about the size of that balance sheet and recognize that, for us to normalize monetary policy at some point in the future, whenever that might be, that balance sheet has to shrink and we have to get down to a level of reserves that's sort of consistent with the demand for reserves. Otherwise, we will never be able to use the federal funds rate as our instrument of monetary policy again. And so, in terms of exit, I gave a speech a couple of weeks ago here in New York that was titled "Exit." I sort of said, if you're going to exit from this period of extraordinary accommodation, you have to have a plan, and you've got to articulate that plan and say this is where I'm going, this is where I want to end up, in terms of an operating environment for the Fed, and something about how you're going to get there. We have not. I put one on the table. A lot of people didn't like it, but it was a plan and my thoughts are that it's imperative that we, as monetary policymakers, think about our exit in terms of a plan and getting back to an environment—to a monetary policy framework, if you will—where the federal funds rate becomes our instrument of policy and not just our balance sheet. That's where I'd like to see us go.

Thank you very much. I enjoyed being here.

GARY B. GORTON

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The Financial Crisis and the Future

It is a special pleasure to be here. The Levy Institute is the guardian of an intellectual tradition that, while in the minority for a while, turns out to be quite important. So it is interesting that this minority viewpoint was preserved. That will be in a way sort of the theme of what I am going to talk about. I am going to talk about talking about the financial crisis. As a byproduct of that, I am going to talk about the financial crisis, but I want to talk about *how* we talk about the financial crisis and why we talk in a certain way about the financial crisis.

An interesting starting point is just to observe that the discourse about the financial crisis was, I think, pretty bad, and pretty low. Even this morning when I got up I thought, Well, at least the finger-pointing and the witch hunts and the death threats and the hate e-mail, all that has dissipated to some extent. Turns out, that is not completely true. But the question really is, Why is this so? Why can't we talk about this rationally. Why don't we understand it?

I think there are some things we can rule out right away. I don't think we can reasonably expect politicians to be experts on financial matters. They have a lot to be experts about; they have to be experts on health care and the financial system and Afghanistan and the budget. So it is just unreasonable to expect that they would understand what happened. It is the same with reporters. There are good reporters and bad reporters, but I don't think it's fair to expect reporters to understand this fairly complicated event. Both of these groups, though, were obviously at the center of the discussion, and I think the interesting thing is, Where would they turn to learn about this? And the answer is that they would turn to economists; in particular, academic economists. The problem is, academic economists didn't know anything about it either. They have been saying, in fact, for decades that the "great moderation" was upon us. Nobody had any idea that we would have a systemic event like this, but of course, that didn't prevent them from rushing out and becoming experts, right? You could look up how to spell "collaterized debt obligation" and you became an expert and you could opine about this. This is very different than, for instance, health care. There are think tanks in Washington that have been studying health care policies and health care economics for decades and there are a lot of results and knowledge about this, so that when policymakers disagree, it's principled disagreement, and when it becomes politicized, there's rhetoric, but at the end of the day, we understand the issues in health care. We may have different opinions about it, but we understand the issues. As one reporter said to me . . . , "The problem with the financial crisis is that nobody knows anything."

In terms of talking about the financial crisis, it's very important to be very up front that there is this massive intellectual failure [on the part] of economists. Economists have a huge intellectual failure; it's staring them in the face and nobody wants to talk about it. What I mean is, if you go to standard conferences and they have panels on the crisis, nobody mentions this; it is never posed to a panel, Why didn't you understand that this could happen? That's never on the agenda, and each individual economist, of course, passes the buck. It's either "Yes, my research was about the financial crisis although it was some abstract agency theory thing," or "I don't work in that area" or whatever it is.

So this is, I think, an interesting question, this question of why economists didn't get it and understand seems to be something we should ask about . . . before we just go blindly along and proceed as if we are expert enough to answer all the other questions. How many people here would describe themselves, generally speaking, as an economist? The only people who want to hear economists are other economists, because we can all together join in this charade.

What I want to talk about is why that is, and I think we can immediately rule out lots of explanations:

Economists are not stupid; they are smart. There are plenty of smart people in economics.

It's not that their models aren't mathematical. You can write mathematical models on lots of things and they chose to write about certain things.

They don't really study economic history. True, but that was a decision that was made.

They like a short time series. True, but that was a decision that was made.

So why were all these decisions made? This question is critical, because if you have this set of experts that we are going to and asking questions of, it seems like a good starting point if you ask how these experts screwed it up so badly. That's where I am going to go. I am going to head eventually to that, but I am going to start by backing up and talking about the crisis. I am going to cut through a lot of things about the crisis and I am going to summarize an explanation of the crisis, and then I am going to show how this explanation got economists into trouble.

Let's start with the crisis. If you ask a professional economist what happened in the crisis and you hear "It's complicated," that's a sure sign that they have no idea. So I am going to say what the crisis is, what it is you have to explain, and I am going to be very precise. I don't want Big Think, "It's complicated," or "It has to do with incentives." We need explanations, not buzzwords.

Here is one way to think about what you have to explain. Let's take subprime mortgages, which got a lot of attention. Let's take AAA subprime mortgages—got a lot of attention. In 2004, 2005, 2006, 2007, total issuance of AAA subprime mortgages was $1.9 trillion, so that was outstanding at the time of the crisis—$1.9 trillion in AAA subprime [mortgages]. Now, what were the losses on those bonds as of February 2011? Anybody want to venture a guess? You have all read about this. This was the lynchpin of the crisis, that rating agencies are idiots—you know the stories. Who wants to venture a guess? A percentage. Sixty percent? Twenty-five percent? The answer is 17 basis points—17 basis points of realized loss on AAA tranches. Oh, *realized*? You sound like the press. Realized, mortgages—it's all the *same*?? The point is, there are lot of facts like this that we read about, right? That's a *fact*, as of 2011. You go do the calculations: that's a fact. I can tell you many facts. The reason I mention this is because somehow that has to get into the following statement from Chairman Bernanke that 12 of the 13 largest financial institutions in the United States were going to go bankrupt. So explaining the crisis means explaining how you get from 17 basis points of loss in [February] 2011 to the whole financial system collapsing. . . . That is what you have to explain.

Let me put it to you another way: why is it that the prices of all sorts of securities that had nothing to do with subprime plummeted. Take AAA credit cards, AAA automobile loans—those securities, the prices plummeted. That's what got AIG in trouble, the fact that those prices plummeted. So somehow it doesn't connect. You have this tiny shock that somehow leads to this huge outcome, and somehow this tiny shock causes the prices of all these securities that aren't even anything to do with subprime to nose-dive. *That's* what you have to explain.

When you think about explaining this, you immediately face two questions. One question is, is there something inherent in market economies that results in something called a crisis? And those crises have some features that are common so there is an event called a systemic crisis that happens in market economies? Or is it a serendipitous coincidence of a lot of bad things that happen at once that are just a historical accident? It just happened somehow that all these things came together so it's not really like any other crisis? That's kind of the intellectually lazy way to think about it, right? Because in fact, in US history what is frequent and common is to have crises. Most US history is replete with a crisis like we experienced one every 10 years, except for one very, very unique period, from 1934 to 2007. That's a period that is very different for many market economies, particularly for the United States. It happens to be a period we lived through, but we forgot, maybe, that anything else could happen. But that's a very unique period, and it's a period that is *so* unique that it's worth saying something about it, and I will later. Why did that happen? Why did we get that period of quiet?

If you think about bank regulation, and you think we'd like to recover a long period like that where we don't have a systemic crisis, it seems to me that you would want to study that period very carefully. You would want to ask, How can we reproduce that? So another way to think about what happened is to say the question is really, Why didn't we have that before? Why didn't we have a systemic crisis in 1950 and again in 1960 and again in 1970 and 1980? And then we wouldn't be surprised. It would be like in the 19th century: we would have crisis all the time. Now, there is going to be a difference that will turn out between modern crisis and historic crisis, but if you look around the world, crises are everywhere. There are *always* these kinds of crises, so this period, the quiet period, is extremely unique and sort of got us a little off track.

So I think that the crisis we experienced has a structural feature that's like every other crisis. There's a common structure. That's what economists look for: structure, a demand curve sloped down and inflation as a monetary phenomenon. There is a structure like that, as fundamental as that, and that's what happened. And the current crisis ought to make that very clear, and that's going to help us understand why economists didn't think it could happen again.

Let's quickly talk about what happened with the crisis. To start, let's talk about the earlier example, the early examples of 19th century. The pre-Fed examples are very interesting because they are very pure. They are pure in the sense that there's no central bank that might intervene and do something. As Charles Plosser was saying at lunch, if you had this big entity with discretion, expectations could arise, as I will discuss, that could cause you to think maybe something is going to happen. But before the Fed, before 1914, . . . there was no Fed. So what happened is a sort of a pure experiment.

What happened in those crises? Those crises are pretty much all the same—looking back, they look the same—but in time each one had special features. I am talking about the panic in 1914, 1907, 1893, 1884, 1873, 1857, 1837, 1825, and 1817—they are all the same looking back. What happened in those events? Those events are situations where liability holders of banks—before the Civil War they held free banknotes, private money issued by banks; after the Civil War they held demand deposits—they go to

their banks and they ask for their money back. So there are reasons; it is not irrational. It's a situation where there are rational reasons why people in the economy decide they better go get their cash. There is data. I have studied this.

So what happens in these crises? What happens is that people get a piece of information; it's measurable. And you look at this information and it's a leading indicator that it's a recession. They tend to get it right at the business cycle peak and they rationally say, "Oh my God, a recession is coming, my entire life savings are in my bank, I might be out of a job, my bank might fail, I don't know, maybe I should just get my cash, everybody knows that." And of course the banking system can't possibly give everybody their cash. In modern parliaments we would say that they are too big to fail. We never liquidated the US banking system. Banks would suspend convertibility even though it was illegal and we would just go on. The interesting thing about this—this is going to be a contrast with what is going to happen in the modern period—is that the losses on deposits and the number of banks that failed among all these events was just miniscule. There was an average of about less than a penny lost per dollar of demand deposits, and about 2 percent of the banks would become insolvent. Very different than the modern era. In the modern era, around the world you have the average of a post–World War II banking crisis with a loss of 20 percent of GDP. In some cases, the entire banking system is insolvent and you lose 40 percent of the GDP. So that is an important clue for us to understand the difference between these two things.

Now let's think about the modern era—and let me insist that when you come to the table, you bring data and you show some evidence. So we are going to raise the standards of the discussion. You claim there's some incentives problem? Where's the evidence? You claim that there's some problem with the rating agencies? Where's the evidence? You say all the subprime bonds failed? Well, they did not—they did not. So do you know what the failure rate was? You have to show evidence. This is an important feature of the discussion. Because economists were absent, the discussion proceeded with no evidence. It could degenerate into these shouting matches, where you have some religious belief that bankers are bad people or you have some religious belief that it is called moral hazard. Nobody provides evidence because you don't have to in this discourse. Again, what we want to understand is why that is the case.

So, what happened? Dimitri was diplomatic and forgot to mention I worked at AIG Financial Products for 12 years. The only reason I mention that is because people think I tried to hide it if I *don't* mention that. Another reason I mention that is because I was an eyewitness—I saw what happened. So I am going to tell you what happened and then I have lots of papers I published where I have evidence for what happened.

Let's just think about banking for a minute. Let's go back to the 19th century and think about banking. In an earlier period, we had these situations where people would run to the bank and ask for their money back. So bank liabilities are a very special security, and banks themselves are very special firms. Think about General Motors. What is the output of General Motors? It's cars. What is the output of Hewlett Packard? It's printers. What is the output of Apple? It's iPhones, iPads. What is the output of a bank? It's debt—*debt*. And the debt it used for transactions. This is most obvious in the case of demand deposits. You write checks, you have an ATM card, and in the old days you would trade with private money. These are the things produced by banks for the purpose of transacting. Now they have to have special properties. They have desirable properties right? So what are the desirable properties? Imagine yourself in 1840. You came from New Haven, and you want to buy a bagel in New York. You am going to offer a Bank of New Haven $1 bill. And the bagel guy is going to get out a newspaper and look it up and he is

going to say, "Oh, that thing is only worth 95 cents in New York." And, of course, you have no idea because you don't have the market prices and you just have to accept that and give him two of the notes to get your bagel. That's a medium of exchange that has a lot of problems, because these prices move around. We are so used to having government money, this stuff that always trades at par, right? This $5 bill is always worth $5. It trades at par and it is the only security that trades at par. That was a huge achievement in the United States. That was the National Banking Act. It eliminated free banknotes. The government took over the money business—not because it got your problem of buying bagels, but to finance the Civil War. [The government] required the national banks that issued this stuff to back it with US Treasury bonds, and US Treasury bonds were such high quality that this stuff trades at par. That was really the first successful example of legislation.

Let me highlight some features of this success. One important feature was, the collateral backing the money was very high-quality collateral. The other successful feature was that a certain set of banks were allowed to be national banks that could do this. Banks that had to issue banknotes had to pay a huge tax, and they stopped this with what was a very lucrative business of issuing private banknotes. We had a very radical change that had the success that money traded at par. It didn't stop the financial crisis, though. Why was that? Well, there was a whole shadow banking system that developed. It was called checking accounts. Meanwhile, everybody, starting in 1857, had moved, especially in cities, to opening up checking accounts. After 1863, all the financial panics are people asking to get this $5 bill–type stuff for their checking account. So this stuff suddenly is credible but their checking accounts aren't. This was a whole period, from 1857 and the first real panic with demand deposits to 1934, where economists or public policymakers are trying to understand what's happening. And the economists are writing papers like, "Aren't checks money?" They didn't understand to the extent checks circulated, so they are going to clearinghouses and trying to measure how much clearing is going on: "I thought that those were savings accounts." They really didn't understand how this could happen and people could get their savings turned into cash. So it was sort of a confused period. If you read the literature at the time, after every one of these crises you read the same things, just like our crisis: the bankers are bad, there's all this fraud, there's all this corruption, here's a reform. And 10 years later, there is another big crisis, and then we say that bankers are bad, et cetera. . . .

So there is this period from 1857 to 1934 that is a period where you can at least see what happens. But you couldn't understand it. So people talked about this and there were various proposals about what to do. The Fed came into existence and the idea was that the discount window would help. We will come back to that.

There are a couple of lessons here. One lesson is that the forms of money that are used in the economy change, but bank liabilities, because they are used for transactions, always have a certain vulnerability. There's always more of it than the backing and it is always vulnerable to the problem of people going and asking for cash. So what happened in the recent crisis? Same thing, except there was another banking system, and it is a banking system that emerged out of a variety of historical reasons that I don't have time to go into. It emerged over the last 30 years and it is coincident with many changes in our economy. Institutional investors managed many, many trillions of dollars before. Derivatives didn't exist before, money market mutual funds didn't exist before, junk bonds didn't exist before, and, in short, the . . . traditional banking business model just didn't work anymore. Out of all of this came another banking system. It's interesting because it wasn't a new product. The crisis had nothing to do with credit derivatives and CDOs and all those new terms that people learned. It had to do with a very old financial security.

The sale and repurchase market, the repo market, is like a checking account. Here's how it works. Fidelity has $200 million that people have sent in and Fidelity is going to buy some bonds at some point to put in various portfolios. In the meanwhile, they would like to earn some interest on this cash but they want to have access to the cash because they are not going to know when, exactly, they are going to need it. But they wanted it to be safe. There is no insured account for Fidelity, so what do they do? They go to their neighborhood bank, and that's Bear Stearns, and they say they want to make a $200 million deposit overnight. Bear says the overnight repo rate is this, and then, to make it safe, [gives Fidelity] collateral bonds worth $200 million at market prices, which they take physical possession of through their clearing bank. So if you think about traditional banking, think about the 1950s bank. The 1950s bank would open a checking account for you, pay you 3 percent, take the money, lend it out, and make 6 percent. That's what Bear Stearns was doing. Fidelity would show up, deposit their money, and [Bear would] pay Fidelity 3 percent and collaterize it with a bond that would earn 6 percent, which would go to Bear. So Bear is making 6 percent and paying 3 percent, just like the banking business. This kind of mystified people when the crisis broke out—why are all these firms holding all these bonds? Are they idiots? Bankers are pretty smart, actually, it turns out, and they are running a banking business. So if you have a lot of people who want to make deposits, you've got to have a lot of bonds as collateral.

So what do you buy? You buy bonds. The problem is, there are not enough good bonds. It's like the free banking era. You don't have enough bonds to back the free banknotes. Why is that? Well, you have a lot of problems. First of all, you have derivatives that need collateral. Derivatives require collateral. You have to post collateral if it becomes a liability to you. Clearing and settlement requires collateral. No central bank on the planet knows how much collateral is used up in clearing and settlement. And you need collateral for repo, and 40 percent of all bonds issued in the United States, including Treasuries and agencies, are held abroad. So the bank financial settlements noted that there was a shortage of collateral. And it turns out ex post that we saw with this crisis that firms were using things for collateral that were crazy, BBB tranches of CDOs and unpriced stuff. There was just a shortage of collateral, a classic problem in economics.

How does this little tiny shock in the subprime market end up blowing everything up? The explanation I have used, I think it often leads people to add embellishments. How many people have been to a slaughter plant? A few people—they're probably vegetarians now. If you've been at a slaughter plant, they bring in what is called a lot of cattle—a lot is about 40 head of cattle—and they have these chutes, and they are in these chutes, and then there's Temple Grandin: how do you keep these animals from being terrified because they are going to have a bolt shot into their head and then they are going to [be hung up and butchered], and then, if you are making hamburgers, Americans have to have the same fat content in every hamburger, right? So that requires that the beef and fat be mixed to achieve that exact mix that Americans will eat. Even if they are in China they want that. So that means you have to grind the beef and then mix the ground-up beef. Now, what happens later if there turns out to be a small amount of E. coli in the hamburger? The FDA can go back, if you save the wrapper, you have the bar code, and they know exactly which lot it was and at which abattoir, and they can recall 10 lots before and 10 lots after, and that's, like, 10 million pounds of beef because one person got sick.

The problem with subprime was not that it was big; it was like E. coli. The difference is, we had no bar codes, so we didn't know where it was. So what happened was, we were at the peak of the business cycle and depositors in repo began to worry. When they worry, they don't necessarily withdraw everything at

once. This is true of the 19th century, too—people did not withdraw everything at once. They would withdraw half their savings, see what happened, and then go back.

Let's go back to my example: $200 million was deposited, $200 million in bonds was given as collateral. That's called a zero haircut: you've got 100 percent of the collateral. Now, if Fidelity is worried, they are going to say, "I am not going to deposit the $200 million. I'm only going to deposit $180 million, and I want $200 million in bonds as collateral." So Bear was financing a $200 million bond position with repo. They can only finance $180 million, so now they have $20 million they need to make up somewhere. In the crisis, what happened was, you went roughly from high-quality repo coounterparties from a situation of low or zero haircuts to, on average, about 30 percent. And what is the size of this repo market? No official statistics on this—the government didn't know about it. . . . Most repo is between the two parties; most of it goes through an intermediary. I asked my fellow students and friends how much the triparty banks are of the total market. Then I estimated the total market, and it came out to be $20 trillion. I thought nobody would believe that, so I said $10 trillion, and nobody believed that. People were saying it can't be—you're exaggerating. Then it turned out that two economists at the Bank of International Settlements using separate methods came up with $12 trillion and two economists with the International Monetary Fund (IMF) came up with yet a third method and estimated $10 trillion. Ten trillion dollars, by the way, is the size of total assets in the US regulated sector. So you are talking about a banking system that regulators didn't know about. No data, or not extensive data, were collected about this—economists didn't know about it—yet it is the size of the regulated banking sector. You can ask why the regulators didn't know about this, and the answer is that their jobs are to regulate banks *over there*; they are not told to go see what is happening in the world. You regulate commercial banks—that's your job. You can'*t* legislate curiosity—right? Academic economists, who are supposed to be curious as a profession, *were* curious, because you couldn't download the data anywhere. You go get stock data because you can download it. So the crisis looked like these classic crises. You didn't see it because you weren't on trading floors, but if you had looked, it would have looked like *It's a Wonderful Life*, only it's firms are running on other firms. So that is a really important point, that that banking crisis looked like banking panics we experienced earlier in history.

Why did economists not understand this? It's related to Charlie Plosser's point at lunch: once the Fed came into existence, there was the expectation that the Fed was going to do something. So there would have been a banking problem in 1920, but there wasn't. There were quite a few bank failures, but there was no banking panic. There should have been a banking panic in 1929 if it had followed the data from the pre-Fed period, but there was no banking panic. Instead, everyone waited for the Fed to do something. They waited, waited, waited, [the Fed] didn't do anything, and finally you get these three waves of banking panics '31–'33. So that banking panic was late. And if you look at crises around the world, they don't always include banking panics. There are not runs—sometimes there are runs, but sometimes there are no runs. What is common to these crises is that what you are observing is not the fundamental economic actions of actors who would behave as they would with no central bank. What you are looking at is actors acting when their expectations are infected by discretion on the part of the central bank. They expect central banks to intervene, so they don't run.

Take the S & L crisis or Japan. In either one of these cases, if there had been a panic and people had run, you would have had to shut all these institutions down. Instead, there was no panic, nobody ran, and the government extended the mess—in Japan, it's still going on—for lack of a better word. That seems

to be one of the reasons that the cost of resolving banking crises once the Fed or central bank is in existence becomes enormous. So now imagine you are an economist and you just got your Ph.D. from MIT and you are looking at the world—what do you see? Before the crisis in the United States, you would say, well, we don't have crises, so I'm not going to . . . research that—that's just economic history. You might look around the world and see crises, but for various sociological reasons, they don't work on that. So there is a whole literature on that, by the World Bank and the IMF, but it's not in the mainstream financial literature.

So, what do they see? What they see is the actions that occurred when agents expected central banks or the government to do things—for example, the S & L crisis. Then they hit upon the problem. The problem is not the underlying problem; the problem is the policies the government adopted to prevent the underlying problem. But we never see the underlying problem anymore; all we see is the policies, so we focus on moral hazard and too–big-to-fail. These are problems that have nothing to do with the underlying problem. If they are problems, they are problems the government has created as a byproduct of trying to stop the underlying problems. If you think about moral hazard for a minute, the reason deposit insurance was passed in 1934 was because it was a populist mandate. All the economists were opposed to it because they thought it would cause moral hazard. And in fact, nothing happened until 2007—all these arguments about moral hazard didn't pan out. It's a bit like fire insurance. The analogy is, if you buy fire insurance, the insurance company comes around and makes you put up fire extinguishers and have fire drills and all this stuff so you would have fewer fires. With deposit insurance, it wasn't just deposit insurance; we also had regulation. Everything went well with these banks until the business model declined; then the other banking system started to grow. But it is hard to understand that firms not even in the regulatory system, that no one even knew existed as banks, could somehow have expected that the government would come in and save them and took on all this risk when they were substantially owned by the employees. It's an argument that makes no sense, and that's why there is no evidence for it. Why does it continue to be the coin of the realm? Because there is no other explanation, because nobody has any data, because nobody studied it, because nobody thought it would happen, and so forth.

You can see the intellectual problem here. It's a big problem for economists, a sort of general problem. If you want to study the economy and you want to know how the economy works in order to conduct policy, you have this identification problem: how can you understand the economy and recommend policy when the thing you are studying is infected with expected policies that may or may not happen because the government may or may not intervene. So the first step, of course, is to recognize that this is a problem. How do we solve this problem? You have to find experiments where you don't have the government intervening—that is one possible way. The problem is that this discourse, I fear—I am very pessimistic and that's why I just sit in my office—it is kind of sad, because the National Banking Act was not passed out of intelligent design. It was passed to finance the Civil War—we got money trading at par because we needed to finance the Civil War. Deposit insurance is also not the product of intelligent design. People were just sick of having banking panics and told their congressional representatives to just go pass this, and they did. Bankers were opposed to it—FDR was initially opposed to it—but it passed. So you have to think, How are we going to get intelligent financial reform in this environment?

I think you see the outcome. Dodd-Frank is completely a victim of this identification problem. The discussion is not about solving this underlying problem with bank liabilities or repo. The problem is trying to solve the problems that the government is viewed as having caused. So their solution is different

than the two successful legislations, deposit insurance and the National Banking Act, which carved out certain institutions and gave them special privileges in exchange for following certain rules. Dodd-Frank says we are going the route of discretion; we're going to do the opposite of what Charlie Plosser wanted with monetary policy. We're going to have the Financial Stability Oversight Council. The same people that are in Washington now, they're just going to have a formal meeting—they used to have informal meetings, now they're going to have formal meetings—and what are they going to do? The answer is, we have never successfully predicted a financial crisis in human history, and our measurement systems for understanding this are archaic. We have accounting methods, we have national income accounts, we have call reports—none of this works when you have derivatives. So rebuilding the infrastructure of measurement so that this Financial Stability Oversight Council would have a prayer of doing anything intelligent is a long project. Dodd-Frank did recognize this problem and as part of the legislation they put in the Office of Financial Research, which is in Treasury. The Office of Financial Research has subpoena power and it has taxing authority, so it can tax financial institutions to make up its budget. And, the head of the Office of Financial Research can just go directly to testify, without anybody's approval, to Congress. So this person could go and say, "We've figured out that the Federal Reserve has no idea what they are doing. How do we know that? My 1,000 economists and 22 supercomputers, which I bought by taxing the financial industry, allowed me to figure that out." So the one crucial thing that did come out of Dodd-Frank is *measurement*, and it would be great if we got measurement right because we didn't get the rest of it right.

Policy and Regulatory Responses of Emerging Markets: Latin America

MERCEDES MARCO DEL PONT

President, Central Bank of Argentina

International Crisis and Policy Space: Challenges for Emerging Countries

ARTURO O'CONNELL

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MERCEDES MARCO DEL PONT: It is an honor to participate in this prestigious seminar, on the eve of our participating tomorrow in the G20 meeting and Saturday at the IMF [International Monetary Fund] meeting. There are many things on the international agenda regarding the issues you have been discussing over the past couple of days that have to do with financial theory. But connecting it with what is happening in the real economy . . . perhaps Arturo [O'Connell] and I are some of the only economists who in the '90s did foresee the crisis of convertibility. And let us recognize that it was very difficult at the time to be critical with respect to the regime that had been set up regarding the convertibility of the peso and the dollar, one to one. For every international body, Argentina was the spoiled child, the pampered child, with levels of risk where we were considered one of the best economies—we had done all of our homework in terms of deregulation and opening up our economy. Then the crisis came. So it seems very interesting to me for us to reflect on what Jan [Kregel] was mentioning just now, which is how the repositioning and recuperation of the Argentina economy took place when it emerged from the 2001–02 crisis—the deepest crisis that the Argentine economy had suffered in its economic history. Jan was saying that perhaps one of the keys that would allow us to really understand what happened with the Argentine economy and many [other] Latin American economies over the last eight years, and why many economies from Latin America were able to overcome the world crisis, the Great Recession, without having been seriously affected in their levels of economic activity and employment, and without having suffered disruptions in their financial and monetary systems is, we have to understand how in many Latin American countries, and particularly in Argentina, the paradigm of the accumulation process was changed somewhat

differently from what is viewed in simplified fashion as the growth process for many . . . countries in Latin America. Many people would say it was an effect of the good terms of exchange and the recovery of commodities prices—the prices of raw materials that are exported. What we can clearly verify is that, basically, Latin America, but especially Argentina—which, as Jan pointed out, has shown a performance that is substantially more dynamic, with levels of growth that are higher than the ensemble of the region, which can be explained by what happened with its internal demand—in the last seven years, Argentina's economy grew at practically 80 percent. When we disaggregate that economic growth, what is verified is that two-thirds of that growth fundamentally finds its origins in internal investment and consumption.

When we talk about internal investment, the dynamism of internal demand in Argentina, it's important to see what happened in terms of the recovery of real wages. It is true that Argentina in the 2001–02 crisis suffered a major drop in real wages, but this progressive growth of the average wage, both in the formal and the informal sector, is one of the fundamental reasons that together, along with a strong drop in the unemployment rate—and here I want to qualify something: Argentina, as you can see in this graph, had a drop in the unemployment rate of about 61 percent, but at the same time, what was registered in the Argentine market was a recovery of the activity rate; that is, the participation of the population in the workforce—a major drop in the underemployment rate, which basically reflects this drop in the rate of informality in the work market. This means that full employment in Argentina . . . has grown 50 percent over that last seven years. The combination of this growth in employment but also in the quality of employment, accompanied by the recovery of real wages, has meant our country was able to recover participation. If we went further back, we would see that we are reaching levels of participation in the labor force practically equivalent to what we managed to reach in the 1970s. At the same time, there has been a major effort by the government, starting with decisions and public expenditures that were quite clearly defined to [extend] the coverage of social security to the majority of the population. The effort that was made by specific transfers to the social security system to include people who had been left out of the system has meant we have reached a level where [in 2010] 87 percent of the entire population of those at retirement age were covered.

This dynamic that the labor market went through is within the context of another piece of data, which is the high level of unionization in the Argentine economy in relationship [not only] to the region but also when compared to other countries throughout the world. . . . Let's take a look at France. In France, it is 9 percent of the labor force, but in reality we have to take into consideration the fact that even if France has very low levels of unionization, the collective-bargaining agreements cover a large part of the population. But Argentina is one of the most unionized countries in Latin America. The combination of these tendencies and these policies of specific transfers to distribute income has meant that Argentina is one of the countries that [has] most reduced the inequality gap. It is important to point this out because it dropped practically throughout Latin America—that is, [the number of] people below the poverty line—but perhaps it is more difficult to break this crystallization that can be found in terms of inequality. What is clear here in comparison to practically every country in Latin America—in this case, we're taking the difference between the 20 percent of the highest-income earners and 20 percent of the lowest-income earners—Argentina is one of the countries that has advanced the most. This can be seen in the Gini coefficient, which is one of the most important elements to measure inequality. This [has been] accompanied by major growth in the level of investment in Argentina—major growth.

There is a piece of data that is perhaps interesting, which is the recovery of public investment in the total investment pie. The public investment in Argentina, fundamentally, over the '90s had virtually

disappeared from national government budgets. The investment in infrastructure acquired a very dynamic growth, and this has led to an increase in private sector investment. I think it is important to mention clearly that the growth in the Argentine economy is not a "soybean effect," as is often said, but has to do with a clear and deliberate behavior of public policies to stimulate internal demand, especially in the context of the international crisis, where perhaps the demand crisis that many of the developed countries are suffering was not sufficiently examined. This also appears as a conditioning factor, in the immediate future, to bring about a change in the recovery of the European economies as well as those of North America.

This aggregate demand is what, on the supply side, is also important. The sector that grew the most and attracted economic growth in Argentina was industry. Industry grew above the average of the economy, and if we look at this from a historical perspective, the average growth in these recent years has far surpassed that of other decades where there was industrialization in our country—for example, in the '60s or the '70—a tendency that was broken in the '80s. So this recovery in supply, pushed by the industrial sector, in turn explains the dynamic that I recently talked about—the growth in employment and the growth of wages.

This behavior of aggregate supply allowed Argentina to reduce somewhat the product gap with respect to developed countries. But take a look at what Argentina lost with the successive crises through the '80s and the '90s. Even with this . . . very significant growth in recent years, still, the product gap with respect to the United States is higher than what we had in the '80s. I think this gives us a standard, above all, because now on the agenda, what is being discussed and what is being put forth, is what needs to be done not only to reduce global imbalances but [also] to reduce the product gap that exists between the emerging developing countries and the developed countries. Along with this behavior of the internal demand . . . , which has to do with surpluses in the public sector, you will have noted that the history of our economy shows persistent imbalances in the public sector, which had to do, perhaps, with . . . these recurrent stop-and-go policies that led to major deficits in the public sector. This growth of the physical surplus was accompanied by the appearance of permanent surpluses in the current account, because the history of the Argentina economy shows us that the economy [entered] surplus when there was recession, when there were greater exports, and that led to positive balances in the current account. We have to look at these eight years with a fiscal surplus and [with] such high and sustained economic growth [through the lens of] this specific piece of data of the fiscal surplus: that Argentina was able to significantly reduce its public debt.

At the beginning of 2003, after the convertibility crisis, we had 139 percent public debt. After the restructuring of 2005—after the payment to the monetary fund of $10 billion, which was a major part of the Argentine debt, and after the last restructuring of last year, where Argentina managed to have 93 percent of its debt that was defaulted upon regularized—today, the total level of debt is 45 percent. But if we subtract from that debt what is intrasectoral debt and we remove debt to international bodies, to have a weighting of the revolving risk of debt in Argentina, we see that that risk doesn't hit 18 percent—that 12 percent only is dollar-denominated debt with the private sector. The debt-reduction process in Argentina is one of the factors that have given it enormous room to maneuver, especially to go through the most recent international crisis.

The other distinctive piece of information has to do with the composition of the current accounts surplus. You will have noted that from the '90s and into this century shows a deficit in the real sector. There

was a change in composition, where the payment of interest that was foreign debt that absorbed a great part of the foreign exchange that our foreign commerce generated, that relationship was changed. Now those financial services are more than compensated by the very positive balance of merchandise, of commodities. In this context of substantial current account surplus, Argentina had a monetary exchange policy over the last eight years of permanently intervening in the central bank, in the exchange market, to avoid volatility, by buying dollars when there was a sustained revenue from the commercial sector. Sometimes we stole dollars. For example, in 2008, during the crisis, the central bank intervened in the forward and spot markets to avoid volatility in the exchange market. To counter part of this intervention policy in the exchange market was the accumulation of reserves. I think this is a distinctive characteristic of Argentina and many emerging countries, which is the capacity, the reinsurance, that this provides in the face of foreign shocks: the ability to accumulate reserves. And unlike what happened in other historical periods, especially the '90s, these reserves were generated by foreign business—not debt dollars, not dollars that came in through the capital account. . . . Throughout the '90s, Argentina had strong imbalances in its current account that were offset by an increase in indebtedness, and that blew up in 2002 or 2001 because of its inconsistency. We talked about the consistency and inconsistency of the macroeconomic regimes, and this was clearly an inconsistent regime, and the convertibility [regime] survived for so long because of the possibility of taking resources from the rest of the world.

Another one of the instruments, I would say, or one of the capacities for making policies that [enabled the] Argentine economy to recover has to do with the regulation of the economy account. Perhaps Arturo will deal with this and will address this further down the road, but this is quite in vogue on the international agenda: the role of deregulation of the capital account in view of the very perverse effects that the entry of short-term capital in emerging markets generates and regulation. This [slide] is from the CEPAL [Comisión Económica para América Latina y el Caribe], and it shows eloquently that the variations in the exchange markets in Latin America are related directly to the behavior of short-term capital flows. This should be borne in mind, because the history of the underdevelopment of these emerging economies has had a lot to do with their instability and their dependency on what happens with the terms of exchange, to this process of rise and fall in relationship to what happens with the growth in the price of raw materials. To that we [add] a new source of instability in these emerging countries, and that is the impact of financial flows in the short term.

In this regard, Argentina has considered a positive intervention in the exchange markets that aims to avoid volatility but also tries to avoid the appreciation of our currency. Clearly, in the comparison with some countries throughout Latin America, what we can see is that Argentina was one of the few countries that did not let its currency appreciate in nominal terms. In real terms, what we can see is that, although there was an erosion in view of the growth of prices in the Argentine economy, still there is a buffer in terms of the competitiveness of exchange to continue to promote more balanced growth with productive diversification. This is perhaps an important bit of data, because what we can see is that many countries throughout the region—and this is a recommendation that recurrently comes from the [IMF] and from the various international agencies—that for developing countries to absorb the shock of the growth in commodities they have to continue to appreciate their currencies. Currency flexibility is a good way to deal with external shocks by changes in the prices in raw materials. Argentina was one of the countries in the region that did not seek to reduce the impact on internal prices through appreciation.

Because, very clearly, the impacts of currency appreciation during the '90s and the impacts that that had in the deindustrialization and the concentration and the primarization of its export basket—in other

words, more raw materials—these are the principal challenges that Argentina has, or that the region has. Most emerging countries have to deal with high exchange terms [and] high commodity prices, with the short-term capital inflows and the consequences in terms of instability on the exchange markets, and also in terms of the appreciation of their currencies. If we look at a more long-term perspective, we can see that Argentina was successful in its policy of avoiding appreciation and promoting an exchange rate, considering that the exchange rate is the fundamental variable for countries that want to proceed in their industrialization. This graphic, which is also from CEPAL, shows that all Latin American countries have undergone a major primarization of their exports in recent years. Here, what we are looking at is the ratio between basic exports over total exports, and what we can see is that Argentina, although it did reduce its participation in raw material exports, is still at 65 percent, . . . which is very high in terms of the regional average, and still well above the level that Brazil has.

I recently said that we have to deal with the impact of what is defined by some economists as the curse of natural resources. It is a blessing. It does generate foreign currency and surplus in our external sector, but it [also] generates constant drives toward primarization, and we must keep in mind the effect on internal prices in developing countries. This graph shows the enormous correlation that exists between the development of international commodity prices, especially food commodities, and the internal prices. Furthermore, in a country such as Argentina, where the share of food in the consumption basket is among the highest in Argentina—the share of food in the total basket is about 40 percent—obviously this is substantially above the weighting in developing countries but also above [that in] many Latin America countries. This comes about in a context where, in addition to this process of recovery of lost ground in terms of wages and in terms of income distribution, the productivity gain is behaving very differently [from] what we note in developed countries. This graph shows the development of productivity vis-à-vis the development of . . . real wages, and what we can see is that the increase in productivity was basically transferred to capital, so there was an increase in the profitability rate in the business sector.

This is a very substantially different tendency [from] what is happening in Argentina. As you can see, in Argentina the economy had major growth in its work, thanks to innovation and investment, and in recent years a major part of that productivity increase was transferred into wage compensation. This is important to weigh what I was saying at the beginning—that dynamic of the labor market—but also the tensions of this distributive battle that is taking place in Argentina, which is growing so significantly but which is also recovering ground in terms of income distribution.

Now, with respect to the tensions that are being generated, in terms of the internal crisis there is a piece of relevant data that I think is important for evaluating what risk these tensions may provoke, . . . which is inflationary acceleration. Here, what we can see is that over the economic history of Argentina the inflationary accelerations had to do with major imbalances in the public sector, which promoted tensions that had to do with the excess demand that was not accompanied by aggregate supply. This demand shows us on the left [of the chart] the fiscal imbalance and the behavior of internal prices. We can see that the curve is cut off because we can't show the hyperinflationary periods and the recent years where Argentina has recovered a fiscal surplus. The other issue of inflationary acceleration has to do with the path through devaluation processes to internal prices. For that reason, it is very important to keep in mind this dynamic that I was mentioning to you a minute ago of balance, both in the external sector and in the fiscal sector, in order to weigh and properly evaluate what is happening in terms of internal prices.

I would say that the lessons from the crisis were, as I was just saying a minute ago, that Argentina was able to make its way through this world crisis without high costs in terms of economic growth, employment, and instability in its financial market. Let us remember that Argentina in the '80s and '90s [was] one of the countries that had suffered the most from the successive external financial crises that came from Asia and Brazil, the "tequila crisis"; if we go back further, the Southeast Asia crisis, the Brazil devaluation, the Russian crisis. Argentina was one of the countries where there was the greatest impact, financially and commercially, of the external crises. So it is very important that Argentina went through the acid test of the last international crisis. And there we can see the policy spaces that we developing countries have earned, and this is an important issue, because part of these policies spaces are being debated today internationally. So, to a certain extent, although very timidly, we see this as a tendency that can condition the possibilities for our countries to make use of that economic policy space that has been recovered in recent years. It is clear, and very markedly so. There's a lot of background in theoretical terms, but we also have the concrete experience of Latin American countries—the very negative effects that short-term capital flows have on our economies by generating asset or commodities bubbles [and] appreciating our currencies, and . . . the effects they also have in terms of primarization. In the face of this reality, what we can observe is that in the international debate it's clear from the papers that underline the discussions we are going to have tomorrow and the day after tomorrow in the G20 and the IMF [meetings], that there is a certain tendency to view with a great deal of pragmatism the effect that these accumulations of reserves and the intervention in the spot and forward markets have had. But basically, the bias that exists is the traditional recommendation that our countries, in order to resolve the problems that are coming about either through external shocks in raw material prices or because of an overheating in terms of internal demand, have to resort to the traditional policies of exchange flexibility, increasing the internal interest rates, or fiscal consolidation—a new euphemism that is used to refer to fiscal adjustment—and obviously with a very important recognition of the role that the regulatory and financial supervision policies have, but often cut off from the real tendencies and the macroeconomic regime and the ability to maintain financial stability over a long period of time.

What we have learned over these years is that there is a set of policies from the developing countries that allow us to administer our economic processes in such a way that we can reconcile stability with the need to advance in the process of productive diversification, internal demand growth, and the reduction of inequality that still affects developing countries.

To conclude, perhaps provocatively, I will tell you about two experiences that we had in our country. I mentioned the experience in the '90s. In 1998, the World Bank in a paper categorized Argentina as one of the countries with the most solid financial system, just after Singapore and at the same position as Hong Kong—the same year, in 1998, that Argentina was in its process of reducing the levels of investment and economic growth, which led to the 2001 crisis. So these tendencies were already manifesting themselves in 1998. In 2001, Argentina received a World Bank–IMF mission where they . . . evaluated the solidity of the Argentine systems, and of the 30 Basel principals, Argentina got positive results on 28 of the [criteria]. So it perfectly complied with 28 items that were set by the Basel norms. That happened a few months before Argentina went into the convertibility crisis—as I said to you, one of the profound crises of our economic history. I think it is worthwhile mentioning this when we talk about the need to revise everything in terms of financial regulation and the new international financial architecture—understanding what the specificity is, what the reality is, the different measuring stick that we need to use

to view the needs of the developing countries, and, above all, taking into account what I just mentioned to you, that the developing countries have recovered *enormous* degrees of sovereignty through this debt-reduction policy, the accumulation of reserves, and intervening in the exchange markets and in regulating the short-term capital flows. These possibilities, in our opinion, have to be on our agenda, not to take on a defensive attitude that we shouldn't have these possibilities removed from us, but rather to install these definitively in this set of policies to advance sustained inclusive development.

Thank you for your attention.

Adapted from the English-language translation of the speaker's original remarks in Spanish.

ARTURO O'CONNELL: Mercedes has just mentioned how in international fora and through documentation produced by various international bodies, this situation in which developing countries are now finding that the policy space that they have earned as a consequence of or by learning from the past crisis, surprisingly, . . . is being narrowed down by some of these discussions, documents, and proposals. I take up one very specific question to again come back to a more general question, and that would be the question of capital flows regulation. By the way, José Ocampo, a brilliant Colombian economist who was the administer of finance of Colombia and is now a teacher here at Columbia University, has mentioned that when one speaks about norms in the financial sector, the word "regulations" is applied, but then when we speak about norms of administering international capital movements the word "controls" is used, which obviously has a negative connotation. So we insist on speaking about the *regulation* of capital flows.

I would like to refer to something that made it to the front pages of newspapers last week. I am quoting from the first page of the *Financial Times*. . . . I think it is an excellent newspaper, and I was surprised to see on the front page, a week ago on Wednesday, the following title: "The IMF Is Giving Ground in Its Opposition to Capital Controls." And there are many other newspapers; I am quoting from the *Financial Times* because it is the newspaper I read more. And so an impression—which, in fact, turned up at this meeting a few days ago that a few of us attended in Bretton Woods—has been floating [around] that the IMF is somehow, if not in favor, at least not so vertically opposed to capital controls, and so that there would be some progress, a new IMF is in the making.

Now, let's make this question very clear. In fact, the IMF could not, would not, oppose capital controls, because article 6, section 3, of the articles of agreement of the IMF states very clearly that member countries can apply the necessary controls to regulate capital movements, and the only condition . . . is that these controls on capital movements should not infringe on current account actions—which, of course, under article 8 of the same articles of agreement, member countries are under the obligation to preserve freedom of current account actions. What is all this rigamarole about the IMF kind of weakening its position on capital controls? In fact, it is an opinion. The law is very clear. I mean, *countries can resort to capital controls*. There is no way in which the IMF can oppose those capital controls. Well, there are quite a few documents—I think that one of them was coming up for discussion with the board yesterday, or this week at least—and all of them start by saying that the instability of capital flows, and, most specifically, of portfolio flows (which, by the way, all of these documents mention that these are the majority of the flows right now; I mean, we used to have loans or replacements of bonds, but now a majority of that is foreign direct investment, which, anyway, has also gone down), . . . are really quite unstable. So acknowledgment of the fact that quite a few developing countries in Asia, Brazil in Latin America, and in some other parts of the world receive a true flood of these very unstable capital flows.

The second thing that is mentioned, and it's taken for granted, is that—and I quote from . . . the second line of one of those documents that actually went to the board—these flows are typically beneficial for the receiving countries. I will say something more about this later. So what is the real content of all these documents? That it's supposedly a step forward, toward a different IMF more sympathetic to the problems and opinions of many developing countries? In fact, all of these documents are proposing what is called in some places a "framework" and other places "establishing new rules of the game," that capital controls then should somehow be included in that framework or the new rules of the game, so that what to do with capital flows would then be under the conditionality of the IMF. In fact, what has been presented as a lighter opposition of the IMF to capital controls is in fact to the contrary. . . .

All of you know something about the discussions at Bretton Woods—not the one we had last week—and at that time it was very clear to everyone attending the Bretton Woods conference that capital flows were destabilizing, so that's why there was a clear part of the articles of agreement that countries had the right to place capital controls, and several other things; for instance, that IMF resources could not be used for paying capital outflows, something that has been overruled several times in the case of Russia, and in the case of Argentina, for instance, in the late '90s. In fact, [where there was once an unconditional right], there is now a gradual attempt . . . to go backward and take away the freedom of action of our countries to impose or not impose capital controls.

By the way, it became a consensus of the profession in the '90s and in this last decade that it was all right with controls on capital inflows, although discussion on how effective they were or not—for instance, those that Chile and Colombia introduced in the 1990s—but that it was all right if they were not just administrative but were somehow generated through some market procedures. But capital outflows, while there was the case of Malaysia, it was the only case, and it was a rather passing experience in fact. Those were supposed to be ineffective to begin with and a kind of barrier that would mean that people would not like to place any capital in a country, believing that it might be a problem when they might want to take away that capital. Well, there is a beautiful document among these documents that shows, totally to the contrary, that controls on capital outflows were more effective than controls on capital inflows.

So let me end up with this very brief time we have on a more general note about what is going on in this international forum. The panic about the crisis, for better or worse, seems to have disappeared—I am not sure if it is a very realistic thing—and now we see an intrusion, with a few developing countries in the kind of general directorate of the world economy, the G20, and we were all very satisfied about the fact that developing countries were simultaneously wholesale included among those in the G20 and those on . . . the Financial Stability Board, and that many of us—I think all of us do participate in the Basel committee that produces various versions of Basel, so it looks like—with some of the measures taken at the London meeting, the early meeting of 2009, it looks like a new era, a more progressive era, a more progrowth era, had been initiated. But now, what we see after the panic has gone is that all these various fora, including the IMF—which is more than a forum, it's an institution with all its own rules, et cetera—are now being turned, in a way, around. A lot of those elements of our policy space, in the case of Argentina, Mercedes has very convincingly explained what it has allowed us to do. And there are many other countries, countries in Asia also, that have been resorting to a few of the same ideas. Now this is being turned around, and what cannot be imposed on our countries via the IMF because we have accumulated foreign exchange reserves, because we are running current account surpluses so we don't have the need that we

used to have to resort to the IMF for some temporary, what would be unethically called loans but which in fact are swaps—the resources of the IMF are deployed in the form of swaps of local currency against hard currencies. Now that the IMF cannot impose those policies, contrary to what has been shown to be the right ones for the growth of our countries, it is being imposed via the peer pressure of the G20. You can see that I had been quite an active participant of the G20 discussions as a member of the board of governors, up till September of last year, of the central bank. You could see glimpses of that already by mid-2009, and it has gone on and on, that developing countries that participate in the G20, we should give example to the rest by applying all these rules—by, for instance, entering and allowing an FSAP, or a financial sector assistance program. The experience of Argentina in 2001 shows the usefulness of those financial sector assistance programs. In fact, I myself insisted many times . . . that if it has something to do about judgment of the financial sector, the financial structure of a country, let's better leave that for the people in Basel. They know the trade. I don't think that the IMF people or the World Bank, which are the ones that produce FSAPs, for instance, know, really, the trade, and in the case of Argentina, the two examples they gave Mercedes come up very clearly showing that they didn't have the foggiest idea about finance and how the financial sector was behaving.

Thank you very much.

PAUL TUCKER
Deputy Governor, Financial Stability, Bank of England
Financial Stability and the UK's Macroprudential Regime

Thank you very much for inviting me to join you this evening. Having spent much of my career thinking about or living through the issues studied by Hyman Minsky, it is a very great honor to be here.

I am going to begin with the birth of the Federal Reserve, and then I am going to discuss the birth, a century later, of a new institutional framework for financial stability in the UK.

It is almost a hundred years since the Federal Reserve was established, after successive waves of bank runs. Against the instincts and interests of the followers of President Andrew Jackson, America finally found itself with a central bank. Its purpose, cast in 1913, was "to furnish an elastic currency, to afford a means of rediscounting commercial paper, [and] to establish a more effective supervision of banking in the United States." In other words, the Federal Reserve was to be the lender of last resort, and it was to ensure stability of the banking system: a financial stability mandate. Experience showed that instability often followed a speculative bubble, and that such bubbles were often fuelled by credit. The framers of the 1913 Act were, accordingly, anxious to avoid the new Federal Reserve making it easier for the private sector to lend into such bubbles. The Act gave the Fed permission to "discount notes and bills of exchange arising out of actual commercial transactions for agricultural, industrial or commercial purposes." But it barred the Fed from rediscounting paper "drawn for the purpose of carrying or trading in stocks, bonds or other [private] investment securities." The Real Bills Doctrine was, therefore, a driving principle of the Federal Reserve's original charter. And in 1935, Senator Carter Glass, who had sponsored the 1913 Act, resisted attempts by Fed Chairman Marriner Eccles to change that part of the Fed's mandate, because he blamed the Great Depression on the preceding speculative excess.

The mandate did not really have anything to say about preserving nominal stability—that is, low and stable inflation of consumer prices. So long as the gold standard delivered, that lacuna was probably masked. But as the Fed became the anchor for a flat currency, the Real Bills Doctrine proved woefully inadequate as a founding precept. Lending only against self-liquidating commercial paper does nothing to prevent an acceleration in prices, as the central bank's balance sheet simply accommodates any increase in credit driven by a rising general price level. As central banks around the world came to concentrate on preserving stability in the value of their money in terms of goods and services, they put the Real Bills Doctrine in the dustbin of ideas.

Wind forward a hundred years. The buzzword is "macroprudential." The talk is of how to lean against speculative bubbles or tame the credit cycle; of how to contain contagion and systemic crises; of the role of central bank liquidity facilities; and of how to give banking supervision a more systemic perspective.[1] It is striking that those concerns are not so distant from those of the framers of the 1913 Federal Reserve Act.

Much is said about "missing instruments." It has been a mistake for central bankers, and the legislators to whom they are accountable, to focus at different points of their history on only one of either the stability-threatening excesses of (real) credit cycles or, alternatively, inflation. In the language of the Bank of England's 1991 statement of core purposes, central banks need a mandate for both monetary stability and financial stability.

In the UK, that will now be enshrined by putting a Financial Policy Committee (FPC) alongside the Bank of England's existing Monetary Policy Committee (MPC). The FPC has recently been established, on a nonstatutory basis for the interim. But that poses a host of questions: How do we define financial stability? What is the FPC, and what is its objective? Why should it be separate from the microprudential supervisor, which is also being moved to the Bank? What will be the FPC's instruments? Are they all directed at banks? Will they conflict with monetary policy? And, more prosaical, how will the FPC operate and be accountable?

I shall set the scene with some general reflections on financial stability, including how it might be defined, and how its scope extends to the resilience of capital markets as well as that of banks (and shadow banks). After those more general observations, I shall try to answer some of the key questions about the FPC.

What Is Financial Stability?

Why financial stability matters

Under legislation introduced in the UK in 2009, the governing body of the Bank of England, Court, is required to set out a strategy for the Bank's financial stability work. We publish it in our annual report. We have tried to clarify why society should care about financial instability. It is for the obvious reason that we need to preserve the key services that the financial system provides to the real economy: payments and transactions deposits; the intermediation of savings and investment via credit and equity; and insurance and risk transfer. In the latest crisis, the payments system *was* preserved but only at a massive cost to the taxpayer, and even then, official support operations could not prevent the severe credit crunch that led to a horrible global recession. That is *why* we care. And it underlines the importance of ensuring that the system of credit intermediation (and risk transfer), not only the payments system, is robust.

Instability and resilience

But not every severe interruption in the provision of financial services is the result of instability. *In*stability is characterized by a problem in one of part of the financial system—a bank, a market, part of the infrastructure—spreading to other parts and threatening to spiral out of control.

Financial systems are prone to bouts of instability, due to the inherent fragility of the balance sheets of many participants, together with the complex networks through which they are connected. First, many firms are highly *leveraged*, meaning that a given fall in the value of their assets has a magnified effect on their net worth; and run significant *liquidity* risks, so that they can face distress if their liabilities crystallize before their assets.

Given opacity about their financial strength, this can leave such firms exposed to runs when the weather turns nasty. Second, as recently laid out by Fed Governor Daniel K. Tarullo,[2] a problem in one firm can spread via the domino effect created by chains of counterparty credit exposures, forced asset sales, or contagion due to the reality or perception of common problems.

And, to be clear, this is not just a vulnerability of firms. *Markets*, too, can suffer a self-fulfilling evaporation of liquidity. A central element of the recent crisis was, indeed, the drying up of liquidity in the ABS [asset-backed security] markets and the money markets. As liquidity premia soared, many asset values collapsed, and the net worth of many traders and banks was eroded. This was a vicious circle, because the liquidity of many financial markets depends on short-term traders being ready and able to trade, since end buyers and sellers will not always want to transact at the same time. Those traders often depend, in turn, on maintaining access to financing from banks. Everyone has been reminded, therefore, that the liquidity of markets and the well-being of leveraged, maturity-mismatched firms are inextricably intertwined.

Our capital markets and much of the "plumbing" of the financial system—notably, the payments system—rely on confidence in the integrity of the assets being traded, in the robustness of counterparties, in the reliability of infrastructure. Crises nearly always involve that confidence sliding away. So, although financial systems look solid most of the time, they can, in fact, prove brittle. Their degree of vulnerability or resilience depends, amongst other things, on the leverage and the liquidity mismatch *in the system as a whole*. That entails thinking of the system in aggregate (effectively netting out intrasystem exposures), in terms of its position vis-à-vis borrowers and savers in the rest of the economy. And it means thinking of the system *distributionally* (i.e., gross), meaning the network of exposures amongst firms and taking into account the weakest links in the chain.

Pulling those various strands together, a definition of financial stability that has informed my own contributions to the reform debate is the following:

> Financial stability prevails where the financial system is sufficiently resilient that worries about bad states of the world do not affect confidence in the ability of the system to deliver its core services to the rest of the economy.

The key words are "confidence" and "resilience."

"Bad states of the world" obviously include recessions, and other jolts from the real economy, due to the accumulation of too much debt within or between countries. Macro imbalances do not invariably lead to instability in the financial system, but they do often extend the chain of intermediation between savers and investors, can unravel in ways that reduce asset values and increase volatility, and are often sustained by accumulating indebtedness. In the face of ultimately unsustainable macroeconomic imbalances, whether domestically or internationally, the financial system therefore needs to be *more* resilient than otherwise. That was badly neglected around the Western world in the years running up to the current crisis. (And it remains a risk going forward.)

Resilience sounds, and is, highly desirable. But it is not a free good. There are trade-offs. And here lies an important contrast with monetary policy. No one seriously believes that there is a trade-off *in the long run* between, on the one hand, inflation and, on the other hand, growth and employment. While a monetary authority can pump up nominal demand to enhance output and employment in the short run, in the long term the impulse is dissipated in a higher price level, with the economy's real equilibrium determined by real factors alone. But in the financial stability arena, there is a long-run trade-off. An economy with a repressed financial system is unlikely to experience financial instability, but it would have plenty of other problems.

In consequence, the authorities have to set standards of resilience suited to tail events without impairing the wider functioning of the economy. But we also need to be equipped to raise the required standard of resilience in the light of changing circumstances; notably, if we judge the world to have become more threatening than previously foreseen. That is the basis for macroprudential policymakers, such as the UK's FPC, being able to deploy "cyclical" instruments, as I shall describe later.

Firms, markets, and infrastructure

The resilience of the system depends on that of its component parts and on how they are connected. In the real world, that means firms, markets, and infrastructure. It means looking for and addressing vulnerabilities or fault lines in all three. And it entails choices—trade-offs—about how far to [go in making] individual firms robust and how far to [go in strengthening] the system by reducing spillovers from a distressed firm to other firms and markets.

Amongst firms, plainly, banks are a priority. As monetary institutions, they are special. Their deposit-liabilities are money. And that enables them to provide committed, on-demand lines of credit (i.e., *liquidity*) to households and firms in the real economy and to traders in financial markets. Firms of all kinds are able to economize on the stock of liquid assets they would otherwise need to hold.[3] But banks can provide those liquidity-insurance services only if depositors are confident that they can convert their deposits into cash (central bank money).

That does not mean that every bank must be completely safe, but it does mean that the resolution regime must be equipped to preserve their core monetary services, whether by resurrection or the transfer of transactions-deposits to a healthy competitor.

In talking about banks, I must stress that it is the economic substance that matters, not the legal form. We must also take care with the resilience of "shadow banking" firms and structures characterized by liquidity transformation and leverage.[4] And we must take account of the network of exposures and behavioral influences of funds, long-term institutions, brokers, et cetera.

They are all connected by *markets*.

I find it is helpful to distinguish between those markets whose role is to provide essential support to banking and insurance, and those markets that *directly* deliver the financial system's core functions to the rest of the economy.

For example, the overnight wholesale money markets are vitally important, because banking could not operate without them. They are effectively part of the payments system infrastructure, and have long been of concern to central banks. The financing markets, notably repo, fall into the same broad category, although the authorities could have been closer to the securities lending markets over the past decade. There is a lesson in that.

Some other markets—typically, in the past, more distant from the attention of the financial stability authorities—may matter in their own right to end users. That is especially relevant where a significant proportion of the intermediation of savings/investment occurs via capital markets rather than via bank balance sheets. In the United States at least, some securitization markets probably pass that test. In the UK, I would guess that the equity and corporate bond markets do so. The integrity of those core capital markets is vital. Such markets must be resilient to shocks. Otherwise, disruptions could materially impair the supply of credit (and equity) to the economy, with macroeconomic and other welfare costs. When the securitization markets closed in the United States, it was not realistic for that part of the credit system to be reintermediated by the banking system in short order.

The essential ingredients of a resilient market include a robust post-trade infrastructure for clearing and settlement. But trading platforms matter too, as do disclosure standards, and even the pattern of demand. In my book, a market is unlikely to be resiliently liquid if demand is almost entirely from leveraged investors and traders: not only do they vanish when prices stop rising, but prices are then subject to the sudden force of gravity. Much of the securitization markets would have failed those tests from around the middle of the past decade. That is a lesson we and our successors will need to recall when contemplating future innovations.

Over time, the Financial Policy Committee will need to consider whether, as a matter of fact, core capital markets in the UK are sufficiently resilient for stability to be preserved in stressed conditions. We will not be able to do that without working constructively with the securities markets regulator and with infrastructure providers.

Resilience, risks, and financial firm behavior

So far, I have spoken as if the external threats to the financial system from the business cycle and its capacity to withstand the crystallization of those risks are essentially separate. That is not remotely true, of course. The behavior of the financial system affects the weather.

This is due to the particular features of the credit system. A credit boom leads both to borrowers becoming overindebted and, unless they have shed the risk, to lenders finding themselves overextended as well. As the probability of default rises, the capacity of lenders to absorb default typically becomes impaired—a double whammy. And a credit boom can fuel asset price rises, giving a boost to banks' net worth and back into lending conditions, in an apparently virtuous circle, until it proves vicious.[5]

It matters enormously, therefore, that the system is prone to periods of exuberance in which credit conditions become loose, borrowers overextended and asset prices inflated. That owes a lot to myopia about tail risks.[6] But incentives matter too, whether the diluted incentives of bondholders to price risk in banks prudently, given a belief that they would be bailed out; or the incentives, here in the United States, for government-sponsored enterprises such as Fannie and Freddie—massive players in global capital markets and so with a significance stretching beyond your borders—to take on more risk in lending to poorer households; or for banks to badge illiquid ABS tranches as trading positions in order to benefit from much lower trading book capital requirements; or for banks to move credit portfolios to off-balance-sheet vehicles supported by liquidity lines against which no regulatory capital had to be held. I could go on and on. The microeconomics of finance matters hugely to stability. The fault lines of the system are sometimes obscure.

And a macroprudential authority needs, therefore, to be attentive to the complex ways in which the different parts of the financial system interact, generating leverage and liquidity risk. Threats may often be buried in the complex details of the system—subprime CDO^2 [collateralized debt obligations squared], conduits, and SIVs [special investment vehicles], et cetera, in the latest crisis; investment trust cross holdings in the 1920s—but the task is to make the connections without getting lost in the trees.

Which brings me from scene setting to the real world of the new UK framework.

The UK's New Financial Policy Committee

Who we are

The FPC exists. We will hold our first formal policy meeting in June.

We are a committee of 11. Five of us are drawn from the executive of the Bank, increasing to six when microprudential supervision of banks and insurers moves across in 2012–13. The two senior officials of the UK's existing regulator, the Financial Services Authority (FSA), are members during the interim period. And once the legislation has passed, the chief executive of the planned new securities/consumer regulator, the

Financial Conduct Authority, will be a member—reflecting, as I have outlined, the vital role of market regulation in preserving stability. There are four external members, including, from the United States, Don Kohn, the former vice-chairman of the Federal Reserve Board.

The government expects the legislative process to be complete toward the end of 2012. In the meantime, during the interim, nonstatutory phase of our existence, the Financial Policy Committee has two broad functions: "paving" and "shadowing." We will *pave* the way for the statutory incarnation of the Committee by advising the government on the instruments and powers we could be given by Parliament. And, second, we will, as far as possible, *shadow* the role of the statutory FPC, which essentially means advising the FSA on where and how it should use its regulatory tools for system-wide ends.

So what are those ends? They are consistent with my earlier overview of financial stability.

The objective of the FPC

The UK government has proposed that the FPC's main responsibility should be taking action to remove or reduce systemic risks with a view to protecting and enhancing *the resilience* of the UK financial system (my emphasis). "Systemic risk" is defined to embrace both *fault lines* in the structure of the financial system (i.e., the way its components are joined up) and *cyclical* threats from unsustainable levels of leverage, debt or credit growth.

Two glosses on that are warranted.

First, the government's plan does not entail the FPC being held accountable for *fine-tuning* the credit cycle, but rather for ensuring stability by maintaining the resilience of the financial system. An example might help. Say that in the face of a credit boom, the FPC raised banks' capital requirements. That might help to slow the boom, and it would be helpful if it did so. But even if the boom continued, the banking system, by virtue of having higher capital ratios, should be more resilient when the bubble burst. If those FPC actions prevented the banks going bust, the downswing in the credit cycle, and so in the business cycle, would be less severe because the flow of credit services could be sustained. That would be a success—perhaps not always a glorious success, but a whole lot better than where we are right now.

Second, due to the trade-offs I described earlier, the government has proposed that the FPC be subject to a constraint that it should not act to preserve stability at the cost of significantly impairing the capacity of the financial sector to contribute to medium-to-long-term economic growth. What this means in practice is that when faced with an immediate or incipient threat to stability, we must try to find a solution that avoids damage to long-term growth. That discipline is welcomed by the Bank.

This is obviously all novel stuff. It is therefore helpful that the government plans to ask Parliament for a power periodically to flesh out the statutory objective, via a remit from the Chancellor of the

Exchequer—an arrangement that has worked well in the monetary field in the UK. It will enable practical lessons to be incorporated into the regime over time.

Why is the UK's macroprudential body separate from micro supervision?

Most central banks have traditionally regarded their contribution to financial stability as deriving from their markets and banking supervision functions. That is explicit in the Federal Reserve's 1913 statute, with which I began these remarks. And given the UK's heavily concentrated banking system, effective banking supervision is obviously an essential precondition for preserving stability. But in terms of how organizations work in the real world, the flaw in relying entirely on this is that it assumes that those operational areas of the central bank will invariably make time and space to address the financial system *as a system*. Incentives work in the opposite direction. Nearly all the bank supervisors I have known over the past three decades have invariably been drawn toward the parts of their in-box about individual firms, for the simple reason that that is where their individual accountability is starkest. At its heart, the FPC is a device to overcome this problem. It charges a group of policymakers to step aside from the fray, resisting myopia and synthesizing the perspectives of supervision, securities regulation, market operations, and macroeconomics, with the goal of identifying and addressing the big developments that could jeopardize stability.

Lest it be doubted, that task will, of course, be unachievable without a suitable flow of information from the bank supervisors (and the securities regulators) to the FPC and its staff in the Bank. The FPC's instruments will not be aimed at individual firms per se. But we are expecting that the Committee will be briefed by Hector Sants's supervisory team on the circumstances of the most significant firms, and will be informed routinely about shifts in the supervisors' ratings of firms generally. Symmetrically, the FPC's concerns will surely help the efforts of the micro supervisors. In particular, the macro perspective can make a big contribution to the design of stress tests of firms' soundness, whether "top down" stress tests conducted for the FPC itself or "bottom up" stress tests conducted as part of micro supervision. And the markets perspective can help to identify issues or types of firm that warrant closer examination. We need to make that work on the ground. Being part of the same organization, the Bank of England, will help. The legislation needs to wipe away legal impediments to the free flow of information. And we need to embed a culture of mutual respect and cooperation.

The FPC's instruments

But what will the FPC be able to do?

What, indeed, would the world's financial stability authorities have done if they could have their time again? The answer is surely reasonably clear in the program of the Financial Stability Board, as endorsed by the G20 leaders.

On markets, we—where "we" throughout is the authorities internationally—would have subjected the burgeoning CDS markets to the disciplines of central clearing in, I would say, around 2003–05; and the CDO markets to a more rigorous transparency regime. We could have contained the extent to which shadow banks could be built within insurance companies, money market funds, securities lending markets, et cetera. We would all have been noisier about the distortions in global capital markets caused by Fannie and Freddie. We would have pressed harder on the adequacy of the consolidated supervision of US securities dealers. We would have plugged the most obvious problems in the Basel Capital Accord for

banks, so that they were less levered; and we would have remembered that banks need to carry a liquidity cushion, and that treasury functions should not be profit centers. We would have been attentive to the opacity around the ABS market; and to the cliff effects stemming from mechanistic reliance on rating agency ratings by banks, investors and regulatory regimes. And, finally, I trust that we would have been more exacting in following up the early-2000s' G10/Financial Stability Forum report on the difficulties of resolving large, complex financial institutions.

Some of those interventions would have addressed long-standing structural fault lines in the global financial system. Others, perhaps more speculatively, would have been contingent on cyclical conditions. For example, a respectable macroprudential authority would ideally have tightened banks' capital requirements against exposures to property and to shadow banking. Perhaps more compellingly, I think a macroprudential authority equipped with powers to do things would at least have asked whether the system was sufficiently resilient given a pervasive sense, from the market itself, that risk was underpriced.

Lo and behold, the sphere of influence of the FPC will come via both "structural" and "cyclical" instruments.[7]

Once the legislation is in place, the FPC will be able to make Recommendations, on a "comply or explain" basis, to the Prudential Regulation Authority and to the Financial Conduct Authority (the planned securities markets–cum-consumer regulator) on their rules and policies. And the FPC will also be able to direct the micro regulators to take certain kinds of action, to be set out in secondary legislation; that is so that our Parliament decides the spheres in which the micro regulators will be obliged to follow the FPC's lead. On the US side of the Atlantic, some of you will recognize echoes here of the Paulson Plan for the creation of a financial stability authority in the Federal Reserve.

Furthermore, FPC will have a responsibility to advise the government on when the *perimeter* of the PRA's microprudential supervision should change. Very obviously, this is aimed at countering the risk of regulatory arbitrage undermining attempts to tighten up banking regulation. It also recognizes that the shape of the financial system is bound to evolve in unexpected ways over the years. The regulatory regime needs to be adaptable.

It is not all about banks: Instruments addressed to network issues

That underlines that the UK's new macroprudential regime is not all about banks.

For example, were it to be warranted, the FPC could potentially intervene via recommendations or directions to the micro regulators on disclosures made around the issuance and structuring of securities; on the trading infrastructure of markets, to increase the likelihood that liquidity would prove resilient under stress; on limits on large exposures amongst different kinds of firm; and on the rules of the game for the many varieties of shadow banking.

On the last, for example, it is no secret that, speaking only for myself, I should like to see the rules for money market mutual funds altered to address the "break the buck" problem. That could be done either by making MMMFs [money market mutual funds] hold capital, which essentially amounts to turning them into de jure banks; or by requiring MMMFs to mark-to-market daily, so that they become variable net-asset value investment vehicles. In other parts of the shadow banking forest, I hope that we can consider the merits of the industry establishing a trade repository for data on what goes on in the securities lending market, including on the reinvestment of cash or securities collateral. While that will sound technical, this is one of the world's biggest financing markets: firms and the authorities need at least

to be able to gauge broadly what is going on. And, to give a third example, I hope that we will treat ostensibly "nonbank" prime brokers as banks if they finance their business with client balances that can be withdrawn on demand.

My FPC colleagues will not necessarily agree with all of that, but I hope the examples illustrate that we are not going to focus myopically only on the banking system.

"Cyclical" instruments: how does macroprudential policy relate to monetary policy?

The *cyclical* dimension of macroprudential policy is essentially about leaning against credit booms with a view to maintaining financial system resilience.[8]

The benchmark instrument, in the sense that it will definitely exist, will be the countercyclical buffer (CCB) in the Basel III Capital Accord. In the UK, it will be the FPC that decides whether to switch off the semi-automatic application of the CCB when triggered by the ratio of credit to GDP and other indicators exceeding certain thresholds. (It is not altogether clear, by the way, who will have that responsibility in other countries; the function requires a system-wide perspective and a macroeconomic capability and so is not exclusively in the domain of *micro*prudential regulators.)

Beyond the one instrument agreed internationally so far, the UK government is also considering whether to give the FPC a variety of other instruments. These include varying liquidity requirements; and varying capital requirements against specific types of exposure ("risk weights") and/or minimum haircuts for specific types of secured lending, whether financing hedge funds or loan-to-value ratios for property-related lending. The availability of such targeted instruments might be especially useful where the FPC wished to mitigate risks from overexuberance and collective imprudence in lending to a particular sector without necessarily affecting credit conditions more generally. Targeting a specific area of business might also sometimes help to resolve a collective action problem sustaining a bubble if enough lenders themselves thought risk was being underpriced.

That is all about maintaining the resilience of *firms* as and when the environment proves more threatening than catered for in the standard, static regulatory requirements. There is also the possibility, argued by Governor Mark Carney of the Bank of Canada, that maintaining appropriate minimum margining requirements across the cycle would help to prevent liquidity spirals in *key funding markets*.[9] The Basel Committee of the Global Financial System, when under the chair of my new colleague Don Kohn, has published a review of this important area.[10]

The interim FPC will have to advise HMG [Her Majesty's Government] over the next year or so on which instruments in particular we think we should be granted by Parliament.

In their different ways, as well as making the system more resilient, they would have the effect of intervening in the (real) credit cycle. And so, in some degree, this endeavor recovers something of the spirit of the Real Bills Doctrine disciples of a century ago.

In consequence, this part of the macroprudential scene has, naturally, posed questions about how it will interact with the setting of monetary policy—not that the nominal business cycle and the credit cycle are the same thing or always perfectly aligned. In the years during which the latest crisis was brewed, credit conditions were plainly too loose, but the UK did not obviously experience burgeoning nominal demand growth or upward pressures on underlying inflation.

Nevertheless, influences will obviously flow in both directions. If the FPC requires lenders to carry higher capital, liquidity, or collateral, that will affect credit conditions and so the outlook for aggregate

demand and inflation. In the other direction, monetary policy settings plainly affect asset prices, and so influence credit conditions through the net worth of borrowers and lenders. Also, it seems to me plausible that they affect risk-seeking behavior,[11] especially in a world in which many investment managers have nominal return targets.

Given those two-way interactions, some commentators worry about coordination problems from having separate monetary policy and macroprudential committees with different objectives.

As I have already explained in the context of having distinctive machinery for micro supervision, the UK has favored having a separate macroprudential committee in order to ensure that the stability of the financial system is not neglected. The "macro" in macroprudential is not synonymous with macroeconomic but, as I have said, points us toward thinking of the financial system as a *system*. The members of the FPC need a knowledge base that, while overlapping, is different from that of the MPC. They need to know about the micro structure of the capital markets as well as about cyclical credit conditions.

A number of features of the FPC regime are relevant to ensuring effective co-existence with the MPC. Neither has goal independence. The objectives of both are set by the government. The MPC is charged with managing the path of nominal demand to achieve an inflation target, while the planned function of the FPC is to ensure the resilience of the financial system. Although the FPC's mission does not lend itself to the disciplines of a numerical target, government could use the remit to check any systematically odd interpretations of what counts as stability.

We recognize, however, that there could be challenges. That might emerge from signs of a boost (or hit) to productivity. Improved *future* productivity would tend to cause both current spending and borrowing to rise, given the prospect of higher permanent incomes down the road, but before the improved supply capacity was effective. In that case, monetary policy and macroprudential policy might move, if at all, in the same direction: toward tightening and building resilience. That would not necessarily be so in the event of an *immediate* but temporary shift in productivity (or the terms of trade). In those circumstances, monetary policymakers might be faced with a temporary undershoot of the inflation target, while credit growth still picked up. But the task of the FPC in those circumstances would not be to fine-tune credit growth. Its first-order challenge would be to reach a judgment on whether the financial system was undermining its own resilience by getting carried away in extending credit in an environment of rising asset prices and optimism about future output levels. The FPC would need neither to obstruct an improvement in the underlying performance of the economy, nor let the party get out of control. But that is what "taking away the punchbowl" is about. The same difficult judgments would face a combined monetary-and-macroprudential decision maker. And a separate monetary policymaker would have a shared interest in the downside risks to inflation not being exacerbated by the prospect of a credit bust following an unchecked boom.

In those kinds of circumstances, we should be helped by the tempo of the two endeavors differing. The FPC is less likely to make frequent course changes. That is reflected in its meeting routinely on a quarterly basis, contrasting with the MPC's monthly meetings. So, as in the relationship between monetary policy and fiscal policy, the MPC will be able to take into account perturbations to aggregate demand from the FPCs interventions. Both committees are part of the Bank of England, so the executive of the Bank will ensure that there is a common information base. FPC members are invited to the monthly briefing for MPC members, and vice versa, consistent with MPC members already being free to attend the internal financial stability briefings established over the past year or so. And finally, there will be a common

chair, the governor, and overlapping membership. The members common to the two committees—four of us—will be in a minority on both to ensure that our perspective does not dominate either.

How will the FPC operate and be accountable?

Although separate, the FPC will in many respects operate in much the same way as our Monetary Policy Committee. There will be a schedule of regular policy meetings: four per year. A record of each will be published. And twice a year, the analysis underpinning our Committee's deliberations and decisions will be set out in the *Financial Stability Report* (FSR). The role of the FSR will, therefore, become more like that of the Bank's *Inflation Report* in monetary policy. Put crudely, warnings will carry greater weight under a regime where the FPC can actually take *action*. Consistent with that, the FSR will in future be launched via a press conference.

We expect, and hope, to be called regularly to give evidence to the Treasury Committee of the House of Commons, and perhaps Committees of the House of Lords, too. Public hearings will help to keep financial stability issues in the public eye, and us on our toes, even when stability once again prevails and is expected to last. The Select Committee process, and the debate it sparks, will be a vital bulwark against complacency.

It will also give us the most important public platform to explain and defend our decisions, which sooner or later will prove unpopular. Unlikely as it may now seem, there will come a day when much of the public, businesses and banks find themselves on the same side, united in their opposition to the FPC taking away the punchbowl before the party gets totally out of control.

But the FPC will not be like the MPC in all respects. In contrast to monetary policy decisions, at least as practiced in the UK, where we decide via individual votes, we will aim to reach decisions by consensus (although there will be provision for voting). That is essentially because of the wide range of issues the FPC will consider and the range of instruments potentially under our control.

Another contrast with monetary policy is that, in some respects, we are entering unchartered territory for a developed economy. We will all—policymakers, bankers, investors, commentators, politicians—be learning about how, for example, varying capital, liquidity, or collateral requirements is transmitted into the credit markets and the economy more widely. I therefore expect us to publish papers on how we approach our task and on the underlying economics. And, through the remit process I described earlier, the government will be able to adapt the regime at the edges as we all learn. And we will need to learn, sometimes from mistakes or missed opportunities.

The international dimension

I have discussed the interaction of the UK's macroprudential regime with our domestic arrangements for micro supervision and for monetary policy. But the third set of interactions will be with our counterparts in other countries.

This is especially important to the UK. London hosts what is probably the world's most *international* financial center. Crucially for us, it is *not* an entrepôt. It is more than an important source of jobs and tax revenues. Many of the overseas firms active in the City are also active in providing services to parts of the UK's real economy. We therefore have a double stake in their safety and soundness. If they get into distress, there are spillovers to UK financial firms through wholesale markets, but also at least a temporary reduction in the financial services available to UK firms and households.

For all these reasons, the UK has a special stake in the adequacy of international standards for financial firms and markets. And, hosting many subsidiaries of major global firms, our supervisors need to play a special role in the collective consolidated supervision of internationally systemically important financial institutions (SIFIs).

This extends into the macroprudential arena. At a global level, we are active participants in the Financial Stability Board. And, regionally, the UK authorities will be engaged in the European Supervisory Authorities. Our governor is first vice chairman of the European Systemic Risk Board (ESRB), on which I and Adair Turner, chairman of the FSA, also sit. The FPC might well find itself wanting the Bank executive to take an issue with EU-wide ramifications to the ESRB or to the European Banking Authority, Markets Authority, or Insurance Authority. And sometimes the FPC may find itself wanting to follow up an EU-wide recommendation from the ESRB.

Cooperation will be especially important in the deployment of "cyclical" instruments. If one country tightens capital or liquidity requirements on exposures to its domestic economy, the effect will be diluted if lenders elsewhere are completely free to step into the gap. Basel and the EU are addressing how to handle that where the instrument is the Basel III Countercyclical Buffer. But we need to explore whether other potential instruments should be subject to similar rules of the game. This is not like monetary policy with a floating exchange rate.

The Big Challenges

The reform of the financial system is a global endeavor. Much of it is about strengthening existing regimes. But two parts of it are essentially new. One, on which I spend a good deal of my time, I have not discussed this evening: building effective resolution regimes for the world's largest and most complex firms.[12]

The other new challenge is building macroprudential regimes. This is about plugging a gap between microprudential regulation and macroeconomic policy. It will entail the following:

- focusing on the resilience of the *system as a whole*
- focusing on "shadow banks" as well as banks
- attending to core capital markets and infrastructure as well as to the robustness of firms
- increasing transparency to reduce, but no doubt not eliminate, myopia
- attending to incentives that can distort behavior in stability-threatening ways
- adapting requirements to changing conditions, including leaning against the wind
- cooperating closely with the securities market regulators, as well as with the line supervisors of banks and insurers
- transparency and accountability.

This will not be easy. And in a world of global capital markets, it is unavoidably a shared enterprise. National authorities will fail unless we work together. Which is why I am giving this speech here.

Governor Mervyn King and I have long believed that the market intelligence available to central banks through our operational roles has a central place in identifying threats to stability, whether exuberance in markets or fault lines in the fabric of the system. If that is true of central banks in general, it is especially so for the Bank of England and the Fed, based as we are in the two most significant financial centers. The partnership between our institutions, going back to Benjamin Strong and Montagu Norman,

is more important than ever. We need to maintain a free flow of information and ideas. We owe that to the public we each serve, and we owe it to the rest of the central banking and macroprudential community. As those of us at the Bank of England build the UK's Financial Policy Committee, we will need the active support of you all here and, in particular, of our colleagues from around the Federal Reserve system, for whom central banking began very nearly a century ago.

Acknowledgments

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Notes

1. See, for example, Working Group on Macroprudential Policy, *Enhancing Financial Stability and Resilience: Macroprudential Policy, Tools and Systems for the Future* (Washington, D.C.: The Group of Thirty, 2010).
2. Daniel K. Tarullo, "Regulating Systemic Risk," 2011 Credit Markets Symposium, Charlotte, N.C., March 31.
3 Anil K. Kashyap, Raghuram Rajan, and Jeremy C. Stein, "Banks as Liquidity Providers: An Explanation for the Co-existence of Lending and Deposit-taking," *The Journal of Finance* 57, no. 1 (February 2002).
4. See Tucker, "Shadow Banking, Financing Markets, and Financial Stability," Bernie Gerald Cantor Partners Seminar, London, January 21, 2010. The Financial Stability Board released a first paper on shadow banking earlier this week ["Shadow Banking: Scoping the Issues," April 12, 2011].
5. Hyun Shin has set this out with great clarity.
6. See Tucker, "Discussion of Lord Turner's lecture, 'Reforming Finance: Are We Being Radical Enough?'" Clare Distinguished Lecture in Economics, Clare College, Cambridge, UK, February 18, 2011.
7. See chapter 2 of HM Treasury's consultative document *A New Approach to Financial Regulation: Building a Stronger System,* February 2011.
8. I set out the bank's developing thinking in this area in "The Debate on Financial System Resilience: Macroprudential Instruments," Barclays Annual Lecture, London, October 22, 2009. See also, the Bank of England paper "The Role of Macroprudential Policy: A Discussion Paper," November 2009.
9. Mark Carney, "Reforming the Global Financial System," Rendez-vous avec l'Autorité des Marchés Financiers, Montréal, Canada, October 26, 2009.
10. Committee on the Global Financial System, "The Role of Margin Requirements and Haircuts in Procyclicality," CGFS Paper No. 36, Bank for International Settlements, March 2010.
11. See, for example, Gianni De Nicolò, Giovanni Dell'Ariccia, Luc Laeven, and Fabian Valencia, "Monetary Policy and Bank Risk Taking," IMF Staff Position Note SPN 10/09, International Monetary Fund, July 27, 2010.
12. See Tucker, "Developing an EU Cross-border Crisis Management Framework," Eurofi Financial Forum, Brussels, September 30, 2010.

Q&A

Andrew Sheng: Just to declare our interests, Paul and I go back a long way, because he wrote the first report that transformed the Hong Kong securities industry, and I inherited his report. I had to write a second one, because we went through the second crisis. But I fully agree with Paul's view that the division between the banking market and the securities market is very artificial, and I think having an integrated view is absolutely crucial.

I'm making a comment more than a question, but this is really a suggestion for your financial stability group. I think the reason why we got into trouble is because there was a disconnect between the macro and the micro, and it didn't add up. But I would like to add one further division observation, which is that the reason why people read your inflation report but don't read the stability report is because there is a disconnect between the impersonal and the personal. Securities markets, particularly, are all about persons—you're actually doing conduct—and the financial stability is impersonal. So nobody feels that when you say something is at risk, they always say, "It's somebody else's risk, it's not my risk. It can't happen in my firm." But they will read your report when you take action on somebody, saying, "I am taking away your punchbowl"—sorry, your Taittinger 1991 vintage, because punchbowls are very cheap *[laughter]*, so you can take it away anytime. My collection of good wines, I care about that. But I think that unless you are seen as the regulator, to be personal, I think it is just going to be Teflon, you know—it's going to be water off a duck's back. So I think the stability report has to go into individual accountability. Otherwise, there is no stability. . . .

PT: I agree, and that means we'll have to engage with the general public. And to make it clear, we have legislation that will carry through our Parliament over the next 18 months, and this is tremendously important in terms of generating public debate about precisely these things. It's only the politicians that can reach out to the public. Technocrats can never do that as well, in any democracy. . . .

Q: Some 20 or so years ago, I had the privilege of having lunch with our governor at the time at the Bank of Canada, . . . and I remember, in our discussion, he equated the following, which is, almost word for word, "Financial stability equals monetary stability. Monetary stability means price stability." And the basis for inflation targeting, his basis for defending it and all of that, came from that. Given the Bank of England's own experience, I'd like to be a little bit like the Queen here . . . and ask the question, What happened? Why did inflation targeting not deliver financial stability? Or perhaps it did?

PT: . . . It is manifestly the case that delivering low and stable inflation is not sufficient to deliver financial stability. It might be *necessary* to deliver financial stability. We had had boom-and-bust problems in the past, not just in the UK, but elsewhere—inflationary boom, central bank wakes up, puts brakes on, bust, deep recession, defaults rise, banks get into difficulty, credit tightens, recession gets worse. So there is no doubt in my mind that low and stable inflation is helpful to reserving financial stability. It is just not sufficient, essentially, because you can get a real credit boom even if you don't have a nominal boom.

Why did it happen? I'll say that one thing—because there are lots and lots of ingredients that came together—is, I think, complacency. I think the most insidious form of boom is a long, slow one. A long slow, boom is something that not only suckers people in the markets, it also eventually suckers the academic community and the policy community, because we all end up with elegant theories or compelling

stories, depending on our walk of life, for explaining why things are better now and why the distribution of risk is better, why the measurement of risk is better, as people search to explain why things have been so good for so long. And this is precisely—not always, I don't think—but this is precisely when the big one can be brewed. I think Minsky talked precisely about that, as did Charles Kindleberger, and it's true and it makes sense. It makes sense if you just reflect on the human condition a bit and what it is to be us. So that's why I think it was as bad as it was.

Q: . . . You mentioned a few seconds ago the issue of the other side of the balance sheet, which is the carrying value of assets and the degree of haircuts. What I'm very interested in are your thoughts on how you actually implement that mechanic. It's very, very easy to simply say you need *X* percent of capital. That's simple for me to talk about, that's simple for you to talk about. But how do you get into the nitty-gritty?

PT: I think this is hard. This is hard. I think the simplest way of making this point is, one of the greatest uncertainties is, what is the value of the assets on banks' balance sheets and are they all valuing them in much the same way? I think . . . micro supervisors can do things they haven't done in the past. So, often, lots of banks have dissimilar positions, whether they're trading positions or banking positions, should be comparing more how they're valuing them. If that had been done in this city, in the middle of the last decade, some vast discrepancies would have been identified amongst some very famous firms, and I don't doubt the same would have been true in London. I think one of the lessons is, I'm not sure that having an army of people inside the firms is a necessary condition for doing it well. You need to think of devices to expose the issues, and comparison is one of them. That isn't a complete answer to your question, but it's one concrete thing that could be done, and I know there are people in the market that think that.

Q: Taking the punchbowl away is an interesting idea, but the question is, from whom do you remove the punchbowl? The idea is to remove it from speculators in the market, but suppose who thought to remove it from the suppliers of finance? One way of doing that is to institute, for example, government or nonprofit receivers of small-scale savings, such as the former post office banks of England, and absorb a great deal of the savings in these kinds of institutions that are not guided by speculative [ventures]—and indeed, would not be allowed to engage in speculative ventures—but which could supply capital to small business. The question is, What would be the positive and the negative aspects of such a policy designed to shrink the financial sector, to stop the financial sector from absorbing large amounts of capital and large amounts of skilled labor? We think of the very large number of Ph.D.s in science and mathematics who are absorbed by this portion of the economy, and they don't build bridges. So we might ask whether there could be a policy. It would not be a popular policy in the financial area, but what would be the possibilities of such a policy?

PT: This is one of the few questions that I'm going to duck *[laughter]*. . . . The reason I'm going to duck it is because in our country there is a commission sitting at the moment that's just issued an interim report on the structure of the banking system. They're independent, and I shouldn't say anything that could be construed as intervening in their process. . . . Lord Turner isn't the one doing the independent review. It's John Vickers, who is now warden of All Souls [College] and used to be chief economist to the Bank of England and was our competition regulator for a while, with four others. The one thing that I

would say, because I think this is completely uncontroversial, is, however safe one makes one part of the financial system, one has to also remember that other parts of the financial system need to be safe as well. If you think about the structure that's persisted in this country for decades now, if we'd made the banks safe, the securities dealers would still have had the capacity to blow up the world and close down the capital markets. I say that neutrally in terms of the particular proposition you make, but one of my themes this evening is, it's all about everything. The financial system is so joined up that you need to make sure that you have resilience across the system. . . .

Q: To what extent has Ben Bernanke and the US Federal Reserve system bought into this prudential macroeconomics as a guiding principal. I didn't hear anything about that by a representative of the Federal Reserve today.

PT: I think I said that there's been less debate about the cyclical element of macroprudential [policy] here than the cross-sectional, structural element. They're certainly very focused on that and on part of the international machinery—to do something about that. But they *are* getting countercyclical tools, because at least one countercyclical tool is in the Basel agreement. This may be optimistic, but part of me thinks that this is a debate to come in the United States. The New York Fed, I think over the last 18 months, has talked about varying margin requirements, which is something they had not talked about—the idea of doing it, not that they would do it, to be clear— for a very long time. They were given powers in the 1930s to set minimum margins in the equity market. They haven't used those powers for a long time. I'm not suggesting that that's being anything other than sensible, but they have now talked about the pros and cons of doing it outside that. So they are part of this international debate. It isn't part of the public debate here to anything like the same degree as it is in other parts of the world. In Asia, it's absolutely the other end of the spectrum. It's all about cyclical policy and much less about cross-sectional, structural policy. And you know, we've got a lot to learn from them, and vice versa.

Q: What can you do to control the real speculative money, which is not measured in billions anymore but in a few trillion dollars or pounds or euros. . . ? When you've borrowed everything under control, are you not still fearful and without any power to control that speculative money that can actually distort the market at a whim? And how much of a risk do you see in that money that nobody has control over?

PT: The one thing that I would say is, first of all, I think the credit booms are different from equity booms. Equity booms aren't pleasant, the dot-com boom wasn't pleasant, but the telco boom was a lot worse. People typically say these things were the same. They were not the same. The telco boom could have felled some banks in the autumn of 2002. The dot-com bubble didn't come close to felling anybody. It reduced wealth, and you can respond with your macroeconomic instruments to that. That's the first thing I would say. The second thing is that an awful lot of what you describe has either as its bedrock or precondition a credit line or equity line from a bank; that ultimately, leverage combined with maturity mismatch typically has some cord, if not an umbilical cord, back from a bank that is insuring it against liquidity risk. And to get back to one of an earlier question about how did this happen, one of the great mistakes was that zero capital was required against what were called 364-day . . . committed lines of credit, committed lines of liquidity. Low and behold, what happens is, banks take a whole lot of their assets off their balance

sheet, stick it into a vehicle that isn't subject to the regulation, as you are describing. The vehicle can't issue paper on the capital markets unless it's got some insurance against its liquidity risk. It gets that from the bank, and the bank doesn't have to hold any capital against it. That was a basic design flaw. . . .

One of the basic challenges in this area is that not each individual engaged in it with the authorities. But collectively, you need to know about macro and micro. What I've just described is a very micro point in bank regulation that ended up having macro consequences. But in evaluating the macro scene, you do need to be familiar with assessing credit conditions. Therefore, the final thing I would say is, one of the things I believe about policymakers is that they're almost certainly making mistakes all the time, except they can't see them, and it's going to be obvious to everybody in 20 years' time. One embarks on things with commitment and belief, but also with modesty. In a way this is a whole process of building financial stability in institutions that should have started a long time ago. It is now starting in the wake of an appalling crisis with an appalling human cost. I have little doubt that what we do will be so easy to improve on by our successes. But somebody has to start somewhere, and we're the people in office when that need has arrived.

Thank you very much.

ATHANASIOS ORPHANIDES

Governor, Central Bank of Cyprus, and Member, Governing Council, European Central Bank

I'm going to talk about something that is not directly on the topic of financial reform, but . . . what is happening in Europe right now. The problems we have with governance in the euro area are quite important for financial markets in Europe and worldwide, so I am going to focus my remarks on the economic governance in the euro area and see how we go from there.

For over a year, Europe has been at the epicenter of a crisis. A number of governments in Europe have faced the challenges in sovereign debt markets, with three governments—Greece last May, Ireland in December, and Portugal just very recently—already asking the European Union (EU) and the International Monetary Fund (IMF) for assistance in order to get over difficulties with refinancing their debt. Another question is, How serious is the situation? Just a summary to see how important it is and how it can actually affect financial markets in the single currency area in Europe.

The urgency of the situation as well as the severity can be assessed in a summary way by just looking at the yields on 10-year bonds of various euro-area sovereigns. To give you an idea of what these things are doing, I will mention that at the close of business yesterday, we saw the highest spreads between Greek and Portuguese yields relative to German yields. At the close of business yesterday for Greece, the spread between Greece and Germany was 985 basis points; in London earlier today, the spread actually touched 1,000 basis points on the 10-year bond. The Portuguese spread was about 550 basis points. Just to give you an idea of what this means, if Germany wanted to refinance a 10-year bond yesterday they would have needed to offer about 3.4 percent. Think about the government debt—in a currency union, the Portuguese yield would be around 8.9 and the Greek yield would be around 13.3—and you can understand why Greece and Portugal are no longer in the market.

Compare this to what was in place before the crisis just to put it into perspective. At the beginning of 2007, for example, before any of the turbulence in financial markets, the maximum differential between any two 10-year government bonds in the euro area—and those were generally below 25 basis points, so Germany was around 4 percent and Greece did not exceed 425—25 basis points was the maximum variation you would see on virtually any day. . . . So you can see the difference and why it's so critical for financial stability as well to understanding what is going on and trying to make progress on it.

So, what is the issue? Well, the high yields on the sovereign debt of some European states reflect fundamentally a crisis of confidence in the economic government of the respective member-states as well as the euro area as a whole. This has been quite costly for Europe, as you might imagine. Difficulties in sovereign debt markets have generated questions about the health of banks in the weakest member-states, contributing to financial stability concerns, as I already mentioned. They have also hampered the monetary

transmission mechanism in the euro area. Again, it is the same currency, the same monetary policy, that should apply everywhere. The transmission mechanism last year was assessed to have been influenced sufficiently negatively that the Governing Council of the European Central Bank was forced to take exceptional measures to address these issues. Now European governments understand the problem. They have become sensitive to the government problem at the heart of the crisis, and over the past year many have pledged to do whatever it takes to resolve this situation. Indeed, over the past year some progress has been made. However, judging from market sentiment—just recall the numbers I was quoting you earlier about government yields as late as today— . . . and their reaction, European governments seemed to have failed to convince [the markets] that they are on top of the situation, so additional progress is clearly of the essence to restore confidence in Europe.

With this in mind, what I am going to do in the next 10 to 15 minutes is offer some reflections on this problem and briefly discuss the origin of the problem in order to put it into perspective, to give you an idea of why something like this may be happening in Europe where it is not happening necessarily in other monetary unions in the world—for example, you wouldn't expect a similar dynamic to be happening in the United States right now—and then address, a little bit, possible ways forward. Before I say anything else, I should give you the standard disclaimer that I always try to give, and I should read this very carefully: I would like to note that the views I express are my own and do not necessarily reflect the views of my colleagues on the Governing Council of the European Central Bank. But you will have another member of the Governing Council speaking later today, so you can ask my colleague Vítor Constâncio for his views on the topic as well.

At this point, I think it is useful to make a clarification. At times over the past year some have called the situation we are in a crisis of the euro—the currency—and I think that this is not correct. As a currency, the euro has succeeded in achieving what it has been created for. For the past dozen years or so—because the euro really started being a monetary union in . . . January 1999, so it's only about a dozen years—for this dozen years, if you look at the European Central Bank, you will find that it has delivered on its task to defend price stability in the euro area; I would say perhaps more solidly than has been achieved by any of the national central banks that managed monetary affairs in each one of the member-states before they joined the euro—including, by the way, the Bundesbank, if you examine the 10-year averages or the four-month moving averages. . . . That is a remarkable success for the euro. And the euro has facilitated the strengthening of economic integration in the member-states that adopted it, deepening the Common Market; again, that was perhaps the most significant objective for the euro. Perhaps more than anything, the euro has served as an important symbol of European integration, highlighting what many of the proponents have sensed from the very beginning, when the Maastricht Treaty was being negotiated and people could see where it would lead with the completion of the Economic and Monetary Union in Europe, and that is that monetary union is an important if small step toward a political union in Europe.

What has gone wrong? In brief, it's one of the most common problems in democratic societies, and that is insufficient government discipline. There are two elements to this. One is insufficient competitiveness and discipline; that is, the failure to avert a widening difference and competitiveness across the euro area. But more importantly, [there is] insufficient budgetary discipline. As a group, over the first decade of the common currency the governments of the euro area proved unable to gear domestic fiscal policies in a manner that would ensure compatibility with a common currency. Fundamentally, this is the

reason why the crisis we are in is a crisis of the economic governance of the euro area and not the currencies of Europe.

Why is this? To understand this, one has to go back to the fundamentals of what it takes for the smooth functioning of the monetary union, and what it takes is a minimum degree of coordination of fiscal policy. This can be achieved in two different ways. One way is to accompany monetary union with some form of fiscal union in the sense of closely coordinated fiscal policy or in the sense of having federal fiscal policy. Indeed, that's a solution that we see in operation in the United States, where the federal fiscal policy dominates over the fiscal policies of the individual states. That's one way of doing it with this sort of coordination.

But in the EU, when the treaty was discussed, this was rejected from the very beginning, as it would suggest a bigger step toward a political union than the EU member-states deemed desirable at that time. So we have to go with the alternative. What's the alternative? The alternative requires that strict budgetary limits are imposed on member-states to ensure that excessive budget deficits are avoided at the individual state level. In this manner, no member-state could threaten the stability of the common currency with profligate fiscal policy. This was the approach that was adopted in Europe and was embedded in the so-called Stability and Growth Pact (SGP) that provided a framework for implementing this particular approach in practice. The SGP has two arms, a preventive arm and a corrective arm. The preventive arm was supposed to provide guidance to member-states to prevent excessive deficits. Each spring, each member-state provides a multiyear plan for how it will run its fiscal policy that is then evaluated by the other member-states. This is supposed to prevent the generation of excesses that are specific limits as a ratio of GDP. A government deficit over 3 percent and government debt over 60 percent are considered excessive, and if those limits were breached, then the corrective arm of the SGP would become operational and give guidance to the member-states about how its deficit and its debt should be reduced going forward.

Unfortunately, in practice this approach failed. First, European governments did not exhibit sufficient discipline to stay within the bounds of the SGP. Second, there was a failure in budgetary reporting and surveillance. In order for member-states to evaluate whether fiscal policy in one of the member-states was appropriate, it used the data being reported by the particular member-state, and there was a failure there that I will touch upon briefly later. Third—and perhaps this is the most important element—there was a failure in enforcing the commonly agreed upon rules. The rules proved unenforceable in practice and peer pressure proved insufficient to nudge large governments to consistently behave responsibly. The difficulty here is that even when a member-state was deemed to be running excessive deficits, the enforcement mechanism was really based on the discretion of either the finance ministers or the heads of state to tell a member-state what to do. Since member-states are sovereign, this political mechanism wasn't really credible enough and did not work. So it wasn't just that effective sanctions were not available—and without sanctions the incentive structure is just not there to make the SGP work. Perhaps more troubling is that the extent of fiscal profligacy could not accurately be assessed by European bodies. Here, I have to say, that I think one of the most shocking revelations during the crisis was that of the size of the fiscal imbalance in the Greek economy, part of which was hidden from view until the situation became critical in late 2009.

I am going to give you an observation just to give you a sense of the size of the problem. Let me remind you that, according to the SGP, deficits should be, at most 3 percent every year. In reporting the Greek deficit, the Greek government in the spring of every year since 2000 would report its first estimate

of what the actual deficit was for the previous year. In a number of years, the deficit was reported to be under 3 percent and in a number of years where it was not reported to be under 3 percent it was reported that the fiscal *plan* of the Greek government was that it would be under 3 percent one or two years later on. This was the reporting as it was happening at the time the evaluations would be taking place. Now that Greece is in the EU-IMF program, people have gone back and reexamined the accounting of Greek debt and deficit statistics, and one thing that has come out is that in no year since Greece joined the euro area did the deficit in Greece fall under 3 percent—not even a single year. Every year, Greek deficit so far has been above 3 percent. In every year, the peak share of the Greek deficit as a percent of GDP that we have now about the past decade shows larger deficits than the deficits that were suggested at that time—*for every single year*. Just to give you an idea of the size of this bias, for the first nine years it averaged 3 percentage points. If you had a number being reported, a 2 percent deficit, corrected for the bias it would be closer to a 5 percent deficit.

So this is the situation that was uncovered. There were actually concerns about the studies, in the reporting of public finances in Greece in the middle of the decade, and there was considerable improvement being reported in 2007 in the case of Greece. Greece was under an excessive-deficit procedure and the rest of the European nations were convinced that the situation was corrected in 2007 and Greece was removed from the excessive-deficit procedure, only to discover in 2009 that the problems, unfortunately, persisted. So having said all this about Greece, I should say that this is history; this is not the present. Over the past year, the situation in Greece is very different. Among other things, we have had the establishment of an independent statistical office—an independent budget evaluation office—so the situation has changed. Frankly, I should note that the Greek government should be commended for implementing a very courageous program of long-overdue economic reforms as part of the agreed-upon EU-IMF assistance program, and I have to say that I am confident that successful implementation of ambitious reforms will revitalize the Greek economy, boosting the economy's potential and raising the welfare of the Greek people going forward.

Clearly, the adjustment process, as is always the case with adjustment programs like this, is not free of pain, and this is unfortunate. But I believe that the underlying adjustment is unavoidable in order to restore the solid development prospects of Greece. If you think about it, the more the adjustment was delayed—this was the problem that we saw for a number of years—the greater the accumulated cost for the Greek economy and the greater the cost of the adjustment. As in many other cases, it would have been much better if the adjustment that is taking place in Greece now had taken place five years ago. It goes without saying that I disagree with those who suggest that restructuring of the Greek debt is inevitable. I don't think it is inevitable at all, and indeed, in my view the restructuring of Greek debt seems both unnecessary and undesirable. Overall, I am optimistic on Greece, as I think rebuilding the economy undergoing step-by-step, long-overdue structural improvements will bear fruit.

Let me now turn to the governments in Europe and how they are trying to address the broader government's problem that I outlined early on. There is work under way on several fronts, and you have to say that one of the major differences between government discussions in Europe and elsewhere is that politics in Europe are much more complex. You are dealing with a number of sovereign states that actually need to come to mutual agreement in order to move forward, so from time to time, the political process looks very messy from the outside. You have to understand the intricacies in order not to get lost, and realize that some delays are to be expected as a result of the complexity; even though progress may be made, it may not be that obvious to an observer on the outside.

Work is under way on several fronts, but I will focus on just two issues that relate most closely to the difficulties regarding the governments and the link to the sovereign crisis I mentioned earlier. First, a number of steps are being contemplated toward greater fiscal discipline. Following the work of the Van Rompuy task force last year, the European Commission issued proposals relating to their reform of fiscal surveillance. The proposals should include the reporting of statistics and the fiscal plans, which, as I mentioned, was a major problem earlier, reducing significantly the leeway for misreporting. We also moved, in that action, toward strengthening the corrective arm of the SGP that I mentioned earlier was one of the weaknesses in the incentive structure. But I must say that the proposals under discussion may not go far enough. For example, sanctions for violating the rules may not be sufficient to ensure considerably better behavior by future governments. This is crucial, because if we don't have the proper incentives in place we cannot rule out the problems we have seen in the past, even if they are quantitatively of a smaller magnitude. The room for discretion left to political bodies when assessing the existence of excessive deficit remains considerable. This is also unfortunate, in my view, as it creates incorrect incentives. I would argue that without greater dominancy of meaningful sanctions the progress may be insufficient to improve things as much as would be desirable. But progress is being made, and I think the discussion is whether the progress is made fast enough or whether the progress *is* enough.

The second element is that a robust framework for crisis management is being put in place. There was no framework for managing crisis in the monetary union when [it] was put together because, if the incentives worked properly, then there wouldn't be a need to worry about crisis of the kind that we have seen. The incentives, however, did not work properly, and we did see a crisis, so now crisis management is being put in place. The European Council has agreed to create a crisis resolution mechanism that will be put into operation in 2013. The European Financial Stabilisation Mechanism (EFSM), when it becomes operational, will replace the temporary facility that was created last year to handle the ongoing crisis. . . . I should note parenthetically that when we had the peak of the problems in Greece last May, the creation of the European Financial Stability Facility was still in process, so there was absolutely no framework that was operational at the time. I think it shows the resolve of Europe to handle the problems when they become really urgent, that EU leaders actually got together and essentially over a few days put together a stabilization program specifically in order to address the difficulties in Greece. Then, as work was continuing, the temporary facility, the European Financial Stability Facility, was being put in place, and . . . it was used when Ireland requested help later on. This is also a facility that is operational and will be used in order to address the request by the Government of Portugal for assistance that is currently being discussed. Still, that's a temporary facility. It was created with the vision of being in place for three years, until 2013, while discussions were taking place about what the new, permanent structure of crisis management should be going forward, and that is the EFSM. The function of the EFSM would be to mobilize funding and provide financial assistance under strict conditionality, whereby beneficiary member-states will be required to put in place an appropriate mechanism for possible private sector involvement, according to the specific circumstances and in a manner consistent with IMF practices. The ideal, really, is to have a mechanism in place in Europe that works similarly to how the IMF works for individual countries everywhere.

The issue with the private sector involvement, actually, is that it will be based on judgment similar to the analysis that is made by the IMF, and this judgment will determine both the availability and appropriate scale of financing. We are talking about the future, the new steady state of price and visions. Support

from the EFSM will be conditional on the adoption of an appropriate macroeconomic adjustment program by the recipient country and will be based on the recourse analysis of public debt sustainability. So this should serve as a stabilizing force for the euro area when it's operational. But one of the difficulties at the moment is that details regarding how, precisely, the EFSM will function, that are important to allow market participants to evaluate stabilization potential, are not quite worked out, because the details haven't been finalized in a sense. Unfortunately, despite plans to complete the discussion in March—and for a number of months European leaders were suggesting that this discussion would be completed at the March 24–25 European Council—this was unfortunately postponed until June, and I think this delay might be contributing to continuing tensions in European sovereign markets. Failure to resolve uncertainty is never a good element in intense markets. These ongoing discussions do represent some progress. In my view, they don't go far enough toward a greater cooperation and coordination that seem needed for better outcomes for the functioning of the euro area.

It's clear that the handling of the sovereign crisis in the euro area over the past year has raised questions regarding two things, among others, that I think are important to ponder, and those are trust and solidarity. I think that the questions that are being raised are inhibiting better solutions by governments in the associated crisis-resolution mechanism that we could get to. And here I must say, one of the difficulties is the objection to suggestions of mutual support among euro-area member-states because some fear this would lead the EU to become a so-called transfer union, where financial assistance is transferred from one state to another. But this is not necessary. Rather than a transfer union, I find it more useful to think of a mutual support framework as a mechanism for future macroeconomic stability insurance among the member-states of the euro area. That's a difference in perspective about how to think about the framework that we would ideally like to design going forward. So the role of stability insurance, the way I think about it, is to protect a member-state against an idiosyncratic shock that might otherwise create doubts about its ability to honor debt obligations in the future and unnecessarily raise its financing costs for a long time.

On their own, each member-state faces some risk of this nature, but to a large extent, such risk can be pooled by an insurance mechanism that could eliminate this sort of idiosyncrasy. This is why insurance is a good thing and we have insurance in so many forms around us. The insurance in this case would entail making loans available to a member-state that risks a sudden halt in the market refinancing. But it is crucial to understand, to put it back in the European context, that loans of this nature are not gifts. An insurance mechanism in the sense of making loans available to those in need on good terms does not create a transfer union, and it is important to understand this distinction on how we can design the system going forward, without violating the principles of the EU.

So one could ask the question, if you are thinking about an institutional framework in this sense, how would you set it up to minimize the total cost of debt financing in the euro area? I would say that a framework that fails to pool together idiosyncratic risk as mutual insurance among other member-states is not the most efficient. So one of the issues for me is how to create a mechanism that would be efficient going forward in the euro area. Now, I would admit that the availability of insurance is less important for the largest members of the euro area because they have already pulled together the idiosyncratic risks that they face internally due to their size. But it is a bigger problem for a smaller member-state that cannot effectively pool . . . all of the risks that they may be facing. Indeed, I believe that what was happening before the crisis is that markets implicitly assumed that by joining the euro area, a member-state was protected

by such a mutual insurance arrangement. But during the crisis, doubts regarding trust and solidarity have been harmful to the euro area, especially the weakest member-states.

As it is with any insurance mechanism design, what is crucial for its success is the avoidance of moral hazard. This is one of the key elements in trying to see whether it can be put together in an efficient way. Of course, once I talk about moral hazard, then I really bring you back to the flaws I identified about the workings of the SGP. Critical improvements are essential to avoid the moral hazard problem and reap the benefits of a mutual insurance mechanism. This is why insufficient progress in strengthening the SGP would lead to inferior outcomes over the long haul.

So think of it like this: suppose you cannot avoid moral hazard because you do not have a good surveillance in place, you do not have an effective sanctioning mechanism in order to create incentives for the governments, the fiscal authorities of the member-states, to behave according to the rules. Suppose you do not have these things. Well, if you cannot avoid moral hazard because you do not have the mechanism that would create the proper incentives, then the rates at which you would want to make loans available during a crisis would have to be much higher, perhaps even to be punishing, when a crisis is created and the members-state requires assistance. They would also have to be subject to strict conditionality. So if you cannot avoid moral hazard, then the alternative mechanism that you face is that when you have a crisis you have to be very strict, which imposes real cost on the people of other member-states right then during the crisis. Frankly, my concern is whether it is currently envisioned that the EFSM will contemplate making loans during a crisis but at rates that are considerably higher than the rates at which contributing countries can raise the funds. This is one way to avoid misusing the framework. But if I ask myself whether this is the best solution, the answer I come to is, it is not.

Another way to avoid the moral hazard problem is to limit the national government's discretion that could potentially create fiscal imbalances in a country. This could be done by binding future governments to abide by rigid fiscal rules that automatically reduce expenditures when adverse developments raise debt and deficit projections beyond safe limits. An example would be adopting a constitutional amendment—which can be done state by state, since we are talking about sovereign states—to abide by imbalanced budgets. If you think about it, in the United States, in several of the states you do have balanced-budget amendments, and this is a result of crises that appeared in the past. This has a very long history in the United States, if you actually go back and see how some of these mechanisms got developed. This is one example. In essence, this proposal removes some discretion by fiscal authorities, and this is the key. When you are dealing with sovereign states, a sovereign state needs to voluntarily decide to give up some of the independent power and discretion that it would have.

Ideally, we should aim for a framework, I believe, where political authorities that control fiscal policy give up part of the power that allows them to pursue unsound fiscal policies for a time, because the temptation is there, in most cases, for fiscal authorities. From time to time, they do face the temptation to follow policies that are then deemed unsound. And the question is, Could we remove some of this discretion? So I would say, ultimately, that the ideal mechanism would help government to avoid these temptations. It would guard against the temptation to procrastinate on fiscal models and the temptation to pursue populous policies offering a small short-term gain for the electorate at the cost of a large, longer-term cost. Ultimately, it would protect the citizens of those states that may have less-strong institutions for internal governance from fiscal crisis. It would protect all of the euro area from avoidable crisis due to a flawed fiscal policy of frameworks.

Now, this *would* be an additional intrusion to national sovereignty in the euro area. The EU member-states that choose to share our common currency already gave up some of their sovereignty to bind their economies more closely and to deepen the Common Market. This is the fact: that they gave up the [ability to set] independent monetary policy. This creates . . . a less than ideal situation, so perhaps giving up some additional sovereignty on fiscal affairs would bring us closer to the ideal Economic and Monetary Union.

I am going to close by reminding you that the sovereign crisis actually gave us, again, room to think about how Europe should move forward, and what we know historically is that Europe moves forward only when it faces difficulties that compel change. The issue is, What is the progress that is made when you are in a crisis and you know that change is coming? Here, I think, the progress is up to us. It is up to the political leadership and policymakers of the day to guide where Europe goes forward, and in this sense I hope that future generations will have reason to remember the crisis we are experiencing, not for the pain that we see in some member-states right now, but for the progress we can achieve with the right decisions.

Thank you.

CHARLES L. EVANS

President and CEO, Federal Reserve Bank of Chicago

Four Lessons from the Financial Crisis

I'm delighted to be here today to be a part of this excellent conference. This year, as in years past, Federal Reserve policymakers have had the opportunity to participate in this distinguished event, and so it will come as no surprise to you that I must begin by saying that my remarks today are my own and do not represent the views of the Federal Open Market Committee or the Federal Reserve System.

Hyman Minsky's Contributions

This conference honors the work of Hyman Minsky, a scholar who devoted much of his study to understanding the nature of financial crises. Minsky's key insight was that times of economic quiescence can encourage behaviors that often lead to the next period of turbulence. During periods of quiet, market participants become inattentive to assessing, quantifying, and managing risk. The discipline of risk management atrophies; risks are underestimated and underhedged. As a result, the economy becomes less resilient to the next big shock.

Minsky's insights ring true today. The 23 years before the recent crisis were characterized by a low level of business-cycle volatility that was virtually unprecedented. This period came to be known as the "Great Moderation," a moniker that deliberately contrasts with the "Great Depression" of the 1930s. Financial participants I talk with acknowledge that during the Great Moderation, risk-management processes and procedures became less disciplined. The risk managers who had lived through the turmoil of the 1970s and early 1980s had retired. They were replaced by a generation of financial managers who grew up never seeing a full-blown financial panic or a deep economic recession. This lack of historical perspective on risk was combined with a myopic focus induced by compensation heavily weighted toward short-term performance. As a result, long-term risks imbedded in balance sheets were not assessed, quantified, or managed. The failure to appropriately value these risks meant that firms had not taken measures to mitigate the potential impact of a downturn. They were unprepared for the shocks of 2007 to 2009, which included a 30 percent decline in housing values and severe liquidity stresses. This lack of preparation, in turn, made the resulting panic much worse, contributing to a $13 trillion decline in aggregate wealth and the Great Recession, which has left us with huge resource gaps that have yet to close.

The Response to the Crisis of 2007–09

By any measure, the financial turmoil we endured from 2007 through 2009 ranks as a once-in-a-lifetime crisis. The unprecedented stresses during this crisis required unprecedented policy responses. The Fed's monetary policy response pushed the federal funds rate down to zero and expanded the Fed balance sheet

by $1.7 trillion in large-scale asset purchases. The Fed's credit easing policy response created innovative facilities to provide liquidity and credit to those markets that needed it most. In doing so, Chairman Ben Bernanke and the Fed drew on lessons from the Great Depression, from the Japanese experiences in the 1990s, and from a vast amount of economic research,[1] all of which point to the critical role of central bank liquidity provision in managing financial crises.

The regulatory response from the Fed and the other bank supervisors raised the level of scrutiny on large complex banking organizations and increased transparency, most visibly, through the Supervisory Capital Assessment Program. This program subjected the largest 19 banks to uniform stress tests to ensure that they would remain adequately capitalized should the economy encounter more difficult conditions than expected. And finally, the legislative response was to enact the Dodd-Frank Wall Street Reform and Consumer Protection Act, which includes, among many other things, establishment of the Financial Stability Oversight Council, new failure resolution procedures, heightened prudential standards for large banking organizations, and strengthened regulation of the over-the-counter derivatives market.

Today I would like to discuss four lessons that I have taken away from this time period. An undercurrent that runs through these lessons is, "Did we get this right?" These have been enormous policy responses to enormous disruptions to our economy. None of these policies are guaranteed to work perfectly. But taken together, they can provide stronger safeguards for the banking industry and the economy. We need to learn from the events of the last four years if we are to successfully combat future crises that might arise.

Lesson No. 1: The Importance of Market Discipline

The first lesson I want to highlight is that market discipline is probably the best line of defense against systemic instability. At a minimum, market discipline is a vital element in our defenses. A bottom-line message should be: creditors need to expect losses if a firm they lend to gets in trouble.

There are many reasons why market discipline can fail. Some are inherent to the process of financial intermediation, and help justify the regulatory structures I will discuss in a moment. But one critical factor that does not fall in this category is the "too big to fail" problem.

Many observers recognized this long before the crisis, including former Minneapolis Fed president Gary Stern in his prescient book, aptly titled *Too Big To Fail: The Hazards of Bank Bailouts.*[2] Gary wrote this book in 2004, a full three years before the onset of the crisis. His warnings hold true today. The fundamental defense against excessive risk taking by financial intermediaries is that their creditors demand adequate risk premiums against those states of the world where the intermediaries take losses. The assumption of government intervention changes this calculus to the benefit of banks and their creditors, but to the detriment of society as a whole.

Make no mistake: risky debt must be more expensive, and all debt has risk. We know we're in trouble when financial market participants take it for granted that the liabilities of large financial firms will ultimately be guaranteed by the government. We've seen striking examples of this problem. The most egregious example probably is the wafer thin spreads paid by Fannie Mae and Freddie Mac over Treasuries. Clearly, investors expected that Fannie and Freddie would be bailed out in the event of a crisis, and these expectations were, of course, fulfilled, to the tune of $154 billion to date.

An article in the *New York Times* from 2009 gives another striking example of this "too big to fail" psychology.[3] The article discusses how the huge asset management firm Pacific Investment Management

Company (PIMCO) took large positions in General Motors Acceptance Corporation (GMAC) bonds in 2008. PIMCO paid just pennies on the dollar for the bonds. The article describes the purchase as an explicit bet that the government would provide support to GMAC, ensuring that its debt would pay off at par. Needless to say, PIMCO won the bet. Given this market psychology, it's no surprise that ratings agencies explicitly take into consideration the expectation of a government bailout when rating large financial corporations.

What would market equilibrium look like without the "too big to fail" psychology? How would we know that creditors of large financial institutions don't expect to be rescued by the government? Clearly, investors would continue to hold corporate bonds and securities, including those issued by large financial firms. The difference would be that the spreads of even highly rated securities would be larger than in a Too Big to Fail regime, reflecting their true levels of risk. Such bonds would be priced to reflect their appropriate place within the spectrum of risk, not as quasi-governmental liabilities priced at a modest premium over Treasuries.

In addition, ratings agencies would take minimal account of possible public bailouts in determining the probability of default or loss in the event of default. Finally, liabilities of large firms would continue to be used as collateral for repurchase agreements and derivatives transactions. But the risk of these liabilities would be recognized upfront, with substantial initial haircuts, even in "good times."

As spot-on as Gary Stern's insights were when he warned us of the danger of bailouts, the continued puzzle in all of this is, "How do we get there from here?" Market discipline is devilishly hard to achieve. How do we convince market participants that we really have made a transition to the better equilibrium without Too Big to Fail, and that creditors of failing financial firms will bear real losses?

The transition to the equilibrium without bailouts means a reduction in the safety net and a market-driven adjustment in liquidity financing, just as markets today are recovering from the crisis. How can such a transition be made credible? The Dodd–Frank Act's new failure resolution procedures could help. They are aimed at preventing any future taxpayer bailouts of a large financial institution through a liquidation process that will provide against a disorderly collapse. The act goes so far as to bar the use of public funds in a failure resolution. The Federal Deposit Insurance Corporation (FDIC) has already begun this rule writing; however, the complexity of the liquidation process requires that the FDIC maintain certain discretion in terms of the treatment of creditors. But perhaps more important, the new resolution process requires an affirmative decision by banking regulators and the Secretary of the Treasury before the FDIC can even be appointed as receiver. Will creditors today believe that this discretionary process will force them to take losses in some future crisis? I'm not sure.

What I'm looking for is evidence that there's been a sea change in investor expectations. Sometimes looming risks will lay dormant. But sometimes events will help crystallize such latent challenges right on our doorstep. For example, regardless of one's opinion on the public pension controversy that recently emerged in Wisconsin, the way public passions erupted on this issue is strong evidence that the rules of the game have changed and that decisions about public pension funding will be met with intense voter scrutiny in the future. I'm hoping some day to see this sort of dramatic, clear, and decisive evidence that bondholders of major institutions know that the rules of the game have changed. They need to come to the belief that future financial workouts will occur without special assistance from the government. To date, though, I haven't seen very strong evidence that these investors get the message.

Lesson No. 2: Don't Burden Monetary Policy with Too Many Mandates

So the first lesson is the importance of market discipline, and the practical difficulties of imposing such discipline on the markets. The second lesson I take from the crisis is that it's best not to burden monetary policy with too many mandates. Under the Federal Reserve Act, the Fed has a statutory obligation to foster price stability and maximum employment. This is known as the dual mandate.

The dual mandate already requires the Fed to accomplish two objectives with a single tool, which is the management of short-term interest rates. However, the correlation of our two objectives is high enough that this apparent insufficiency of tools is rarely a problem. For example, at present, we're underrunning both our inflation objective and our employment objective—both call for monetary policy accommodation. But we would be faced with a much tougher job if we added a third objective to hit with only one tool—particularly if it were not well correlated with the first two.

This is why I'm concerned when some argue that monetary policy should pursue a third objective: to foster systemic stability by attacking incipient asset bubbles. Many observers argue that the current accommodative monetary policy stance, which is clearly called for by both elements of the dual mandate, may be "overheating" asset markets, possibly increasing the risk of a destabilizing asset bubble. Observers point to the impressive gains in equity markets over the past two years, narrowing junk bond spreads, and certain developments in the market for leveraged loans, such as the return of so-called "covenant lite" contracts. Are these developments evidence of an incipient bubble? I don't think so.

But even if there were stronger evidence of a bubble, I'm not convinced that leaning against it is good policy. Even if the Fed could accurately detect a bubble in real time, and even if we decided that a bubble-pricking exercise would be warranted, monetary policy is too blunt an instrument for this task. An effort to do so would affect a whole range of macroeconomic and financial variables well beyond the targeted asset prices. That is, our attempts to counter a hypothetical future bubble would end up weakening our efforts to achieve the stabilization benefits embodied in the dual mandate.

To take a concrete example, consider the period following the end of the 2001 recession. Even after the recession had ended, both inflation and payroll employment dropped substantially for another 18 months. By mid-2003, inflation, as measured in real time, had fallen to 0.7 percent, a level low enough to raise worries of deflation. And over one million additional jobs had been lost since the end of the recession. The Fed responded by reducing interest rates, with rates reaching 1 percent in June 2003 and remaining there for a full year. Some observers believe that this policy accommodation exacerbated the subsequent housing bubble. They argue we should have increased rates in 2003 to choke it off. But in that macroeconomic environment, no Fed could have changed course without high degrees of certainty that a debilitating bubble existed, that monetary policy could successfully burst the bubble, and that the benefits of doing so outweighed the costs of higher unemployment and even lower inflation. Such evidence simply wasn't present in 2003.

In fact, econometric studies of this period attribute very little of the surge in residential investment and house prices to unusually loose monetary policy. For example, one study that looked at what would have happened if the funds rate had been boosted by 200 basis points in 2004 found it would have only reduced residential investment by one-quarter percent of GDP. This, in turn, would have increased the unemployment rate by one-half percentage point. The authors conclude that a monetary policy intervention big enough to have significantly reduced housing would have done a good deal of damage to the economy.[4] In retrospect, one might argue that the damage would have been less than what we ended up

experiencing. Maybe this is so, but I have not seen supporting empirical analysis. But even if it were the case, this is using hindsight in the extreme.

My conclusion is that monetary policy is the right tool to achieve our goals for economic growth and price stability, and that its effectiveness at achieving these goals should not be compromised by additional mandates.

Lesson No. 3: Combating Systemic Instability with Prudential Regulation

But this certainly does not let us off the hook when it comes to fostering financial stability. Rather, the Federal Reserve and other governmental bodies have an additional tool: prudential regulation. That is the proper instrument to use against further financial disruption.

The critical importance of financial regulation is the third lesson I draw from the events of the past few years. Prudential regulation ensures that a financial organization has adequate financial safeguards, sound policies and procedures, and robust internal controls, along with a strong governance structure to set clear objectives and to monitor those objectives. If these conditions are met, then the organization will have the tools to operate in a safe and sound manner. The role of bank examinations in verifying these outcomes is essential to make sure these objectives are fulfilled.

But with prudential regulation too there are caveats. Combating systemic instability with complex, forward-looking regulatory responses is tough to get right. Typically, risks and imbalances in financial markets take years to build up. In order to control these potential risks, policymakers must take resolute action, and this action must be taken early. However, indicators of potential problems are usually ambiguous, and the cost–benefit trade-offs of aggressive action are rarely clear.

Consider, for example, the commercial real estate (CRE) market. In June 2007, only 1.8 percent of these loans held by depository institutions were noncurrent. By the end of 2010 this fraction had increased sixfold. For the riskier construction and land development sector, things were even worse, with 16 percent of loans noncurrent at the end of 2010 compared to only 1.4 percent in June 2007.

What could forward-looking prudential regulation have done to mitigate this deterioration in the commercial real estate market? When I asked my supervisory staff this question, their answers were a bit discouraging. The consensus was that we needed to act very early, probably in 2004 or 2005. But this was two or three years before the problems in this sector became clear. Realistically, it would have been very difficult to argue in 2005 that it was necessary to rein in this lending. The banks would give very good arguments why their business was well controlled. They would stress that the CRE loans on their books would be securitized and sold off in short order. Furthermore, real estate prices were rising, delinquencies were almost nonexistent, and various hedges were implemented. I wish it weren't so, but given such arguments, it takes extraordinary confidence to make a contrarian call and rein in a profitable line of business that at the time faces negligible difficulties. In summary, prudential supervision is critical but can be difficult to implement perfectly.

Lesson No. 4: Keep It Simple

So this brings me to the fourth lesson: additional safeguards are necessary, and the best of such safeguards are simple regulatory principles that require minimal discretion in their real-time execution.

Suppose you were designing the defenses for a medieval fort. You could implement complex retractable gates and fences, but these might take time and decisive action to employ. Perhaps a more robust defense would be the simplest: build a wall around the entire city, or build the city on a mountaintop.

Similarly, regulatory measures that rely less on judgment may prove to be more robust when a crisis hits. An obvious example would be substantial minimum capital requirements, perhaps increasing with the size of the firm. The simplest approach, involving the least discretion, would be to impose a minimal leverage ratio on the firm's entire asset base. This sort of leverage ratio can be implemented as a backstop to the important, but more complex, risk-based capital standards, which require a discretionary process of risk assessment on an asset-by-asset basis.

Capital protects the most senior debt of the firm, ensuring that it is low risk. Such low-risk debt serves a liquidity function in the shadow banking system analogous to that of insured deposits in retail banking in that it doesn't require monitoring by the debt holder.[5] It's essential that senior debt serving this liquidity function be close to bulletproof. Adequate capital should achieve this.

However, capital is not designed to similarly protect subordinated debt. Such debt provides an incentive for creditors to monitor the risk profile of the firm, with its price signaling to the market important changes in their assessment. A somewhat more complicated way to apply capital standards would be to require state-contingent debt that automatically converts to equity in a crisis situation. In the spirit of not relying on regulatory discretion, the key would be to have the conversion triggered automatically by market events.

In addition to stronger capital requirements, we should consider other simple, nondiscretionary regulatory standards. I favor simple minimum-liquidity requirements to limit the degree to which long-term assets can be financed with short-term liabilities. (The Basel Committee on Banking Supervision is currently considering such standards.) In mortgage markets, strong underwriting standards should be imposed. Stability in the over-the-counter derivative markets can be enhanced by requiring central clearing for most contracts, and minimum collateral for the remaining contracts. And in all markets, regulations that enhance transparency can go a long way toward promoting market discipline. All of these measures are relatively simple to implement, and don't rely on regulators having perfect information (or perfect wisdom).

Make no mistake: these additional regulatory mandates will be costly. I remember speaking at our International Bank Conference in 2009 about how we wanted to make sure we never encounter another crisis like the one we just faced. Somewhat surprisingly, a banking industry official at the conference disagreed, saying that this was exactly the wrong prescription. He was fearful that regulatory efforts to maintain systemic stability would be too costly. I think this is a shortsighted position. It focuses on the costs of regulation without acknowledging the real benefits. Strong prudential regulation enhances systemic stability and ensures stronger economic growth through more efficient provision of funding. And these stability and growth benefits accrue to everyone, including the banking industry.

Conclusion

As policymakers and regulators begin the process of building a more stable financial system, it is clear that we cannot rely on a single line of defense but instead need a series of safeguards. Our charge is to wisely apply the lessons learned over the past four years. We have learned that we cannot rely on monetary policy alone to ensure economic and financial stability. We have learned that we need a credible system of market discipline in which investors recognize the real possibilities of loss and set prices accordingly. And we have learned that this system needs to be supported by strong prudential regulation that monitors the performance of individual institutions while also ensuring that there are sufficient buffers to protect the

system as a whole in times of crisis. This is a tall order, indeed, but I believe that we are on a path to a more effective structure that will ultimately help us create a more stable and resilient financial system, which is better able to withstand a future crisis.

Notes

1. See, for example, Bryant (1980) and Diamond and Dybvig (1983). Earlier work by Friedman and Schwartz (1963) also pointed to the role of central bank liquidity for financial and economic stabilization.
2. Feldman and Stern (2004).
3. Leonard (2009).
4. See Dokko et al. (2009).
5. See Gorton (2010).

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Q&A

Q: Listening to your various comments, I got the sense at the beginning that you were showing probably a better appreciation of Dodd-Frank, but then, when you got to your fourth point about keeping it simple, I felt that that was a little bit of a contrast. I mean, Dodd-Frank is nothing if not complicated, right? We have committees writing dozens and dozens of rules that are going to be complicated and take a lot of time to put together, and we're not quite sure what they're going to be or how they're going to work. Whereas I'm kind of thinking that the old-style Glass-Steagall was simple. If you're an insurance company, you're not in bed with a commercial bank: full stop. Investment banks and commercial banks couldn't join up. It's simple. It's clear. We know what to do with that, but this other just seems really, really complicated. That's actually what is making me uncomfortable about Dodd-Frank, as I look toward the future, and I'd like you to comment on that.

CE: That's a good observation, and I've been accused of being schizophrenic before, so I've learned to live with that. I think that we're kidding ourselves if we don't focus on what the most important elements

are that are required, and I think keeping that simple at a high level is very important. At the same time, unfortunately . . . , our financial system is quite complicated. There's a tremendous variety of financial firms available to investors. That's a good thing, but it comes with additional risks, and so I think it's very difficult to design something that is just as simple as Glass-Steagall. . . . Glass-Steagall was breaking down even before we changed the law. . . .

The facts are that when you put a regulation in place, whenever there's an incentive to get around that, then people are going to find a way around that. So we have to be very careful about that. I have asked my staff to sort of think about it. If you went as far as Paul Volcker has suggested—we had the great pleasure of having him speak to our conference last fall, and just in talking to him, he repeats what I think he repeats to most everybody, which is, he thinks that banks ought to go back to being commercial banks and pushing the risk out into the other part of this system, where, as long as you don't provide a safety net for them, then big boys and girls are big boys and girls and they take their losses. I'm sympathetic to aspects of that and I worry only about whether or not there continue to be so many interconnections that that really isn't possible, but we should look at all of those elements. So I want to maintain the focus on the bigger issues and keep it as simple as possible, but given the nature of our financial system, some complexity has to come with it.

Q: I am sympathetic to the argument that if you've only got one tool, you shouldn't add more mandates. If all you have is a hammer, there are a limited number of tasks you can accomplish with that. But the Fed is also a regulator, and you do have other tools—you have many other tools. Volcker used credit controls and was, I think, pretty surprised at how effective they were. The Fed had discussions as early as 1999 about problems in mortgage lending, and there were many, many people who were arguing about a real estate boom and possible bubble very early in the 2000s. So the point is, you did have an alternative to raising interest rates to try to cool a housing boom.

CE: We definitely received the authority to write rules about homeownership and equity, and we've been criticized for not taking that up. . . . The Fed did start rule writing, but it was late and after the worst of it had hit, so that that authority has been shifted. I understand that. But I really think that most of the real problems in the housing market were later than the late '90s and even earlier in the last decade. Like I say, I went back and read the 2005 transcript a number of times. I wasn't a policymaker at the time but I was a research director and I'd participated in that and I could anticipate that that was not a discussion where the committee covered itself in glory, because we knew that prices were high relative to rents, but trying to make sense of what that meant was very difficult at that time, and there were still a lot of . . . clever arguments as to why—the demographic nature of how people were aging, why some people had access to homeownership that they had not had earlier in their life—and you could convince yourself that [a figure of] 1.8 million homes a year was not out of whack in terms of adjusting to a higher homeownership level.

Now, looking back, a lot of that was, unfortunately, driven by bad underwriting—people being put into mortgages where they were only playing the price-appreciation game. But I think most of that happened at about that time frame, and so in 2005, maybe you could make a great call and be proved right, but a lot of people we don't know about because they made similar calls and it didn't really work out. So things worked out against that. But when we found out that in the securitization markets there was just

a tremendous amount of leverage that we didn't fully appreciate, the CDOs and the CDOs squared, and that was built on bad underwriting and things like that. That's when it really became problematic. So anything that helps us deal with that—through keeping more skin in the game, greater haircuts—I think that's very important. But I don't like the idea that we ought to raise interest rates by two to four percentage points because we're concerned about an asset price bubble and yet we've got relative price stability at the moment and the economy is doing well or it's not doing so well. We should be using prudential supervision, and the thrust of your question is aimed at that as well.

Q: I think I understood you to be saying that as late as 2004–05 it really wasn't reasonable to have drawn adverse conclusions about what was going on in the housing market. I just want to read to you a passage from page 15 of *The Financial Crisis Inquiry Commission Report* (2011) about a meeting in October 2004 in which Ruhi Maker, a lawyer who worked on foreclosure cases at the Empire Justice Center in Rochester, N.Y., told Fed Governors Bernanke, Susan Bies, and Roger Ferguson that she suspected that some investment banks—she specified Bear Stearns and Lehman Brothers—were producing such bad loans that the very survival of the firms was put into question. "'We repeatedly see false appraisals and false incomes,' she told the Fed officials who were gathered at a public hearing period of the Consumer Advisory Council. She urged the Fed to prod the SEC to examine the quality of the firms' due diligence; otherwise, she said, serious questions could arise about whether they could be forced to buy back bad loans that they had made or securitized. . . . In an interview with the FCIC, Maker said that the Fed officials seemed impervious to what the consumer advocates were saying. The Fed governors politely listened and said little, she recalled. 'They had their economic models, and their economic models did not see this coming,' she said. 'We kept getting back, "This is all anecdotal."'" Wouldn't you say that that is reasonable evidence that it was in fact possible to see pretty clearly how bad this was going to turn out, if you were listening to the right people and acting on what they were saying at the time?

CE: I do suspect that the regulatory attitude at that time was somewhat insensitive to those concerns and they thought that the market was going to work and not do things like that. Chairman Greenspan testified after he left the Federal Reserve that he was surprised by this, and so that wasn't part of the mind-set at the time. I think that in hindsight it's absolutely clear that this was taking place and underwriting was beginning to deteriorate, but in 2004 it wasn't obvious that it was as ubiquitous as it turned out to be, as that process ramped up and everybody else tried to repeat that, and as they tried to repeat it, they did it worse still. But . . . it would have been a great, courageous call if somebody had done that. The committee looked at 2005—that was a year later than what you're talking about and we . . . considered scenarios where housing prices nationally . . . fell by 20 percent, and at that time, there was the perception that monetary policy could respond by lowering the funds rate and that would have a sufficient effect on the economy—that the recession that would come from that would be of relatively mild behavior and wouldn't have all these knock-on effects. While you're exactly right about housing, I think that there are examples of great quotes that, in hindsight, were wrong. Unfortunately, Chairman Bernanke came to our bank structure conference in 2007 and mentioned that even if those subprime mortgages were going delinquent, that the losses on that were likely to be contained. I think what we didn't understand appropriately was that they were embedded in securitization products way beyond what we could see at the time, and that things were much worse. So I think we all have to decide, how much additional prudential regulation

we would like to have in order to snuff out these potentially incipient risks. Next time, it won't be housing, but there will be something else that stresses this, and what are we willing to give up and what's the cost? We've obviously incurred an unbelievable cost in going through the Great Recession—$13 trillion dollars of wealth that's been erased, unemployment above 10 percent at some points. So we need to make an adjustment. It's going to be more costly and we're going to be giving up some stuff.

Q: Governments usually take a position on a reactive basis. How about on a proactive basis, such as when one of our geniuses comes up with the idea that they want to enhance subprime mortgages? What about a group—and that group could be the Federal Reserve or whomever—has to opine on that as to the risks and set policies beforehand, not after the fact. One of the people speaking yesterday made the point that 10 years from now we're going to be facing another crisis, but we don't know what that crisis will be. Right now, we're dealing with a crisis in hindsight, trying to solve what happened in the past. What about the future? Nobody's addressing that. A proactive approach is what I have in mind, not a reactive approach.

CE: I don't fully agree with the premise of what you're saying. I think that the Dodd-Frank Act empowers the Financial Stability Oversight Committee to designate certain financial firms and others as systemically important, and then, as the appropriate supervisors look at those institutions and all the products that they're offering, hopefully there would be greater ability to see emerging innovations and product offerings that you might not have seen are riskier than in fact the way that they were first intended. That's really a lot of what the nature of the problem is. We know that we would like a culture and an economy where we've got a tremendous amount of entrepreneurship and innovation, and we'd like financial innovation that truly improves upon economic outcomes and economic growth, as opposed to just carving up market share according to different investors and different financial institutions and whatnot. The way to do that is to let the market make the appropriate assessment, but making sure that market discipline is actually at the fore. That's why I say market discipline is devilishly hard to implement. We have to make sure that people continue to have skin in the game—they ought to have an equity interest in some of this. So [there has to be] something in the regulations on securitization where you have to hold some equity stake in that. That would reduce the amount of leverage. Understanding which products 10 years from now are the equivalent of the securitization risks that we're facing—that's what we need to do. But there are different choices that could be made. We can outlaw all types of products. We can do that by demanding that 50 percent capital be held against all kinds of activities. We wouldn't want to do that, of course, but the question is, What's the right amount for the appropriate amount of safeguard? We don't want to take certain segments of the population out of sharing in all the potential economic benefits that come from good, prudent investment opportunities. It's a very tough question, and we're trying to get it right. I don't want to start from the presumption that we're always going to get it wrong.

Q: I'm not sure if I'm right about this, but it's certainly my impression that American central bankers seem to be much more skeptical about macroprudential and countercyclical regulation than their peers in other well-developed finance economies. Is that your impression, and if it is, how do we account for it? Why does it seem that you guys are more skeptical about the capacity of the central bank actually to regulate financial markets as a whole, to modulate asset price swings in the financial markets as a whole, as compared to your peers, say, in some European countries and especially in some Asian countries.

CE: I haven't quite thought about it that way. . . . I can't speak for anybody else, obviously, but I look at this type of issue and try to think about . . . all the information that's required in order to make good decisions if we're going to be proactive in fighting asset bubbles or other things. I have looked at examples, and it seems almost impossible to have shut off the CRE [commercial real estate] investment boom at the point where it needed to be done. So: asset prices. Go back to the '90s. Go back to Chairman Greenspan, who in December 1996 said, "How could we know the asset market was overvalued?" He stated it in a very uncontroversial way, but of course it was about Japan. So it was immediately interpreted that he was saying that 6500 on the Dow means it's currently overvalued, and the stock market suffered for a period of time. That was 6500. [The Dow rose] far past that, so he was clearly wrong in thinking that it was overvalued at that time. In fact, he got a lot of credit at the time for making the call that productivity was actually accelerating, and so that meant those higher valuations were well founded. That was true for a time, but not through the tech bubble, obviously. So how can you know?

I don't know that other central bankers around the world have different views. I mean, I suppose they do, but I just look at the information requirements, and my own view is that I don't trust myself and what we collect when there's innovation taking place out there and we might not be . . . regulating it, so the information quality is very poor. I wouldn't want to stifle that at a point where it wouldn't lead to the next important product that would take us to another level of growth, but we still need prudential regulation. So I think you want it to be balanced and you'd like the market to be able the make the judgment as best it can—if it's able to assimilate all the information, it's going to be able to do it better than a regulator.

Q: What does the BHC [bank holding company] status of the big investment banks give and not give the Fed in terms of its ability to regulate?

CE: The investment banks that became bank holding companies in 2008 now come under the umbrella of Federal Reserve supervision. The New York Fed is the lead supervisor there for the Board of Governors in Washington, and so they go look at Goldman and Morgan Stanley and they apply the same standards to them that they do to the other commercial banks, and it puts them on an equal footing. They were part of the stress test in looking at capital adequacy back in 2009 and, most recently, with the capital adequacy review. As a regulator, as a central bank, it gives us a greater insight into the balance sheet and the investment activities that are taking place there. Doing the horizontal reviews helps us understand how the entire industry is going about taking these risks, and because we get to see them across that, we can understand the differences in their attitudes and see whether or not there's some common misunderstanding or some common risk taking that we weren't previously aware of that could help us make important decisions. So I think it's been useful.

Thank you very much.

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Lessons from the Crisis and the Regulatory Response

Four years after the eruption of the financial turmoil, which quickly turned into a full-blown financial crisis after the collapse of Lehman Brothers in 2008, the international banking and regulatory landscape is now being changed in ways that significantly impact the future of the financial sector and the economy. The speed of the propagation of the crisis from one country to another, as well as from one sector to another, posed exceptional challenges for banks, regulators, and supervisors alike.

1. Key lessons drawn from the crisis

The crisis had many, often intertwined and mutually reinforcing causes. A key area where several shortcomings were detected and therefore decisive actions had to be taken concerns the regulatory framework, both from a micro- as well as a macroprudential perspective. Considering the set of causes that contributed to the crisis, the reform of financial regulation has addressed the following points:

First, excessive asset growth in the financial sector during periods of boom has to be contained, thus reducing the risks of asset price bubbles as well. In this context, it has to be acknowledged that overly accommodative monetary policy may have contributed to inflating the stock market and, subsequently, the housing markets. Therefore, a cautious monetary policy of "leaning against the wind" could help to address this problem. This policy should be based on the redefinition of price stability objectives to capture longer time horizons, as well as on a more systematic incorporation of financial and monetary developments in the assessment of risks to price stability. However, it should under no circumstances imply any mechanical reaction of central banks to asset price movements. The main response must come from a reduction of the procyclicality of the financial system by means of macroprudential policy measures. As we have seen in the recent crisis, procyclicality can be exacerbated by certain features of the regulatory capital framework as well as by accounting rules. Consequently, the implementation of effective macroprudential policies like countercyclical capital buffers and the revision of accounting standards are of paramount importance. Furthermore, the introduction of a nonrisk-based leverage ratio will also contribute to putting an ultimate brake on the system.

Second, the financial crisis clearly showed the lack of loss-absorption capacity of many regulatory capital elements; namely, the so-called hybrids. In some important institutions common equity was as low as 2 percent of total risk-weighted assets in the run-up to the crisis. There was a clear need to implement new standards demanding more and better quality capital to strengthen the loss-absorbing capacity of the

financial system. The Basel Committee has already agreed on a new global capital standard, also endorsed by G20 leaders in November 2010, the potential implications of which I'll discuss in more detail later.

Third, the financial system was too vulnerable to market and funding liquidity shocks. The introduction of regulation of liquidity ratios, imposing more robust buffers in the short term and less structural dependence on unstable wholesale funding, is an important step toward enhancing the resilience of the system.

Fourth, the elimination or significant mitigation of the "too big to fail" problem represents a major challenge for regulators, where a number of initiatives are currently being discussed at the international level under the aegis of the Financial Stability Board (FSB).

Fifth, the prevention of systemic risk coming from the "shadow banking sector" remains one of the most important issues of the current regulatory agenda. This can be achieved both directly, by enlarging the perimeter of regulated institutions and reinforcing accounting rules on consolidation; and indirectly, by regulating the flows of credit or liquidity backstops coming from the regulated sector.

Sixth, tightening the regulation of over-the-counter (OTC) derivatives through the use of central counterparties and trade repositories as well as by moving trade of standardized instruments (e.g., credit default swaps, or CDSs) to organized exchanges are key elements of enhancing transparency and mitigating counterparty credit risk in these markets.

Seventh, correction of the prevailing adverse incentives created by an excessively short-term perspective of risk measurement and performance assessment. The introduction of new governance principles regarding risk management and compensation guidelines should help to align incentives with long-term sustainability.

Finally, improving the oversight on credit rating agencies (CRAs) and reducing the reliance on external ratings for official regulatory purposes. CRAs have contributed to the procyclicality of the financial sector and played a very negative role in the subprime crisis by failing to properly assess the risk characteristics of complex financial products.

2. The regulatory reforms in the United States and the European Union

Most of the aspects of a new regulatory environment are being widely adopted around the world. The substantive work has been done by the Basel Committee on Banking Supervision (BCBS) and the FSB under guidelines approved by the G20. The core areas of reforms on both sides of the Atlantic address the key lessons I just mentioned. In this context, the regulatory and supervisory objectives in the United States and the European Union (EU) share a common agenda.

From a regulatory perspective, the main initiative in the United States has been the Dodd-Frank Act (DFA). With the DFA, the United States has created a yardstick for the regulatory response to the crisis. The DFA is an elaborate framework *and* a fundamental and ambitious reform.

In Europe, the European Commission has already adopted several new pieces of legislation, and many more are in preparation until the end of this year. Besides dealing with the Basel III decisions, the whole set addresses other subjects, from OTC derivatives, consumer protection, deposit guarantee schemes, and resolution funds to credit rating agencies, securitization, short selling, and securities market integrity.

These are just a few examples of the very comprehensive overhaul of the financial market regulation under way in the EU. These examples illustrate, first, that authorities on both sides of the Atlantic are

determined to draw lessons from the crisis. Second, they point to the importance of intensifying regulatory cooperation across countries. International coordination on financial reform is essential to prevent regulatory arbitrage, avoid loopholes, and ensure a level playing field.

Some differences are likely to remain in aspects not harmonized at world level. For example, the EU's regulation has introduced strict authorization requirements and supervision for CRAs. However, the regulation might not be enough to overcome all the risks related to the use of external ratings. Therefore, issues such as the over-reliance on ratings and the lack of competition in the sector are currently further explored. The DFA includes an obligation to remove references to (private sector) external credit ratings. As CRAs continue to accentuate their procyclical behavior, we closely follow in Europe the efforts of US regulators to apply this particular aspect of the DFA.

Both in the United States and in the EU reforms require hedge funds (above a certain threshold) to register with an authority and report information regularly. In the United States, the DFA has also introduced limits on investment in hedge funds for financial institutions as well other aspects associated with the so-called "Volcker rule." In the EU, a Volcker rule–type of regulation is not envisaged, as experience with the universal bank model, which is predominant in the EU, is generally seen as a success.

Implications of the Regulatory Reform for the Economy

Given the comprehensive nature of the regulatory reform, impacting a wide range of institutions, markets, and business activities, it is understandable that the reaction of the industry was critical toward the policy measures. While generally supporting the underlying objectives of the regulatory reform by recognizing the responsibilities of the financial services industry in the crisis and acknowledging the serious weaknesses in business practices across a range of financial institutions (IIF 2008), resistance remains substantial with regard to certain elements of the reform package. In particular, criticism was raised against the new capital requirements (increased minimum capital ratios, introduction of capital conservation and countercyclical buffers, and a capital surcharge for systemically important financial institutions, or SIFIs), arguing that this will increase costs for banks, reduce profitability, lead to credit supply restrictions, shrink the banking sector, and, ultimately, hurt the economy (IIF 2010).

Theory and historic experience, however, demonstrate that those claims are partly based on misconceptions that are important to dispel. A series of recent studies (Admati et al. 2011; Miles, Yang, and Marcheggiano 2011; Angelini et al. 2011; Kashyap, Stein, and Hanson 2010) clearly explain the theory behind the fact that changes in capital ratios historically had no such effects or, at least, not in a magnitude claimed by the industry. As Anat R. Admati et al. (2011) conclude, "Requiring that banking institutions are funded with significantly more equity entails large social benefits and minimal, if any, social costs."

Furthermore, there does not appear to be a clear empirical relationship between the size of the financial sector and sustainable growth. Thus, it is not at all evident that a more moderate expansion of the financial system will have adverse impact on the economy as a whole. Let me elaborate on these issues in more detail.

1. Historically based arguments

The interdependencies between finance and economic growth are multifaceted. They should—and will—remain high on the research agenda for the economics profession for a long period.

The insights of Schumpeter pioneered the understanding of the role of a well-developed financial system for fostering technological innovations and, ultimately, economic growth.[1] The approach was taken in recent times by the endogenous growth literature; in particular, through theoretical contributions by Philippe Aghion and Peter Howitt (2005 and 2009, the former with David Mayer-Foulkes) and empirical work by Raghuram G. Rajan and Luigi Zingales (1998 and 2003). Nonetheless, the knowledge gap remains very wide and the recent crisis has underlined the importance, in social welfare terms, of filling this gap sooner rather than later and drawing from it more powerful policy designs.

Turning to the facts and figures of all this, let me first stress the important caveat of measurement issues when speaking about the link between finance and growth. Even the size of the financial sector in a given country is not easy to characterize, let alone to measure. While many indicators can be invoked, none is immune from criticism.[2] Also, the perimeter of the financial sector is typically not easy to pin down. It shifts over time, pushed by financial innovations, and institutional and structural specificities at country level make international comparisons a daunting task.[3] The periphery of the financial sector is particularly opaque and hard to apprehend. Comprised of OTC products, complex derivatives, and investment vehicles, it has a lack of transparency that is commensurate to the systemic risks it has posed to the rest of the economy, as we painfully witnessed in 2008 and 2009 after the Lehman demise.

Let me now take you through a shortened and unavoidably oversimplified account of what we know about growth-finance interactions.[4] I will focus in particular on three results, broadly defined.

First, looking at the available empirical evidence on the relation between the financial sector and potential growth, most studies do not point to the role of size of the financial sector per se, but rather to the degree of development of the financial sector as the key variable (see, in particular, Levine 2005)

Second, when focusing on the nexus between the size of the financial sector and sustainable growth, there is no clear empirical relationship over the recent past. Recent research at the European Central Bank (ECB) and elsewhere shows that the continuing increase in the size of the financial sector does not always contribute to higher economic growth; in particular, since the late '90s. In fact, some empirical evidence suggests that, above a certain threshold, the effects of finance on growth potential weaken with the degree of economic development, as the effect of finance on growth is not necessarily monotonic. There are several potential reasons for that. The provision of financial services may reach a threshold beyond which there are diminishing returns to scale. The expansion of the financial sector is associated with a reallocation of productive talent away from real economic activities, which may ultimately depress economic growth through lower industrial innovation. Besides, if banks become too large and powerful, they may extract excessive rents from the corporate sector, impose their taste for prudence on their corporate clients, or become captured by the interests of large inefficient incumbents, disrupting the natural process of Schumpeterian creative destruction. Indeed, over the last years, bank equity appears to have registered a higher average return than nonbank equity.

Third, financial development may exacerbate the trade-off between growth and stability, and so the findings of the traditional finance-and-growth literature may have been driven by studying short periods of relative calm during the Great Moderation. Preliminary evidence suggests that periods of very fast expansions of credit (or other forms of financial intermediation) tend to be disorderly and often indicative of

the emergence of financial inefficiencies that are not conducive to sustainable growth, breeding the sources of financial crises associated with severe economic downturns.

To conclude this brief overview, I would underline that larger financial sectors have generally been associated with a higher degree of economic diversification, resulting in a lower overall volatility of GDP growth for the same level of long-term output growth (Manganelli and Popov 2010). However, the decade of the run-up to the crisis saw the effect of larger financial sectors on higher economic growth partly disappear. This phenomenon is connected to the complex nonlinearities involved in the finance-and-growth nexus, causing the effect of finance on growth to peter out over the development cycle; as well as to the trade-off between growth and tail risk exacerbated by the expansion of the financial sector. Indeed, the main finding of an ECB research paper by Alexander Popov is that financial globalization simultaneously increases the mean and the leftward skew of output growth (Popov 2011). This implies that while raising long-term growth, financial globalization has also exacerbated the risk of large, abrupt, and rare macroeconomic contractions. This is consistent with the view that, in financially liberalized economies, systemic risk taking raises the probability of a collapse in financial intermediation. The paper also finds that the welfare effects of liberalization vary with the degree of economic and financial development; therefore, financial globalization is not a one-size-fits-all development.

There is also some evidence suggesting that higher growth of the financial sector may come at the expense of higher volatility in general (Levchenko, Rancière, and Thoenig 2009), both for developed and developing economies (Popov 2011). These research papers emphasize the characteristics of the financial sector as key determinants of macroeconomic performance in all its facets; notably, as regards long-term potential, cyclical fluctuations, and the likelihood and severity of crisis episodes (see also, Kaminsky and Reinhart 1999).

This may call for strengthening our efforts to understand the macrofinance nexus, extract lessons from the crisis, and foster the synergies across the various analyses and perspectives (monetary policy, stability, et cetera) in which central banks analyze the financial system.

Let me now turn to another important point: historical evidence seems to indicate that there is also no relationship between simple book capital ratios (or leverage as its inverse) and economic growth. David Miles, Jing Yang, and Gilberto Marcheggiano (2011) point out that in the UK from 1880 to 1960, the leverage ratio was about half the level of recent decades. Similarly, Anil K. Kashyap, Jeremy C. Stein, and Samuel Hanson (2010, 19) demonstrate that the book-equity to book-assets ratio for US commercial banks has declined substantially over time: while the ratio exceeded 50 percent in the 1840s, it fell steadily, reaching 15 percent in the 1930s and 6 percent in the 1940s. Later, with the introduction of the Basel I regime in the early '90s, capital ratios started to improve again in the United States; however, this development was accompanied by increasing off-balance-sheet activities, potentially reflecting regulatory arbitrage as well as the mismeasurement of risks. The evidence of both countries clearly indicates that very different levels of capital coincided with similar rates of economic growth, showing no specific historical relation between the two.

Turning to the relationship between simple book capital ratios (or leverage as its inverse) and spreads or rates of business loans, neither Miles, Yang, and Marcheggiano (2011) nor Kashyap, Stein, and Hanson (2010) find evidence of any clear link between these ratios and bank lending rates for (respectively) the UK since 1890 or the United States since 1920. Overall, the main findings of these studies cast doubts on the reliability and accuracy of some of the estimates on the excessive macroeconomic and social costs of

strengthened capital requirements. Nevertheless, historical examination can only provide an impressionist type of evidence. We need, of course, more precise analytical and econometric analysis.

2. Analytical and empirical evidence

Against this background, it is of particular importance that policymakers have an appropriate and balanced view of the potential impacts of the reform package. In this context, it is necessary to make a clear distinction between long-term and short-term impacts.

First of all, let me underline that when the authorities calibrated the new requirements, they took into account the estimated potential costs and benefits of the reform. These estimates were made at the initiative of the FSB and the BCBS. The Macroeconomic Assessment Group (MAG) was established to assess the impacts during the transition toward the new regulatory regime, while the Long-term Economic Impact Group (called LEI) assessed the long-term (steady state) net benefits from the implementation of Basel III. The ECB and several eurosystem national central banks contributed actively to the preparation of these studies.

Let me start with the estimated long-term impact of the enhanced capital and liquidity regulation. As we have recently experienced, financial crises can impose enormous costs on taxpayers and society at large. In order to avoid such losses, Basel III reforms aim at improving banks' capital base and thus banking sector resilience, which can help to foster financial stability as well as to mitigate systemic risks in the global financial system. Thus, the long-term economic benefits, while difficult to quantify precisely, can be very substantial.

The main economic benefit of the reform stems from the reduced frequency of future crises. The prevention and mitigation of downside tail risks for the economy implies a sizable reduction in the expected output losses associated with systemic events and, as such, contributes to more sustainable economic growth over the long term. To be more precise, the study of the LEI has estimated that banking crises occur on average every 20 to 25 years. This estimate means that there is a 4.6 percent annual probability of a crisis. The study shows that a four-percentage-point increase in the capital ratio lowers this annual probability to less than 1 percent. Another conclusion is that a one-percentage-point reduction in the annual probability of banking crises produces an expected net saving of 0.6 percent in terms of unrealized output losses.

The LEI study also provided a thorough examination of the potential long-term economic costs. It was found that a one-percentage-point increase in the capital ratio translates into a (median) loss of output of 0.09 percent. The additional loss of meeting liquidity requirements is of similar magnitude. A more recent BIS paper by Paolo Angelini et al. (2011) also arrives at conclusions that are fully consistent with the LEI report.

Overall, the main finding of the LEI analysis is that there is considerable room to tighten capital and liquidity requirements to achieve significant net benefits in terms of output. This finding is even more pronounced if we take into account the fact that the LEI study is based on the assumption of constant return on equity (ROE), and thus potentially underestimates the long-term benefits of higher capital and liquidity requirements.

Similar conclusions are provided by Miles, Yang, and Marcheggiano (2011), who estimate the costs and benefits of higher bank capital. By using data on UK banks, they show that even proportionally large increases in bank capital are likely to result in only a small long-run impact on the borrowing costs faced

by bank customers. They estimate the average cost of capital for banks to increase by a relatively minor 10–40 basis points when bank capital doubles. Importantly, this analysis takes into account the impact of heightened capital ratios on banks' stability and therefore the lower return of equity demanded by investors.

The analysis by Kashyap, Stein, and Hanson (2010) also finds that the long-run steady-state impact on loan rates is likely to be modest, falling in the range of 25–45 basis points for a ten percentage point increase in the capital requirement. Given the relatively mild impact of changes in capital ratios on the borrowing costs that banks' customers have to face, the implications for economic growth may also remain modest.

Overall, the referred studies find that the potential negative impact of the new framework on long-term output is considerably lower than the benefits related to lower frequency of systemic events. This conclusion is even reinforced when considering additional benefits beyond the reduced frequency of crises. In particular, the new prudential rules will also help to level the playing field for the international banking sector as it harmonizes the different national practices. Leveling the playing field is expected to help financial institutions to save costs and to encourage cross-border activities. This in turn will result in a more efficient financial sector, and will also bring benefits to nonfinancial corporations and households through higher competition and increasing availability of financial services.

Let me now say a few words about the theoretical rationale behind these results. A key conceptual issue that warrants further investigation is the impact of strengthened capital ratios on the expected return on equity. As I already mentioned, enhanced stability of financial institutions should, in principle, be reflected in lower risk premiums and thus lower funding costs for banks. The theoretical underpinning behind this idea is the Modigliani-Miller (M-M) theorem, which states that if certain assumptions hold (symmetric information and rational behavior of market participants, frictionless markets, et cetera), the funding structure of a firm is irrelevant for its business decisions. In an M-M world, the primary differences between the costs of debt and equity can stem only from their different tax treatment. The studies by Miles, Yang, and Marcheggiano (2011) and Kashyap, Stein, and Hanson (2010) are both based on the (at least partial) validity of the M-M theorem. The relevant point is that more capital reduces the volatility of return on equity and increases the safety of debt, thereby reducing the required returns by the market on both equity and debt. This means that the equity risk for a bank should decline linearly with leverage. Indeed, Miles, Yang, and Marcheggiano (2011) show empirically for the UK that for a leverage of 30 the bank equity risk premium is 6.5 percent, and for a leverage of 15 it is just 3.1 percent. They also estimate the relationship between leverage and equity beta by using different analytical approaches, and find that changes in leverage have a significant impact on banks' riskiness. The results of their analysis suggest that, depending on model specifications, the M-M effect is about 45–75 percent of what it would be if the M-M theorem held precisely. However, as the authors point out, their analysis is based on the assumption of no change in the required rate of return on debt, which means that with the more likely assumption of a reduction of that required return, the M-M effects would be even higher.

In this framework, it's clear that a substantial increase in the simple book capital ratio (or leverage as its inverse) should lead to a decrease in the required return on equity. This seems to be one of the reasons why many in the sector oppose the new capital requirements. Therefore, it has to be emphasized in this context that a simple ROE ratio, if not adjusted for leverage (and risk), can provide totally misleading signals for investors. In fact, part of the high ROE ratios reported by banks before the crisis was due to high leverage and high risk. A recent ECB (2010) study on EU banking structures highlights that the

inappropriate assessment of the risk characteristics, and thus the unsustainability, of the observed ROE ratios led to huge losses in the recent crisis. Averaging the ratios over time to include the crisis years shows that the effective ROE of banks and other financial institutions was much lower than previously thought. The industry therefore has to accept that the regulatory reform leads to an apparent lower ROE, which nevertheless is shown to be misleading when proper consideration for leverage and risk is factored in. In this regard, the ECB report points out that "desirable features for banks' performance measures should encompass more aspects of the performance than just profitability embedded in a pure market-oriented indicator such as ROE" and that "risk-adjusted types of returns indicators may benefit from higher disclosure and better explanation to the markets, or at least to the supervisors."

Let me now turn from long-term, steady-state impacts toward the potential short-term consequences of the reform proposals. While the long-term net benefits of the new regulatory framework vindicate the scope and magnitude of the regulatory measures, this should not mask the challenges that are associated with the implementation of the reform package. Indeed, Basel III will have some potential transitional costs that arise as banks, on average, need to increase their capital base in order to fulfill the new requirements. While the basic assumptions on the M-M theorem may hold in the long term, financial markets are characterized by information asymmetries and frictions in the short run that can be especially prevalent in distressed periods.

Banks have several possibilities to adjust their capital ratios. For instance, they can raise capital, increase lending spreads, reduce dividends, and/or downsize (risk-weighted) assets. In practice, it is likely that banks' adjustment is going to be achieved through a combination of all these measures. There is empirical evidence, however, that in the short term, and in crisis periods in particular, banks react to capital (and liquidity) constraints by deleveraging and by tightening of credit conditions (Hempell and Kok Sørensen 2010) that can have a measurable impact on loan supply and thus on economic activity (De Bondt et al. 2010). Whatever methods banks choose to adjust their capital ratios, the overall effect is channeled to the macroeconomy via various transmission channels.

MAG analyzed transitional costs related to a one-percentage-point increase in the capital ratio implemented over eight years, assuming a constant return on equity. The results of the study show that the transitional costs are subdued. The cumulative reduction of GDP relative to the baseline would amount to 0.15 percentage points. Similarly, the negative (unweighted median) impact on bank lending to the real economy would be approximately 1.4 percent in cumulated terms. The lending rate spreads are estimated to increase by 15.5 basis points. The peak impact would occur after 35 quarters from the beginning of implementation period, but the negative impact recedes when the time elapses.

The group's interim report also assesses the implications of new, tighter liquidity requirements. A 25 percent increase in the holding of liquid assets is estimated to yield a fall in lending volumes of 3.2 percent and a (median) increase in lending spreads of 14 basis points after four and a half years. This would induce a (median) decline in GDP of 0.08 percent relative to the baseline. However, as the new liquidity requirements are subject to a long observation period that allows further fine-tuning of the requirements, it is far too early to draw definitive conclusions over the macroeconomic impact.

As this and the referred paper by Kashyap, Stein, and Hanson (2010) show, the length of the implementation period matters crucially for determining the transition costs. Clearly, the longer the implementation period, the milder the negative impact on the economy. If the new framework were implemented hastily, banks would need to undergo sizable consolidation of their capital base and carry

out a reshuffling of their balance sheet structure over a short period of time. This could have some adverse impacts on credit intermediation in the short term. Such transitional impact motivated the design of long phase-in arrangements.

As the transition period is agreed to last from 2013 to 2018, the new measures will become fully effective only on January 1, 2019. The next eight years should provide the banking sector ample time to adjust to the new regulatory requirements through earnings retention and improved efficiency. Also, we can reasonably expect a gradual decline in investors' profit expectations as they realize and "price in" the improved stability of individual institutions and the financial system as a whole. Taking into account the expected improvements in banking sector profitability, it is likely that banks will be able to cope with the new requirements without major distress. Thus, the long phase-in period of the new Basel III capital requirements prevent disruption in credit flows and bring enough clarity and scope for banks to smoothly absorb the necessary adjustments over time. This in turn implies that the transitional costs for real economic activity are likely to be relatively moderate, and distributed over the long implementation period.

The Benefits of Higher Capital and Its Calibration

As I have highlighted, better-capitalized banks may represent substantial benefits from a social perspective in the long run while the transition costs depend largely on the amount of additional capital that banks have to accumulate and the available time for banks to adjust to the new framework. The question therefore is whether we can identify an "optimal" level of capital that could maximize social benefits.

According to the LEI report, the long-term benefits for the society are highest when the capital ratio falls in the range of 13–15 percent. Taking into account the potential impact of declining ROE expectations that may moderate the increase in funding costs of banks, the socially optimal capital ratio can be even higher. Indeed, Miles, Yang, and Marcheggiano (2011) arrive at a concept of optimal capital ratios of 16–20 percent for the UK. Kashyap, Stein, and Hanson (2010), for the United States, mention appropriate capital ratios of around 15 percent.

The total capital ratio demanded by the new Basel regulations until 2019 is 8 percent, to which we should add the additional 2.5 percent requirement for the capital conservation buffer, the countercyclical capital buffer (between 0 percent and 2.5 percent, according to the economic cycle), and the extra loss-absorbency capacity for the global SIFIs. An important observation is that these levels refer to the new definitions of capital adopted by Basel III, whereas the previous calculations on the capital ratio are based on the current definitions of capital and risk-weighted assets. The Quantitative Impact Study carried out by the BCBS highlights, in this regard, that the combined effect of the changes in the new concepts of the regulatory capital and the risk-weighted assets is equivalent, on average, to a 5.6-percentage-point decline in capital ratios under present definitions before Basel III. In other words, in order for the banks to achieve the new Basel capital ratios, they should have, on average, 5.6 percent in extra capital under present definitions, which will "diminish" when the narrower definition of eligible capital (resulting in a decline in the numerator of the capital ratio) and the extension of risk coverage (leading to an increase in the denominator of the capital ratio) come into force. Taking all these effects into account, we can see that the new calibration of the Basel framework falls within the range of socially optimal capital ratios indicated by the studies I mentioned.

Two important potential consequences of the new capital requirements must be highlighted, since they could create risks that could have negative consequences for the economy. First, there is the risk that

higher capital requirements could lead to a search for yield and consequent higher risk taking by financial institutions if they do not accept the idea that a lower return that is less volatile is preferable to apparent higher short-term returns dependent on excessive leverage and risk. In this respect, good supervision under the rules of Basel III will be essential to avoid a repetition of significant crisis episodes.

Second, another real risk of tighter capital regulation is that the new rules may lead to an increase of the shadow banking system. It is therefore necessary to be prepared to redefine the perimeter of regulation, manage the boundary problem, and regulate the flows between the regulated and nonregulated parts of the system.

Other Components of the Regulatory Reform

Notwithstanding the substantial achievement in many areas, there remain some important aspects of regulation where further steps need to be taken by authorities to address the identified shortcomings. In this context, let me highlight the wide range of regulatory initiatives currently being discussed under the aegis of the FSB and the BCBS, where concrete results are already expected in the near term.

First, work is ongoing with relation to the prudential treatment of systemically important institutions (SIFIs), which are expected to have a loss-absorbing capacity beyond the Basel standards given the implicit subsidy they get and the enormous costs their potential failure may represent for society. At the current juncture, it is of primary importance that a consensus is achieved among regulators on the definition of global "systemically important financial institutions" and the determination of a reasonable range of additional loss absorbency. Any additional requirements should be proportional to the institutions' systemic importance, the measurement of which represents, admittedly, a major challenge for regulators. In order to avoid unwarranted deviations from an international level playing field in this area, consistency across jurisdictions has to be ensured, supported by effective peer reviews of implementation. The other major issue in dealing with SIFIs is to improve substantially the resolution regime of such institutions in order to reduce the implicit subsidy they get from society, thus reducing moral hazard. Nevertheless, it has to be realized that for cross-border institutions this goal will be very difficult to achieve in view of the heterogeneity of legal regimes. A high degree of harmonization of company law, especially bankruptcy law, would have to be attained. Also recognizing that all countries seem to refuse the idea of breaking up big institutions, it is therefore important that regulatory efforts and more intense supervision should aim at turning "too big to fail" into "too good to fail" institutions.

Second, the consistent implementation of the new countercyclical buffering mechanism also represents a major challenge for authorities across countries. In this regard, the implementation guidelines developed by the BCBS to reduce national discretion and to maintain a level playing field have to be respected. In line with the eurosystem's stance on this issue, I believe that the macroprudential authorities, like the ESRB [European Systemic Risk Board] or the FSOC [Financial Stability Oversight Council], should play a key role in the operation of the mechanism as well as in international cooperation and information exchange on buffer settings and impact assessments.

Third, further progress has to be achieved on OTC derivative markets reform, including the move of standardized products to organized exchanges. While some jurisdictions have already endorsed legislation in this field (e.g., the United States and Japan) or are in a process of finalizing a regulation (the EU), others are lagging behind substantially. This may again distort the level playing field with the potential for regulatory arbitrage.

Fourth, as I mentioned before, the incentives created by tighter capital and liquidity regulation for banks raises the risk that certain activities that have traditionally been carried out by banks will, in the future, be transferred to the "shadow banking" sector, which is outside the scope of regulatory oversight. Therefore, it is important for authorities to explore and better understand the interconnections between regulated and nonregulated entities that are involved in financial intermediation. In particular, analyzing the complex chain of intermediation activity as well as the channels for possible contagion and defining the appropriate policy response remains another main challenge for authorities in the years ahead (also with a view to the fundamental data gaps in this field). The authorities seem to be taking all of these concerns seriously, as it is shown in the recent publication by the FSB of the contents of the work being done regarding the definition of what will be considered entities and activities of the "shadow system," as well as the enumeration of the policy measures to be used to deal with the potential problems that may emerge.

Finally, the role of CRAs in financial intermediation is an issue that requires further analysis and an appropriate policy response. Notably, the intensely procyclical behavior of CRAs and thus their destabilizing role in the recent crisis have by now been widely acknowledged.

A paper by Marc Flandreau, Norbert Gaillard, and Frank Packer (2010) of the BIS [Bank for International Settlements] already finds that in the 1920s and '30s, ratings from the US rating agencies performed procyclically. Moreover, they do not find that superior forecasting capacities explain the agencies' growing importance. We have not progressed much: see the way they did not consider any effect in reducing credit risk in Europe as a result of the important decisions on the EFSF [European Financial Stability Facility] and ESM [European Stability Mechanism]. Ratings are supposed to reflect all available information in a forward-looking manner, and this should include a proper assessment of such decisions.

In this regard, the use of credit ratings in regulations and supervisory policies remains a topical issue that has to be addressed by authorities, in line with the principles published by the FSB in October 2010. Although the FSB requested standard setters and regulators to translate the principles into specific policy actions, work in this field is still at an early stage in several jurisdictions.

Conclusions

Let me conclude by saying that financial regulation is a very complex task where policymakers have to face numerous challenges. In my speech today I could only highlight some of the core initiatives and provide you with a short assessment of the potential impacts of the new Basel framework, which I consider one of the most important elements of the comprehensive policy response to the crisis.

I have highlighted today that there are well-founded arguments to tighten capital requirements, given that this is expected to result in significant net social benefits in the medium to long term. This argument was underpinned also by a wide range of empirical studies that emphasize the difference between privately and socially optimal levels of capital, and demonstrate that increased levels of capital are not expected to have a dramatic impact on lending and economic growth as argued by some in the industry.

Furthermore, I have emphasized the importance of the proper assessment of the enhanced resilience of individual institutions and the financial system as a whole that should, over time, be reflected in lower levels of expected return on equity as well.

Increasing capital and liquidity requirements will result in economic benefits that widely exceed the potential costs. A more stable financial sector is good for long-term return on capital and also positive for economic growth and social welfare.

This said, it should not be forgotten that financial markets are often characterized by asymmetric information and other types of frictions in the short run that may potentially lead to disturbances in financial intermediation, especially in stress periods. Therefore, a careful design of the measures and a continuous assessment of the impact mechanism are of utmost importance for policymakers. This is also reflected in the extended transition period for the Basel capital requirements, as well as in the agreed observation period for liquidity measures and the leverage ratio. The same principles should be followed in the design of the additional regulatory measures that are currently being discussed at the international level.

Finally, I would like to underline that the new regulatory framework should not be taken as a static set of measures: it is continuously changing and evolving. Regulators and supervisors should reflect on the new types of activities that banks may engage in in the future, as well as on the new types of risks associated with these activities. I firmly believe that, if implemented effectively across jurisdictions, the new Basel rules and the other regulatory initiatives will appropriately address the shortcomings identified in the recent crisis. Testing and the revision of certain measures, if deemed necessary, will, however, remain one of the main challenges of the future.[5]

Notes

1. "The banker . . . stands between those who wish to form new combinations and the possessors of productive means. He is essentially a phenomenon of development, though only when no central authority directs the social process. He makes possible the carrying out of new combinations, authorizes people, in the name of society as it were, to form them" (Schumpeter 1934). More generally, see Aghion and Howitt (2009) for an overview of many aspects regarding the finance-growth nexus.
2. See Haldane (2010) for a discussion of the pitfalls that may affect this statistic.
3. See Dorrucci, Meyer-Cirkel, and Santabárbara (2009) for an analysis of the institutional characteristics in emerging economies.
4. See, for example, Goldsmith (1969), King and Levine (1993), Beck, Levine, and Loayza (2000), Levine, Loayza, and Beck (2000), Demirguc-Kunt and Levine (2001), and Levine (2005).
5. I would like to acknowledge the contribution of Balázs Zsámboki and Mervi Toivanen to the preparation of this speech, as well as the inputs from Roger Stieger, Feline von Heimburg, Laurent Maurin, Daniel Santabárbara, and Alexander Popov.

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Q&A

James K. Galbraith: As I'm sure you're aware, European banks in the run-up to the crisis bought massive amounts of AAA-rated securities, residential mortgage–backed securities, and collateralized debt obligations that were massively infested by fraud—that is to say, by fraudulent mortgages that were certain to default. The presence of systemic accounting fraud greatly undermines the effectiveness of the regime of increased capital adequacy ratios that you've been discussing because it undermines the valuation of the assets in a very serious way. My question is whether the nondiscussion of the role of fraud in the run-up to the crisis reflects a nondiscussion of this issue at the European Central Bank and other competent regulatory authorities, or simply a decision that it is perhaps not appropriate for some reason to talk about this issue in a public forum.

VC: No, it is certainly appropriate to talk about when this can be approved. And, of course, from a European prospective, we have to rely on the work that is done in the United States, because what you are referring to were, of course, activities that, if fraud was involved, were mostly committed here and then were sold around the world and, as you said, bought by many European banks—that is true, of course. So, really I think that it's more a question that you should address to US authorities rather than to European authorities. . . .

Q: You have investors who were hurt *and* who received representation of warranties, and who have, presumably, recourse in the courts. . . .

VC: . . . Our legislative systems in Europe are not similar to the US with respect to the facility of going to court to have recourse to this sort of thing. I know that in the United States there are examples, significant ones, including against rating agencies, for instance, and I understand that Dodd-Frank will also improve or facilitate more the existence of such claims in courts. But in general we don't have the same approach in our laws in Europe. It's more difficult, and, of course, as these aspects were not directly committed in Europe, that makes it even more difficult. But certainly, it's a question that should not be avoided. I agree entirely with you.

Q: To my mind, one of the most encouraging developments about Basel III is the addition of the countercyclical buffer. But, of course, the Achilles heel in that buffer is that it's optional. So, as you suggested, we have to have coordination among regulatory authorities worldwide as to what the circumstances are under which it is appropriate to go ahead and apply it. How are we to achieve that? What are the prospects for achieving that?

VC: Well, it's not fully optional: because it was approved by the BCBS, it must exist. The only thing is, of course, that by its very nature it has to be applied when, in a particular market—meaning a particular country—the economic cycle moves in such a way that justifies the application of the buffer, which may not be true in, say, some other neighboring jurisdiction. The fact that the nature of the measure has to be attuned to the economic cycle makes it difficult, because it's not the same everywhere, which would make it much easier to ensure a level playing field. Nevertheless, it's not optional. The BCBS has issued a document with the guidelines for its implementation. The European Commission is preparing legislation that, in the end, will be approved in Europe for all the 27 member countries regarding the implementation of these contracyclical buffers, and the idea is that the European Systemic Risk Board will have a role in ensuring the transparency and the consistency of the application of that measure. So, I think that the microprudential entities should have a very important role with regard to the implementation of that.

Q: Is there likely to be consensus, say, among the American Financial Stability Oversight Council's benchmarks for when the buffer should be applied and, say, the ECB's benchmarks for when it ought to be applied and also the Asian banks or Asian regulatory authority's benchmarks? Can there be a kind of global consensus on the benchmarks?

VC: At the least, there are guidelines to ensure their coordination within the Financial Stability Board. You know, of course, that the Financial Stability Board is a cooperative entity without legal powers that internationally does not exist. This is not subject to international treaty. But, of course, there is peer pressure, there is coordination, there are guidelines that have been approved by everyone, and so we have to rely on that, which is the best we can do regarding that particular type of instrument.

Q: To put the question by Jamie Galbraith into a European perspective, Iceland just had an election where, the complaint is, your central bank was pressuring it to pay money that it did not owe to the fraudulent Landesbank scheme that was bailed out by Britain and Holland. According to European law, the only recourse was to the Central Bank of Iceland. They offered to give you all $10 in their central bank reserve that they put there under the [ECB's] neoliberal deregulatory advice. They took your advice, and now you're taking the side of England against them. How to resolve that?

VC: I don't know. I'm not familiar with the issue because we have not discussed that in the ECB. It's much more a matter for the UK and Holland to deal with, and we, of course, rely on the views of the national central banks of these two countries.

Q: Iceland said that it was your bank that was pressuring it, and that has led to a majority of Icelanders now choosing not to even join Europe, they're so upset at your bank.

VC: At the ECB?

Q: Yes.

VC: As I said, we rely on the Bank of England and the Nederlandsche Bank.

Q: Even when fraud is involved?

VC: We trust that these two very good institutions also are looking into that dimensional problem. We don't investigate the matter ourselves, really. It has been investigated and discussed and a compromise solution proposed by both those countries, and we have not done directly our own, say, investigation or whatever.

Q: In 1997, Alan Greenspan gave a lecture in Belgium, five times during which he said the central banks can create money (his words) without lending. Of course, when you create money without limit, it depreciates the purchasing power of that money to zero. Historically, all irredeemable paper-ticket monies have gone to zero. The reason for this, some say, is because central bank . . . authorities rather can never resist the temptation to overissue. The Catholic Church has a line for this: "In the face of temptation reason succumbs." . . . What kind of assurance, in light of the history, can you give us that the European Central Bank will not overissue to the extent that the purchasing power of the euro goes to zero?

VC: It requires a somewhat long answer. I was in New York a month ago at a conference addressing that particular issue, so I can tell you very briefly the following. First, the increase in our total balance sheet since the beginning of the crisis is around 40–45 percent—no comparison with the 250 [percent] of the Federal Reserve or the 300 [percent] of the Bank of England. So we were, in that respect, more moderate. But that is not that relevant because, in the first place, since June last year the total balance sheet and total liquidity provision by the ECB has decreased consistently, in spite of all the problems that you read about—for example, the [high] prices in the periphery of the euro area. So, in spite of that, total liquidity provision has decreased consistently since last year. Also, the modern framework of conducting monetary policy is really through interest rates, as we know. That's what central banks really control and the instrument they manipulate to achieve the mandate of controlling inflation. The modern framework, as it exists in Europe, is the following: there is a policy rate, which is the *sign* of the policy, and then there is a corridor around that policy rate—a deposit standing facility and a lending standing facility. The liquidity provision operations of the central bank are conducted in such a way to steer the short-term market rate very close to the policy rate—to the signal. These can be achieved with very different volumes of liquidity, so much so that there is, in fact, no necessary relationship between the amount of liquidity provision operations and the real achievement of putting the market rate at the level of the policy interest rate. We have moved out of that with our present mode of full allotment—that's temporary, but that's the way it proceeds.

You also see a certain element in these, which is the following. In spite of the big increases in, say, the monetary base of the ECB—which was, again, much smaller than what's happened in the UK or in the United States—in all three cases, total credit and total money aggregates are hardly increasing. There has been a collapse of the multiplier. Broad liquidity, either in terms of credit or in terms of money, has not responded to the huge increase in the monetary base, in all three cases. And what counts for the economy, if you wish to follow that route, is either the monetary aggregates or the credit aggregates. There is no model or theory that I know of linking the monetary base to inflation. I don't know of such a model. It goes either through credit or money, but not through the monetary base. The way central banks conduct monetary policy is by controlling interest rates to a level that is appropriate to controlling inflation. And

that, as I explained, in the modern framework, can be done with different volumes of liquidity provision. Also, we know that that liquidity provision means the increase of . . . bank reserves in the central bank. But, as we know, credit decisions by banks do not depend on the amount of reserves they have in the central bank. They depend on their analysis of the trade-off between the risk and return they can get from the credit that they are deciding upon, so that you cannot really see a direct relationship between the amount of reserves they have in the central bank and their credit decisions. What we have seen over the years is that, in fact, credit and money have not increased—they have even *de*creased during periods of crisis. So, there is no [correlation] between central bank balance sheets, central bank liquidity, the monetary base, and inflation that necessarily provides a model for interpreting the world. I don't have much more to say about that issue. For now, I think those were the main points I wanted to react to.

SHEILA C. BAIR

Chairman, Federal Deposit Insurance Corporation

Financial Reform: The Road Ahead

We stand today at a critical juncture of the post-crisis period. The seizing up of financial markets that occurred in the fall of 2008 is receding into memory. Urgently needed reforms of the US financial system are now being implemented, following the passage of the Dodd-Frank legislation last summer. The debate continues as to exactly how these reforms should be implemented.

But this debate is taking place in an economic climate that remains somewhat uncertain. Unemployment stands at 8.8 percent, and a quarter of US mortgage loans are underwater. Annual issuance of private mortgage-backed securities remains largely shut down. Total loans held by FDIC-insured institutions have risen in only one of the past 10 quarters, and only then as a result of accounting changes that brought certain securitized loans back onto the balance sheet.

Paradoxically, one result of this ongoing economic distress—which is the direct and predictable result of the financial crisis itself—has been criticism of the reform process as a threat to the economic recovery. Last summer, we heard that the move toward higher capital requirements under Basel III would kill jobs and stop the economic expansion in its tracks. Last month, our proposal to require 5 percent risk retention in securitization deals was termed an "assault on housing."

A vigorous debate on the details of the reform program is to be welcomed. But this is no time to lose focus on how we got into this situation, and what long-term changes are needed to restore confidence in our financial markets and prevent a costly recurrence of this episode. Let's review some of the major reform initiatives now being implemented under Dodd-Frank and the new Basel III capital regime.

I thought it would be useful to frame this discussion in the context of Hyman Minsky's important contributions to the literature on financial instability. Without a doubt, we now have a clear answer to Minsky's central question: "Can 'It' happen again?" "It" can—and it very nearly did. But can we really prevent "It" from happening again?

I am not going to stand before you and claim that the inherent instability of financial markets can be regulated out of existence. What I will say is that the Dodd-Frank reforms can—if properly implemented—restore market discipline, better align incentives, improve regulation, and greatly reduce the frequency and severity of future crises. This we must do.

Resolving Systemically Important Firms

The first step is to level the competitive playing field between smaller banks and commercial entities, and the megabanks and nonbank financial companies with which they must compete for resources.

As you know, consolidation in the US financial system in recent decades has led to rising concentration of banking assets in fewer and fewer institutions. The share of banking assets held by the four largest FDIC-insured institutions grew nearly fivefold in the last 20 years, to more than 40 percent. This growing concentration of financial activity has outstripped our capacity to regulate the megabanks or, even more important, to impose market discipline through the credible threat of failure.

The crisis of 2008 centered on the interactions between large financial institutions and the shadow banking system—a network of financial companies, affiliates, and special purpose vehicles that existed largely outside of prudential supervision. Aside from the lack of supervision, capital standards, and other regulatory limits, the shadow banking system also fell largely outside of the FDIC's process for resolving failed insured financial institutions.

We all learned in 2008 that the large, complex US financial companies at the heart of the crisis could not be wound down in an orderly manner when they became unviable. And we experienced firsthand the awful dilemma that is created when systemically important firms get into serious trouble. Policymakers can either let them fail—and risk destabilizing the entire financial system—or bail them out, imposing costs on the taxpayer and encouraging the type of risky behavior that caused the crisis in the first place. Needless to say, both of these options are highly problematic.

Following the September 2008 bankruptcy of Lehman Brothers we experienced a true "Minsky moment," marked by a collapse of interbank lending and commercial paper issuance, and extreme risk aversion throughout the financial markets. The bailouts and other policy measures that followed were effective in stemming the crisis, but proved to be extremely unpopular with voters, and with good reason. Even with these emergency measures, the economic consequences of the crisis were enormous.

Dodd-Frank Reforms Will End "Too Big to Fail"

That is why the foundation of the Dodd-Frank reforms is a series of measures that will—if properly implemented—put an end to the doctrine of Too Big to Fail. The first measure is an orderly liquidation authority under which the FDIC can resolve large, systemically important firms when they get into trouble and quickly sort out the claims against them so that key financial relationships can be preserved and taxpayers can be protected.

Under this authority, there will be no more bailouts. Shareholders and creditors would bear the losses, not the public, and management will know that it could be replaced. But, the process would be orderly and help prevent a catastrophic collapse of other firms. It would be a conscious departure from the reflexive bailouts that have tended to occur during crises in the absence of such a resolution authority.

Earlier this year, the FDIC issued an interim final rule clarifying how we would handle the claims process under this new authority. Our goal is to provide as much clarity as possible to this process in advance so that creditors and counterparties will know where they stand, and the potential for market disruptions in the wake of a failure will be minimized.

Dodd-Frank also requires all financial companies designated as systemically important to establish and maintain credible, actionable resolution plans that will facilitate their orderly resolution if they should fail. These resolution plans are essentially blueprints for the orderly unwinding of the company if it should run into serious problems.

Credible resolution plans will significantly enhance the FDIC's ability to prepare for and implement an effective and orderly liquidation process for systemically important firms. Importantly, the law also

gives the FDIC and the Federal Reserve the authority to require changes in the structure or activities of these institutions before they run into trouble. This may be necessary to ensure that they could be wound down in an orderly fashion in a time of crisis. Rulemaking is under way to implement this new authority.

The bottom line is that the new resolution authority will impose the market discipline that has been lacking over the past several decades. Implementing this authority and ending Too Big to Fail is a game changer in terms of economic incentives. Market discipline will be restored. Financial incentives will be better aligned. Capital and credit will be allocated more efficiently. And taxpayers will no longer be on the hook when financial companies get it wrong.

Macroprudential Supervision

The crisis also made clear that regulators need to do a better job of identifying and assessing systemic risks posed by large, complex institutions that elude comprehensive oversight in part due to gaps in regulatory jurisdictions.

In his 1997 paper on the Minsky approach to bank examinations, Ronnie Phillips, then a visiting scholar at the FDIC, pointed out not only Minsky's emphasis on the critical role of prudential supervision of individual banks, but also the need for regulators to monitor emerging threats to the stability of financial markets—a process that is now referred to as "macroprudential supervision."

Thirteen years and one financial crisis later, the Dodd-Frank Act established a Financial Stability Oversight Council (FSOC)—made up of the Treasury, the Federal Reserve, the FDIC, and other financial regulators—to carry out just such a macroprudential function. The Council is charged with identifying risks to financial stability and potential gaps in regulation, and making recommendations for primary regulators and other policymakers to take actions that would mitigate those risks.

One of the FSOC's key responsibilities is to develop criteria for designating a class of systemically important financial institutions, or SIFIs. We are now in the process of finalizing regulations that will establish these criteria, addressing factors suggested by Congress, such as: leverage, off-balance-sheet exposures, concentration, and interconnectedness. Once designated, these institutions will be subject not only to enhanced prudential supervision by the Federal Reserve, but also to the new orderly liquidation authority.

The other main function of the FSOC is to collaborate across organizational lines to monitor emerging risks in financial markets and institutions, and to make recommendations, if necessary, for regulatory authorities to take action to mitigate them before they cause lasting damage to our financial system and our economy.

This is no easy task. Even if one subscribes to the Minskyan notion that the financial system is inherently unstable—and there are surely many more adherents to that view in the wake of the crisis—it is not always a straightforward matter to connect the dots between emerging problems in individual markets that could eventually come together and threaten the core of our financial system.

For example, many saw danger in the unsustainable run-up of home prices during the first half of the last decade. And more than a few connected that trend to the rise in risky subprime and nontraditional loans that were separating mortgage underwriting from considerations of cash flow and making it instead an historic example of speculative financing. But fewer really comprehended the implications of repackaging and obscuring the equity risk of private mortgage pools in collateralized debt obligations. And almost no one saw in advance the critical dependence of the overnight repo and commercial paper

markets on private mortgage-backed collateral, which would eventually help turn the subprime credit problem into a wider systemic liquidity crisis.

Containing Financial Leverage

In carrying out the task of macroprudential supervision, one of our central concerns should be a concept on which Minsky placed a high degree of emphasis, and that is financial leverage. In his 1986 monograph *Stabilizing an Unstable Economy*, Minsky wrote that "the leverage ratio of banks and the import of speculative and Ponzi financing in the economy are two sides of a coin."

Financial markets and institutions naturally seek higher leverage during good times in pursuit of higher returns. This natural tendency is at the heart of the Minskyan idea that periods of financial stability sow the seeds of the instability that often follows. Just as Too Big to Fail misaligns incentives by undermining market discipline, increased leverage also skews incentives within financial companies by enhancing the upside for equity owners while their downside risks remain limited. They simply have too little at stake. This moral hazard creates incentives for excessive risk taking. If permitted to take place widely, rising leverage and risk taking make our financial system less stable, and invite the crises that frequently follow.

I would like to discuss with you two specific areas where regulators are working to contain leverage and enhance stability.

Strengthening Capital and Liquidity under Basel III

In the case of depository institutions, the Basel Committee [on Banking Supervision] provides a forum for reaching international agreement on capital standards. The economic costs of the crisis were very much on the mind of the Basel Committee when it published the December 2009 paper that ultimately led to the new Basel III capital accord. Basel III is not perfect, but it is a great improvement over what came before.

Briefly, the accord not only addresses the insufficient quality and quantity of capital at the largest banks, but also requires capital buffers over and above the minimums so that the macroeconomy is not forced into a deleveraging spiral as banks breach these minimums during a period of high losses. Significantly, Basel III includes an international leverage requirement, a concept that was met with derision when I proposed it in 2006. It also provides for a liquidity coverage ratio and a net stable funding ratio, two new regulatory definitions that address financial institution liquidity.

Finally, the Basel Committee has committed to capital and liquidity requirements for SIFIs [systemically important financial institutions] that are higher, not lower, than those applicable to small banks. My hope is that, when implemented, the SIFI requirement will call for a meaningful cushion of tangible equity capital. One of the enduring lessons of this crisis, like those that came before it, is that there is really no substitute for tangible equity capital in assuring the stability of financial institutions during a period of market turmoil.

As I mentioned, some see Basel III as an impediment to the economic recovery. But there is a growing body of research showing that higher capital requirements will have a relatively modest effect on the cost of credit and on economic activity. These studies—conducted by economists at Harvard, the University of Chicago, Stanford, and the Bank for International Settlements —account for not only the private costs and benefits of funding through equity capital, but also the social costs and benefits. Excessive

leverage not only creates moral hazard by allowing bank managers to socialize the costs of risk taking, but it also results in a misallocation of scarce capital to unworthy uses, thereby keeping our economy operating below its potential.

Constraining Leverage in Securitization through Risk Retention

Private asset-backed securitization is another area where excessive leverage contributed to the crisis. In the late 1990s and early 2000s, when private mortgage-backed securitization was still a relatively small part of the market, the typical deal structure included nonrated or sub-investment-grade tranches reflecting the equity interest in the deal and that were retained by the issuer. These equity slices typically ranged in size from 3 to 5 percent or more of the total value of the deal.

As long as the market required issuers to retain the equity risk, there was at least some incentive for issuers to choose carefully the mortgages they would include in the pool. But by the middle of the decade, the size of these equity tranches had fallen in many cases to one percent or less of the value of the deal.

Moreover, there arose an active market in selling and repackaging these equity tranches in collateralized debt obligations, thereby removing all risk of loss from the original security issuer. Without the need to carry and fund equity claims arising from mortgage securitization, the pure "originate to distribute" model of mortgage lending came into being, conferring virtually infinite leverage to the issuers of private mortgage-backed securities.

Predictably, with higher leverage came riskier lending. About 90 percent of the riskiest subprime and Alt-A mortgage loans in the peak years of 2005 and 2006 were privately securitized. More than half of the privately securitized subprime loans made in 2006 have now defaulted, along with over 40 percent of the privately securitized Alt-A loans made that year. For now, excessive leverage and risk taking are no longer pressing matters in private mortgage securitization, because that market has effectively ceased to function. Issuance last year remained 95 percent below the peak levels of 2005 and 2006.

Last month, as required by Dodd-Frank, the FSOC agencies issued a proposed rule to require risk retention of at least 5 percent in the vast majority of future securitization deals. The intent of this rule making is to better align economic incentives, restore sound practices in lending and securitization, and bring this market back better than before.

As directed by statute, we have also defined a small subset of very safe qualifying residential mortgages (QRM) that will be exempt from the general expectation of 5 percent risk retention. Some have suggested that we have defined this QRM carve-out too narrowly, which will result in the denial of reasonably priced mortgage credit to all but the most highly qualified borrowers. But our expectation is that the general principle of 5 percent risk retention, required by statute, will provide the basis for a large, deep, and liquid securitization market.

We will have mandated a clear and transparent market practice that aligns the incentives of issuers and investors, which is of course, what must be done to bring investors back to this vital capital market.

Leveling the Playing Field in American Banking

A recurrent thread that runs through US political and economic history is antipathy toward undue concentrations of economic and, especially, financial power. Accordingly, ours is a system where financial institutions can be chartered at the state level or the federal level, in a variety of sizes and institutional forms. This is a system in harmony with the entrepreneurial character of the US economy, where more

than two-thirds of new jobs are created by small businesses. Small businesses tend to seek credit at community institutions that understand the local economy and also make decisions locally.

Hyman Minsky clearly saw this nexus, writing in 1993 that: "Big banks like big deals. If we wish small deals to get a fair shake, then we need small banks having financing relationships measured in thousands of dollars rather than in millions."

But all too often in the run-up to the crisis, large banks and nonbank financial companies were able, through regulatory arbitrage, to evade regulatory controls and market discipline. The resulting competitive disadvantage for community banks can be seen in the fact that their numbers shrank by a quarter over the past decade while their efficiency ratios deteriorated and their profitability lagged compared to the rest of the industry.

This is why one of the most important outcomes of the Dodd-Frank reforms will be a much-needed leveling of the regulatory playing field between community and regional banks and their megabank and nonbank competitors. The FDIC recently implemented the Dodd-Frank mandate to expand the deposit insurance assessment base, which will result in community banks paying 30 percent less in premiums, while large banks pay more. Small banks also benefit from the increase in the deposit insurance limit to $250,000 and the extension of the unlimited guarantee on noninterest-bearing transactions accounts.

Under the new Consumer Financial Protection Bureau, nonbank financial providers will, for the first time, be subject to the same type of federal consumer protection rules that apply to banks. Most importantly, large banks and other financial companies will no longer be subsidized by Too Big to Fail.

Far from being an impediment to the economic recovery, these reforms promise to support small businesses and heartland communities by making local banks more competitive and by making our financial system more stable. Keeping in mind the true causes of the crisis, as well as the economic costs of duplicative or unnecessary regulation, we can work together to guide the ongoing reforms in a direction that helps to transform our financial system from a source of concern to a pillar of strength for a resurgent US economy.

Thank you.

Q&A

Q: As a teacher of financial regulation at the Cornell Law School, you are the hero of my class, and so you will also be Lady Gaga to me and to my students *[laughter]*.

The serious question is this: as we've heard over the last couple of days, there seems to be a marked skepticism on the part of financial regulators—you being a notable exception—about the capacity of regulators to engage in macroprudential regulation. Since you cannot legislate a kind of intellectual orientation or a theoretical orientation, how do we go about addressing the problem of regulators who maybe don't believe in the mandate that Dodd-Frank seems to put forward?

SB: I would say two things. One, a lot of those regulators went to Congress and said, "If we had had these additional tools and mechanisms, we could have gotten ahead of this." If they are skeptical now, they should reconcile that with what they told Congress a few years ago. Two, there is not going to be perfection in anything. There is not going to be any bulletproof system where we are going to have a magic wand and always be able to foresee the next crisis and always be able to avert it, but we certainly can do better than we did before. Speaking as one who was right in the middle of it, there was a woeful dearth

of information. Counterparty exposures—if this institution was going down, who else was going to go down? We can do a lot better. So I would say full speed ahead, and it may not be perfect, but just because we can't create a system that is bulletproof doesn't mean that we should not improve, because what we had before was woefully inadequate.

Q: I actually am not an economist, and I have left my previous career in the capital market to be a volunteer in the foreclosure industry, such as that is. I do foreclosure prevention, so I kind of represent the Too Small to Succeed *[laughter]*. But I was wondering how, in the new regulatory framework, the borrower and the consumer are going to be given the same amount of transparency and accountability that we keep on talking about here. For example, if a borrower wants to have access to who owns their loan, why can't they have access to the pooling and service agreement when they are being served. Why must they lawyer up—why must they litigate? Why doesn't the lender have an obligation to provide that information in a complaint? And is there any kind of transparency and accountability in any of these regulations that is going to protect the borrower from these kinds of actions?

SB: I think there is such a tremendous amount of work to do to reform a servicing system that is clearly broken. We clearly need greater transparency—not only for borrowers, but for investors, too. Securitization was a problem because it separated long-term ownership of the mortgage from the origination process. Servicing is now a problem because it separated long-term ownership of the mortgage with the servicing of it, so that those who are servicing the mortgage do not really have a direct economic interest in mitigating their losses through loan restructuring and other tools because they're not taking the losses. So, first and foremost, if we are going to have securitization come back, we need to have a compensation structure that affirmatively provides economic incentives for servicers to restructure those mortgages where it mitigates losses, as opposed to the opposite incentive now, where they have to advance principal and interest to the investors and they get repaid when they go into foreclosure. So the incentives are completely upside down.

In terms of banks, I hope that they are at least getting the name of the servicer, and an important reform on these new orders that came out—and these orders are just one step in fixing a lot of problems—is that we insisted on a *named* single point of contact, so that when a borrower is in distress, they are given by the servicer the name, phone number, and e-mail address of a real-life person who will have personal accountability for working with that distressed borrower from start to finish. This is important for the borrower and it is also important for quality control, because there have been a lot of errors, a lot of deficiencies, and so from a quality control standpoint, having a service employee personally accountable for making sure that that loan is handled appropriately and in compliance with all the federal and state laws and all of the loan modification protocols, is very important, and that will help borrowers. Also, ultimately, whether they like it or not, it's going to be expensive for banks, and this will protect them from the considerable legal and litigation risks that they have accumulated as part of this process.

I think better disclosure is very important. The SEC has a rule proposal out to revamp Reg AB to provide loan-level disclosure of loans that are in securitizations. I think that will be helpful to investors and . . . to consumer advocacy groups, who can look inside these securitizations and see what is in there and analyze it. We hope the SEC will finalize those rules soon. I know there has been a lot of pushback from the industry, but I hope they go ahead, because it is absolutely the right thing to do.

James K. Galbraith: We overlapped on the Hill in the 1980s. I also want to express my admiration for the role you've played in your current position. It's deserving of the upmost respect.

SB: Thank you.

JKG: Back at the peak of the crisis, one of the things we heard was that the FDIC didn't have the staff or capability to move in on some of the largest institutions it might otherwise have acted on under the Prompt Corrective Action Law. I am wondering whether that was true at the time, and if it was, whether that situation has now been remedied, whether you are confident the agency has the resources and the capability that it needs.

SB: The more important impediment was lack of legal tools. So, we could resolve the bank; we couldn't resolve anything outside the bank and the holding company structure. To be honest with you, some of these institutions couldn't tell us what was in the bank and what was outside the bank. I think that is going to be a key part of these resolution plans. They need to align their legal structures with their business lines, to be able to define where they are. We need to resolve the banks separately from the holding company. And we need to be able to separate the business lines and legal entities out so they can be broken up and sold. So that tool we didn't have, to be able to resolve outside the bank. We also didn't have the information we needed or the planning that we needed from the banks in order to have a break-up plan, which is part of the "living will" process now.

On the staffing side, we ramped up fairly quickly—actually, I am proud at how quickly we ramped up. I think the lesson learned is, the FDIC had been downsized too much when I came in. It was the golden age of banking, banks were never going to fail again, and everybody was kind of drinking that same Kool-Aid. So we started ramping up when I got there, and we have now created an Office of Complex Financial Institutions that will have dedicated examiners to do both vertical and horizontal monitoring of very large institutions, so there's that, in combination with our work with the Fed to require these living wills. In addition to the living wills, they are also required to file something called a Credit Exposure Report, which will have to be done quarterly, and that is going to be very helpful information. Basically, what those Credit Exposure Reports are going to tell us is, if you go down, who else is going to take losses, and if they go down, what the impact will be on you. That was a crucial piece of information we just did not have. So with the additional information that the banks and financial organizations themselves will have to provide us, the new tools plus the additional staff that we've undertaken, I think we will be in a much, much better position going forward.

Paul A. McCulley: When I think in terms of all the various institutions in the shadow banking system, the granddaddy, in my mind, is the 2a-7 money market mutual fund . . . , which was essentially a bank without capital, without deposit insurance, and without a lender of last resort—otherwise known as an accident waiting to happen. Indeed, it did happen, after that fateful Monday in 2008, and we found out that, in extremis, Mr. Paulson had created deposit insurance via the Exchange Stabilization Fund, the Fed created the lender-of-last-resort facility run by the Boston Fed, and so we actually saw moral hazard writ large after the fact. I look at that industry now, and the SEC has tightened up what money market mutual funds can do, but the fact of the matter is, they are still de facto banks without capital, without deposit

insurance, and without access to a lender of last resort. So they are a part of the past that is still very much with us. Can you give us a sense why the 2a-7 money market mutual fund wasn't addressed "properly" in this whole reform process?

SB: I hardly know where to start *[laughter]*. Mutual funds' ability to invest in highly unstable assets to get higher returns . . . *is* an accident waiting to happen—it did happen—and I think Mary Schapiro [chair of the SEC] is determined to fix this. It seems to me that they need to do it one way or the other. If they want the fiction that this is somehow rock-solid safe, then they need to have all the things banks have. They need to pay premiums for some type of insurance, and they need to have regulation and capital requirements and everything else. If that is not going to be the case, then they need to have a floating NAV [net asset value] or something that tells mutual fund investors that . . . the value of this fund can go down. I know many market funds don't like to hear me to say that, but I just think it's so obvious. So I hope that's the ultimate outcome. There will be a *lot* of public debate about this. It was amazing to me—I will never forget—when the reserve fund broke the buck and there were these massive outflows of funding for the money market funds and Hank had to step in with an emergency insurance program, and initially, when that program leaked, it was that they were going to provide unlimited coverage. So what we started seeing was uninsured deposits flying out of the banks. So I'm on the phone with Hank at 6:30 in the morning, and they ended up putting a cap on it, which was the balance at the close of business on Good Friday, when they put it into effect. It just shows that we have a very direct interest in this because there is a lot of direct competition and inflows and outflows between insured deposits and money market funds. So I think Paul Volcker is absolutely right: take away this break-the-buck fiction and let people know these things can lose value; or, if you want to keep them that way, then regulate them like banks. I think it really is one or the other.

Q: One of the problems that seems to come up is that some of the big banks, Citibank being one of them, had a lot of off-balance-sheet vehicles. We have seen the problem of these secret vehicles—in the Enron debacle, for example—and they tend to be based offshore, where nobody can see what is really going on. To what extent do you think the offshore bank and corporate secrecy system is an essential part of the problem? I can see that it was not at all addressed in Dodd-Frank, and if it is a central part of the problem, what do you think should be done about it?

SB: First of all, I didn't know what an SIV [special investment vehicle] was until the summer of 2007. These things were completely opaque to us, and they were domestic—they weren't even offshore. They were out there floating around in the ether—no balance sheet, no capital, nothing, and we couldn't believe it. They were funding short and lending long. . . . We didn't get rid of these things after Enron. I was astonished they were even there. We didn't have enough information, and I think the offshore part of it, the jurisdictional boundaries, are going to be a problem no matter what we do. I don't have an answer for that. But I do think the accounting rules have helped a lot with this. . . . These exposures pretty much all have to be on a balance sheet now and have capital held against them. The Basel Committee has done a lot of work in that area too. So I think the capital treatment and the accounting treatment have changed and improved a lot, but the offshore piece is hard. . . .

Q: The public has lives to live, so after the crisis is over their attention goes on to other things, while those who are regulated focus on the regulatory bodies with a laserlike intensity. It is not even so much the perks and job offers, it is just constant attention and constant pressure, which gives rise to what we now know as regulatory capture. So we have these regulations. Do you have any suggestions as to how to change the regulatory process to mitigate this?

SB: I have thought about that a lot. It is a terrible problem. We prohibit our examiners from going to work for a bank for two years. I myself remember saying I am not going into the financial services industry, but I don't fault others that do. I do think that if that's your career track, then it is very difficult to insulate your decision making while you are doing your job. I think we need more robust cooling-off periods before you can go into the industry. Maybe we need to enhance the status of regulators and make it a career like the foreign service—make it a lifelong career choice. It may be counterintuitive, but actually by paying them more instead of less, you could cultivate a public-oriented, high-quality examination team, as opposed to what you have now, where, I can't deny it, people come from the industry for these jobs and go back to the industry after they take these, and it's a real problem. Some people can do it and do it well, so I don't want to taint everybody who's been on that path, but I think it makes it very difficult to assure independence of judgment. . . .

Q: Can you tell us something about the role of the FDIC in salvaging small banks around the country? Has that rate of disappearance declined? Have they been sufficiently consolidated to start lending to small businesses around the country?

SB: We've had about 350 bank failures, and most of those have been small institutions. We still have 4,700 community banks that we regulate, probably closer to about 7,000 if you count all the regulators. So there are still a lot of community banks out there. I think the important thing to understand, during the crisis, if you look at loan balances after the crisis and through the recession, community banks actually increased their loan balances. The large institutions were really pulling back and community banks actually stayed in there. I think there are a couple of reasons for that. First of all, they don't have big investment banking and trading operations where, if they're going to make money, they're going to have to make loans. Also, . . . they don't make lending decisions based on models. They are high touch, they make individual, gut decisions, they tend to know their customers better and perhaps that gave them more confidence to keep lending. And for small businesses, as I said in my remarks, it is absolutely essential that we have a vibrant community banking sector. Actually, I know that community banks are very nervous and worried about Dodd-Frank and the potential fallout for them. I think Dodd-Frank and Congress consciously tried to help community banks and level the playing field, and if properly implemented, I know their insurance premiums will be going down vis-à-vis what the larger institutions are paying. I think the promise of the new consumer bureau will help ease the reg burden for them in terms of simplifying all these disclosures and the complex consumer rules we have now that haven't helped many banks and, frankly, haven't helped consumers, either, while providing more regulations for nonbanks to help level the competitive playing field. So I think there is a lot of promise in the new framework going forward, and I think all regulators, though, need to be cognizant that part of the problem is, we do these rules and frequently the new rules will be responsive to abuses that we've seen at larger institutions,

but when they are applied to everybody, the small banks might only have four or five employees, they don't have a huge compliance operation that just keeps turning out the paperwork, so the incremental cost of all these rules really hits community banks hard, and so I think looking more at two-tier regulation, especially when you are dealing with issues that really don't even exist with community banks, to layer all that on them too is really not helpful, and I hope regulators will be cognizant of that going forward.

Q: One of the themes in this conference has been the lack of any accountability. I know your agency is up to its neck in other things, but there has been criticism that you really don't care that much about Main Street and the way people feel. In most of the country, they *do* feel that way. So, can you tell me what's going to happen? Phil Angelides here yesterday said he thought the story wasn't over. And secondly, whether you think that kind of thing has a deterrent effect—that's another issue.

SB: We have authorized a lot of suits, and we are just getting going on our lawsuits against the boards and senior managers of failed banks. We only have authority to sue when they have failed, so that's another repercussion of the bailout: if they got bailed out, they didn't fail, so at least we can't do anything *[laughter]*. But when they *have* failed—with WaMu, we've undertaken on some very high-profile cases there. We didn't have a loss with the WaMu failure but the creditors did, so we are representing them to try to get some recovery. So I couldn't agree with you more. I think a common theme throughout this entire crisis is, there were decisions being made on the assumption you wouldn't have to bear the consequences later on, whether it was mortgage originations, whether it was poor risk management, whatever—it is absolutely a common theme. If we keep protecting people from their own bad decisions, you end up penalizing the good managers. We want good managers in these institutions, but if you are a good manager, and here is a bad manager, and because of the bailouts you are all getting your bonuses, dividends, and everything else, and there is no penalty for being a bad manager, what are your incentives to be a good manager?

So I think Too Big to Fail and these bailouts have not only created competitive disparities between large and small, I think they have also worked to the advantage of the better-managed banks, frankly. They don't have as much of a competitive advantage against the weaker guys because the weaker guys get bailed out. So all I can say is that we are doing everything we can and we will be vigorously pursuing these. It takes a while to investigate them and prepare them, but we will certainly be at the levels that we were at during the S&L crisis, if not higher. We have six months before the statute of limitations expires on these. Under our corporate performance objectives, we have to complete the investigation and make a decision on whether to adhere to them or not. We are on top of that, believe me.

Thank you very much.

MARTIN MAYER
Guest Scholar, The Brookings Institution
The Man Who Got It Right: Hyman P. Minsky and the Economics of Trouble

DIMITRI B. PAPADIMITRIOU: Martin Mayer, for those of you who circulate in the worlds of business and finance, should be known to you—as I'm sure he is. He's also a regular contributor to these conferences, having participated in the very first conference we held in 1990. He is the author of more than 35 books, half of them dealing with business and finance. You will see his biographical sketch in the conference program, so I won't take too much time to talk about what he has accomplished, because there is a lot more for him to accomplish. He is now on a very important project. Through the generosity of the Ford Foundation and with the inspired guidance of Leonardo Burlamaqui, he is writing a biography of Hyman Minsky.

I ask you to welcome Martin Mayer.

MARTIN MAYER: I am indeed working on a biography of Hy, and it's great fun to have been asked. . . . The book is going to be fun, in addition to other things.

Hy had a very optimistic view of banking. He thought banking was a good activity because the banker did well if the people to whom he lent money did well, and if they didn't do well, he didn't. What really went wrong in the last decade was that bankers found ways to do well whether their borrowers did well or not. They were able to transmute the long-term earning capabilities of the instruments that they were creating into something that would produce short-term income for them, and to hell with the people who come later. That's the basic problem, and it has to do with getting the extra eighth, which was always the weak point of banking. It also has to do, in Minsky's view, with the concept of layering, which is important in his later work—that pieces of paper could be generated by the banking system that could be given value in a market whether it really had value or not. One of the things . . . regulation had to do and failed at miserably was to curb the generation of these things. We call them derivatives at this point of the game, but they are examples of what Minsky called layering and warned against back in the '80s. . . .

There are many disadvantages to being very old—I'm not going to bore you with that—but some things are useful. I lived and breathed some of Hy's experiences and remember what it was like. Wassily Leontief was chairman of Hy's dissertation committee at Harvard. A few years earlier, Leontief had been my adviser on my undergraduate thesis. We were both subjected to the force of nature that was Joseph Schumpeter. I did not share Hy's Chicago experiences, which were very important to him, but I knew some of the people he did, and some years later I wrote, for *Commentary*, . . . articles of some length and depth about the Chicago schools and about the resurrection of Hyde Park-Kenwood, and pieces for the

music magazines about the Lyric Opera and the symphony. And I remember, as people 10 years younger would not, the political atmosphere of what Lenin called "infantile leftism" in which we were both brought up. My father had been among the founding signatories of the American Labor Party and got kicked out because he wasn't a Communist. Hy, a Menshevik by inheritance and conviction, found himself fighting both the paranoids of the American right and what really was a sinister conspiracy by the Russians. The FBI tells me it has no file on him. I think Hy would be disappointed *[laughter]*. I am also, I must admit, disbelieving. It turns out that I even knew a girl to whom Hy proposed marriage some years before he met Esther. She now lives near where I live, and we had brunch the other day. She ran with a literary crowd that included Barbara Epstein, who later was co-founder of the *New York Review of Books*, and the novelist Alison Lurie. She brought Hy home to meet her father, who commented that economics professors never made much money. Hy said that if he ever made more than $5,000, he would give the money to the poor, and Annie's father said, "Don't you even think about marrying that man" *[laughter]*.

The working title for the bio is *The Man Who Got It Right: Hyman P. Minsky and the Economics of Trouble*. It will be a lot livelier book because I'm an old crock. I also enjoyed the great stroke of luck that Hy was a pack rat and kept all his papers, starting with his lecture notes from undergraduate classes at the University of Chicago. There is a two-volume bound book of his notes on Oscar Lange's lectures about the business cycle from the 1930s. . . . There are 31 boxes of it. I'll give you a sample: a letter from Professor Minsky of Washington University in St. Louis with Washington University stationery to the chancellor of Washington University in St. Louis, Tom Eliot, cousin of the poet T. S. Eliot, "I walked past the university bookstore today and the place is a disgrace. When are you going to do something about it?" Another letter from the box, this one to the Mayor of New York City, dated April 1972: "Dear Mayor Lindsay, On Sunday, April 18th, I took a taxicab from the Waldorf Astoria to LaGuardia. The cab was a disgrace, broken springs, broken seats, squeaky brakes. The cab was number 92-16, the driver was David A. Collins, the driver's number is 82335. I keep hearing that you are a potential candidate for President. If you can't shape up your own bureau, how in Hell can we expect you to shape up the Pentagon. Sincerely yours, Hyman P. Minsky" *[laughter]*.

His son noted yesterday when I talked with him that Hy wanted things to run the way they were suppose to run, with limited sympathy for mechanical human frailty. In 1968, Hy participated in the construction of the graduate record examination for new candidates for the Ph.D. He first recommended that five categories of questions—labor economics, industrial organization, economic development, comparative economic systems, and quantitative economics—be dropped from the test. Then he noted in his letter to the Educational Testing Service that "I *never* give these choice-type questions," concluding with the faintly threatening conclusion, "I suppose having had my say, I will quietly go along unless there is some support from other committee members for such a restructuring of the test." He added at the end, "My special interests are in money and banking, and macroeconomics, with an old-fashioned bias toward business cycles and public policy." A couple of weeks ago, I spoke with a number of the Washington University chairmen of the economics department during Hy's 25 years. They unanimously attest to the novelty of the experience of adjusting the curriculum to the interest of one of the faculty members, because whatever interested Hy at a given time, that's what he taught. There were some students who loved him and there were some who would just get terribly lost and go and try to talk with somebody to figure out how they could get unlost, but they couldn't talk to Hy.

Immersion in Hy's work makes it seem, after a while, more mainstream than it's presented—also more commonsensical than it actually is. My favorite ignored insight—the work is really full of stuff that's been pushed aside by the fun of words like "Ponzi"—but my favorite ignored insight deals with the similarity between banks and nonfinancial businesses and the conclusions to be drawn from those similarities. Bankers think they make money the way other businessmen make money—by charging their customers more for the money the customers borrow than the bank has to pay for the money it lends. In fact, Minsky argues that the analogy can be drawn the other way: nonfinancial businesses like banks emit liabilities and use the funds that they gather from the emission of these liabilities to acquire assets. The liabilities of the firm become somebody's assets that may or may not be liquid. The liabilities of the bank are money. The bank validates the liabilities of its borrower, converting them to cash. The service for which the bank is paid by society is not the supply of the money but the acceptance function. What the acceptance function amounts to is the secular transubstantiation of customer liabilities from security to cash.

One of the things that went wrong in the last 20 years is that the banks found they could cut their costs by eliminating lending officers and extending their validation of their customers' liabilities to borrowers, who were categorized for computer sorting rather than vetted for the likelihood that they would repay their loans. The banks, in short, were being paid for work they had not done. This, incidentally, was the essence of the error on Glass-Steagall. Commercial banking and investment banking really are different beasts. The banker's question is, "How is this borrower going to pay me back?" The investment banker's question is, "How could I sell the paper?" Combining these two attitudes is a combustible and, ultimately, foolish activity.

I have found my own explanation, rather a disturbing one, for Hy's relative obscurity despite the importance and intrinsic interest of his work. Several people, some of whom consider themselves followers of Hy, have noted to me that there isn't much published work, which is nonsense: there is a lot of published work. But relatively little of it is in the economic journals. It's in the peer-review journals.

The most important person in Minsky's career was Bernard Shull, who has also been at a lot of these meetings, and I talked to him the other day. . . . He was a young member of the research staff at the Philadelphia Fed when he read Hy's original article on central banks and the money market in 1957. Shull moved onto the Board of Governors to conduct a study on how the discount window actually operated and how it *should* operate. It was through working on that study that Hy developed the financial instability hypothesis, which was published originally in detail as a Federal Reserve document. Hy's important work for the Ford Foundation–sponsored Commission on Money and Credit was published as part of the report of the Commission on Money and Credit. His late and long and important article on finance and profits was published by the Joint Economic Committee of Congress. Other major papers appeared in Festschriften and textbooks.

In the world of the economics profession, these things don't count. Efforts to explain problems to people who might be able to do something about them are hobbies for the professor. The real work, and what he is expected to turn out, is this goddamn gelatinous stuff with its borders of mathematics that gets published in the professional journals. It may be that Hy's increasing salience will do something about that. There was only one Hy Minsky. *Natura il fece, e poi ruppe la stampa.* But other lone wolves may get more attention in the future because the economics world finally awakened to the importance of Hyman Minsky, and thus the importance of publications that are not right down the standard track. We hope so.

Thank you.

Sessions

SESSION 1

The Ford–Levy Institute Project on Financial Instability and the Reregulation of Financial Institutions and Markets

L. Randall Wray, Jan Kregel, and Éric Tymoigne

JAN KREGEL
Levy Institute and Tallinn Technical University

L. RANDALL WRAY
Levy Institute and University of Missouri–Kansas City

ÉRIC TYMOIGNE
Levy Institute, and Lewis and Clark College

Three Levy Institute scholars presented the contents of the monograph *Minsky on the Reregulation and Restructuring of the Financial System: Will Dodd-Frank Prevent "It" from Happening Again?* which is part of an ongoing research program funded by the Ford Foundation. This program investigates the causes and development of the financial crisis from the point of view of the late Levy Institute Distinguished Scholar Hyman P. Minsky.

JAN KREGEL outlined the first section of the monograph, which provides a Minskyan assessment of the Dodd-Frank Act and whether such legislation will prevent another Great Depression. A critical proposition in Minsky's approach is the evolving nature of financial innovation that is driven by regulation, as well as the profit-maximization activities of banks. Another proposition is to foster two structural objectives: ensuring the long-term stability of the financial system and

promoting capital development of the economy. Are these two objectives compatible? The vexing question confronting regulators is whether the rising share of finance has been a necessary or coincidental condition of growth in the past half century. According to former Federal Reserve Chairman Alan Greenspan, there is a tie between the degree of financial complexity and a higher standard of living. Kregel pointed out that regulatory repair may have to address this unproven tie. Most of the income gains since the 1920s have been going to the top 1 percent of the population.

Greenspan noted that, with rare exceptions, the global "invisible hand"(introduced by Adam Smith as the consistency of individual plans in a decentralized market economy) created relatively stable exchange rates, interest rates, prices, and wage rates. Kregel observed that real wages have stagnated because the increases in productivity and income have gone to the highest cohorts; particularly, in the financial sector. Thus, the system is performing very well for the financial system but not for the rest of the economy.

Based on the fact that wages as a percentage of personal income have been declining while consumer spending as a percentage of wages has been increasing, the financial sector has not initiated capital development. Rather, it has led to household indebtedness. According to Greenspan, the problem is that regulators cannot regulate the system because it is opaque (Adam Smith's "invisible hand"). In contrast, Minsky's basic idea is that the kind of regulation imposed depends on the kind of theory used in support of regulation.

The difficulties produced by the financial system in the last 20 to 25 years relate to the regulatory system, which passed the 1999 Financial Services Modernization Act (Gramm-Leach-Bliley, or GLB). This Act abolished the segregation of financial institutions and produced very large "too big to fail" multifunctional financial holding companies. If reregulation succeeds, it must reverse this Act, similar to the Roosevelt administration's 1933 reversal of regulations that had allowed multifunctional banking.

Another direct result of the GLB Act was increased counterparty risk in concert with greater difficulty in identifying risks, so that insolvent financial conglomerates were both too big and too integrated to be resolved. Counterparty risk was combined with the more traditional funding/liquidity and interest rate risks, and replaced the most important bank risk—lending, or credit risk. Moreover, the Basel Committee's global rules for risk-adjusted capital-adequacy ratios resulted in greater counterparty risk when banks shifted to the "originate and distribute" model and moved assets off their balance sheets. The fact that these banks were "too big to fail" meant that, for reasons of "moral hazard" (i.e., an implicit government guarantee), there was an incentive to engage in riskier, high-return investments. Banks were encouraged to move lending with the highest risk off their balance sheets and into special-purpose vehicles that largely escaped regulation and reporting. This response reduced the risks for large banks (borrowing costs declined) but made it more difficult for smaller banks to survive. Thus, the system became increasingly concentrated, allowing larger banks to impose higher charges for customer services. In contrast, Minsky favored smaller banks because he believed that this aspect of the financial system supported an economy's capital development by lending to small- and medium-sized firms. Moreover, the Dodd-Frank Act (and Treasury Secretary Timothy F. Geithner) does not challenge the GLB Act and the fact that the problem lies with multifunctional banks.

The main pillars of Dodd-Frank are to better regulate large "systemically significant" financial institutions and to provide temporary public assistance when regulation is inadequate. Such legislation accepts the mainstream theoretical framework. The Financial Stability Oversight Council (FSOC), however, consists

of agencies that were unable to foresee the recent crisis. Furthermore, the Volcker rule limits proprietary trading (banks cannot use their own share capital in order to trade) and is supposed to provide regulation and stability. According to Kregel, this is a strange proposition, since it protects the Federal Deposit Insurance Corporation (FDIC) as deposit taker (something very different from the original intention of Glass-Steagall) but does not protect the transaction system.

An overriding criticism of the Dodd-Frank legislation, including the Volcker rule and swaps and futures regulation (the Lincoln Amendment), is that regulations for derivatives trading have extensive exemptions for institutions dealing with clients. If we are going to fully insure and hedge the system, said Kregel, all structured derivative trades and loans should be margined, and firms that benefit should be required to meet that margin. He also noted that companies such as Merrill Lynch had too much skin in the game (i.e., investment-grade, subprime paper on their balance sheets) and that regulators have already identified the possibility that the Dodd-Frank rules do not prevent off-balance-sheet securitization without risk retention. In addition, regulators will have to respond to the notion that hedge funds were the only financial institutions that managed to unwind in an equitable fashion and pay their shareholders during the last financial crisis.

Another problem concerns overlapping regulatory authorities. Cooperation is unlikely in spite of the FSOC and the Fed's increased role as the financial regulator of the system. Minsky observed that there was a conflict within the Fed—as a regulator of financial stability and economic activity—and this conflict increased with greater system complexity. The question is, Should interest rates stay at current levels to support financial stability (price levels) or should they increase to counter inflation? This conflict has been aggravated by the provisions of Dodd-Frank and is apparent in the Fed's exit from QE2 (the second round of quantitative easing).

According to Minsky, the Fed should be responsible for financial stability but economic stability should be the province of fiscal policy. The current congressional setup, however, means that there is no fiscal policy. Congress is not willing to provide the financial support to improve the system, which continues to function as in the past. The problem cannot be solved with larger banks and better regulations. If the structure of the financial system is the issue, said Kregel, then Dodd-Frank will not prevent another crisis. The only solution is to repeal GLB in exactly the same way that Glass-Steagall was repealed.

L. RANDALL WRAY presented the second section of the monograph, about what banks should do. He explained how Minsky favored repealing GLB by reconstituting the financial system and promoting the capital development of the economy. Capital growth is defined broadly to include such things as public infrastructure, the educational system, and training programs, besides capital equipment. According to Minsky, you have to have a framework for analyzing the economy and understanding the banking system before there can be reform.

In terms of a proper framework, Minsky frequently referred to six main points: (1) a capitalist economy is a financial system; (2) neoclassical economics is not useful because it denies that the financial system matters; (3) the financial structure has become much more fragile; (4) fragility makes it likely that stagnation or even a deep depression is possible; (5) a stagnant capitalist economy will not promote capital development; and (6) this can be avoided by apt reform of the financial structure in conjunction with the government's apt use of its fiscal powers.

Banks take positions in assets by issuing liabilities, so it's necessary to analyze every economic institution as if it were a bank. According to Minsky, anyone can create money; that is, anyone can issue IOUs

denominated in the money of account. Banks are highly leveraged (93–95 percent) and must continually refinance positions because their IOUs are generally short-term, while their asset positions tend to be long term. When refinancing is impossible, banks have to make position by selling out position. The problem is that many bank assets are not very liquid, so access to refinancing is extremely important.

Minsky distinguished between traditional commercial banking, investment banking, universal banking, and the public holding company model. He argued that we have combined these approaches to banking over the postwar period. However, the role of bankers is to be skeptical, and good banking means that profits come over time. The success of the lender requires the success of the borrower, so a good banker never bets against his clients. This is not the case today, noted Wray. He also noted that the banker really is the key to financing the capital development of the economy.

According to Minsky, there are a number of key elements related to what the financial system should do in order to promote capital development.

(1) *A safe and sound payments system.* Clearing at par requires access to a central bank that provides liquidity to the payment system (the reason the Federal Reserve was created in 1913). Safety requires government backing of deposits, such as FDIC insurance and 100 percent coverage in a crisis. If the payments system is provided by a "private" bank, the bank is essentially playing with "house money," since most of the money used to finance positions and assets is depositors' money that is guaranteed by the government. Therefore, the "private" bank is really a public-private partnership that requires close supervision and regulation on the asset side of its balance sheet. An alternative would be postal savings banks, where the government runs the payments system (the United States had this system until the mid-1960s and some countries such as Japan still do).

(2) *Short-term lending.* Minsky favored small-to-medium sized banks because they are appropriate for financing small loans. Big corporations do not really need commercial banking, since they can go directly to the market with commercial paper and perhaps borrow at a lower rate. If banks are backstopped by the government, then there are weak market incentives on the lending side. Private lending is justified only if the banks are better underwriters than the government, but this requires that bankers have the right incentives. For example, loans must be held to maturity to induce proper underwriting, and relationship banking, not capital markets, should be the source for short-term lending. Moreover, finance is not a scarce resource to be allocated by efficient markets. Rather, good borrowers are scarce when it comes to lending, and sound underwriting is required to find them.

(3) *Housing finance.* Lending that has a high social priority means that underwriting is less important because you are achieving the public purpose and will accept a higher rate of failure. The best form of housing finance in the United States came from mutuals—the old thrifts—because they united the interests of thrift owners and shareholders with those of borrowers (homeowners). The 30-year fixed-rate, self-amortized loans provided safe housing finance for borrowers, but the thrifts were devastated by the change in ownership rules and Volcker's experiment in monetarism, which drove interest rates above 20 percent. This led to securitization and the adjustable-rate mortgage. Adding intermediaries to the home-finance chain subsequently led to the crisis in real estate and diverted activity away from the public purpose. A safer way to provide housing finance is direct government lending or government mortgage guarantees held to maturity. A return to 30-year fixed-rate mortgages, however, would require a pact with the central bank that rates would never again reach 20 percent.

(4) *A range of financial services.* The main "synergy" of combining services is that it enhances the ability to defraud customers (e.g., Lincoln Savings and Loan Association, and Goldman Sachs). There are no economic efficiencies in large-scale banking, but there *are* synergies in betting against your customers (e.g., bait-and-switch operations). William Black, Wray's colleague, calls them "systemically dangerous institutions" (SDIs) because they are too complex to manage, regulate, and supervise. The overcompensated top management runs "control frauds," and these too-big-to-fail institutions then require bailouts that are negotiated in secret. The crisis has only led to a greater consolidation of power in the hands of fewer financial institutions, as institutions that are "small enough to fail" cannot compete in this environment. An alternative is to regulate, supervise, and stop the growth of SDIs. Another alternative is to support community development banks—small local banks run by a community board of directors that provide the full range of services. Moreover, said Wray, we can use the crisis to downsize the megabanks.

(5) *Long-term funding of investment.* When the laws were changed in the 1990s and the investment banks went public, it led to "pump and dump" schemes (control fraud) similar to those identified in John Kenneth Galbraith's *The Great Crash 1929* (where banks created subsidiary trusts and then sold phantom shares in phantom companies to their own customers). There have been huge incentives to pump up stock prices by selling shares in the large investment banks and rewarding top management with options. Thus, stock buybacks should be prohibited.

According to Minsky, the final stage of capitalization is the money manager stage, where too much money chases too few good investments, generating serial bubbles. He emphasized that capital development can be ill done in either the Smithian sense (the wrong investments) or the Keynesian sense (too little investment). In order to solve both problems (and therefore have enough of the right investments), investment needs to be comprehensively socialized.

Wray proposed a number of reforms. Reducing concentration plus retaining risk on balance sheets can reorient banks toward relationship banking. There are no magic formulas related to capital ratios, living wills, or "skin in the game," he said: none of these measures will resolve our problems in the financial system. But there is a role for government in regulation and supervision, and in the direct provision of financial services. And we need to assess the kinds of services that would be better served by the private financial sector rather than the government sector (e.g., the payments system, direct lending to serve the public purpose, and guarantees for public-private partnerships).

Wray was also adamant that we hold policymakers and financial institutions accountable for what has happened over the last four years, and push for downsizing and reform using the Home Mortgage Disclosure Act and Community Reinvestment Act as models (i.e., using public pressure to force banks to reduce discriminatory practices and satisfy the public interest). Furthermore, we should push for state and community development banks. We cannot prevent risky and fraudulent practices but we can limit the damage by segmenting off any part of the financial system that is safe and sound. Finally, we need to protect consumers by strengthening the Consumer Financial Protection Bureau, applying Food and Drug Administration–type rules where new financial instruments and practices have to be approved, and setting up citizen utility boards to represent citizens at regulatory proceedings, in order to ensure that banks act in the public interest.

ÉRIC TYMOIGNE presented the third section of the monograph, which deals with developing an index of financial fragility based on Minsky's analytical framework. Under the Dodd-Frank legislation,

the FSOC is in charge of identifying threats to the financial stability of the United States. At the micro level, the liability or asset side of the balance sheet is highly sensitive to such factors as changes in income and the rate of interest and amortization. And there is a great reliance on refinancing and asset liquidation (high refinancing and liquidity risks) in order to meet debt commitments. At the macro level, financial fragility is defined as the risk of financial instability; that is, the risk of debt deflation (an economic state where financial problems affect employment and price stability).

The evolutionary view of financial fragility is that it emerges during long periods of economic stability (e.g., the Great Moderation). In the imperfection view, fragility is due to less-than-perfect markets and actors. Here, rising default rates, rapid credit growth, declining GDP growth, rising real interest rates, growing government deficits, and declining business profits are the leading indicators of fragility. However, in the lead-up to the Great Recession, default rates were low, and profit and net worth were rising. Therefore, it is necessary to develop a more proactive index.

Under the evolutionary view, it is important to detect changes in funding practices and asset positions—the quality of indebtedness matters. Using this approach requires the detection of changes in underwriting practices (collateral-based versus income-based lending), the amount of refinancing (especially cash-out refi's), and cash flow (operational net cash inflows relative to cash outflows induced by balance-sheet liabilities). Tymoigne pointed out that detecting changes in funding practices and asset positions is different from detecting bubbles, financial crises, fraud, and business profitability. Rising firm profits and household net wealth, and declining default rates are not necessarily signs of strength, and government deficits are not necessarily a sign of weakness.

Tymoigne applied Minsky's theoretical foundation, which is based on hedge, speculative, and Ponzi finance. In terms of Ponzi finance, he used the balance-sheet aspect (rather than the more familiar cash-flow aspect), where the expected position-making operations grow relative to outstanding debt (e.g., cash flow is a function of loan refinancing and asset sales). Thus, Ponzi finance is related only to how debt commitments are met (i.e., the funding method) when asset prices (net worth) rise. A bubble does not signal financial instability, but bubbles funded through Ponzi finance create significant instability. And since Ponzi finance is different from a bubble, no assumption is made about the correctness of asset valuations.

The main datasets used to construct Tymoigne's financial stability index were the Bureau of Economic Analysis national income and product accounts (corporate net operating surpluses, interest receipts, and interest payments); the Federal Reserve Board flow-of-funds accounts (outstanding total and short-term liabilities, cash and liquid assets, and net worth), including information about household finance (the mortgage financial obligation ratio, debt-service ratio, and consumer credit); the Federal Housing Finance Agency (refinancing loans); and Standard & Poor's (Case-Shiller home-price indices).

Two financial fragility indexes were developed for the household sector: an overall index and a homeownership index. The overall index is a function of total outstanding liabilities, net worth, the debt-service ratio, monetary instruments relative to outstanding liabilities, and the proportion of cash-out refinance mortgage loans. The homeownership index is a function of household home mortgages, the home price index, the proportion of cash-out refinancing, the mortgage financial obligation ratio, and the ratio of monetary assets to mortgage debt. An increase in the financial fragility index depends on the various components interacting in a certain way at the same time. For example, the overall index increases when the outstanding and short-term debt, the debt-service ratio, and refinancing mortgage loans all rise, while liquid assets decline.

Tymoigne found that the origin of the housing crisis did not originate in 2004 but at the end of the 1990s, after financial fragility grew significantly throughout that decade. Moreover, the crisis would have started much earlier, in lieu of the minor recession in 2001. He also created an index for the nonfinancial sector and finds that financial fragility increases for both the financial and nonfinancial sectors prior to recessions. However, the degree of fragility is particularly acute for the financial sector—as predicted by Minsky.

Tymoigne pointed out that his indexes were not created to fine-tune the economy or to forecast the timing and size of financial crises. Rather, they should be used for regulatory and supervisory purposes, since low default rates, high profitability, and rising net worth are not necessarily signs of financial health. The goal is to identify the growth of macroeconomic financial fragility during periods of stability so that actions can be taken prior to those based on other indicators of financial crisis. Tymoigne called for better data about funding methods in order to understand how funding positions evolve and promote fragility.

SESSION 2

Financial Journalism and Financial Reform: What's Missing from the Headlines?

John Cassidy, Francesco Guerrera, Jeff Madrick, Joe Nocera, and Steve Randy Waldman

MODERATOR:
JOHN CASSIDY
The New Yorker

JEFF MADRICK
Challenge, Roosevelt Institute, and Bernard Schwartz Center for Economic Policy Analysis, The New School

JOE NOCERA
The New York Times

STEVE RANDY WALDMAN
Interfluidity.com

FRANCESCO GUERRERA
Financial Times

JOHN CASSIDY addressed three subjects: the role of the press, the origin of the crisis, and the narrative going forward. He has written two books about speculative bubbles and has identified four players: Wall Street, the Fed and other policymakers, the public, and the press. He acknowledged that the press oversold the dot-com bubble because it was a great story for a number of years (e.g., productivity increased throughout the 1995–2005 period). In contrast, press warnings about the housing bubble, hedge funds, and private equity funds were ignored because house prices continued to rise. No one knew that the crisis would play out through the housing market and shadow banking system, which was largely hidden from view. Cassidy was adamant that the press was not at fault, that Minsky was right, and that the incentive system is a bigger problem than the criminology associated with mortgage fraud. And since the basic for-profit incentive structures remain, how does one counter perfectly rational behavior that tries to enhance returns on investment?

According to **JEFF MADRICK**, business and financial journalism supported many of the trends that culminated in the crisis and the Great Recession. One main feature was journalism's support of financial deregulation during the 1990s, including the end of Glass-Steagall and the lack of derivative regulations. For example, the *New York Times*, in an editorial published in 1999, wholeheartedly supported the end of Glass-Steagall. (This editorial is quoted in Madrick's just-published *Age of Greed: The Triumph of Finance and the Decline of America, 1970 to the Present.*) It conjectured that one-stop financial shopping could actually protect naïve investors and that Citigroup was not a threat because it would not dominate any of the financial markets, including banking, securities, and insurance.

The end of Glass-Steagall, however, led to the creation of huge financial organizations; in particular, Citigroup was highly irresponsible when it used its huge balance sheet to take on risk and enormous amounts of (hidden) debt. A topic not addressed adequately by the press was that the Fed overlooked the banking activities of these organizations in the belief that it was only responsible for bank-holding companies. The press also reinforced the present trend and conventional wisdom about the "New Economy" (the high technology age).

The essence of what happened after the 1970s was that finance periodically misallocated American savings. For example, petrodollar loans to South American countries (led by Walter B. Wriston of First National City Bank of New York, the forerunner to Citibank, N.A.) created bad debt throughout the 1980s and helped to create a "lost decade" for those countries. Moreover, the hostile-takeover movement in the early 1980s (e.g., junk bonds and leverage buyouts by people such as Michael Milken) was supported by academics, who saw the economic benefit. This movement hurt the economy by misallocating resources, said Madrick, but it was supported and subsidized by the government (e.g., there was an interest deduction on all of the debt), and inadequately criticized by the press. When former Fed Chairman Paul Volcker opposed allowing Wall Street firms to use all of that debt for equity purposes (i.e., for leveraged buyouts and hostile takeovers), the Reagan administration threatened to replace him (Volcker resigned before he could be publically castigated).

Although people were put in jail in the aftermath of the savings-and-loan crisis in the 1980s, this did not deter the development of the subprime market in the early 1990s. When derivatives took off, there was a huge crisis (e.g., the Orange County bankruptcy), but it is questionable whether the press was really on top of that issue. By the late 1990s there were the high-tech and telecom fantasies, combined with devious lending by JPMorgan and Citigroup (among others), which used derivatives to cut their losses (by making bad and often disguised loans to companies such as Enron and WorldCom). Fed Chairman Alan Greenspan used this example to show the usefulness of derivatives, but then the bubble burst rather badly.

Madrick addressed other major areas where journalism, on balance, failed to provide adequate coverage. For example, in spite of the violation by Wall Street of the basic economic principles of Milton Friedman and the conservative trend in economics, economists did not rise to the occasion with regard to transparent trading, conflicts of interest, and a lopsided incentive system. Moreover, journalists did not call these economists to task. Madrick called for greater effort in determining how Wall Street makes money, including insider trading, front running, and the manipulation of markets. The press still does not know what happened with respect to collateralized debt, the composition of collateralized debt obligations, and why the law is so inadequate in bringing criminal charges for fraud against the financial players.

In addressing the state of the economy before the crisis, Madrick related that he had been to a conference in Dallas sponsored by George W. Bush. The purpose of the conference was to discuss how to

return to an annual economic growth rate of 4 percent. Madrick observed that he was likely the only one in attendance who noted that economic growth (and capital investment) under Bush was the slowest by far, in spite of incentives such as a huge tax cut—even when excluding the 2007–08 catastrophe.

JOE NOCERA remarked that journalism should not be expected to think or act radically different from society at large. Although skeptical voices are welcome, they are often ignored. For example, during the Internet bubble journalists consistently wrote about the absurdity of price-earning ratios when there were no earnings or revenues, but the public (including venture capitalists) did not want to hear this news and so ignored it. Even when cover stories pointed out that the housing bubble was unsustainable, housing prices (e.g., in Phoenix) subsequently rose. At the time, there was a lot of good journalism related to the housing market and the sleaziness of subprime mortgage companies.

Nocera agreed that journalism should have been more astute in covering deregulation in the 1990s. His example was a cover story in *Time* magazine (February 15, 1999) about "The Committee to Save the World," consisting of Greenspan, Treasury Secretary Robert Rubin, and the latter's deputy, Lawrence Summers. At the time, Rubin was about to leave office, commodities were largely deregulated, and the Committee was preparing to deal with Glass-Steagall, which had become almost irrelevant due to financial innovations.

Journalism was skeptical about the Internet bubble, however, and there was worthy investigative work being done. With the exception of the *Wall Street Journal*, most of the nation's newspapers were staunchly in favor of creating a regulatory environment to counter another crisis. And in the aftermath, the press has been extremely critical of banks and the foreclosure process, the need to rein in the banks because of wrongdoing, the problems of "too big to fail," and the flaws of Dodd-Frank.

The banks, congressional Republicans, and just about everyone else (with the exception of homeowners) are currently under the misconception that the financial crisis never happened, said Nocera. He noted that Michael Greenberger, a participant at the conference (see page 162), was testifying that morning in Congress that derivatives were part of the problem. He also noted that when Brooksley E. Born (chairperson of the Commodity Futures Trading Commission from 1996 to 1999) wanted to regulate derivatives (Greenberger was her deputy at the time), there were 17 hearings, and she was crushed by Greenspan, Summers, and Rubin. The fact that everyone wants to leave derivatives alone is the fault of our culture, said Nocera, not the fault of the press.

One reason for the crisis was that banks went from an industry expecting a 7 percent return to one expecting a 16–18 percent return. Thus, bankers now resist returning to a more cautious and conservative utility, and they are against virtually everything that would protect us from another crisis. Nocera believed that press editorials were doing a good job pointing out the fact that the banks are winning.

STEVE RANDY WALDMAN said that he considered himself a blogger, not a journalist. He noted that we are living in Minsky's world, where the capitalist system was both wonderful and terrible. Minsky devoted his career to reducing crises when the control systems failed after periods of stability. We have an unstable system, said Waldman, so it is our job to reduce the cost and frequency of crises.

One control system is banking. The banker's job as regulator is to certify and provide guarantees between borrowers and lenders when borrower claims are turned into money. We should never endorse the position that bankers are in the business of making money, said Waldman. Another control system is the regulators, including the politicians, academics, and journalists who are supposed to keep the regulators accountable. Minsky's financial instability hypothesis applies to everyone because we all get excited at the same time—a dynamic that needs to be addressed.

According to Minsky, one should blame the system for a crisis, and the system should be held accountable. In addition, bankers are supposed to be the system's gatekeeper, holding regulators, politicians, and people accountable. When the economy gets carried away, there needs to be a buffer, such as Big Government, that acts as lender of last resort (i.e., providing loans from public balance sheets to cover the gap in private balance sheets—the bailout) and supports deficit spending (to validate the investment structure that has evolved in the private economy).

According to the Treasury and Federal Reserve, most bailouts are paid back with a profit. Waldman believed that this was a shell game, since the public debt has risen 50 percent and the actual government debt has risen 80 percent since 2007. We should never allow officials to say that the loans have been paid back, said Waldman. The fiscal cost would be lower if we simply gave money to the banks, but this cannot happen for political reasons. Minsky described such a government response as stabilization policy—there is an immediate loan but the loan cannot fix the system. Only deficit spending can restore solvency.

Waldman recalled what happened to Citibank and its special purpose vehicles, which were off-balance-sheet entities. Citibank was ultimately forced to stand behind these entities, and it affected the solvency of its balance sheet. Similarly, the government feels compelled to rescue independent private-business entities such as Goldman Sachs and JPMorgan. Thus, the government is in exactly the same situation as Citibank with its off-balance-sheet entities. Journalists don't understand the relationship between the government and the large financial institutions, said Waldman, because they write about the CEOs as if they were private entrepreneurs running private firms.

Three years ago, one could not say that the market was wrong and get away with it. Financial journalism, like Minsky, should realize that the market makes mistakes. Minsky noted that some ideas cannot be validated and do not work as anticipated. Thus, journalists should be in the business of second-guessing the market and acting as a control system.

FRANCESCO GUERRERA broke from tradition and acknowledged that the bureaucracy was remiss in connecting the dots, and thus did not foresee the crisis. One of the reasons was that the press was looking in the wrong direction. Financial journalists focused on the more interesting and career-building areas of reportage, such as mergers and acquisitions and initial placement offerings (multibillion-dollar transactions), rather than the debt markets (bonds), which were handled by journalists Guerrera deemed "useless." Another reason is that when people associated with the banks, credit rating agencies, and other principle agencies were interviewed, they said that instruments such as collaterialized debt obligations were okay (they lied). In addition, regulators (e.g., Greenspan) said that it was possible to have constantly rising housing prices, while the banks maintained that it was possible to have high leverages and thin liquidity buffers. Proper journalism, however, requires reporting on both sides of the same story. But Guerrera also noted that the general public, for the most part, does not read the financial press, so it is not really the journalists' fault that they did not reach their intended audience.

Going forward, it is important that journalists report on and critique things in simple terms in order to warn the public. For example, they should know if and when the banks are winning the lobbying battle and diluting the provisions of the law. One should be able to read about the details of bank lobbying and the chaos behind derivatives. The press should also make more effort to present both sides of the story (and the story behind the story) in the opinion pages of newspapers. And since Wall Street was responsible for the latest crisis and should do more to prevent another one, the press should not leave it alone (responsibilities do not end with the repayment of the Troubled Asset Relief Program). The press needs to be balanced, maintain a high level of sophistication, encourage thoughtful debate, and act like it is part of the financial community.

SESSION 3

Swaps Regulation

Justin Lahart, José Gabilondo, Michael W. Masters, and Michael Greenberger

MODERATOR:
JUSTIN LAHART
The Wall Street Journal

JOSÉ GABILONDO
College of Law, Florida International University

MICHAEL W. MASTERS
Masters Capital Management, LLC

MICHAEL GREENBERGER
The University of Maryland

JOSÉ GABILONDO dealt with the degree to which particular financial and political ideologies contributed procyclically to the kind of financial instability analyzed by Minsky. He quoted 1990 Nobel Prize Laureate Merton H. Miller, who said in his acceptance speech, "There is no such thing as an overleveraged firm because the market just prices the debt and equity accordingly." This view is one of many recent ideologies that have had an adverse impact on limiting financial instability.

Neoliberal approaches to deregulation should have been disbanded because of the events in 2007, said Gabilondo, but neoliberal attitudes remain entrenched in accounts of financial causation that are intrinsically contestable—whoever tells the best story wins—and in the culture war against Dodd-Frank. Swaps have a special ideological significance in this context. True swaps can be very productive by converting speculative and Ponzi exposures into hedged exposures. Neoliberal saint Wendy Gramm, past chairwoman of the Commodity Futures Trading Commission (CFTC), negotiated the 1993 swaps exemption that helped this market grow. It became a religious sanctorum of contract freedom.

Gabilondo focused on liability structures and swaps-induced leverage, where risk is transferred financially through balance sheets. The legal and risk environment for swaps transforms pre- and post-trade transparency, market integrity, and business conduct rules. In terms of new swaps regulation, he focused on the extent to which rules would impact the liability structure of firms; that is, both intentional (e.g., loans and bonds) and contingent (e.g., swaps) liabilities. A firm's effective capital structure is the sum of these liabilities. Refinancing exposes a firm to funding liquidity and helps us understand what happens because of liquidity dynamics. The last crisis was about the role of leverage relative to a firm's funding liquidity, as well as the asset-market liability of the markets, in which a firm tries to use liquidity to cover its debts.

Gabilondo presumed that Minsky's model assumes fixed-rate recourse uncollateralized debt, noting that the model also has value from the lenders point of view. Whether a swap is claimed as an asset or a liability depends on what is happening in the markets. If the market moves against a counterparty position, then the counterparty is out of the money and it owes money to another counterparty (a short swap position in Minsky's model). This happened to AIG when the credit market went against its credit default swap position and exploded its liability structure, suddenly converting it into an insolvent firm.

Swaps are also symmetrical. If the market moves against one position, it moves in favor of another, which becomes a swap receivable that is in the money. Viewed from Minsky's perspective, the asset can be hedge, speculative, or Ponzi. These contingent liability and asset claims are very important because they are central to the bargain being struck in terms of swap prices and affect the (financial) structure. The parts of the new regulatory environment that have the most to do with swap-induced leverage and whether it is collateralized or not are the margin rules, collateral policy, and the risk management rules for clearinghouses (e.g., recent CFTC proposals for bilateral margin on uncleared swaps).

According to Minsky's model, margin is treated as a form of collateral that is expressed as an income stream to cover the liability. If you are short on the swap, then you have to pay margin, as if clearing through a clearinghouse. If you have an over-the-counter position, then you have to satisfy the new CFTC margin rules. This means that, by posting collateral, you may be able to borrow at a lower rate because the cost of credit will be lower (since it is collateralized). You will then have less liquidity as a counterparty (because you had to pledge some liquid collateral by rule), so implicitly, there is less leverage since you cannot borrow and gross up your position. The reason people are mourning the new margin rules is that they can no longer enjoy the creation of both speculative and Ponzi liabilities through swaps.

If you are long on the swap, the person out of the money has to secure the cash to ensure the claim has value. As an investor, you are going to have more hedged assets and fewer speculative and Ponzi assets. In general, it means less counterparty credit risk, but you will have a lot of liquid collateral from which to leverage up even more.

An advantage of clearing and monitoring in the new system is that Dodd-Frank has created a tool for countercyclical management. One way that the Fed managed the liquidity crisis countercyclically was accepting lousy collateral on the way down. The same approach can be applied to over-the-counter swaps by relaxing the margin rules on the way down, thereby reducing liquidity pressures.

Gabilondo outlined the recent CFTC rule that is considered a big deal for firms. The rule created a three-tier approach to who has to post margin, and when, on swaps that stay on a firm's books and don't clear. This rule delimits swap entities, financial firms, and nonfinancial end users. When swap entities deal with one another, they have to fully post margin; that is, they have to post an initial margin position and pay variation margin. When there is a trade between a swap entity and a financial entity, the latter has to

post margin on its short positions. Gabilondo was unsure what the policy rationale was for this approach, but it certainly was good for the swaps dealer. When a nonfinancial firm is hedging, it does not have to post margin. However, when a nonfinancial firm is using a swap for a speculative position, it does have to post margin.

MICHAEL W. MASTERS represented Better Markets, a new nonprofit company in Washington, D.C., that acts as a public advocate in the commodity and capital markets, and tracks money flows into various assets. He focused on the influx of speculative capital in the commodity markets over the past 10 years, noting that opponents of regulation claimed that increased speculation had added liquidity, yet nobody complained that there was insufficient liquidity in the late 1990s and early 2000s. In fact, speculative equity has fluctuated 20–30 percent of total open interest (for derivative contracts) for approximately 50 years, with the exception of the last decade.

A comparison of speculator-controlled "paper" barrels versus the WTI oil price for the 1995–2011 period shows some correlation between inflows of capital (dollars) and WTI. In fact, speculators have increased their holdings by 4,000 percent and now hold NYMEX contracts equivalent to 1.5 billion barrels of oil.

The primary constituents of the commodities market are not speculators but hedgers because commodities are not capital assets, which provide cash and are consumed. Hedgers used to represent 70 percent of the commodities market, but since the Commodity Futures Modernization Act of 2000 (deregulation), that level has fallen to just 30 percent, as speculators now represent 70 percent of the market. Commodity index funds are a key component of this change, but it is a mistake to treat commodities as an asset class, said Masters.

The problem with more speculation is that it costs everyone more money. The futures and commodity markets exist so that hedgers can hedge in a low-cost manner. Futures prices drive spot prices because they set the benchmark price for physical auctions, and many physical delivery contracts use futures as their reference price. However, there has been greater price volatility over time (even net of the financial crisis). When speculators represent most of the open interest in products such as wheat (90 percent), they dictate price formation based on an institutional mandate and behavior that matter to them. Price is not based on supply and demand. For example, Goldman Sachs's recent recommendation to sell crude oil and commodities resulted in a significant drop in price—9 percent in two days. Such reactions cost hedgers money, since excessive speculation makes futures prices higher and more volatile. And hedging does not work as well due to nonconvergence caused by the presence of structured financial products (commodity index funds). Moreover, physical prices become distorted and less dependable because they follow the futures market.

In order to fix the problem, Better Markets is recommending a 30 percent cap in the overall level of speculation across markets. There needs to be enough speculation to provide liquidity, but not to the extent that it dominates price formation. (The existing proposal by the CFTC to tackle excessive speculation is inadequate.) Additionally, there is the need to eliminate or severely limit commodity index traders wherever large institutional investors are using commodities as an asset class. The markets should be restored to the structure that worked well before it was destroyed by deregulation. Masters noted that more detailed information about his company's mandate and recommendations was available at www.bettermarkets.com.

MICHAEL GREENBERGER conducted a macro review of the Dodd-Frank Act—its role in the history of commodity regulation, the problems leading to the economic meltdown, and the outlook of the markets following proper implementation of legislation. His primary example of how the markets collectively backfired and nearly imploded the world economy related to the lawful "bet" by hedge fund manager John Paulson through the unregulated over-the-counter (OTC) derivatives market (i.e., Abacus 2007-ACI). The Securities and Exchange Commission (SEC) did not sue Paulson but rather Goldman Sachs, which allegedly defrauded the counterparty that took the opposite end of Paulson's bet (Goldman Sachs subsequently settled with the SEC for $550 million).

Paulson effectively bought insurance on his own selection of subprime investments—investments in which he had no ownership or risk but that he believed would fail. Although it is illegal to buy insurance on someone else's risk, the "bets" were OTC derivatives that were expressly deregulated as "swaps" by congressional enactment (the Commodity Futures Modernization Act), so the insurance laws did not apply. The theory was that housing prices would always rise but when the subprime mortgage borrowers defaulted, the tranches insured by Paulson failed, triggering highly lucrative payment obligations (Paulson made about $15 billion). Furthermore, the loss to the real economy was exponentially multiplied by the many side bets placed against the same weak subprime tranches. This was not a zero-sum game but a win-win game for people like Paulson and companies like AIG because the American taxpayer had to bail them out.

The Dodd-Frank Act is designed to increase transparency and to create a clearing facility, which prices the bets on a daily basis in order to collect margin and ensure that it is the effective counterparty for both sides of the bet. The Act also requires that the big swap dealers post collateral and capital (and are treated like banks). These features are expected to deter entry into bets that are totally one-sided. Title VII of the Act is designed to make it very difficult to repeat the undercapitalized, nontransparent, and economy-busting "bets" that led to the kind of systemic risk that threatened the world economy in the fall of 2008.

According to the CFTC and SEC, uncleared swaps used by commercial end users will be exempt from margin requirements both for the commercial end user and for the swaps dealer selling the hedging vehicle. Also exempt are all swaps in existence before the statute passed, as well as swaps executed before final rules are in place. This means that swaps worth hundreds of millions of dollars will continue to be unregulated, with no provision for capital adequacy or transparency. These exemptions justify the (short) timetable established in Dodd-Frank and diligently followed by the CFTC to implement the statute.

Section 737 of the Act addresses position limits, and is designed to ban excessive speculation from the derivatives market—that is, speculation that exceeds the need for liquidity by commercial hedgers in the commodity markets. The futures market is in complete disarray, and the Commodity Markets Oversight Coalition acknowledges that commodity prices defy market fundamentals because of excessive speculation. However, it is questionable whether Title VII will be properly implemented in the face of resistance by the big banks and other financial institutions. This resistance is based on the expectation of reduced profits as a result of transparency and loss of control and ownership of the major new financial institutions created by Dodd-Frank. It is also based on the notion that posting collateral by the swap dealers will raise the transaction costs. Commercial hedgers, however, don't understand that they are in business with a group that went bust, said Greenberger, and the unifying rationale for minimizing the

impact of Dodd-Frank is that we are no longer in a financial crisis and can return to the status quo. There is also the argument that enforcement will kill jobs, but undercapitalization and unregulated derivatives fostered in the subprime housing market were the ultimate job and pension killers. The SEC and CFTC deserve the funding levels promised in order to prevent a future meltdown.

The cost-benefit analyses by the CFTC and banks do not reflect the cost of unregulated markets or the cost to the American taxpayer. Therefore, it is imperative to implement Dodd-Frank as soon as possible, as it cannot affect existing swaps (worth $6 trillion) or anything else until the final rules are in place. (Wall Street is complaining that government employees are moving too fast.) In the event of sovereign or municipal defaults brought on by, for example, an oil price spike, there would be no capital collateral to pay those who bet on default. And if companies threaten to relocate abroad because of section 737, then we should let them go.

SESSION 4

Financial Reform and the GATS: Challenges and Opportunities

Roger Lowenstein, William H. Janeway, Philip Suttle, and Lori M. Wallach

MODERATOR:

ROGER LOWENSTEIN

The New York Times, and author, *The End of Wall Street*

WILLIAM H. JANEWAY

Warburg Pincus and Cambridge in America

PHILIP SUTTLE

The Institute of International Finance

LORI M. WALLACH

Trade Watch, Public Citizen

ROGER LOWENSTEIN noted the increasing frequency of financial crashes. He also noted that there was a more international element after Bretton Woods (1971). He mentioned Black Monday in 1987, which was provoked by US attempts to raise interest rates; the LTCM episode, which was the result of the currency meltdown in the mid- to late-1990s; and the more recent currency episode, which was based on the "savings glut" (according to Ben Bernanke) and surplus countries such as China fueling the US mortgage boom. We now have the ability to transfer money across countries in a nanosecond, compared to the much greater timeframe for political decisions in countries with different laws and budgets, said Lowenstein. And it is staggering that the UK and the United States did not allow a private market takeover of Lehman Brothers by Barclays Bank.

WILLIAM H. JANEWAY had a distinctive perspective of the General Agreement on Trade in Services (GATS) and deregulation of the international financial markets, based on his lengthy career as a venture capitalist. He recalled his

encounter with Minsky in the 1980s, when Minsky was both a practitioner (as a board member of the Mark Twain Bank in St. Louis, Mo.) and theorist. He pointed out that the most important lesson he learned in entrepreneurial finance was that "corporate happiness is positive cash flow" (satisfying Minsky's survival constraint based on the fragility of long-term expectations and the general theory of liquidity preference). The mantra at Warburg Pincus, for example, is cash and control—the joint, unique tools for hedging against uncertainty. This mantra would have been appreciated by the likes of John Maynard Keynes and Minsky, said Janeway. Denying it is at the root of the failure of neoclassical economics.

Cash is critical because it buys time when the unanticipated happens. But cash is useless unless it is combined with enough control to change the parameters of the problem. When the individual venture capitalist practices cash and control to hedge uncertainty, there is no systemic effect. This even applies to companies such as Apple, Microsoft, Google, and Cisco that have billions of excess cash on their balance sheets (given the risks associated with the frontiers of technology and the commercial marketplace) but refuse to take any financial risk. However, there are systemic consequences when companies and governments self-insure against global imbalances (e.g., when JPMorgan takes cash out of its counterparties in the repo market or when East Asian governments self-insure against recurrence of the Asian flu).

Janeway pointed out two different environments that are basic to finance theory: the established, ongoing, self-insurance environment and the panic environment. Panic froze the markets in September 2008 when Lehman Brothers failed. He urged participants to read *The Globalization Paradox: Democracy and the Future of the World Economy* (2011) by Dani Rodrik. In an international world where people move in years, goods move in days or weeks, and cash moves in nanoseconds, the slowest to adjust bears the burden. Moreover, the three points of the triangle—national sovereignty (the fiscal and taxing authority), democracy, and the hyperintegration of financial markets—cannot coexist. An alternative espoused by Rodrik and supported by Janeway is to return to Bretton Woods because this legislation got some things right; for example, maintaining limits on the free movement of capital. This is a critical and essential element in creating a sustainable international, financial, and monetary regime.

PHILIP SUTTLE represented an organization with a global membership of 420 institutions consisting of large international banks and more than 200 emerging-market banks. He believed that the regulatory responses to the crisis were disastrously backward looking and that, in the current context, Basel III could be viewed as a good idea at the wrong time. A main concern is the persistent tendency to move from one banking crisis to another as many of the (regulatory) changes result in shifting capital and resources into new, but potentially problematic, areas.

Suttle emphasized that the proposed changes are a big deal to the global banking industry, which is key to supporting the global economy. However, there is a tendency to underplay the total impact of these changes, especially by the academic community. Dislocation and deleveraging in banking result in dislocation and deleveraging in the broader economy. Basel III is forcing banks to change faster than they might otherwise choose, with potentially negative implications for the global economy. For example, the Japanese economy would be seriously affected if its banks, which are low-capitalized institutions that were the least affected by the 2008–09 crisis, are forced into deleveraging more aggressively when Basel III is implemented. Another example is the potential for aggressive deleveraging in Europe related to managing a sovereign debt crisis when it is difficult to get creditors to behave in a certain way. Many European institutions that hold sovereign debt in the peripheral countries or have other financial obligations want to deleverage and get out at all costs. The current proposals will further accelerate the process.

It is surprising that there has been a global economic expansion for two and a half years in spite of weak bank lending, said Suttle. One reason for weak lending is that deleveraging allows banks to meet higher capital ratio requirements. And making changes now rather than before the crisis means that the current economic expansion will be muted and deflationary, adding to the potential for ongoing financial fragility and instability.

Suttle's first main point was that there are a number of superficial and informal analyses that support the notion that the reforms are beneficial. The second was that people expect the regulatory reforms to get it right this time around. However, the big issue is not the formal banking system but the shadow banking system. And no one knows exactly what the shadow banking system is or what it will become. While Fannie Mae and Freddie Mac represented half of the credit expansion after 2000, these institutions will not be as important when there is an upswing and a new credit system emerges. Suttle was confident that there would be a new intermediation system because the key ingredient—zero interest rates—leads to financial excess. He also stated that there would be a new shadow banking system.

Suttle's third main point was that the next crisis would arise from the ashes of the last one. This pattern started in the early 1990s after the financial markets were liberalized (deregulation), but more important, when a mixture of technology and behavioral shifts of investors worldwide focused on total returns measured over a relatively short time horizon—that is, chasing the next great idea following the latest debacle. He outlined a series of crises starting with the crisis that arose when there were converging interest rates globally; in particular, investing in the debt of emerging economies. This crisis preceded the tech boom (and bust), which was followed by the global housing boom (and bust). He noted that a key indicator that a cycle has overreached is when the money market funds get involved. Now we are headed back to an emerging market bubble, as represented by the BRICs (Brazil, Russia, India, and China). And everything that is being done in the restrictive environment of G7 banking and the capital markets is fueling the flow of capital into these countries.

In sum, the cost of Basel III is greater than expected, the benefits of Basel III are less than expected, and we are creating new global problems (especially in the large emerging economies). The biggest cost of all is that the resolution of these problems is coming too late in the game.

LORI M. WALLACH stated that the problem is not the absence of a global regime of financial regulation but of a binding global financial governance regime via the World Trade Organization (WTO) and other "trade" agreements that explicitly constrain governments' domestic financial regulatory space. These agreements include strongly enforced provisions that conflict (and occupy the space needed for international discussions) with the paper "commitments" at G20 meetings and the United Nations (UN) related to global norms (where international rules would be appropriate).

Our trade system has been transformed from the Bretton Woods era (post–World War II to mid-1970s) to the corporate globalization era (early 1990s to the present day), where an expansive international governance regime has been branded as free trade. The WTO replaced GATT (General Agreement on Tariffs and Trade) and introduced a set of agreements covering such items as food safety, intellectual property, and government procurement. There are even rules on how governments can spend their tax dollars. Thus, this is a global government system where the rules are beyond the free-trade agreements for North America (NAFTA) and Central America (CAFTA), and the bilateral investment treaties. It is not really about "trade" but a system of enforceable global governance.

The WTO represents global international law, whereby each member conforms its laws, regulations, and administrative procedures to its obligations, as provided in the (16) annexed Uruguay Round Agreements. For the most part, these Agreements do not deal with the trade of goods across borders. Unlike other international agreements, the rules are enforced by binding dispute resolution via foreign tribunals. Nonconformity means (indefinite) trade sanctions with no outside appeal and no due process—a not very democratic arrangement since the panels are closed and without conflict-of-interest rules. This is really a slow-motion coup d'état against democratic decision making and domestic policy space, said Wallach. According to a candid revelation from the WTO's first director general, "We are writing the constitution for a single global economy."

Wallach noted that the GATS and the service sector chapters of the "free trade" agreements contradict financial regulation. She pointed to five interlocking agreements that were broad in scope (including most financial structures as well as credit rating agencies) but conflicted with the trend toward reregulation (as highlighted by the UN Commission of Experts on Reforms of the International Monetary and Financial System in 2009). There was some flexibility in the level of commitment but there were regulatory constraints respecting all elements of all subsectors of finance for countries such as the United States.

Wallach outlined some of the rules in GATS that conflate liberalization and deregulation. "Market access" simply forbids countries from using a list of five nondiscriminatory regulatory measures in the financial sectors (both domestic and foreign firms) committed to WTO liberalization. A country cannot ban a service or financial instrument in the committed sector (even though some financial services and products are dangerous and lack social utility). There can be no limits on size, firewalls, and required legal forms. (In 1990, Timothy Geithner raised the possibility that prudential measures such as Glass-Steagall firewalls and state-level regulations could be challenged under the new global rules, but his superiors at the Treasury did not pay any attention to this notion.) Moreover, there has been a series of revisions that ban a variety of capital management techniques. And when there is cross-border trade or foreign direct investment, a country cannot restrict current and capital inflows/outflows related to that service.

These limits on capital management policy (when applied to financial service commitments) severely restrict the ability of countries to manage their current and capital accounts. An example from the European Commission staff before the last G20 meeting was their observation that a currency transaction tax could constitute a breach of the European Union's (EU) GATS obligations. Nevertheless, debate about these issues has begun in spite of efforts within the WTO to disregard the issues and push forward with the 2001 Doha Round agenda, which includes more financial deregulation.

The UN Commission to the WTO suggests altering agreements that restrict a country's ability to revise its regulatory regime (domestic prudential and capital account regulations). It believes that the WTO's Financial Services Agreement might impede countries from revising their regulatory structures in ways that would promote growth, equity, and stability, or revising their bilateral trade agreements to support financial stability, economic growth, and the welfare of consumers and investors. Although it has become a political question, there is political incoherence as evidenced by G20 calls for both the Doha Round and reregulation. The threat of challenges (e.g., the United States has filed the first financial services challenge against China) while simultaneously reregulating is having a chilling effect (particularly on midtier developing countries). And there are institutional turf wars within national governments, with

regulatory government agency officials unclear about what the trade officials are doing. Lastly, the United States, the EU, and the big financial firms have a disproportionate role in the context of trade negotiations relative to a diffused public interest in more stability and preventing the next crisis.

For a more detailed account of these issues, visit tradewatch.org.

SESSION 5

Fiscal Constraints and Macro Perspectives

Marshall Auerback, Richard Berner, Peter Hooper, and Robert W. Parenteau

MODERATOR:
LOUIS UCHITELLE
The New York Times

ROBERT W. PARENTEAU
Levy Institute and MacroStrategy Edge

RICHARD BERNER
Morgan Stanley

PETER HOOPER
Deutsche Bank Securities

MARSHALL AUERBACK
Levy Institute and Roosevelt Institute

LOUIS UCHITELLE noted that everyone agrees that the economy is gradually strengthening but they question the robustness of the recovery. He observed that economic recoveries since the 1960s have been progressively weaker, on average, and that government involvement in the economy has declined simultaneously. Given this pattern, Uchitelle wondered if there could be a sufficiently robust recovery without a helping hand from government; in particular, when private discretionary spending is at a post–World War II low. What is the role of government in a (successful) market economy? Although measures such as more financial regulation and progressive income taxes are under discussion, there is a lack of discussion about government spending on infrastructure and other programs. And assuming there is a recovery, is there sufficient spending to offset private sector demand and investment?

ROBERT W. PARENTEAU asked four politically incorrect questions relating to fiscal constraints in the economy: (1) What is the real government budget constraint; (2) How do fiscal constraints restrict the range of possible outcomes for the financial balance of other sectors; (3) Does financialization lead to lower corporate reinvestment rates (and hence, large fiscal deficits); and (4) Why are "expansionary fiscal consolidations" so elusive?

Government spending is traditionally viewed as financed by tax revenues in combination with changes in government debt outstanding and the money stock. A solvency constraint is often constructed around the notion that the present value of future tax revenues minus government expenditures is equal to or greater than the initial government debt outstanding. Whether or not the fiscal balances are on an insolvency path depends on the payment of taxes and bonds from the domestic private sector to the government relative to government expenditures.

Tax payments and bond purchases require money, which is created in two ways: by the banks crediting a deposit account when they make loans and buy securities; and by the central bank debiting a Treasury account at the Fed and crediting a bank account when it buys goods and services from the private sector. In the former, there is an asset and a liability on a private balance sheet that net to zero. In the latter, there is the creation of a net financial (liquid) asset for the private sector that can be used to buy government bonds or pay taxes. Thus, governments with a sovereign currency have to create the money that they collect as tax revenues and bond proceeds.

This epiphany shifts the whole debate around fiscal budget making and fiscal solvency. Tax obligations force the private sector to sell goods, services, and assets to the government for money. A government with a sovereign currency can never run out of money—it creates the money it collects—unless it is self-imposed (e.g., a debt ceiling). The constraint is not financial, so the fiscal balance needs to be set with regard to real capacity constraints relating to the labor market, production, or resources. Rating agencies should not assess the default risk of governments with sovereign currencies, but they *should* consider inflation risk when there is excess demand at the same time as tight labor markets and high capacity-utilization rates (which is not a factor now).

Parenteau outlined the relationship between the sector financial balances; in particular, how fiscal policy can constrain other sectors. In the economy as a whole, savings has to equal investment (total income equals total expenditures). At a more disaggregated level, however, the spending positions of the government, domestic-private, and foreign sectors can either be in balance or in surplus or deficit, but they must net to zero. Thus, a change in one financial balance influences the other two, with a range of possible outcomes.

A balanced-budget amendment, for example, would require deficit spending in the domestic-private (household and business) sector that would increase debt loads. Furthermore, a fiscal constraint such as the eurozone's 3-percent-of-GDP deficit limit constrains an economy when the domestic private sector is net saving. A lack of corporate reinvestment in spite of very high corporate profit margins is part of the reason that we are stuck with low growth, said Parenteau, and it may be a result of the short-term orientation of financial incentives. Moreover, the domestic financial balance (when the business sector is trying to net save) appears to be highly correlated with the unemployment rate.

Although corporations have lots of free cash flow, they are not reinvesting in new productive plants. Rather, they are engaging in financial-engineering games that increase stock prices and benefit management and institutional investors in the short run. Dodd-Frank does not address the issue of financialization.

Reinvestment of profits in US capital stock has been low, and the current incentive structures don't contribute to long-term growth in tangible capital stock. Without reinvestment, there is no growth or tax revenue and a chronic fiscal deficit. Therefore, it may be important to change the incentive structures (and public/private investment) in order to revive secular growth.

Tax hikes or government-expenditure cuts drain domestic private sector cash flows, so growth depends on higher private sector spending out of income flows (e.g., higher corporate reinvestment rates), improving trade balances, or a combination of the two. When fiscal policy is consolidated, there is no automatic price adjustment to offset the drain in cash flow. Ireland, for example, is experiencing a worsening fiscal balance (as a share of GDP) in spite of trying to consolidate its fiscal balances for three years. It may have run into the paradox of public thrift, surmised Parenteau. A similar situation is developing in the UK and Spain in spite of the fact that these countries managed to get out of a deep economic recession when their trade balances improved as incomes slowed. There are signs that their economies will experience a double-dip recession. This, combined with commodity price shocks, will make it even more difficult to have an expansionary fiscal consolidation.

The true government budget constraint for nations with a sovereign currency is not financial but related to the real economy (i.e., productive capacity). Constraining fiscal deficits makes it harder for the private sector to be in a net savings position or to pay down private debt. Even the International Monetary Fund is saying that it is not easy to have an expansionary fiscal consolidation, which requires current account balances to improve or the domestic private sector to reduce its net saving and spend more out of income flows.

RICHARD BERNER began with two Minsky quotes: "It's reasonable to view financial crises as systemic rather than accidental events" (i.e., crises are inherent to market economies), and "The time path of the economy depends on the financial structure." He focused on two issues: (1) changing our financial structure to restore financial stability; and (2) the relationship between our fiscal and budget challenges in terms of financial stability. The first issue is important because fiscal crises tend to follow financial crises (e.g., Ireland). The second issue is about determining what to address in order to close the loop. Berner posed two questions related to these issues: What's in the macroprudential toolkit? and, What is the interplay between financial and fiscal sustainability?

One objective is capital regulation that controls the social costs associated with excessive balance-sheet shrinkage by many institutions hit with a common shock at the same time (and to avoid credit crunches and fire sales). Another is regulation that counters the tendency to operate with capital buffers that are too thin (ex ante) and to shrink rather than recapitalize balance sheets (ex post).

Three important channels of systemic risk are leveraging, liquidity shrinkage, and a procyclical financial system that may result in default, credit crunches, and fire sales, respectively. Three regulatory tools to counter these channels of systemic risk include capital, with a built-in buffer to guard against losses that promote deleveraging; a liquidity cushion that provides insurance against liquidity drying up; and dealing with procyclicality in order to provide guidance on haircuts and margins. In a securitized world, we need to have appropriate regulation for buffers or buffers for those taking positions in financial markets. It is important to consider all three channels because capital and liquidity requirements will insulate the banks, but if these requirements are raised sufficiently high and require more self-insurance, they will drive the intermediation process into other parts of the financial system (nonbanks). It could leave the banks safer, but not the overall financial system. Therefore, another instrument is needed to regulate minimum haircuts and margins on securities and derivatives.

Berner outlined what happened in the financial markets shortly after the peak of the financial crisis (the fall of Lehman Brothers). He determined that collateral haircuts were too narrow when financial conditions were favorable, and noted that they subsequently widened dramatically during the crisis. In his review of (seven) different kinds of collateral, including Treasuries, the range of haircuts widened when the crisis hit and then widened more dramatically as the average haircut went up. When the crisis subsided, bid-ask spreads narrowed, the central bank partially restored liquidity, and spreads widened further—on the downside—as financing became more available. The lessons for regulators and risk managers are that stress-testing and liquidity matter, and one cannot disentangle credit and market risks very effectively.

The initial shock resulted in systemic risk but now the risk of contagion is fading and markets are starting to discriminate, as reflected in credit default swap spreads. The central bank remains a significant provider of liquidity to the stressed economies and will likely do so for quite some time. Berner did not expect the United States to inflate its way out of its problems, as half of US outlays are likely to be indexed to inflation by 2020. And absent policy actions at the state and local levels, deficits are likely to grow since the problem is structural. One reason is that health care and retirement promises add to deficits and are becoming increasingly structural. Dealing with these fiscal problems requires addressing the long-term source; namely, better retirement and health care infrastructure.

PETER HOOPER wondered if Europe's sovereign debt crisis (or "Minsky moment"), as exemplified by the 2010 downgrade of Greek bonds to junk status and the global plunge in the financial markets and the euro, could happen in the United States. He addressed three issues: (1) US fiscal performance and prospects; (2) the risks of a US fiscal crisis; and (3) whether fiscal drag would kill the recovery.

Hooper noted that the US federal deficit as a percent of GDP was at a peacetime high (in double digits). Under the Obama administration's 2012 budget proposal, the deficit is expected to fall below 5 percent of GDP before rising according to Congressional Budget Office (CBO) extrapolations of current policies. In contrast, the December 2010 report of the National Commission on Fiscal Responsibility (NCFR) projects a continuing decline in federal deficit levels. CBO deficit projections under the proposed budget mean that public debt levels would rise to more than 100 percent of GDP over the next several decades, while the NCFR shows declining debt levels. The current House Republican proposal for the 2012 federal budget introduced by Representative Paul Ryan (R-WI) that is being debated in Washington would result in declining debt, but not at the pace of the Commission's proposal.

Closing the revenue-spending gap is going to be a major challenge, said Hooper, because it means a major shift in both government revenues and outlays. The gap between outlays and revenues has averaged 2–3 percent of GDP over a number of decades (e.g., 21 percent versus 18 percent of GDP, respectively), but it has widened to close to 10 percent of GDP with the recent crisis. The administration's proposal reduces outlays somewhat, while increasing revenues to 19 percent of GDP. The NCFR sought to narrow the gap even more (to less than 3 percent of GDP) in order to stabilize the debt-to-GDP ratio (both outlays and revenues would eventually reach 21 percent of GDP). The Ryan proposal would leave revenues at 19 percent of GDP, while cutting spending somewhat more than that proposed by the NCFR.

In terms of federal spending, the discussion has focused on nondefense discretionary spending, where entitlements, including health care and Social Security, have risen substantially (with interest) and defense and other discretionary spending have narrowed substantially over time. Since there is little scope to resolve the problem by focusing on reducing nondefense discretionary spending (now at 17 percent

of GDP), the discussion should focus on entitlements. According to CBO projections under current US policies, for example, the health care inflation premium is at the core of the fiscal challenge.

The risk ranking of the United States based on fundamentals (i.e., debt and deficits under current policy and without an agreement in Washington) shows that it is just behind Greece, Ireland, and Portugal, and just ahead of Italy, France, and Spain. Under current policies, the United States is moving toward higher gross debt-to-GDP levels in the near term while Greece, for example, is being forced to make fundamental policy changes that would reverse its rising debt level (in the right direction). In terms of public deficits, the United States is deemed high risk, as its government fiscal balance at the end of 2010 (minus 10 percent of GDP) was exceeded only by Ireland. In terms of public debt held abroad (i.e., Treasures), the United States is in a relatively better situation than most countries, except the UK and Japan. (Because Japan's public debt held abroad is very low, its very high debt level is not an issue.) In addition, US external deficits are relatively high and exceeded only by Greece and Portugal.

In terms of market-based risk rankings (an aggregate of several market indicators), the United States is considered a very low risk. It enjoys good credibility in the Treasury markets, relatively low interest rates and five-year credit default swap spreads on US debt, AAA Standard & Poor's bond ratings, and very low default risk. The market assessment of US risk is far below fundamentals because the United States has the global reserve currency—an asset that we don't want to squander, said Hooper. However, there is substantial fiscal drag ahead—more than 1 percent of GDP—because all proposals call for reductions in budget deficits. There is a long way to go in terms of business and residential investment, as well as spending on durable goods, in order to return to normal. For example, private discretionary spending is at a historic low (20 percent of GDP) and needs to get back to 25 percent of GDP. And the financial sector needs to provide a credit mechanism in order to accommodate this objective. Hooper expected some improvement in this context within the next year or so.

In terms of prospects for US fiscal policy, Hooper observed that the budget cuts chipping away at nonsecurity discretionary spending (currently at 17 percent of GDP) would not go far. While recent rumblings in Washington are encouraging, agreement on longer-term budget reform before the next presidential election would be difficult. He saw a post-election opportunity in the guise of a Republican Congress and a second-term Democratic president similar to the substantial progress made by President Clinton. The risks are that the Republicans would be unwilling to raise taxes and possible Obama pre-election commitments on spending could constrain progress in 2013. The United States enjoys a market risk rating that belies its fiscal risk rating, so failure to progress by 2013 would significantly raise the possibility of a US debt crisis. Finally, near-term fiscal drag poses a risk to moderate recovery but ample private spending is waiting in the wings if we can get the financial sector moving again.

MARSHALL AUERBACK observed that cutting fiscal stimulus prematurely has a very adverse impact, as shown in the eurozone and the UK. This fundamental political argument, however, has been lost in the United States. In spite of accounting logic, the debate in Washington, whether from Congressman Ryan or President Obama, advocates the same recipe—spending cuts. There is a preconceived notion of affordability; that is, an ideal level of fiscal sustainability, and no heed to the economic context regarding policy effects. As pointed out by Parenteau (earlier in this session), one has to look at the overall economy rather than individual sectors such as government, private businesses and households, or (foreign) trade. One of the key insights of Minsky and Wynne Godley, and a founding framework of the Levy Institute, is that it is necessary to pay attention to the relationships between sectors.

There is the notion that the Clinton presidency was a halcyon period in the 1990s because of federal budget surpluses. When surpluses occurred in the 1920s, however, they were followed by the Great Depression, so we have drawn the wrong lesson when we promote excessively tight fiscal policy. And when the stock of safe, tradable bonds was withdrawn from the financial system, Wall Street created toxic instruments to replace the bonds and private debt exploded. Now we have become intellectual enablers of the system. Referring to Kenneth Rogoff and Carmen M. Reinhart's work about the history of financial crisies, *This Time Is Different: Eight Centuries of Financial Folly* (2009), Auerback noted that the most expensive phrase in the English language is "This time is different."

Auerback also pointed out that a country operating under the gold standard in the 18th century cannot be compared to one operating under a fiat currency system in the 21st century. A noteworthy paper by Senior Scholar L. Randall Wray and Yeva Nersisyan addresses the conceptual confusion on this subject (see Working Paper No. 603). We tend to conflate public and private debt, but there is a fundamental difference between them. Moreover, sovereign countries such as the United States, UK, and Japan that issue their own currency are very different. And the fact that the US dollar maintains its reserve-currency status is not relevant in this instance. Rather, the structure of the monetary system is more important.

The monetary system headed by the European Central Bank (ECB) is fundamentally flawed. Fifteen countries have effectively surrendered their fiscal sovereignty, much like the US states in relation to the Federal Reserve. These countries are users, not issuers, of currencies. However, the ECB has been creative in dealing with the problem of potential national insolvency by purchasing bonds in the secondary market—something that the ECB's Philipp Hartmann (who spoke at last year's Minsky conference) said would never happen because it would be inflationary and monetize the debt. However, it was the right thing to do, said Auerback. Unfortunately, the quid pro quo is that the ECB is demanding additional fiscal austerity for the people selling the bonds to them. The fact that the ECB is not allowing enough recovery time is creating enormous political stresses in Portugal, Italy, Ireland, Greece, and Spain (the PIIGS).

By contrast, Japan, which has a very high debt-to-GDP ratio, is able to sustain much lower levels of unemployment than countries in the eurozone. Its economy in the late 1980s and early 1990s did not illustrate the futility of fiscal expansion but rather the futility of stop-start policies (e.g., higher consumption taxes during a recession in the mid-1990s and fiscal consolidation in the early 2000s) that we are about to embark upon in this country. When Japan's Ministry of Finance consolidated its finances in 2003, the economy grew steadily at an annual rate of 2.5 to 3.0 percent and budget deficits as a percent of GDP declined. Auerback warned that the policies currently adopted in Europe and the United States would create the opposite outcome than desired by policymakers.

SESSION 6

Reregulating the US Financial System: Beyond Dodd-Frank

Eric Dash, James K. Galbraith, Robert A. Johnson, and Alex J. Pollock

MODERATOR:

ERIC DASH
The New York Times

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ERIC DASH related that he has had a front-row seat in covering the financial crisis, which is perhaps the greatest economic story of his generation. He has written about the government-assisted rescue of Bear Stearns, the first major Wall Street firm to collapse as a result of financial panic; the nation's biggest banks on the brink of collapse (and nationalization) in spite of bailouts amounting to billions of dollars; and the congressional debate about a series of sweeping reforms that would impact every corner of the financial industry. Now we are feeling the impact of the Dodd-Frank Act, as policymakers and lawmakers implement the new rules and complete hundreds of impact studies. Dash also proposed three questions: To what extent has this legislation addressed the flaws in our financial system? Which problems have not been fixed? and, What might we do in order to avoid another Great Depression?

JAMES K. GALBRAITH proposed the following question at recent meetings of the International Monetary Fund (IMF) and The Institute for New Economic Thinking at Bretton Woods: How is it

possible to have the somber and well-informed discussions of financial supervision replete with experts and high officials, and not one mention of the word "fraud"? He received no real answer on either occasion.

Author William K. Black, in *The Best Way to Rob a Bank Is to Own One: How Corporate Executives and Politicians Looted the S&L Industry* (2005), defines fraud as "theft by deception. . . . A control fraud is a company run by a criminal, who uses it as a weapon and shield to defraud others, and makes it difficult to detect and punish the fraud. Control frauds are financial super-predators that cause vastly greater losses than blue-collar thieves. They cause catastrophic business failures. Control frauds can occur in waves that imperil the general economy." "To use a term from economics," writes Black, "fraud causes terrible 'negative externalities' because it inflicts injury on those who were not parties to the fraudulent transaction."

No one denies that fraud was present in the run up to the financial crisis, said Galbraith. Both Professor Jeffrey Frankel of Harvard University, at the IMF meeting, and Claudio Borio of the Bank for International Settlements, at the Bretton Woods meeting, acknowledged that there was fraud but they stated, respectively, that it should be treated "objectively" and that it was not an important problem. Galbraith noted that the state attorneys general in Minnesota and Iowa thought differently in 2003, as did the FBI when it warned the public about an epidemic of mortgage fraud in October 2004. And in 2007, Fitch Ratings was "startled" when it looked at mortgage documentation and found evidence of fraud in virtually every file. He also noted that the very language of the trade (e.g., liar, Ninja [no income, no job or assets], and neutron loans) suggested that the people who dealt in derivative mortgage instruments knew they were engaging in fraud.

Another excellent book on the subject, *The Subprime Virus: Reckless Credit, Regulatory Failure, and Next Steps* (2011) by Kathleen Engel and Patricia A. McCoy, describes practices such as "bait and switch," junk fees, prepayment penalties linked to reset dates, padding of borrower income or assets, commissioning inflated appraisals, altering credit reports, and so on. Galbraith supplied the quotation on the book's back jacket: "It should be on every prosecutor's 'must read' list."

A third book recommended by Galbraith, *All the Devils Are Here: The Hidden History of the Financial Crisis* (2010) by Bethany McClane and Joe Nocera, states that 82 percent of subprime loans represented refinancing (refi's) and 60 percent of those were cash-out refi's. Thus, these loans were not about homeownership but about maintaining consumption and meeting costs such as education and health care. The authors write extensively about AmeriQuest (America's dominant subprime lender) and include a quote by one of its officers that "my manager and handlers there taught me about the ins and outs of mortgage fraud." The company settled with 49 state attorneys general for $325 million in January 2006. Another company, New Century Financial, stated that the guidelines would harm their business operations and profitability. These are admissions that the entire industry was based on fraud, said Galbraith.

An official government document, *The Financial Crisis Inquiry Report* (January 2011), concludes that the widespread failures in financial regulation and supervision proved devastating because of a dramatic failure of corporate governance and risk management, a systematic breakdown of accountability and ethics, collapsing mortgage lending standards, and the failures of credit rating agencies. All of these items were essential cogs in the wheel of financial destruction, and although they are not being dealt with by high officials, they are getting some attention from the media. For example, the *New York Times* recently ran a long story about the nonpersecution of fraud committed in this crisis, while the *Huffington Post* reported that the Senate Permanent Subcommittee on Investigations is considering prosecuting Goldman

Sachs chief Lloyd Blankfein in connection with complex financial instruments (e.g., the Abacus deals) and his role in the financial crisis.

Exposure is not about vengeance but about accountability, responsibility, power, legitimacy, and the public purpose, said Galbraith. Fraud is deceit that has destroyed trust, and the destruction cannot be papered over by Dodd-Frank or anything else short of rooting out the people and replacing the institutions and structures that were responsible in the first place. Financial instruments are contracts of law, and without the rule of law the financial sector is of no use to anyone except those who own it (and the politicians they own). The question is whether Dodd-Frank will do the job. There is no chance that this will happen unless the prosecutors and courts wake up and do their job.

ROBERT A. JOHNSON remarked that we knew what was happening in the financial industry (e.g., 10K reports of investment bank leverage ratios) in spite of some theoretical blind spots. The mystery is that people didn't anticipate the crisis. His main theme echoed Galbraith's concern—the eradication of trust. A quote in *The Creation and Destruction of Value* (2009) by Harold James, a Princeton historian, focuses on Germany in the aftermath of the 1931 crisis but reflects the 2008 events: "Banks, businesses, and even individuals no longer trust each other . . . as monetary and ideal values are shaken." Financiers are supposed to be the stewards of our future but they blew the whistle in 2008 when they said, "Wave in $708 billion, we made a mistake." They also warned that it was a lose-lose game in lieu of a bailout. According to Johnson, this showed that there were externalities between the financial sector and the real economy—a matter not digested thoroughly when the Dodd-Frank bill was created.

In the government decision-making process, removing constraints always has a shadow price. The creation of an open (market) system in making the rules means that Dodd-Frank has serious problems. The American people believe that government functions as an insurance company for the powerful, so they would prefer to reduce the government rather than accept (future) taxes or cut essential expenditures. The question is not public services but whether one trusts those who allocate the people's money and (future) debt. And we are deceiving ourselves if we assume infinite liquidity.

Johnson observed that institutions, markets, and systems were intertwined to the extent that resolving one made the others more fragile. He also noted that words associated with "efficient" and "rational" have been used as elements of mirage and myth relating to economic theory and psychological thought. James Tobin wrote a paper, "The Efficiency of Financial Markets" (1984), in which he identified different types of efficiency. Tobin concluded that if the financial sector is so big in relation to the economy, then it can't represent efficiency—we are working for the financial sector rather than the other way around.

According to Johnson, Dodd-Frank is not doing much to help with mortgage resolution and it has not eliminated too-big-to-fail. This legislation did not consider cross-border bankruptcy regimes, real-time road maps of exposure, or the ability to disentangle firms or impose cross-limits. Citizens have a right to expect protection from usury (as consumers), bailouts (as taxpayers), and undue resistance to the resolution of overhangs.

The flaws in the financial structure include excessive leverage, complexity, regulatory avoidance associated with off-balance sheet vehicles and risk, the shadow banking system, and inadequate reporting systems. Stress tests now should not be a novel approach. They show that we are behind the curve.

Johnson was not overly negative about the Fed and its new powers because, he said, we have learned from the experiences of 2008. He expected the Fed's performance to improve going forward. However, a

2009 Gallup poll showed that trust in the Fed had deteriorated significantly and was now below that accorded the Internal Revenue Service. Although the Fed's balance sheet reveals that the agency may have done a tremendous job improvising around a dysfunctional system during the crisis, it also shows that the Fed and other regulators were not on the job in the five years prior to the crisis.

Johnson took issue with the fact that information requested by Senator Bernie Sanders (I-VT) was not made public and included in the legislature's deliberations on Dodd-Frank, and that the Fed was not proactive in the reform process. Nevertheless, the Fed is more a scapegoat than a cause of the crisis (Congress fears being responsible for bailouts). Money politics and the deterioration of enforcement played an enormous role. Contrary to the position of Gary B. Gorton, who spoke at the conference earlier (see page 00), Johnson did not think that society as a whole could implement what needs to be done. He observed that the quality of hearings in the past few years was terrible compared to that of the S&L crisis because the hearings avoided things that would offend fundraisers and did not explore what was necessary in the midst of a social crisis.

Enforcement is affected by the "opportunity cost of doing good." Therefore, remedies should include political reform of money politics and a well-paid civil service that has sufficient resources. Johnson pointed out that there has been some great work by senior civil servants worldwide (e.g., cross-border bankruptcy resolution regimes) and that government need not fail unless we want it to. We adopted rituals of false security, such as the illusion that a minor adjustment in the standard policy framework would prevent future crises. By doing so, it leaves us overly exposed to what is new and unexpected.

ALEX J. POLLOCK quoted Walter Bagehot's (1873) observation that fraud ("ingenious mendacity") was an invariable attendant of bubbles. Can the Dodd-Frank Act (i.e., the "Faith in Bureaucracy Act") defeat Minsky's instability? The answer, said Pollock, is no, because instability is more powerful than any number of regulations. Moreover, there is no evidence that human minds operating within bureaucracies and driven by politics have superior insight into the future and uncertainty. Furthermore, government actors are not exempt from cognitive herding. For example, the Federal Deposit Insurance Corporation (FDIC) in 2006 (at the peak of the bubble) stated that more than 99 percent of all insured institutions met or exceeded the requirements of the highest regulatory capital standards. Bubbles make everything look good because there are low delinquencies and losses, and good balance sheets.

According to economist Frank Knight, in his book, *Risk, Uncertainty, and Profit* (1921), the fundamental problem is not risk but uncertainty, which is impossible to calculate. Pollock noted that he attended the first Minsky conference in the early 1990s, where the concern was the financial collapse of the 1980s and the failure of more than 2000 financial institutions. The lessons learned from this experience were considered in the FDIC Improvement Act of 1991, with the expectation that there would be no more banking crises.

According to Treasury Secretary Timothy Geithner, we cannot build a system that depends on the wisdom and judgment of future regulators. Pollock observed that we could build such a system, as exemplified by the Dodd-Frank Act, but that we could not avoid Minskyan instability. There is uncertainty because financial systems are complex and infinitely recursive. A very large number of financial actors are influenced by the actions, expectations, strategies, reactions, and beliefs of others. Government actors such as the central bank can be major generators of uncertainty (systemic risk). When former Fed Chairman Alan Greenspan stoked the housing boom, his gamble turned into a bubble. A question from

Senator Jim Bunning (R-KY) to Fed Chairman Ben Bernanke captures an important truth: "How can you regulate systemic risk when you are the systemic risk?"

Other important government actors contributing to the bubble were the government-sponsored enterprises, Fannie Mae and Freddy Mac. These actors, however, are completely absent from the Dodd-Frank Act. They represent a $5 trillion government intervention in housing and finance, and were flat broke at the time of the Act's passage. The key to these enterprises was the implicit guarantee that their obligations would be backed by the US government. They used this guarantee to invest heavily in subprime mortgage–backed securities up to the peak of the bubble. According to the government, these highly leveraged enterprises (and guarantees) were off-budget. On the other hand, bond salesmen marketed them as government paper, which they were. Now ordinary Americans are being taxed so that both foreign and domestic bondholders of these hopelessly insolvent enterprises will be paid off at par. No one had predicted that Fannie and Freddie would get in trouble from credit risk.

Another item missing from the Dodd-Frank Act is the need for countercyclical strategies. A key Minskyan insight is that what is viewed as sound, risky, or unsound depends on the "subjective preferences" of investors, entrepreneurs, and bankers. Pollock added regulators, central bankers, and politicians to the list because a boom creates procyclical subjective preferences and expectations for all parties, and a strong tendency toward cognitive herding. One way to initiate a countercyclical strategy is to create countercyclical loan-to-value ratio behavior in the collateralized lending markets; that is, as asset prices rise and depart from trend, the amount one is willing to lend against that asset goes down. Another way is to encourage new bank and financial company charters at the bottom of the bust. Both ways are contrary to what happens during cycles.

An interesting part of the Dodd-Frank Act is the creation of an Office of Financial Research. It must be intellectually independent and without power in order to have any chance of success, said Pollock. When dealing with Minskyan instability, we need to moderate financial cycles and encourage intellectual synthesis of diverse matters that do not have the attention of others (similar to the development of Minsky's insights). He noted in closing that the rediscovery of Minsky's work is a coincident indicator of financial crises.

Participants

PHIL ANGELIDES has earned national acclaim as an effective public and private sector leader with broad expertise and accomplishments in the fields of corporate financial reform, housing, and finance, and widespread praise for his innovative work in urban reinvestment, smart growth and green investment. Angelides recently served as chairman of the Financial Crisis Inquiry Commission, a 10-member bipartisan panel created by federal law and charged with examining the causes of the nation's financial and economic crisis. The Commission issued its report and conclusions to the president and Congress in January 2011. The report (available at www.fcic.gov) concluded that the crisis was avoidable and was caused by widespread failures of regulation, dramatic breakdowns in corporate governance, excessive risk taking by Wall Street, government leaders ill prepared for crisis, and systemic breaches in accountability and ethics. The report made the *New York Times* and *Washington Post* best-seller lists.

Angelides is currently president of Riverview Capital Investments, which focuses on sustainable urban development and clean-energy projects. From 1999 to 2007, he served as California's state treasurer. The Associated Press reported that he made "the sleepy treasurer's office a policy powerhouse," and the *Sacramento Bee* praised Treasurer Angelides as "the most effective and dynamic state treasurer in a generation." He was the Democratic nominee for Governor of California in 2006. Angelides is a graduate of Harvard University and a Coro Foundation Fellow.

Research Associate **MARSHALL AUERBACK** is a senior fellow at The Roosevelt Institute and a fellow of Economists for Peace and Security. A global portfolio strategist for the Denver-based investment group Madison Street Partners, LLC, he has over 28 years' experience in investment management. Since 2003, he has been a consulting economist for PIMCO, and until July 2010 was a global portfolio strategist for fund manager RAB Capital PLC. From 1983 to 1987, Auerback was an investment manager at GT Management (Asia) Limited in Hong Kong, where he focused on the markets of Hong Kong, the ASEAN countries (Singapore, Malaysia, the Philippines, Indonesia, and Thailand), New Zealand, and Australia. From 1988 to 1991, he was based in Tokyo, where his Pacific Rim expertise was broadened to include the Japanese stock market. From 1992 to 1995, Auerback managed an emerging markets' hedge fund for the

Tiedemann Investment Group in New York, and from 1996 to 1999 he served as an international economics strategist for Veneroso Associates. From 1999 to 2002, he managed the Prudent Global Fixed Income Fund for David W. Tice & Associates, a USVI-based investment management firm. Auerback graduated in English and philosophy from Queen's University and received a law degree from Corpus Christi College, University of Oxford.

SHEILA C. BAIR was sworn in as the 19th chairman of the Federal Deposit Insurance Corporation (FDIC) on June 26, 2006. She was appointed chairman for a five-year term and a member of the FDIC board of directors through July 2013. Bair has an extensive background in banking and finance in a career that has taken her from Capitol Hill, to academia, to the highest levels of government. Before joining the FDIC, she was the Dean's Professor of Financial Regulatory Policy for the Isenberg School of Management at the University of Massachusetts Amherst (2002–06). While there, she also served on the FDIC's Advisory Committee on Banking Policy. Other career experience includes serving as Assistant Secretary for Financial Institutions at the US Department of the Treasury (2001–02), Senior Vice President for Government Relations of the New York Stock Exchange (1995–2000), commissioner and acting chairman of the Commodity Futures Trading Commission (1991–95), and research director, deputy counsel, and counsel to Senate Majority Leader Robert Dole (1981–88).

As FDIC chairman, Bair has presided over a tumultuous period in the nation's financial sector. Her innovations have transformed the agency, with programs that provide temporary liquidity guarantees, increases in deposit insurance limits, and systematic loan modifications to troubled borrowers. Bair's work at the FDIC has also focused on consumer protection and economic inclusion. She has championed the first survey of the unbanked by the US Census, the creation of an Advisory Committee on Economic Inclusion, seminal research on small dollar-loan programs, and the formation of broad-based alliances to bring underserved populations into the financial mainstream. She has served as a member of several professional and nonprofit organizations, including the Insurance Marketplace Standards Association, Women in Housing and Finance, Center for Responsible Lending, NASD Ahead-of-the-Curve Advisory Committee, Massachusetts Savings Makes Cents, American Bar Association, Exchequer Club, and Society of Children's Book Writers and Illustrators. She topped the *Wall Street Journal*'s annual "50 Women to Watch" list for 2008, and in 2008 and 2009, *Forbes* Magazine named her the world's second most powerful woman after Germany's Chancellor Angela Merkel. Bair has also received several honors for her published work on financial issues, including her educational writings on money and finance for children, and for professional achievement. These include the Distinguished Achievement Award, Association of Education Publishers (2005); Personal Service Feature of the Year and Author of the Month Awards, *Highlights Magazine for Children* (2002, 2003, and 2004); and The Treasury Medal (2002). Her first children's book, *Rock, Brock and the Savings Shock*, was published in 2006, and her second, *Isabel's Car Wash*, in 2008. Bair received a bachelor's degree from the University of Kansas and a JD from the University of Kansas School of Law. She is married to Scott P. Cooper and has two children.

RICHARD S. BERNER is a managing director and chief US economist at Morgan Stanley, and is the firm's former co-head of global economics. Before joining Morgan Stanley in 1999, Berner was executive vice president and chief economist at Mellon Bank, and a member of Mellon's Senior Management Committee. He also served for seven years on the research staff of the Federal Reserve in Washington, D.C.

Berner is a member of the Economic Advisory Panel of the Federal Reserve Bank of New York and the Panel of Economic Advisers of the Congressional Budget Office. He is also a member of the Executive Committee and a director at large of the National Bureau of Economic Research. In 2007, he received the William F. Butler Award for excellence in business economics. Berner earned his bachelor's degree at Harvard College and his Ph.D. at the University of Pennsylvania. He researched his dissertation under SSRC–Ford Foundation grants at both the University of Louvain, Belgium, and at the University of Bologna, Italy.

LEONARDO BURLAMAQUI is a program officer at The Ford Foundation in New York. The overall goal of his work is to strengthen global financial governance in order to achieve a fairer and more democratic version of globalization, through support for projects on (a) financial governance reform and new regulatory and enforcement mechanisms designed to restructure the financial system toward a more transparent, accountable, and effective system of governance that helps to alleviate poverty and expand social justice worldwide; and (b) reshaping financial institutions for funding innovation and sustainable development. Previous to this appointment, Burlamaqui held academic appointments as professor in and research director of the law and economics program at Candido Mendes University; associate professor of economics at the State University of Rio de Janeiro (on leave); and stints at the World Intellectual Property Organization, the World Institute for Development Economics Research (Helsinki), the Institute for Developing Economies (Tokyo), and the Centre for Development and the Environment, University of Oslo. He has served as a member of the board of the International J. A. Schumpeter Society (2002–06) and is currently on the board of The Other Canon Foundation. Burlamaqui has written and published widely on innovation and competition, development economics, intellectual property rights, globalization and institutional change, and the political economy of global trade and finance. He is co-author, with Maria da Conceição Tavares and Ernani Torres, of *Organized Capitalism in Japan* (IPEA/CEPAL, 1995); and co-editor, with Ana Célia Castro and Ha-Joon Chang, of *Institutions and the Role of State* (Edward Elgar, 2000). His recent publications include "Innovation, Competition Policies and Intellectual Property—An Evolutionary Perspective and its Policy Implications," in Neil Netanel, ed., *The Development Agenda; Global Intellectual Property and Developing Countries* (Oxford University Press, 2009); and "Intellectual Property, Innovation and Development," *Brazilian Journal of Political Economy* (Fall 2010). Forthcoming publications include "From Intellectual Property to Knowledge Governance" (with Mario Cimoli), in Joseph Stiglitz et al., eds., *Intellectual Property Rights: Legal and Economic Challenges for Development* (Oxford University Press, 2011). Burlamaqui holds a Ph.D. in economics from the Federal University at Rio de Janeiro.

JOHN CASSIDY has been a staff writer at the *New Yorker* since 1995. He has written many articles for the magazine, on topics ranging from Alan Greenspan and Ben Bernanke to the Iraqi oil industry and the economics of Hollywood. He also writes a blog on the *New Yorker*'s website called Rational Irrationality. His latest book, *How Markets Fail: The Logic of Economic Calamities*, was published in 2009 by Farrar, Straus and Giroux. Cassidy is also a contributor to the *New York Review of Books* and a financial commentator for the BBC. He came to the *New Yorker* after working for newspapers on both sides of the Atlantic. Cassidy joined the *Sunday Times,* in London, in 1986, and served as the paper's Washington bureau chief for three years, and then as its business editor, from 1991 to 1993. From 1993 to 1995, he was at the New York *Post,* where he edited the Business section and then served as deputy editor.

VÍTOR MANUEL RIBEIRO CONSTÂNCIO was appointed vice president of the European Central Bank in June 2010. He was governor of the Banco de Portugal from 1985 to 1986, and again from 2000 to May 2010. He graduated with a degree in economics from the Universidade Técnica de Lisboa. Constâncio is a former executive director of the Banco Português de Investimento (1995–2000) and nonexecutive director of the Electricidade de Portugal, the Portuguese national power utility (1998–2000). From 1989 until June 2010 he was visiting senior professor of economics at the Instituto Superior de Economia e Gestão, culminating a long academic career.

ERIC DASH has been a banking reporter for the business section of the *New York Times* since 2004. He has been a major contributor to its coverage of the recent financial crisis, including the government rescues of the nation's banks and the policy response from Washington. Dash's coverage of risk management lapses at Citigroup was part of a series that earned a 2009 Gerald Loeb Award for distinguished financial journalism and was a finalist for a Pulitzer Prize. He has also written extensively on executive pay, and was named to *Directorship* Magazine's 2010 list of the most influential people in corporate governance. Dash graduated from the University of Pennsylvania and holds a master's degree in international political economy from the London School of Economics. He grew up in Pittsburgh and now lives in New York City.

CHARLES L. EVANS is the ninth president and chief executive officer of the Federal Reserve Bank of Chicago. In that capacity, he serves on the Federal Open Market Committee, the Federal Reserve System's monetary policy–making body. The Federal Reserve Bank of Chicago is one of 12 regional Reserve Banks across the country. These 12 banks, along with the Board of Governors in Washington, D.C., make up our nation's central bank. As head of the Chicago Fed, Evans oversees the work of roughly 1,400 employees in Chicago and Detroit who conduct economic research, supervise financial institutions, and provide payment services to commercial banks and the US government. Before becoming president in September 2007, he served as director of research and senior vice president, supervising the Bank's research on monetary policy, banking, financial markets, and regional economic conditions. Prior to that, Evans was a vice president and senior economist with responsibility for the macroeconomics research group. His own research has focused on measuring the effects of monetary policy on US economic activity, inflation and financial market prices. It has been published in the *Journal of Political Economy*, *American Economic Review*, *Journal of Monetary Economics*, *Quarterly Journal of Economics*, and the *Handbook of Macroeconomics*. Evans is also active in the civic community. He is a board member at Chicago Metropolis 2020 and the Metro Chicago Information Center, and a trustee at Rush University Medical Center. Evans has taught at the Universities of Chicago, Michigan, and South Carolina. He received a bachelor's degree in economics from the University of Virginia and a doctorate in economics from Carnegie-Mellon University in Pittsburgh.

Born in Santiago de Cuba, **JOSÉ GABILONDO** joined the College of Law after working in financial market regulation at the US Department of the Treasury, the US Securities and Exchange Commission, the Office of the Comptroller of the Currency, and the World Bank. Gabilondo teaches tax and corporate finance. His scholarship focuses on debt markets and (separately) heterosexual subject formation in law and has appeared in the *Journal of Corporation Law*, *Wake Forest Law Review*, *Seton Hall Law Review*, *Maryland Journal of Business & Technology Law*, and the *Wisconsin Journal of Law, Gender, and Society*,

among others. He has presented his research at the Universities of Chicago, Buffalo, Maryland, DePaul, Emory, Georgetown, Kent (UK), and Wake Forest, as well as American University. He has also been a featured speaker at meetings of the American Society for International Law, the American Association of Law Schools, the Latin American Law and Economics Association, the Georgetown University Conference on Socio-Economics, Law and Society, the American Association of University Professors, LatCrit, and the Latin American Studies Association. Growing out of his research on heterosexuality, he has taught in court-ordered diversity training for judges, lawyers, and other judicial staff in the Florida courts. He comments regularly in the Spanish-language media on financial and economic matters.

Senior Scholar **JAMES K. GALBRAITH** is currently Lloyd M. Bentsen Chair in Government and Business Relations and professor of economics at the LBJ School of Public Affairs, University of Texas at Austin. He holds degrees from Harvard University (BA, magna cum laude, 1974) and Yale (Ph.D. in economics, 1981). He studied economics as a Marshall Scholar at King's College, Cambridge, in 1974–75, and then served in several positions on the staff of the US Congress, including as the executive director of the Joint Economic Committee. He was a guest scholar at The Brookings Institution in 1985 before joining the faculty at the University of Texas. From 1995 to 1997, he directed the LBJ School's Ph.D. program in public policy. He held a Fulbright Distinguished Visiting Lectureship in China in the summer of 2001 and was named a Carnegie Scholar in 2003. His recent research has focused on the measurement and understanding of inequality in the world economy, and he leads an informal research group called the University of Texas Inequality Project with several of the school's distinguished graduate students. Galbraith is also chair of the board of Economists for Peace and Security. He is the author of *The Predator State: How Conservatives Abandoned the Free Market and Why Liberals Should Too* (2008), *Created Unequal: The Crisis in American Pay* (1998), and *Balancing Acts: Technology, Finance and the American Future* (1989). He has co-authored two textbooks, *The Economic Problem*, with the late Robert L. Heilbroner, and *Macroeconomics*, with William Darity Jr., and is co-editor, with Muareen Berner, of *Inequality and Industrial Change: A Global View* (Cambridge University Press, 2011), which features contributions from six LBJ School Ph.D. students. Galbraith's latest book, *Inequality and Instability*, is forthcoming from Oxford University Press.

GARY GENSLER was sworn in as chairman of the Commodity Futures Trading Commission on May 26, 2009. He previously served as a senior adviser to the chairman of the US Senate Banking Committee, Senator Paul Sarbanes, on the Sarbanes-Oxley Act, reforming corporate responsibility, accounting, and securities laws. From 1999 to 2001, he served at the US Department of the Treasury as Under Secretary of Domestic Finance, and from 1997 to 1999 as Assistant Secretary of Financial Markets. Prior to joining Treasury, Gensler worked for 18 years at Goldman Sachs, where he was selected as a partner; in his last role he was co-head of Finance. Gensler is the co-author of *The Great Mutual Fund Trap* (Broadway, 2004), which presents commonsense investment advice for middle-income Americans. He graduated summa cum laude from the University of Pennsylvania's Wharton School with a BS in economics (1978) and received an MBA from the Wharton School's graduate division (1979). He lives with his three daughters outside of Baltimore, Maryland.

GARY B. GORTON is The Frederick Frank Class of 1954 Professor of Finance at the Yale School of Management. Prior to being at Yale, Gorton was the Robert Morris Professor of Banking and Finance at The Wharton School of the University of Pennsylvania, where he worked for 24 years starting in 1983. He is also currently a research associate of the National Bureau of Economic Research and is a member of the Federal Reserve Bank of New York Financial Advisory Roundtable. Gorton is a former member of the Moody's Investors Services Academic Advisory Panel and the former director of the Research Program on Banks and the Economy for the Federal Deposit Insurance Corporation. He has taught at the Graduate School of Business, University of Chicago, and previously worked as an economist and senior economist at the Federal Reserve Bank of Philadelphia. In 1994, he was the Houblon-Norman Fellow at the Bank of England. Gorton has consulted for the US Board of Governors of the Federal Reserve System, various US Federal Reserve Banks, the Bank of England, the Bank of Japan, and the Central Bank of Turkey. He has also consulted extensively with a number of private firms, including AIG Financial Products, where he was a consultant from 1996 to 2008. Gorton received his doctorate in economics from the University of Rochester. In the field of economics, he received master's degrees in economics from the University of Rochester and Cleveland State University, and also received a master's in Chinese studies from the University of Michigan.

Since July 2001, **MICHAEL GREENBERGER** has been a professor at the University of Maryland School of Law, where he teaches the course Futures, Options and Derivatives. He serves as technical adviser to the Commission of Experts of the President of the UN General Assembly on Reforms of the International Monetary and Financial System. He is a recent member of the International Energy Forum's (IEF) Independent Expert Group, which provided recommendations for reducing energy price volatility to the IEF's 12th Ministerial Meeting in March 2010. Greenberger was a partner for more than 20 years in the Washington, D.C., law firm of Shea & Gardner, where he served as lead litigation counsel before courts of law nationwide, including the US Supreme Court. In 1997, he left private practice to become director of the Division of Trading and Markets at the Commodity Futures Trading Commission (CFTC), where he served under CFTC Chairperson Brooksley Born. He also served on the Steering Committee of the President's Working Group on Financial Markets, and as a member of the International Organization of Securities Commissions' Hedge Fund Task Force. Greenberger has frequently been asked to testify before congressional committees on issues pertaining to dysfunctions within US financial markets caused by complex and unregulated financial derivatives. He has also appeared both in the media and at academic gatherings to discuss this subject. Greenberger is a Phi Beta Kappa graduate of Lafayette College and the University of Pennsylvania Law School.

FRANCESCO GUERRERA is the US finance and business editor for the *Financial Times*. His beat includes US financial services and large US-based corporations such as Citigroup, JPMorgan, and General Electric. Guerrera joined the *Times* in 2000. Prior to his most recent appointment, in 2008, he served as the paper's US business editor (2006–07), covering a beat that included corporations, investors, and capital markets. Previously, he was its Asia financial correspondent, based in Hong Kong, covering merger and acquisitions activity in Asia in addition to regional business and financial affairs. Before his Asia post, Guerrera was based in Brussels, reporting on the European Union competition, financial services, and internal market matters. Prior to that he was on the city and business desk of the London *Independent* and covered

financial news at AFXNews. Guerrera earned a first-class degree in economics and journalism from City University in London, and speaks fluent Italian, Spanish, and French.

PETER HOOPER is currently managing director and chief economist for Deutsche Bank Securities (DBS). He joined DBS in 1999, first as chief international economist and shortly thereafter as chief US economist. He became chief economist and co-head of global economics in 2006. Prior to joining DBS, Hooper enjoyed a distinguished 26-year career at the Federal Reserve Board in Washington, D.C. While rising to senior levels of the Fed staff, he held numerous positions, including as an economist on the Federal Open Market Committee and as deputy director of the Division of International Finance. Hooper produces weekly and quarterly publications for DBS, with a focus on US and global economic developments and Fed policy; he also comments on US and global economic and financial developments in the news media. His US Economics team was ranked first in fixed-income research by *Institutional Investor* in 2010. Hooper currently serves as a member of the Economic Advisory Panel of the Federal Reserve Bank of New York, a member and former chairman of the Economic Advisory Committee of the American Bankers Association, a founding member of the US Monetary Policy Forum, a member of the Economic Leadership Council for the University of Michigan, and a member of the Forecasters' Club of New York. He earned a BA in economics (cum laude) from Princeton University and an MA and Ph.D. in economics from University of Michigan. He has published numerous books, journal articles, and reviews on economics and policy analysis.

WILLIAM H. JANEWAY is senior adviser at Warburg Pincus. He joined the firm in 1988, and was responsible for building its information technology practice. Previously, he was executive vice president and director at Eberstadt Fleming. Janeway is a director of Nuance Communications, O'Reilly Media, and Wall Street Systems, and a member of the board of managers of Roubini Global Economics. He is chairman of the board of trustees of Cambridge in America, University of Cambridge; co-chair of Cambridge's 800th Anniversary Capital Campaign; and a member of the board of managers of the Cambridge Endowment for Research in Finance. He is also a member of the board of directors of the Social Science Research Council, the board of governors of the Institute for New Economic Thinking, and the advisory boards of the Princeton Bendheim Center for Finance and the MIT-Sloan Finance Group. Janeway was valedictorian of Princeton University's Class of 1965. He received his doctorate in economics from Cambridge University, where he was a Marshall Scholar.

ROBERT A. JOHNSON serves as executive director of the Institute for New Economic Thinking (INET). Previously, he was a managing director at Soros Fund Management, where he handled a global currency, bond, and equity portfolio specializing in emerging markets. Johnson has also served as chief economist of the US Senate Banking Committee, as senior economist of the US Senate Budget Committee, and as a managing director at Bankers Trust Company. INET is dedicated to empowering and supporting the next generation of economists and scholars in related fields through research grants, task forces, academic partnerships, and conferences. Launched in 2009 with a founding commitment from George Soros and driven by the global financial crisis, INET is committed to broadening and accelerating the development of innovative thinking that can lead to solutions for the great challenges of the 21st century and return economics to its core mission of guiding and protecting society.

JAN KREGEL is a senior scholar at the Levy Economics Institute of Bard College and director of its Monetary Policy and Financial Structure program. He also holds the position of professor of development finance at Tallinn University of Technology. In 2009, Kregel served as Rapporteur of the President of the UN General Assembly's Commission on Reform of the International Financial System. He previously directed the Policy Analysis and Development Branch of the UN Financing for Development Office and was deputy secretary of the UN Committee of Experts on International Cooperation in Tax Matters. He is a former professor of political economy at the Università degli Studi di Bologna and a past professor of international economics at Johns Hopkins University's Paul Nitze School of Advanced International Studies, where he was also associate director of its Bologna Center from 1987 to 1990. Kregel has published extensively, contributing over 200 articles to edited volumes and scholarly journals, including the *Economic Journal*, *American Economic Review*, *Journal of Economic Literature*, *Journal of Post Keynesian Economics*, *Economie Appliquée*, and *Giornale degli Economisti*. His major works include a series of books on economic theory, among them, *Rate of Profit, Distribution and Growth: Two Views*, 1971; *The Theory of Economic Growth*, 1972; *Theory of Capital*, 1976; and *Origini e sviluppo dei mercati finanziari*, 1996. His most recent book is *Ragnar Nurkse: Trade and Development* (with R. Kattel and E. S. Reinert), 2009. Kregel studied under Joan Robinson and Nicholas Kaldor at the University of Cambridge, and received his Ph.D. from Rutgers University under the chairmanship of Paul Davidson. He is a life fellow of the Royal Economic Society (UK) and an elected member of the Società Italiana degli Economisti. In 2010, he was awarded the prestigious Veblen-Commons Award by the Association for Evolutionary Economics for his many contributions to the economics field.

JUSTIN LAHART is an economics reporter for the *Wall Street Journal*. He wrote the *Journal*'s "Ahead of the Tape" column from 2004 to 2007. Prior to joining the *Journal*, Lahart was a markets columnist for CNN/Money and TheStreet.com.

ROGER LOWENSTEIN, one of the country's best-known financial writers, is the author of five books, three of them New York Times best sellers—most recently, *The End of Wall Street* (2010), which was released in paperback in April. He is a contributing writer for the *New York Times* and also contributes articles to the *Wall Street Journal*, Bloomberg, and other news outlets.

JEFF MADRICK is editor of *Challenge* Magazine, visiting professor of humanities at The Cooper Union, and senior fellow at The Roosevelt Institute and the Schwartz Center for Economic Policy Analysis, The New School. He is a former contributing economics columnist for the *New York Times* and has been a regular contributor to the *New York Review of Books* for many years. He is the author of several books, including *Taking America* (Bantam, 1987), and *The End of Affluence (*Random House, 1997), both of which were *New York Times* Notable Books of the Year. *Taking America* was also chosen by *Business Week* as one of the 10 best books of the year. He is the author, most recently, of *Why Economies Grow* (Basic Books, 2002) and *The Case for Big Government* (Princeton University Press, 2008), which won a general nonfiction award from Pen America. His latest book, *Age of Greed: The Triumph of Finance and the Decline of America, 1970 to the Present*, is forthcoming from Alfred A. Knopf in May. He has written for many other publications, including the *Washington Post, Los Angeles Times, Institutional Investor,* the *Nation, American Prospect,* the *Boston Globe, Newsday, Dissent,* and the business, op-ed, and magazine sections of the *New*

York Times. He has appeared on *Charlie Rose*, the *Lehrer News Hour*, *Now with Bill Moyers, Frontline,* CNN, CNBC, CBS, BBC, and NPR. He was formerly finance editor of *Business Week,* a columnist for *Money* Magazine, and an NBC News reporter and commentator. His awards also include an Emmy and a Page One Award. He was educated at New York University and at Harvard University, where he was a Shorenstein Fellow.

MERCEDES MARCÓ DEL PONT chairs the Board of Governors of the Central Bank of Argentina. She was previously president of Banco de la Nación Argentina, the country's largest, government-owned, bank; and, prior to that, was a member of the Cámara de Diputados del Congreso de la Nación (Lower Chamber of Congress). She previously served as research director at the Foundation of Research on Economic Development (FIDE). Marcó del Pont has published extensively on industrial policy and development, and lectured at the University of Buenos Aires. She is a former consultant to the United Nations Development Programme, the Inter-American Development Bank, and the World Bank. Marcó del Pont graduated with a degree in economics from the University of Buenos Aires and holds a master's degree in international development economics from Yale University.

MICHAEL W. MASTERS is the founder and managing member of Masters Capital Management, a global investment management firm. He is also a partner, with Wilbur L. Ross Jr., in Masters Capital Nanotechnology, a venture capital fund. Masters was profiled in the book *Stock Market Wizards*, by Jack D. Schwager (HarperCollins, 2001). An expert on the topic of commodities speculation and financial reform, he has testified before many congressional committees and government agencies. Masters has made numerous appearances in media outlets around the world, speaking out about the far-reaching harmful effects of unregulated commodities speculation and the need for financial reform. He is the founder of Better Markets, a Washington, D.C.–based nonprofit, nonpartisan organization established to promote transparency and accountability in the financial markets for the public interest. Masters serves on the boards of several charitable and private organizations and is the winner of the 2004 "Open Your Heart" award from Hedge Funds Care. He is a 1989 finance graduate of the University of Tennessee, where he was an All-American swimmer.

MARTIN MAYER is the author of 35 books, roughly half of them about business and finance. Though his tutor was Wassily Leontief and his most memorable courses were taught by Joseph Schumpeter, he emerged from Harvard in 1947 as a committed Keynesian—which he continues to be. His first nonfiction book, *Wall Street: Men and Money*, was published in 1955 and translated into Chinese 50 years later. His first best seller was *Madison Avenue: USA*, published in 1958. For the next decade, he worked mostly in education; he published four books and numerous articles on the subject and was a consultant to the American Council of Learned Societies and a member of the President's Panel on Educational Research and Development in the Kennedy-Johnson White House. He also served as chairman of a New York City local school board.

Mayer returned to financial matters in 1975 with *The Bankers*, a Book-of-the-Month-Club main selection. His book *The Builders* (1978) led to his service as a member of Ronald Reagan's National Commission on Housing. *The Fate of the Dollar* in 1979 detailed the decline of the currency in the '60s and '70s, *The Money Bazaars* in 1983 predicted the dominance of the capital markets over the credit markets,

The Greatest-Ever Bank Robbery in 1990 told the S&L story, *Stealing the Market* in 1991 worried about front-running, *Nightmare on Wall Street* in 1993 dealt with the Salomon Brothers' attempt to corner the market in an auction of two-year Treasuries, and *The Bankers: The Next Generation* in 1997 centered on the oncoming derivatives disaster. The last sentence in his book *The Fed*, published in 2002, is: "The tragedy for all of us would be if the Fed's and the Treasury's and the Congress's reverence for people who make a lot of money left us unprotected against some sudden revelation of the truth that becomes obvious only in hindsight, that a lot of them don't know what they're doing." Through most of these years Mayer was also a working music critic, with a monthly column on serious music in *Esquire* from 1951 to 1975. He wrote the centennial history of the Metropolitan Opera in 1983 and was the New York critic for *Opera* Magazine from 1985 to 1997. His books about finance have been published in French, Spanish, Japanese, Chinese, Korean and Turkish. Since 1993, he has been a guest scholar of The Brookings Institution in Washington, D.C.

PAUL A. MCCULLEY is chairman of the Society of Fellows of the Global Interdependence Center in Philadelphia. The Society, founded in late 2010, is an evolving work, with its inaugural event slated for spring 2012. Prior to endowing the Society and becoming its first chair, McCulley was a senior partner at PIMCO, the world's premier fixed-income investment advisory firm, where he was a member of the investment committee from its inception, manager of multibillion-dollar portfolios, and founding author of the research publication *Global Central Bank Focus*. A devout Keynesian and interpreter of the work of Hyman Minsky, he coined the terms "Minsky moment" and "shadow banking system." While at PIMCO, he appeared regularly in the business media, including CNBC and PBS's *Wealth Track*. He was also a member of the US Treasury's Borrowing Advisory Committee. In his retirement from active portfolio management, McCulley spends a lot of time fishing and listening to his whiskers grow, while nurturing his family life as a father and life partner. He also pursues his philanthropic visions as president of the Morgan le Fey Dreams Foundation, which he established and endowed in 2006. McCulley earned his BA from Grinnell College, where he now sits on the board of trustees, and his MBA from Columbia University's Graduate School of Business.

JOE NOCERA is an op-ed columnist for the *New York Times* and a staff writer for the *New York Times Magazine*. In addition to his work at the *Times*, he serves as a regular business commentator for NPR's "Weekend Edition with Scott Simon." Before joining the *Times* in 2005, Nocera spent 10 years at *Fortune* Magazine, where he held a variety of positions, including contributing writer, editor-at-large, and executive editor. His last position at *Fortune* was editorial director. He was the "Profit Motive" columnist at GQ until May 1995, and he wrote the same column for *Esquire* from 1988 until 1990. In the 1980s, Nocera served as a contributing editor at *Newsweek*, as executive editor of *New England Monthly*, and as senior editor at *Texas Monthly*. From 1978 until 1980, he was an editor at the *Washington Monthly*. Nocera's column ranges widely over the world of business, covering everything from Home Depot's annual meeting to Boeing's comeback to his offbeat musings about his broken iPod. *Slate* Magazine says that his column "demystifies the world of business with original thinking, brainy reporting and the ability to see around corners." Nocera has won three Gerald Loeb awards, including the 2008 award for commentary, and three John Hancock awards for excellence in business journalism. His book *A Piece of the Action: How the Middle Class Joined the Money Class* (Touchstone, 1995) won the New York Public Library's 1995 Helen

Bernstein Award as the best nonfiction book of the year. He anchored the 1997 Frontline documentary *Betting on the Market*, which aired on PBS, and in 2003, edited *The Smartest Guys in the Room* (Portfolio, 2003), the best-selling book about Enron written by two *Fortune* senior writers. His most recent book, *Good Guys and Bad Guys: Behind The Scenes With The Saints and Scoundrels of American Business (and Everything In Between),* was published by Portfolio in 2008. He was a 2007 Pulitzer finalist. Nocera earned a BS in journalism from Boston University in 1974.

ARTURO O'CONNELL is Senior Advisor to the Chairperson of the Board of Governors of the Central Bank of the Argentine Republic, an ex-member of that board (2003–10; 1986–88), and a professor at the Universidad de Buenos Aires and at the Buenos Aires campus of the Università di Bologna. He was formerly co-director of the Centro de Economía Internacional (Centre for the International Economy) at the Ministry of Foreign Affairs of Argentina (1989–99) and director of the master's degree program in integration, with particular reference to MERCOSUR, at the University of Buenos Aires (2001–03). From 1974 to 1979, he served as secretary general for the Latin American region of the Latin American Faculty of Social Sciences (FLACSO). O'Connell has lectured and conducted research at several centers and universities in Argentina, Latin America, and Great Britain, and on the European continent, and is a consultant to numerous regional and international organizations. He has also published extensively on international financial matters, external debt, the history of international economic relations, and economic integration. O'Connell holds a master's-level degree in mathematics from the University of Buenos Aires and studied economics as a Ph.D. candidate at King's College, University of Cambridge.

ATHANASIOS ORPHANIDES is the Governor of the Central Bank of Cyprus (CBC) and a member of the Governing Council of the European Central Bank. Prior to his appointment to the CBC in 2007, he served as senior adviser to the Board of Governors of the Federal Reserve System in the United States, where he started his career as an economist in 1990. While at the Federal Reserve, Orphanides taught undergraduate and graduate courses in macroeconomics and monetary economics at Georgetown University and Johns Hopkins University. He has also been a fellow of the Center for Financial Studies (Frankfurt), a research fellow of the Centre for Economic Policy Research (London), and an international research fellow of the Kiel Institute for World Economics. Orphanides has published numerous articles on a wide variety of topics in economics and has co-edited a number of conference proceedings on monetary policy and history. A major theme of his work on monetary economics has been the evaluation and design of monetary policy in real time. Among other issues, he has studied simple monetary policy rules, optimal control policies, and inflation targeting, and has examined the complications for monetary policy that arise from imperfect knowledge regarding the formation of expectations and unobservable concepts such as the output gap. In addition, his work has examined the implementation of monetary policy near the zero bound of short-term nominal interest rates. Orphanides holds BS degrees in mathematics and economics as well as a Ph.D. in economics from the Massachusetts Institute of Technology.

DIMITRI B. PAPADIMITRIOU is president of the Levy Institute and executive vice president and Jerome Levy Professor of Economics at Bard College. He has testified on a number of occasions in committee hearings of the US Senate and House of Representatives, was vice-chairman of the Trade Deficit Review Commission of the US Congress (1999–2001), and is a former member of the Competitiveness Policy

Council's Subcouncil on Capital Allocation (1993–98). He was a Distinguished Scholar at the Shanghai Academy of Social Sciences in fall 2002. Papadimitriou's research includes financial structure reform, fiscal and monetary policy, community development banking, employment policy, and the distribution of income, wealth, and well-being. He heads the Levy Institute's macroeconomic modeling team studying and simulating the US and world economies. In addition, he has authored and co-authored many articles in academic journals and Levy Institute publications relating to Federal Reserve policy, fiscal policy, financial structure and stability, employment growth, and Social Security reform. Papadimitriou has edited and contributed to 12 books published by Macmillan, Edward Elgar, and McGraw-Hill, and is a member of the editorial boards of *Challenge*, the *Bulletin of Political Economy*, and the *Journal of Economic Analysis*. He is a graduate of Columbia University and received a Ph.D. in economics from The New School for Social Research.

Research Associate **ROBERT W. PARENTEAU** is sole proprietor of MacroStrategy Edge, where he uses macroeconomic insights to inform US equity and global balanced-portfolio strategy. He is also editor of the monthly *Richebacher Letter*. For more than two decades, Parenteau served as chief US economist and investment strategist at RCM, an investment management company that is part of Allianz Global Investors. In this effort, he guided the global and domestic asset allocation, sector, factor, and industry selection decision making of RCM portfolio managers and equity analysts. In 1999 and 2000, he presented several papers at the Levy Institute's annual conference on financial structure that applied Hyman P. Minsky's financial instability hypothesis to the late-1990s technology bubble. He further explored the macrodynamics of financial imbalances in papers presented at the Political Economy Research Institute (2001), the annual International Post Keynesian Workshops in 2002 and 2004, and the Eastern Economic Association proceedings in 2005. Versions of his papers were published as chapters in *Contemporary Post Keynesian Analysis* (L. Randall Wray and Mathew Forstater, eds.), in 2004, and *Financialization and the World Economy* (Gerald A. Epstein, ed.), in 2005. Parenteau earned a BA in political economy at Williams College in 1983. He completed a chartered financial analyst degree in 1989 and then served as a regular lecturer for all three levels of the Security Analysts of San Francisco CFA preparation course until 1999.

CHARLES I. PLOSSER became the Federal Reserve Bank of Philadelphia's 10th president and chief executive officer on August 1, 2006. Previously, he was the John M. Olin Distinguished Professor of Economics and Public Policy and director of the Bradley Policy Research Center at the William E. Simon Graduate School of Business Administration, where he also served as dean from 1993 to 2003. Other academic positions include professor of economics at the University of Rochester, senior research associate at the Rochester Center for Economic Research in the university's College of Arts and Science, and a research associate at the National Bureau of Economic Research in Cambridge, Mass. He has also been a visiting scholar at the Bank of England and the Federal Reserve Bank of Minneapolis. Plosser has lectured to academic and business audiences worldwide on topics ranging from management education to economic and public policy issues. The author of numerous academic articles and a participant in scores of professional seminars and conferences, he has also served as co-editor or associate editor of three prestigious journals of economics and referee for over a dozen others. His research and teaching interests include topics on monetary and fiscal policy, long-term economic growth, and banking and financial markets, and his articles have appeared in leading economic journals. He has served as a consultant to numerous corporations—

including Chase Manhattan Bank, Eastman Kodak Company, and The Wyatt Company—on topics ranging from strategic planning and forecasting to portfolio and pension fund management, capital budgeting, and financial analysis. He is a past member of the advisory boards of the Rochester New Enterprise Forum and the University Technology Seed Fund, LLC, as well as the Metropolitan Advisory Board of Chase Manhattan Bank. Plosser holds an MBA and a Ph.D. from the University of Chicago, and a bachelor's of engineering degree (cum laude with honors) from Vanderbilt University.

ALEX J. POLLOCK has been a resident fellow at the American Enterprise Institute for Public Policy Research (AEI) since 2004, focusing on financial policy issues, including financial cycles, government sponsored enterprises, housing finance, banking, retirement finance, corporate governance, and accounting standards. He has written and spoken extensively on the housing bubble, the financial crisis, and the ensuing political responses. Previously, he spent 35 years in banking, including serving as president and chief executive officer of the Federal Home Loan Bank of Chicago from 1991 to 2004, while also writing numerous articles on financial systems and management. Pollock is the author of *Boom and Bust: Financial Cycles and Human Prosperity* (AEI Press, 2010). Pollock is a director of CME Group and the Great Lakes Higher Education Corporation, a past president of the International Union for Housing Finance, and chairman of the board of the Great Books Foundation. He is a graduate of Williams College, the University of Chicago, and Princeton University.

STEPHEN S. ROACH is a member of the faculty of Yale University and Non-Executive Chairman of Morgan Stanley Asia. He has been a thought leader on Wall Street for more than 30 years, where for the bulk of his career, he served as Morgan Stanley's Chief Economist, heading up a highly regarded team of economists around the world. Roach's current teaching and research program focuses on the impacts of Asia on the broader global economy. At Yale, he has introduced new courses for undergraduate and graduate students on the "The Next China" and "The Lessons of Japan." His writing and research also addresses globalization, trade policy, the post-crisis policy architecture, and the capital market implications of global imbalances. His views are disseminated widely in the international media and presented frequently in expert testimony before the US Congress. Prior to joining Morgan Stanley in 1982, Roach worked in senior capacities at Morgan Guaranty Trust Company of New York and the Federal Reserve Board in Washington, D.C. He holds a Ph.D. in economics from New York University and was also a research fellow at The Brookings Institution. Roach is currently recovering from chronic jet-lag syndrome after having logged 1.2 million air miles during his recent three-year stint as the Hong Kong–based chairman of Morgan Stanley Asia. He is the author of *The Next Asia* (Wiley 2009).

ANDREW SHENG, a chartered accountant by training, is currently chief adviser to the China Banking Regulatory Commission and a member of the board of the Qatar Financial Centre Regulatory Authority, Sime Darby Berhad, and Khazanah Nasional Berhad, Malaysia. He is also adjunct professor at the Graduate School of Economics and Management, Tsinghua University, Beijing, and the University of Malaya, Kuala Lumpur. He was chairman of the Securities and Futures Commission of Hong Kong from October 1998 to September 2005, and deputy chief executive responsible for the Reserves Management and External Affairs Departments at the Hong Kong Monetary Authority from October 1993 to September 1998. Between 1989 and 1993, he served as senior manager in the financial sector development

department at the World Bank, and from 1976 to 1989 he held various positions with the Bank Negara Malaysia, including chief economist and assistant governor in charge of bank and insurance regulations. In 1998, Sheng co-chaired, with Mervyn King, the Work Group on Transparency and Accountability established by the Group of 22. He chaired the Financial Stability Forum's Task Force on Implementation of Standards, in 1999, and the Technical Committee of the International Organisation of Securities Commissions (IOSCO), from October 2003 to September 2005. He currently chairs the Annual OECD/ADBI Roundtable on Capital Market Reform in Asia.

Sheng has an honorary doctorate from the University of Bristol and was awarded the title of Datuk Seri Panglima by the Yang di-Pertua of Negeri Sabah in September 2006, and Panglima Mangku Negara (PMN), which carries the honorific "Tan Sri," by His Majesty, the King of Malaysia, in June 2010. In 2009, he became Pro-Chancellor of the University Tun Abdul Razak, a member of the International Advisory Council of the China Investment Corporation, the China Development Bank, the Advisory Council on Shanghai (as an international financial center to the Shanghai Municipal Government) and the International Council of the Freie Universität Berlin. He is also a member of the Governing Council of the International Centre for Education in Islamic Finance. Sheng has published widely in the areas of economics and finance. His latest publications are *From Asian to Global Financial Crisis (*Cambridge University Press, 2009) and a special article on Global Financial Regulatory, in *Global Policy Journal* Issue 2, London School of Economics. He writes a column for *Caijing* Magazine, *21st Century* Magazine (China), and Asia News Net that is circulated in the *Star* (Malaysia), *Bangkok Nation*, *Jakarta Post*, *China Daily*, and *Korea Herald*, among other publications.

PHILIP SUTTLE is a deputy managing director and chief economist at the Institute for International Finance (IIF). In this position, he is responsible for the IIF's economic work, the broad macroeconomic view, and its product development. These views are expressed in his "Daily Comment," "Global Economic Monitor" (monthly), "Capital Flows to Emerging Economies" (semiannual), and one-off "Research Notes." Suttle has had a long career as a global macroeconomist, with a specialization in emerging markets. Before coming to the IIF, he was managing director and global head of Emerging Markets Research at Barclays Capital. He has also worked at the World Bank, the Federal Reserve Bank of New York, and the Bank of England. For most of his career, however, he was at JPMorgan, where he helped build Morgan's global economic research effort. He joined JPMorgan in London in 1988 and was transferred to New York in 1992 to help build Morgan's international economics research effort. Suttle was educated at Oxford University, where he received a BA in history and economics from Merton College and an M.Phil. in Economics from Nuffield College. He holds dual citizenship in the United States and the UK.

PAUL TUCKER was appointed Deputy Governor, Financial Stability, at the Bank of England in March 2009. He is a member of the bank's Monetary Policy Committee, its Court of Directors, and the Governor's Executive Team. From June 2002 until his current appointment, Tucker was Executive Director for Markets, with responsibilities that included managing the bank's network of contacts in the City and on Wall Street.

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LOUIS UCHITELLE covers economics for the *New York Times* and other publications. He focuses mainly on labor and business issues, traveling widely in the United States. He shared a George Polk award for "The Downsizing of America," a series of seven articles published in the *Times* in 1996 that explored the layoff phenomenon. He was a visiting scholar at the Russell Sage Foundation in New York in 2002–03, where he began the research for his book *The Disposable American: Layoffs and Their Consequences* (Alfred A. Knopf, 2006). He taught journalism for many years at Columbia University's School of General Studies. Before joining the *Times*, Uchitelle worked for The Associated Press (AP) as a reporter, editor, and foreign correspondent in Latin America. Returning to the United States, he served for three years as the head of the AP's business news operation. He joined the *Times* in 1980 as an editor before becoming a staff writer.

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