



The Sanford C. Bernstein & Co. Center
for Leadership and Ethics

Preventing the Next Financial Crisis

Lessons for a New Framework of Financial Market Stabilization

A research symposium
December 10-11, 2008

Symposium Participants

(In order of symposium agenda)

Bruce Kogut

Sanford C. Bernstein & Co. Professor of Leadership and Ethics; Director, Sanford C. Bernstein & Co. Center for Leadership and Ethics
Columbia Business School

John Coffee

Adolf A. Berle Professor of Law
Columbia Law School

Glenn Hubbard

Dean; Russell L. Carson Professor of Finance and Economics
Columbia Business School

Patrick Bolton

Barbara and David Zalaznick Professor of Business
Columbia Business School

Markus Brunnermeier

Edwards S. Sanford Professor of Economics
Princeton University

Michelle White

Professor of Economics
University of California, San Diego

Chris Mayer

Senior Vice Dean; Paul Milstein Professor of Real Estate
Columbia Business School

Pierre Collin-Dufresne

Carson Family Professor of Business
Columbia Business School

Til Schuermann

Vice President, Financial Intermediation Function
Federal Reserve Bank of New York

Bengt Holmström

Paul A. Samuelson Professor of Economics
Massachusetts Institute of Technology

Suresh Sundareshan

Chase Manhattan Bank Foundation Professor of Financial Institutions
Columbia Business School

Tano Santos

Franklin Pitcher Johnson Jr. Professor of Finance and Economics
Columbia Business School

Paul Glasserman

Jack R. Anderson Professor of Business
Columbia Business School

Frederic Mishkin

Alfred Lerner Professor of Banking and Financial Institutions
Columbia Business School



Wei Jiang

Sidney Taurel Associate Professor of Business
Columbia Business School

David Skeel

S. Samuel Arsht Professor of Corporate Law
University of Pennsylvania Law School

Stephan Meier

Assistant Professor of Management
Columbia Business School

Charles Calomiris

Henry Kaufman Professor of Financial Institutions
Columbia Business School

Katharina Pistor

Michael I. Sovern Professor of Law
Columbia Law School

Jean-Charles Rochet

Professor of Mathematics and Economics
Toulouse School of Economics

Erik Berglof

Chief Economist and Special Adviser to the President
European Bank for Reconstruction and Development

Howard Rosenthal

Professor of Politics, New York University;
Roger Williams Straus Professor Emeritus of Social Sciences
Princeton University

Matthew Bishop

Chief Business Writer/U.S. Business Editor
The Economist

Chrystia Freeland

U.S. Managing Editor
The Financial Times

Floyd Norris MBA '83

Chief Financial Correspondent
The New York Times

Acknowledgements

Rapporteur: Mark Hunter, Adjunct Professor, INSEAD

Photography by Leslye Smith

Design by Carolyn Tharp

Symposium Introduction

Patrick Bolton
Barbara and David Zalaznick Professor of Business

Bruce Kogut
Sanford C. Bernstein & Co. Professor of Leadership and Ethics and
Director of the Sanford C. Bernstein & Co. Center for Leadership and Ethics

Tano Santos
Franklin Pitcher Johnson Jr. Professor of Finance and Economics

The year 2008 was a descent from worry to panic, an economic freefall that has continued through the early months of 2009. It is easy to observe that only in the years ahead will we have gained a true understanding of the causes and the errors and the missed opportunities of economic policy. Keynes's *General Theory*, it is pointed out, did not appear until February 1936, well into the Great Depression years, and the debate over the monetary and fiscal roots of that pivotal economic episode of the 20th century did not commence fully until the 1970s.

Clearly though, the world will not wait that long to act this time—even if there are voices who are skeptical about the value of vigorous policies. If academics are to help allay the worse possible outcomes, we have no better choice but to convene the best talent in this area and to propose and debate the important questions that must be addressed if we are to exit soon from economic crisis. This was the *raison d'être* behind the one-day meeting, held at Columbia University on December 11, 2008.

The event, organized under the auspices of the Sanford C. Bernstein & Co. Center for Leadership and Ethics, addressed three principal questions: why a financial crisis, what should be done to get out of it and what should be done in the future to avoid another crisis? Behind these positive questions, there is a normative dimension as well: do policies favor the bank shareholders over the foreclosed house owner, the jobs in the financial sector over the jobs in the manufacturing sector, the responsible consumer over the highly leveraged one? In any crisis, the line between the normative and the positive blurs, as the public debate over these issues becomes the constraint on the feasible policy alternatives.

This blurring is far more evident now in March 2009 than during last year, as the crisis consumes more of the economy and the policy costs blossom toward several trillion dollars. The financial markets remain fragile, and consumer confidence is low. Many deplore that the debate has moved away from a body of technical solutions toward ideological battles.

However regrettable this evolution toward ideological conflict may seem, a principal cause of the current

stalemate is the absence of a persuasive theory of the crisis and its resolution. The debate over the financial crisis reflects this absence: voices speak in favor of the efficacy of monetary policy, while in the wider economic community many denounce its efficacy; voices argue the merits of personal and corporate bankruptcy, while others favor government intervention in private contracts; some voices believe it is not too late to act on the triggering cause of the crisis, namely, housing prices and underwater mortgages, while others doubt the prospect of a rapid rebound in real estate prices and caution against the excessive absorption of liability onto the public balance sheet; and finally, voices call for limits on compensation, while others fail to understand how governments can constrain private contracts—unless through fostering better corporate governance.

This lack of agreement continues to plague the debate over the major decisions that must be made. As the Troubled Assets Relief Program (TARP) and Term Asset-Balanced Loan Facility (TALF) programs prove insufficient to meet the worsening crisis, the debate has moved to questions of nationalization of the banks and/or the assumption of their so-called toxic assets. The public discourse condemns such policies as socialism in the context of the broader economic agenda proposed by President Obama's administration.

This wider economic agenda is secondary to the debate over what to do to end the financial crisis, for the elements of the solution are clearly understood, as this report will make clear. The fundamental problem is lodged in a circular trap—much like the famed “liquidity trap” central to Keynes's analysis: for the financial crisis to end, the erosion of value of asset prices must not only end as well, but also be reversed; however, for this reversal to occur, there must be a belief that the crisis is coming to an end. Thus, the discussion in this report speaks frequently to the challenges of the revelation of true value—though it is understood that such value is driven by the anticipation that the economy will improve. Somehow, belief in better outcomes is a prerequisite to the disposition of bad assets.

A key step toward the resolution of the crisis is the restoration of confidence in the capability of government to act credibly (and wisely) in its interventions. This claim appears contradictory to many: markets will recover



by government intervention. But such a contradiction evaporates if the government can also commit itself to interventions that are seen as temporary, not permanent.

For such commitments to be made, the U.S. government, at least, should start now to communicate its vision of the future of financial market regulation. Any solution to this crisis will require the willingness of some actors to bear risk in the hope of a proper reward. It is clear that many previous avenues of reward will be under regulation, if not prohibited; these include the trading of highly levered assets and derivatives in over-the-counter markets. The caps on compensation will lower the attractiveness to participate in the purchase of opaque and toxic assets. While the public discourse is rightfully outraged by excessive compensation for bad performance, there is no exit from a crisis when risk without reward becomes the expectation.

It is for this reason that we argue that the third question of this crisis, what should be the future regulatory order,

is not only relevant to the solution of this crisis, but also integral to the solution. While much has changed in a few months, and much more will change, the moment to state the principles of prudent regulation and the reformation of the architecture of national and global financial regulation is now.

We would like to thank Carolyn Tharp for her assistance in organizing the conference and for her remarkable contribution to the design and layout of the brochure; to Sandra Navalli, the codirector of the Bernstein Center, for her administration and intellectual inspiration to the conference; and to Mark Hunter, who having written such books that include an account of the National Front and Le Pen in France, found the world of financial crisis to be a challenge that he was more than capable of addressing as the writer of this brochure. And finally, we would like to thank our colleagues at Columbia and elsewhere for having contributed their talents as speakers and participants in this event.



Columbia Business School Professors (from left)
Tano Santos, Patrick Bolton and Bruce Kogut.

Executive Summary



What led to the financial crisis? If we don't understand the causes, we can't design a solution. How do we resolve it in a way that won't create unnecessary and unfair suffering? If we get the solutions wrong, we can make things worse for many who had no part in creating the crisis. Finally, how do we prevent the next crisis from occurring? Of course we know that there have been crises before, and there will be again. But we can at least prepare for them, as we did not prepare adequately for this one. We can try to create tools and procedures that make the onset of a crisis more visible, that offer us more options and opportunities to slow its contagion and that enable us to recover more quickly. In other words, the goal is not to prevent all crises, but to prevent a crisis of this size and duration from reoccurring. The ideas of the conference on these points are summarized below.

I. The origins of the crisis

- Past data—in particular, housing prices—have been shown to be an unreliable predictor of crises. To prevent future crises, more timely indicators are required, and so is a regulator dedicated to monitoring them (see Appendix, “A Proposal for a Crisis Resolution Board”).
- Regulation of financial innovation is inadequate, precisely because the latter is designed to circumvent the former. The creation of a “shadow” banking system of structured vehicles resulted from this process and contributed greatly to the conflagration.
- Ratings agencies proved inadequate substitutes for regulators, because they were equally ignorant of the risks involved in the vehicles.
- Securitization in and of itself is not responsible for the crisis. However, maturity mismatches between different classes of assets that were bundled together in securities contributed greatly both to the onset and the rapid spread of the crisis, and must be targeted for regulatory reform.

II. Getting out of the crisis: Urgent and immediate steps

- Provide debt relief for consumers and homeowners. Current bankruptcy laws create incentives to inefficient foreclosures. The social costs of these policies are immense, not least because foreclosure damages collateral and depresses house prices. Possible

solutions include allowing judges to strip down mortgages and restricting the rights of individual lenders to obstruct settlements. Going forward, fixed-rate mortgages should be the mandated default contractual form for home buyers, and disclosure of mortgage terms must be rendered simpler.

- Regulate mortgage rates to 4.5% on a platform of Treasury bonds paying 2.7% interest. This will provide a permanent stimulus to the housing market, as well as a short-term increase in home buying.
- Move as many financial products as is practical to over-the-counter, transparent sales via a clearinghouse system. This will enable regulators greater insight into systemic risks and force banks and other vendors to reveal more of their separate exposures.
- Move toxic assets into a “hospital bank” so as to discourage zombie lending and restore interbank market liquidity.
- Allow major financial firms to go to bankruptcy instead of bailout. This will provide better protection for assets and more incentive to reform.
- Address the necessity of bailout funds for Eastern Europe, and adapt the international financial architecture to the reality of cross-border externalities.

III. Preventing the next crisis: What we need to change

- Reform the Basel Accords to rely less on individual bank risk measurement and to base capital requirements more on systemic risk measures.
- Create a permanent political constituency in support of good financial-sector regulation in order to surmount political expediency.
- Move more transactions into over-the-counter or clearinghouse contexts where exposures are more transparent.
- Create macro-prudential regulatory systems that respond to signals of systemic risk.
- Review and reform incentives in organizations to cease maximization of short-term profits through destructive practices (e.g., loading on systemic risk).

In the next sections of this report, we will consider in detail the data and discussion that led to these conclusions.

The Origins of the Crisis: Implications Going Forward



1. The perfect financial storm

The subprime mortgage crisis began in January 2007 and accelerated sharply that June, when Bear Stearns warned it might face bankruptcy. The following month corporate investment grade (IG) bond spreads widened by 35 basis points; they had been extremely low, at around 45 BP, compared to typical spreads of 110. The markets seemed stable by August. But less apparently, quantitative hedge funds were experiencing “tremendous disruption,” said Pierre Collin-Dufresne, Carson Family Professor of Business at Columbia Business School.

“Quants” are funds that identify factors that drive returns and create diversified portfolios exposed to those factors while hedging against risk, using computerized optimization to make tradeoffs. “Going forward, these portfolios tend to have positive returns,” said Collin-Dufresne. “You create an asset that tends

to have low risk and positive expected returns.” Instead, by August these strategies, run across all markets, generated negative returns—first in the United States, then in Japan. The timing of events as the markets subsequently unwound suggested that “someone started to de-leverage their positions in these long-short portfolios.” That someone was probably a large bank, suggested Collin-Dufresne, “impacted by subprimes and credit, and looking for some place on the balance sheet to generate cash. These positions took up cash, so they started to sell. Prices dropped; risk constraints kicked in.” What followed was “a rush to liquidate” that spread from subprimes to equities, across the full diversity of the ostensibly low-risk portfolios, through the summer of 2008. When AIG sought \$85 billion in emergency financing from the Federal Reserve in September 2008, “all bets were off,” said Frederic Mishkin, a former Fed official and Alfred Lerner Professor of Banking and Financial Institutions at Columbia Business School. “Nobody was thinking about an insurer going under.”

Nor was the mortgage crisis anticipated. “Since the Depression,” noted Glenn Hubbard, dean and Russell L. Carson Professor of Finance and Economics at Columbia Business School, “there has been no national decline in housing prices.” In retrospect, confidence that it wouldn’t happen again resembles “a naïve reliance on past data,” in the phrase of Markus Brunnermeier, the Edward S. Sanford Professor of Economics at Princeton.

New factors were at work. First, “leveraging and liquidity effects are not linked to one

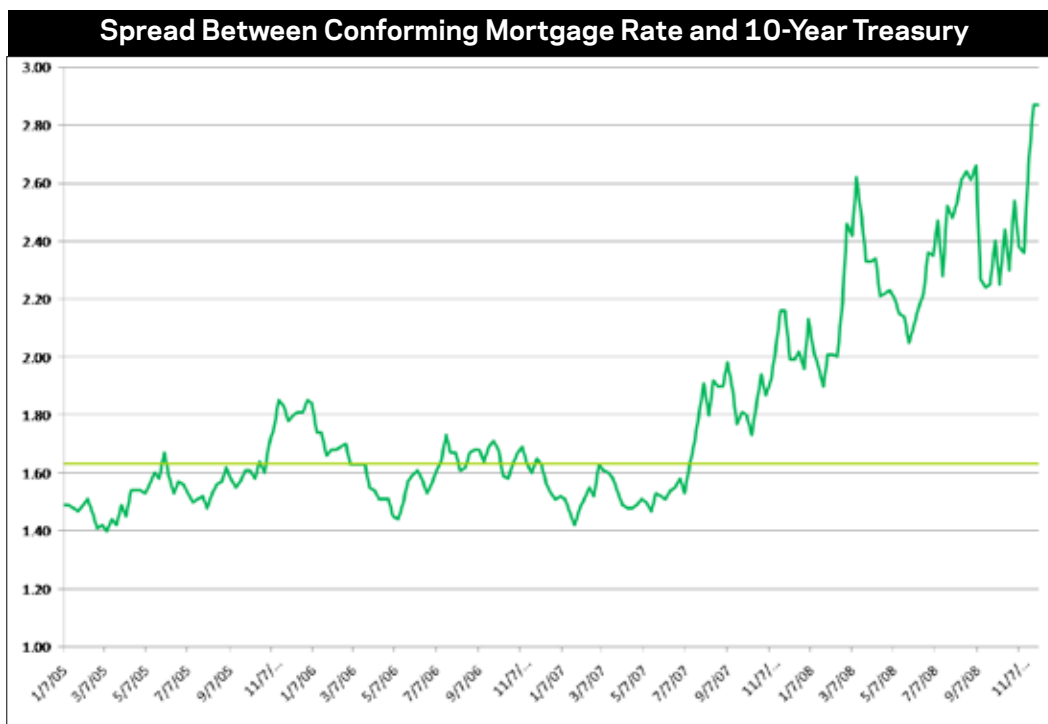


Figure 1: Presented by Chris Mayer, senior vice dean and Paul Milstein Professor of Real Estate at Columbia Business School.

Homeownership Rate Appears Strongly Linked to Mortgage Rate

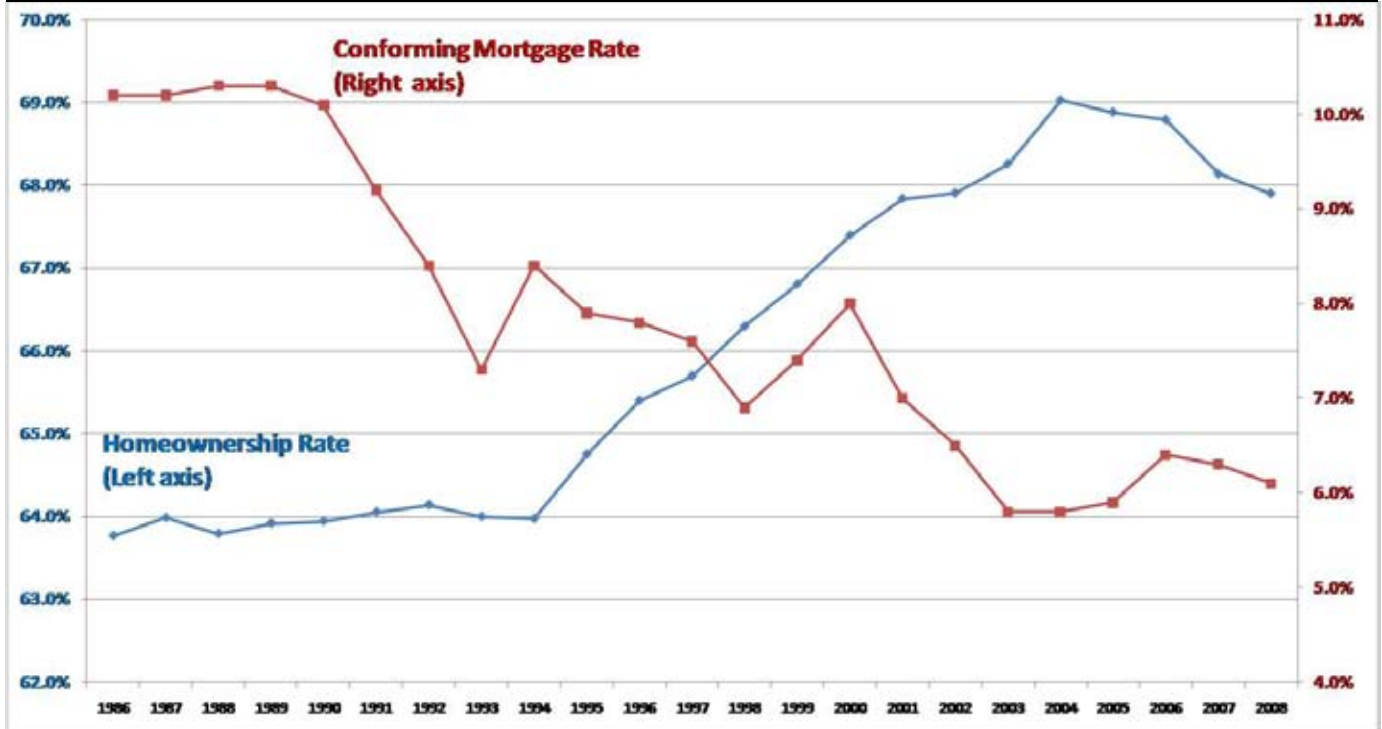


Figure 2: Presented by Chris Mayer, senior vice dean and Paul Milstein Professor of Real Estate at Columbia Business School. Sources: U.S. Census Bureau and Freddie Mac.

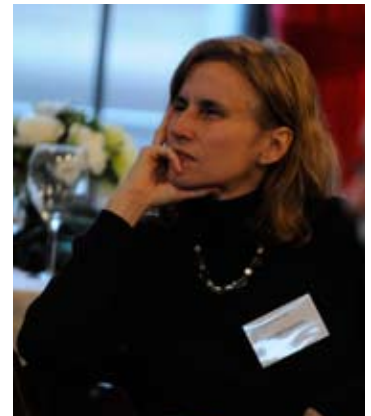
market—they work their way across the world and into other asset classes,” noted Bengt Holmström, the Paul A. Samuelson Professor of Economics at the Massachusetts Institute of Technology. Second, there was a massive inflow of capital into the United States, especially from Asia. For Holmström, this capital was seeking “parking space.” The U.S. financial markets responded by creating more marginal space (subprime loans), more housing and more home equity loans. The structured vehicles allowed a more efficient use of the “parking space.” But structured vehicles do not create more underlying assets. This issue is key, said Holmström:

When AIG sought \$85 billion in emergency financing from the Federal Reserve, “all bets were off,” said Frederic Mishkin. “Nobody was thinking about an insurer going under.”

“Liquidity crises result either when we have insufficient underlying assets in the market or these assets are inefficiently used.”

The pressure on assets coincided with a “lax” interest policy, said Brunnermeier, aimed at countering the threat of deflation after the new economy Internet bubble burst in 2001-02. In retrospect, added

Hubbard, an equally lax monetary policy was a “significant error” that “poured gasoline on a fire.” Low interest rates “strongly” encouraged people to become homeowners, noted Chris Mayer, senior vice dean and Paul Milstein Professor of Real Estate at Columbia Business School.



Rising Debt Relative to Income		
	1980	2005
Consumer debt / Median income	3%	13%
Mortgage debt / Median income	56%	150%

Figure 3: Presented by Michelle White, professor of economics at the University of California, San Diego.

The rising demand for housing fed a historic spike in home prices, by far bigger than the preceding one in 1990.

Meanwhile, new actors were entering the markets, a key factor, in the opinion of investors present at the conference. The abolition of the Glass-Steagall Act was cited by an investor as a major change: "Everyone on the street echoed the idea of going out of the agency business and into the principal business, loading up on securities. Much better than making boring loans." Investment banks, at the heart of the crisis, were "badly regulated by the Securities and Exchange Commission (SEC)," said Patrick Bolton, the Barbara and David Zalaznick Professor of Business at Columbia Business School. The new environment drove what Brunnermeier called

One of the main goals of financial innovation is to get around regulation. They do it well...." said Floyd Norris

"a change in the banking [business] model: loans move off the balance sheets into securities that pass to other investors." Housing mortgages became the key (but not the only) backing for those securities.

In a forthcoming article, Brunnermeier explains this process:

"Instead of selling or protecting individual loans directly, banks typically first create structured products. These consist of forming portfolios of mortgages, loans, corporate bonds, or other assets like credit card receivables, and then slicing them into different tranches before selling them in the market. Legally, the portfolio is usually transferred to a special-purpose vehicle (SPV), a financial entity whose sole purpose is to collect principal and interest cash flows from

the underlying assets and pass them on to the owners of the various tranches. Forming a portfolio exploits the power of diversification, while tranching allows the firm to market different parts of the product to investor groups with different risk appetites."¹

This "securitization" procedure has acquired an evil reputation in the crisis. Floyd Norris, MBA '83, the *New York Times* chief financial correspondent, said:

One of the main goals of financial innovation is to get around regulation. They do it well.... People think they're wonderful. I don't know why. They duck taxes, evade accounting rules and raise profits for Wall Street. I don't understand why people think we need

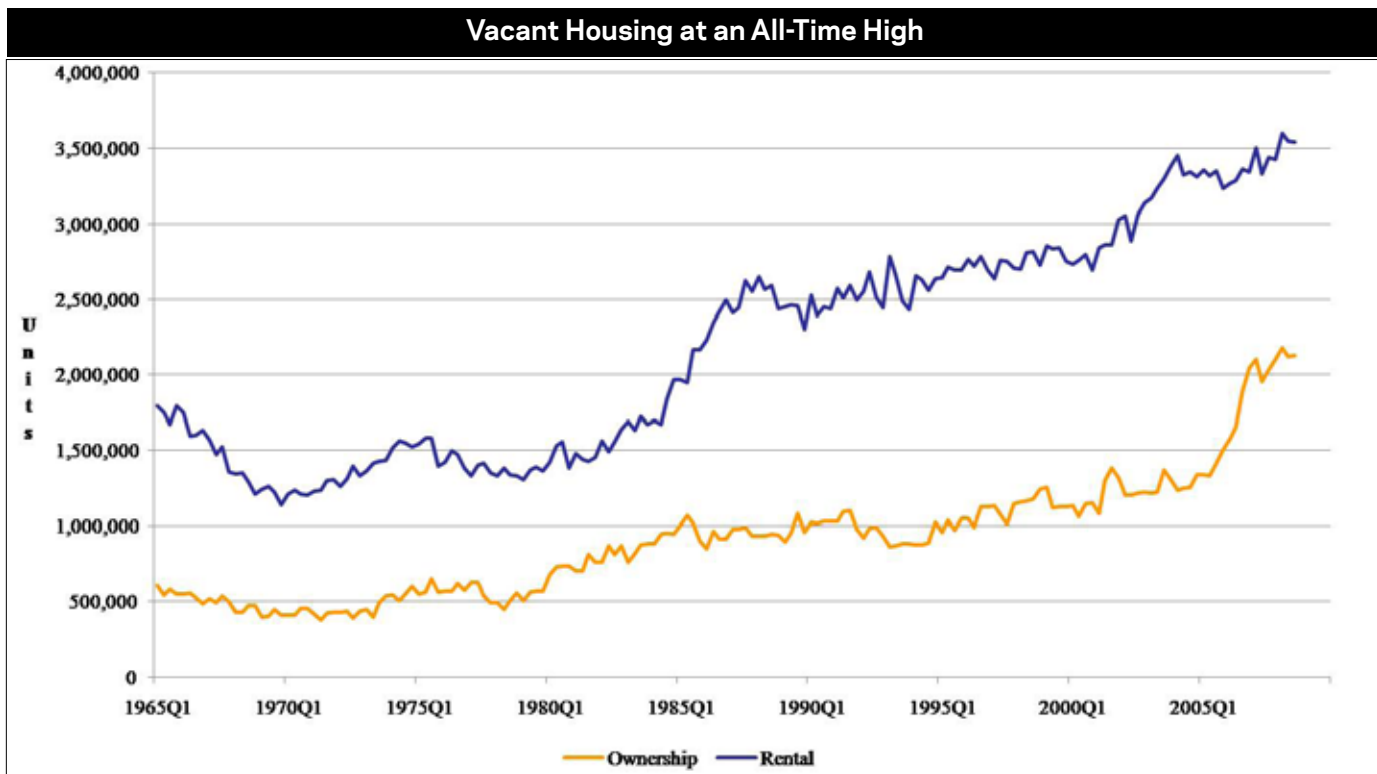


Figure 4: Current as of Quarter 3, 2008. Presented by Chris Mayer, senior vice dean and Paul Milstein Professor of Real Estate at Columbia Business School. Source: *U.S. Census, U.S. Residential Vacancy*.

to bring these innovators back. I really don't. They invented the institutions and the devices that could evade regulation, hurt the banks, forced them to compete on their terms, forced them to leverage, then blew them up.

Not everyone agrees. Mayer said: "Whether securitization is good or bad is not the issue—why did a good process fail and cause this crisis?" Nor is securitization a necessary condition for a crisis, as Holmström pointed out: "The Swedish and Finnish crises [1990–93] were similar to this one: They started with housing. But there was zero securitization."

Brunnermeier suggested two principal reasons that securitization played a key role this time:

- Regulators and credit rating agencies charged to evaluate the risk of specific securities failed. Regulators like the SEC, according to a well-documented recent report, were told in 2005 by the Bush administration to back off from close scrutiny of subprime loans, in order to maintain politically valuable rising rates of home ownership.² The ratings agencies did not have the requisite skills to evaluate the new classes of securities, according to Brunnermeier: "Rating structured products is different from rating bonds."
- As Norris said, "financial innovation" was specifically designed to avoid regulatory oversight in the United States, as well as capital requirements under the Basel I and II agreements. Structured products embodied what Brunnermeier calls "regulatory and ratings arbitrage." By transferring securitized assets to structured vehicles off their books, banks could reduce their capital charges, enhance their liquidity and diversify their investments. In effect, said Brunnermeier, "It was useful to offload everything to a shadow

Paul Glasserman, Jack R. Anderson Professor of Business at Columbia Business School.



banking system" below and outside the regulatory radar.

2. Why we must regulate the maturity mismatch

The Achilles heel of this shadow system, Brunnermeier believes, resided—and still resides—in a "maturity mismatch" between the securities and the underlying assets. Assets like housing and equities, and long-term funding to acquire them, are relatively costly. They are also relatively less liquid. Short-term funding from

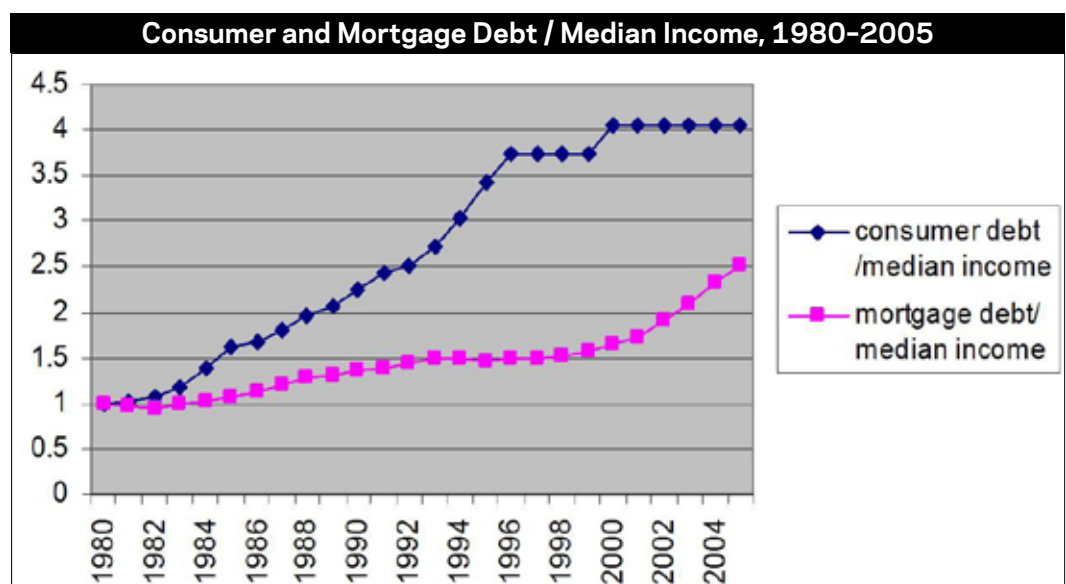


Figure 5: Presented by Michelle White, professor of economics at the University of California, San Diego.



Michelle White, professor of economics at the University of California, San Diego.

the interests of the entire system, said Brunnermeier: “When you build up your position, you don’t think that if you fail, others can fail.” Yet the crisis revealed that the system is shot through with network externalities. For example, in principle, counterparty credit risks ensure that “everything can be netted out,” said Brunnermeier. “But the banks don’t know the others’ risk; everyone only knows his own neighborhood.” Thus, he said, when a crisis begins, “everyone is buying credit default swap³ protection against the others, driving up the cost,” which, in turn, feeds the liquidity crunch that drives the crisis.

The regulatory system has sent the wrong message to the markets and public, argued Brunnermeier: “If you fail, you want to be as big

securities trading is much less costly, and far more liquid—especially, as Hubbard observed, at a moment when monetary policy enabled low-cost credit. Thus, for the banks, said Brunnermeier, “it was way cheaper to get short-term financing and roll it over than to get long-term financing or equity.” But the fundamental distinctions between different classes of assets remained, and so did the risk of ignoring them. “If we’re coming into a cycle where people think everything is as liquid as everything else, we have a problem,” commented Holmström. “If they think something is the same as money, one minute later it’s good for nothing, like money.”

When a crisis comes, you have to dump the assets at fire sale prices... you can’t roll over short-term paper anymore. That hurts your equity even more.

There were two major risk points. One, as Holmström noted, was that the bundling of stocks into the new structured vehicles meant that if a crisis hit, equities would also be affected. This, he said, was “the wrong distribution of risk. Some kind of boundary is needed.” The second was that even before a crisis hit, banks were rolling over a significant share of their securities on a virtually daily basis to meet short-term cash needs. Brunnermeier said this meant that “if something goes wrong, it goes wrong very fast....

“When [a] crisis comes, you have to dump the assets at fire sale prices ... you can’t roll over short-term paper anymore. That hurts your equity even more. There’s a loss spiral: You lose \$1 million of equity, and you have to sell off \$10 million more.”

The institutions and individuals who get (and got us) into this mess have no incentive or reason to think of

and interconnected as possible, because then you’re too big to fail.” Regulation must focus on systemic effects, and not only individual deeds or misdeeds—which means, he said, that “we have to form a group of players who identify risks based on externalities, the effect on others.”

Brunnermeier’s specific priorities for future regulation include

- Countermaturity mismatch through a focus on promoting long-term financing. “Now the system subsidizes short-term financing,” he noted. “That’s where some new evolution has to come.”
- Impose a higher capital charge on over-the-counter contracts, and move to a clearinghouse system. The latter idea was virtually unanimous among participants at the conference. John Coffee, the Adolf A. Berle Professor of Law at Columbia Law School, noted that “over-the-counter derivatives are unique in having no clearinghouse.” He added: “We need a mandatory clearinghouse that imposes safe, sound margin requirements.” He observed that markets could not create such clearinghouses: “Competition among clearinghouses can lead to a race to the top, or to the bottom. Competition among credit-rating agencies led to the bottom.”

3. Why consumers and homeowners should get relief

a. Benefits and shortcomings of personal bankruptcy

“I wondered why more households didn’t file for bankruptcy,” said Michelle White, professor of economics at the University of California, San Diego.

Obviously, it provides consumption insurance to debtors, thus reducing the downside risk of borrowing. Less apparently, though bankruptcy reduces credit availability and raises interest rates, bankruptcy laws that are generous to debtors encourage entrepreneurship, because they reduce the cost of failure.

The two principal forms of bankruptcy for individuals are Chapter 7 and Chapter 13. Chapter 7, the majority of filings, allows a debtor to keep future income, but he or she will lose some assets; credit card debt is discharged, but mortgage foreclosure is not. Chapter 13 can be used to save a house or a car—96% of Chapter 13 filers use it to save their homes or to stop foreclosure—but it requires repayment from future income. In short, said White, “There is no mortgage forgiveness in bankruptcy.”

Thus, neither of these procedures will help homeowners caught in the mortgage crisis, warned White. Neither has greatly helped yet: There were 2.7 million foreclosures in 2007–08, and she estimates that 2 million more are coming. Their social cost is enormous, she observed:

Foreclosures have high externalities. Owners must move, kids have to change schools, some people become homeless. The newspapers talk about snakes in the grass in abandoned homes in Florida and diseases breeding in abandoned swimming pools in California. Property-tax collection falls, and foreclosures lead to more foreclosures as neighborhoods decline.

It is thus in the general public interest to avoid foreclosures when feasible through renegotiation with lenders. Sometimes, that occurs. But the securitization of mortgages means that too many actors with too many interests are at the table, and agreement becomes impossible. The federal Hope for Homeowners program, created to provide relief for debtors, failed precisely because it requires the consent of all lenders. Added Chris Mayer: “One unintended consequence of bankruptcy is that servicers don’t get paid for workout [i.e., finding a solution short of bankruptcy]; they do get paid if they go to bankruptcy. We have to think hard about servicer incentives. There may be unintended consequences of what lenders do.”

The most viable and urgent solutions, said White, include

- Allow bankruptcy judges to apply cramdowns to mortgages in bankruptcy. The current market value of the home may be treated as secured debt, and the rest may be discharged, like credit card debt.
- Judges could also be allowed to reduce the principal or interest payments on mortgages, with or without the approval of lenders. “If a lender is

about to foreclose, this is the only route that provides a quick response,” she said. “Applying to a government program is slow.”

b. Curb profits on the ignorance of the subprime borrower

White did not explicitly raise the issue, but it hung in the room: Why did homeowners take out mortgages they could not repay? Part of the answer was provided by Stephan Meier, assistant professor of management at Columbia Business School: A significant number did not know or understand the terms of the documents they were signing. His research establishes three key points:

- Most subprime-mortgage defaulters held adjustable-rate mortgages (ARMs);
- Nearly one-third of homeowners with ARMs think they have fixed-rate mortgages; that is, they cannot tell the difference or do not verify the terms of their contracts;
- Less than one-third of homeowners in his study were offered fixed-rate mortgages; in other words, if the other

Though bankruptcy reduces credit availability and helps raise interest rates, bankruptcy laws that are generous to debtors encourage entrepreneurship, because they reduce the cost of failure.



Stephen Meier, assistant professor of management at Columbia Business School.

two-thirds did not know that they could ask for a fixed rate, the lender would not inform them.

In short, said Meier, “borrowers don’t know basic mortgage terms.” It may be surmised that in at least some cases lenders took advantage of that ignorance to propose mortgages that became unaffordable and that this helped drive the subprime crisis. A market actor asked: “In private investing, if you propose an inappropriate investment to a client, you’re sanctioned. Why not generalize that?”

Meier instead proposed two solutions:

- Simpler disclosure. Financial-literacy programs have yet to demonstrate anything other than “discouraging” effects, said Meier. Currently, mortgage disclosure forms run to several pages yet do not reveal such information as the maximum monthly payment for an ARM. A participant commented from the floor: “You look at areas besides subprime, and you have financial firms getting floating rates, and you have a cap or a collar. We didn’t have that when poorly capitalized and poor people had floating rates.”
- A further solution would be to mandate fixed-rate mortgages as the norm, with an opt-out provision for those who request adjustable rates. Outright abolition of ARMs, or attaching income requirements to them, poses problems, said Meier: “There are people with low incomes who could profit from adjustable rates—like students in law school,” who are likely to increase their income within a few years.

c. How individual distress feeds the crisis, and how to relieve it

Meanwhile, another question was explicitly posed: Can there be recovery without relief for homeowners? As Glenn Hubbard observed, in this crisis collateral is “the elephant in the room.” As homes are foreclosed and prices fall, collateral deteriorates and recovery becomes far more difficult. Protecting homeowners against default is thus of urgent general interest.

A related issue that came up repeatedly during the conference was consumer debt and its relationship

In some cases, lenders took advantage of borrowers’ ignorance to propose mortgages that became unaffordable.

to consumption. Relief was strongly advocated as essential to recovery:

- Mayer observed, in response to a question from the floor, that making it easier for consumers to pay off their credit card debts would have positive externalities: “Anything paying down

debt will put cash into the system. If you give people a permanent low cost, they have higher income, and some goes into consumption.” As Patrick Bolton noted, government expenditures would not work through the economy as rapidly or effectively as consumer spending.

- Tano Santos, the Franklin Pitcher Johnson Jr. Professor of Finance at Columbia Business School, argued that without relief for households the crisis will be amplified:

The biggest concern is what happens to consumption. A huge drop in consumption in the U.S. will affect everything, a negative-feedback loop that will affect the rest of the world.... The underlying issue is the leverage of the U.S. household. I don’t see any relief for that.... I want to emphasize: This is a financial mess; the underlying issue is the leverage of the U.S. household.

In short, the consensus in the room was that the privileges of lenders must be constrained in favor of borrowers, and in particular homeowners. Not only large financial institutions, but also individual consumers and households must get relief if a worse crisis is to be avoided.

4. Why mortgages matter, and how lowering mortgage rates can ease this crisis and help prevent another

In good times or bad, said Chris Mayer, “Mortgage rates are incredibly important.” In particular, they have “a strong effect on the housing market and homeownership rates.” As mortgage rates fall, homeownership rates rise; as interest rates fall, housing prices rise. That explains the current situation: Interest and mortgage rates have risen, driving down housing prices and ownership. This didn’t cause the crisis, but it makes it harder to resolve for individuals and institutions alike.

Mayer argued that to solve it, we must get past the idea



that subprime loans caused it, which “is hard to reconcile with the global context.” Subprime loans were not a global phenomenon, yet real asset prices boomed around the globe at the same time. Mayer identified the common denominator as a “historic” drop in interest rates: “Interest rates matter, they matter a lot, and if there’s any market where they matter, it’s housing.” As interest rates fell, “lending standards [for mortgages] started to deteriorate, [and] we started making mistakes,” he said. Fundamentals, observed Mayer, were no longer driving the market.

The crisis has been a cruel corrector: The boom gains have been erased, with housing prices falling to the trend rate of 1950–2000. In fact, said Mayer, “because of the long secular decline in interest rates, asset prices should be higher. Housing is incredibly cheap today.”

A chief reason is that “the malfunctioning mortgage market is having significant impacts, driving down the price of housing.” The federal takeover of the government-sponsored enterprise (GSE) mortgage giants⁴ drove spreads to “an all-time level of 280 basis points,” reported Mayer. The first consequence is that “the mortgage market isn’t working. They’re letting a malfunctioning credit market set mortgage rates.” The second is that “people just stopped buying housing. We’re now sitting with 2.2 million vacant houses.” There is no question, he added, that it is in the public interest to intervene to support the housing market, or that the commonwealth has the right to do so, because “the government controls 90% of mortgages—it’s all government capital.... As taxpayers we hold mortgage guarantees, the risk of \$6 trillion of mortgages, through the conservatorship of Fannie Mae, Freddie Mac and AIG.... Taxpayers are already on the hook. We as taxpayers have a strong incentive to not let housing prices go down 18%, which will cause an enormous amount of distress.”

An effective policy to restore the market, he argued, would include these measures:

- Issue Treasury bonds at 2.7%.
- Regulate subsequent mortgage rates: “There is no way mortgages should be 280 BP over that [Treasury rate].” He suggested 4.5% as the appropriate level. He sharply disagreed with a suggestion from the floor that

this would amount to subsidized lending:

In no sense do I believe the taxpayer should subsidize low mortgage rates, lower than it would be in a *normally functioning market* [emphasis added]. A 3% rate, like builders and banks want, would be a big mistake. We should set rates at what we think the prevailing rate would be in normally functioning markets.

It would then be up to the government to determine what constitutes a “normally functioning market”—arguably not a radical step, but a fairly long step beyond the Bush administration’s principles and policies, which assumed that markets function normally on their own (with perhaps a little help or backup from time to time). The necessity and benefits are clear, said Mayer. Among other things, a 4.5% rate would enable more rapid repayment, which “will probably benefit bondholders,” he said. A low rate enables people to do very sensible things.”

More important, he said, in contrast to one-shot stimulus packages or cash giveaways, a 4.5% rate “will have a permanent effect on the costs of borrowing. Permanent changes are far different from temporary ones.” Mayer predicted: “The chance to purchase a home at 4.5% at today’s prices will bring in 1.5 million buyers.” One commentator from the floor strongly disagreed, on two grounds: First, he said, housing prices are affected by many variables; second, if houses were sold at bubble prices, why should the government recreate the bubble? However, another voice from the floor supported Mayer’s argument that lowering mortgage rates will have positive externalities: “The costs for taxpayers are not negligible, they’re negative. If you look at expected losses on subprimes, between 20 and 25%, the effect [of reducing mortgage costs for borrowers] would be to reduce taxpayer costs going forward.”



The Fed, the Treasury and Other Government Actors: Actions and Consequences



1. The Federal Reserve Board's conundrum: Saving liquidity and supporting toxic collateral

a. The power and limits of monetary policy

Patrick Bolton observed that Milton Friedman had put across a powerful message about the Great Depression: "One of the causes was monetary contraction. That was on the Fed's mind" as the current crisis got under way, and so it took action to ensure that "there won't be a sudden reduction of liquidity." There was consensus at the conference that the Fed had performed quite well in this regard, among others. One short-term result was "considerably cheaper and wider access to overnight credit against a broad set of collateral," said Bolton, for primary dealers and investment banks via the Term Securities Lending Facility (TSLF) and similar programs.

Despite these apparent positive results, said Frederic Mishkin, "There's a common view that monetary policy has not been very effective in financial crises." That, he said, was "wrong and dangerous," for two reasons:

- Discrediting monetary policy weakens the Fed's ability to fight inflation.
- The Fed's policy has helped to lower credit spreads, a necessity to relaunch the economy, by reducing macroeconomic risk. "If you think borrowing is expensive now," he said, "without the Fed's interventions it would be far worse."

Discounting monetary policy is also naïve, Mishkin suggested, because the argument rests on a linear view of crises and their resolution:

The standard way of thinking about monetary policy under normal circumstances is in terms of linear-quadratic analysis—you are in a linear world, where monetary policy should be inertial. But in a nonlinear environment, it's not. And, this crisis is a hugely nonlinear event. When you think about nonlinearity, everything changes.

One implication is that "even if you did everything right in monetary terms, *it ain't good enough* [original emphasis].... You need to target liquidity into sectors of the economy that really need it," Mishkin said. A further lesson is that "we need to be even more aggressive with monetary policy during crises," he added. "You can't wait to see the whites of their eyes—gradualism has to be dead in an environment like this."

b. The danger of providing liquidity

However, these initiatives have created other dangers in the medium term, warned Bolton, citing Suresh Sundaresan, the Chase Manhattan Bank Foundation Professor of Financial Institutions at Columbia Business School:

- The Treasury must borrow \$2 trillion to cover the cost of bailouts, which can raise the cost of borrowing for everyone else, increase inflation and weaken the value of the dollar. In Holmström's blunt terms, "I'm not sure supplying Treasury bills is so good. It dries up other markets." Mishkin noted that losing the Fed's "strong nominal anchor" would be a "disaster."
- Rescue loan packages have "dramatically affected the Fed's balance sheet." Specifically, "the Fed's exposure has dramatically changed," said Bolton. "There's a lot of complex collateral." The Fed is thus "involved in things it wasn't doing before, like evaluating collateral." Bolton implied that this is a job the Fed is not equipped to do and perhaps ought not to be doing in the first place. Mishkin acknowledged that the Fed is facing a "valuation risk" due to the "complexity" of assets.
- Exposure to the possibly worthless assets of private lenders is now a public problem. There is thus "very little incentive for financial institutions to get rid of their toxic collateral," commented Bolton. "We've helped these institutions to survive, but we haven't addressed how they get rid of their toxic collateral." He added:

One of the concerns with the real estate crisis and beyond is a repeat of what happened in Japan in the 90s. If you dump a lot of real estate assets on the

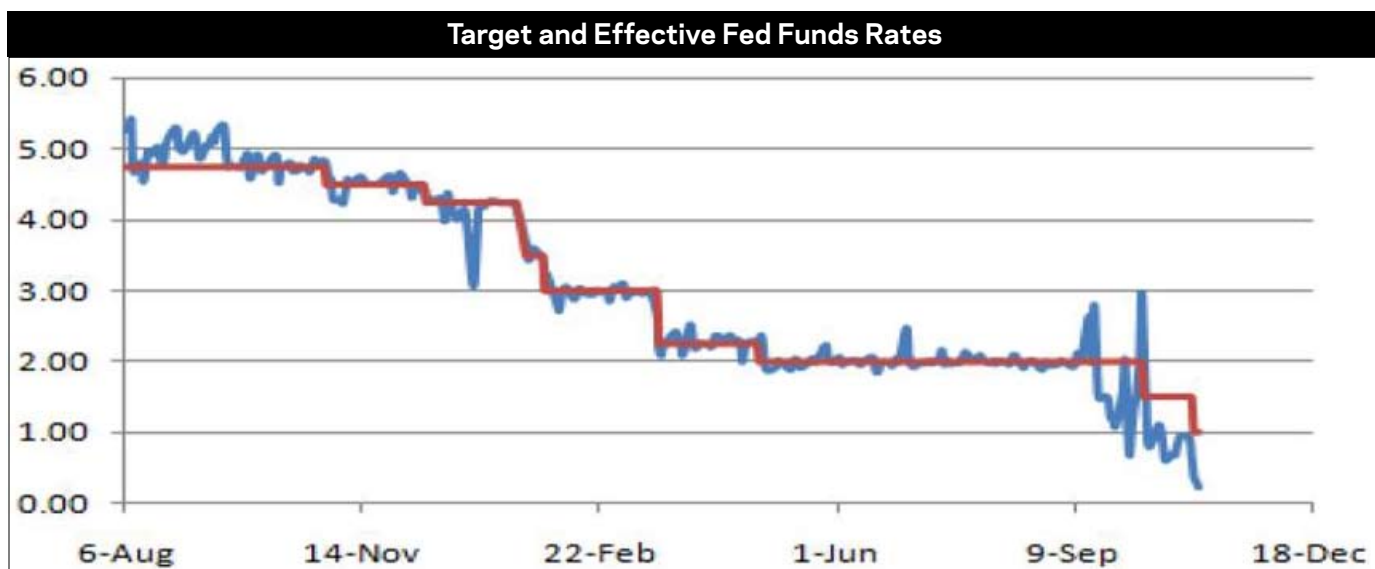


Figure 6: Target rate slashed from 5.25% to 1% from August 2007 to November 2008. Discount rate penalty slashed from 100 basis points to 25 basis points between August 2007 and March 2008. Excess reserves are being remunerated at the rate of target rate minus 75 basis points since October 6, 2008. Required reserves remunerated at T - 10 basis points. Extended discount window access given to investment banks and GSEs. Considerably cheaper and wider access to overnight credit against a broad set of collateral. Presented by Suresh Sundaresan, Chase Manhattan Bank Foundation Professor of Financial Institutions at Columbia Business School.

market at once, you depress the price. If instead you take those assets on board from the banks, you can run a hospital bank with a more long-term perspective. [It would be wiser, he said later, to create a separate hospital bank to “park the assets.”] You then have the ability to gradually bring those assets to the market and thereby help support prices. That should also be part of the valuation exercise. We’ve only heard about the total cost of the government commitment, the total bill. But asset prices will recover in the longer term, and the government may well in the end gain from its rescue of banks.

Holmström replied that in disposing of toxic assets, “what you should expect is prices way below the norm. The prices at which things are trading are limited by the capital available.” Therefore, supporting toxic-asset prices above that floor, though perhaps conducive to temporary stability, will require further capital that is not yet in circulation and will likely be provided by the public.

It will also discourage private buyers, suggested Tano Santos: “If you want the private sector to help resolve the crisis and to acquire assets, buyers have to be able to get assets at a sufficiently low price, but not too low so as to discourage banks from selling toxic assets. This is where interventions in the form of price support for assets can help get us out of the crisis.” Time is running out to solve the toxic-asset issue, said Santos: “If we



Bengt Holmström, Paul A. Samuelson Professor of Economics at the Massachusetts Institute of Technology.

Actions of the Fed and Implications for Its Balance Sheet			
	In millions of dollars		
	Week ending	Week ending	PERCENT CHANGE
	Nov. 12, 2008	Aug. 2, 2007	
Federal Reserve Banks			
Reserve bank credit	2,198,204	857,603	156%
Securities held outright	489,601	790,758	-38%
U.S. Treasury (1)	476,446	790,758	-40%
Bills (2)	18,423	277,019	-93%
Notes and bonds, nominal (2)	410,491	474,303	-13%
Notes and bonds, inflation-indexed (2)	41,071	34,828	18%
Inflation compensation (3)	6,460	4,609	40%
Federal agency (2)	13,155	0	
Repurchase agreements (4)	80,000	25,786	210%
Term auction credit	415,302	N/A	
Other loans	322,932	251	
Primary credit	95,380	2	
Secondary credit	89	0	
Seasonal credit	10	249	
Primary dealer and other broker-dealer credit (5)	64,933	N/A	
Asset-backed commercial paper money market mutual fund liquidity facility	80,244	N/A	
Other credit extensions	82,275	N/A	
Net portfolio holdings of Commercial Paper Funding Facility LLC (6)	249,910	N/A	
TOTAL CREDIT EXTENSION	1,391,075		
Net portfolio holdings of Maiden Lane LLC (7)	26,876		
Float	-1,457	-857	
Other Federal Reserve assets	615,041	41,665	
Gold stock	11,041	11,041	
Special drawing rights certificate account	2,200	2,200	
Treasury currency outstanding (8)	38,759	38,574	
Total factors supplying reserve funds	2,250,204	909,418	

haven't fixed the asset side of the balance sheets in a year, we'll have a hard time."

- Public policy has favored inequity. Not only have taxpayers been made to pay for losses they did not create, but also there has been "a massive wealth transfer" to creditors of failed major institutions, said Santos: "All the creditors of Bear Stearns won big." Moreover, observed Sundaesan: "By not demanding a debt for equity swap—at least for junior and subordinated debt—before a bailout or recapitalization, some suppliers of risk capital are being rewarded at the expense of other suppliers by the Treasury."

2. How the opacity required for private liquidity complicates the use of public liquidity, and why we need to rethink it

For Bengt Holmström the role of government as liquidity provider of last resort is self-evident: "The private sector can do only so much, because the insurance they can provide has to be contractual." Moreover, he said, "a comparative advantage of government is that it can do things ex post." However, he added, "whether they are doing the right thing now is another question."

That was the issue that concerned Tano Santos: "We're still struggling with how and when we should provide

Actions of the Fed and Implications for Its Balance Sheet		
	Week ending	Week ending
	Nov. 12, 2008	Aug. 2, 2007
Currency in circulation (8)	864,197	812,415
Reverse repurchase agreements (9)	99,686	33,335
Treasury cash holdings	262	292
Deposits with F.R. Banks, other than reserve balances	648,352	11,719
Treasury Supplemental Financing		
Total factors, other than reserve balances, absorbing reserve funds	1,658,060	897,240
Reserve balances with Federal Reserve Banks	592,144	12,178
	2,250,204	909,418

Figures 7 and 8: The Fed's balance sheet now involves (a) valuation of complex collateral, (b) determination of "haircuts" for "hard to value" collateral and (c) more careful monitoring of counterparty default risk. Presented by Suresh Sundaesan, Chase Manhattan Bank Foundation Professor of Financial Institutions at Columbia Business School.

public liquidity.” One reason it’s a struggle, he said, is that

the increasing complexity of financial markets leads to dumb markets. By this I mean that a lot of transactions are very mechanical—accounts of the securitization process suggest an assembly line process, like machines generating these products. Banks apply mechanical rules that lead to artificial liquidity needs that can create collateral runs, like indexation that increases the importance of credit ratings.

In other words, the actors in the markets don’t know quite what they are doing themselves, much less what their counterparts are doing and what the external effects may be. In normal times, that is not really a problem from a liquidity standpoint. Like Holmström, Santos acknowledged that “opacity or lack of transparency is precisely a source of liquidity.”

As Holmström put it:

De Beers doesn’t let customers look into the diamond bags—that’s essential for liquidity. Highly nontransparent markets are often very liquid. When you open a little bit and people invest in finding information, that’s a killer for liquidity. If you ask, ‘Is X trustworthy?’ that stops the market.

The question is therefore not whether markets should be fully transparent; it is how much opacity is useful and tolerable so that markets can function without creating systemic risk. The answer has concrete implications for the Fed and the Treasury, because managing a crisis in conditions of opacity is like trying to swim toward the surface without knowing which way is up.

Right now, Santos suggested, the trend is toward less transparency, not more: “The banks are reclassifying assets [specifically, by renaming more of them Level 3 loans], making more opaque their balance sheets.” This trend already contributed to the last crisis, not only by discouraging ratings agencies and regulators from closer oversight, but also because it “decreased incentives to monitor” on the part of private parties. Instead, market actors farmed out knowledge acquisition concerning counterparty risks to third parties, like AIG. “But if AIG gets into trouble, if the risk management is not appropriate, we’re all in trouble,” said Santos, recalling what indeed happened when AIG’s credit swaps turned out to be invalid. Santos also located in this widening opacity one of the drivers of the demand for short-term financing that triggered the crisis:



Frederic Mishkin, Alfred Lerner Professor of Banking and Financial Institutions at Columbia Business School.



Bruce Kogut, Sanford C. Bernstein & Co. Professor of Leadership and Ethics at Columbia Business School.

the health of the system.” Thus, “the fragmentation of knowledge in the crisis made the provision of liquidity very difficult.” Specifically, the Fed could not know if it was providing money to firms with a cash flow problem or an insolvency problem. The primary goal must be to emerge from the crisis with “solid banks,” said Holmström, but that requires knowing if there is “a demand for liquidity besides survival.” Mishkin agreed: “Letting guys stay in business who are broke, like in Japan or the Savings and Loan crisis, is a disaster. We don’t want to let people off the hook who lost capital.”

The Treasury’s responses to the crisis demonstrated the costs of information poverty, said Santos: “One thing that

“When you think about collateralization and marking to market, what they do is decrease incentives to know about my partner. If I’m dealing with the increasing complexity of counterparties like Goldman, Lehman or Citi, who are impossible to understand, my response is to increase collateralization. Extensive collateralization increases the need for short-term financing, [because] I’m so worried about the counterparty that I trust you for a day.”

Any new public clearinghouse will have to operate under strict disclosure rules.

Likewise, Frederic Mishkin observed, “If the collateral is good, you don’t need to know other things.” In other words, lack of knowledge, collateralization and short-term financing form a feedback loop in which each accelerates the others. This

is why self-regulatory mechanisms for markets, though effective in sectors like futures, are globally inadequate:

“In credit-default swaps, there was no information. Did you see anyone talking about an insurance company as the one that would trigger the meltdown? A small unit of AIG brought them down. Markets do solve some problems. Can they do enough?”

Apparently not. When the crisis hit, it became apparent, said Santos, that the complexity of the markets and their lack of transparency put “a big burden” on the Fed when providing public liquidity: “The Fed has a broad mandate for financial stability but a limited view of the market. Balance sheets convey a partial view of

has been peculiar [has been the]... uncertainty coming from the Treasury, [which was] incredibly detrimental to the resolution of the crisis.” When the Treasury did act decisively—notably in deciding to let Lehman go under—it did so with clearly inadequate knowledge of the likely consequences. To this day, said Holmström, “We’re not seeing the private funds come forward in the way they would if there were less uncertainty.” The markets still do not believe that the authorities know what they are doing and how to do it.

A major issue going forward, argued Santos, is that in the absence of solid information, “when the Fed suspects insolvency, should it provide liquidity?” The Fed, he suggested, was less well equipped to make such decisions than its predecessors, private clearinghouses, had been: “They had an incentive to be on top of the banks, because they didn’t want to clear loans to

Welfare Costs of the Treasury’s Commitments	
Fannie Mae and Freddie Mac	\$250 billion
Boost the Fed’s balance sheet	\$200 billion
Bailout funds	\$700 billion
Other guarantees and commitments	\$250 billion (rough guess)
Stimulus package	\$800 billion
Total	\$2.2 trillion

Figure 9: Presented by Suresh Sundaresan, Chase Manhattan Bank Foundation Professor of Financial Institutions at Columbia Business School.

insolvent institutions.” However, he said, as a public institution, “the Fed can’t use information the way a private clearinghouse would.”⁵ One implication is that any new public clearinghouse of the type endorsed by the conference will have to operate under strict disclosure rules.

The practice of “marking to market”—assigning a value to a position based on current market value—can be a valuable tool for regulators, but it is problematic in a crisis situation, argued Mishkin:

It can identify problems. During the Scandinavian crisis, with Sweden and Finland taking huge hits, Denmark was okay, because they had mark-to-market accounting in the banks. We need true valuation. If mark to market means liquidation in a fire sale, we have a problem.

Charles Calomiris, the Henry Kaufman Professor of Financial Institutions at Columbia Business School, argued that exchanges could solve part of the information problem: “We want some things to stay over the counter [and thus opaque] if they’re customized. If not, get them onto exchanges where we can control counterparty risk better and get more disclosure. Get the things that can migrate onto the exchanges.”

Another possible solution, the nationalization of banks, appeared to Holmström as a perfectly viable last resort: “Governments can take over banks easily. Operating traditional banking activities doesn’t require that much imagination. When the government took over banks in the Scandinavian crisis, nothing catastrophic happened, and they were able to get rid of them relatively quickly.” However, as Patrick Bolton said, “there’s an aversion in the U.S. to nationalization.” Replied Santos: “We have ideological constraints, but we’re not out of this problem unless we bring back health to the asset side.” The implication was that nationalization by one name or another might be preferable to the alternatives.

“One thing that has been peculiar [has been the]... uncertainty coming from the Treasury, incredibly detrimental to the resolution of the crisis,” said Tano Santos. When the Treasury did act decisively—notably in deciding to let Lehman go under—it did so with clearly inadequate knowledge of the likely consequences.

In any case, said Santos, in crisis situations the Treasury and the Fed require actionable information “almost in real time. So we have to think about the information we give the Fed and other institutions in terms of what we want them to do.” There will have to be a different tradeoff from the current one, between the opacity required for markets to be liquid and the disclosure required to provide liquidity when markets fail.

3. Why bankruptcies may be better than bailouts, even for the big players

If personal bankruptcy has a bad name, corporate bankruptcy is practically anathema, judging from the hesitation of regulatory authorities to let major players file during the crisis: “Bankruptcy was treated as an impossible option for Bear Stearns, was inconceivable for AIG and was heavily criticized in the Lehman case,” said David Skeel, the S. Samuel Arsht Professor of Corporate Law at the University of Pennsylvania Law School. He asked: “Why are people so hostile to it?”

Where large corporations are concerned, there are two principal justifications for avoiding bankruptcy, especially if the firm is an investment bank or other financial institution. First, said Skeel, “bankruptcy is seen as leading to a huge loss of value. It takes too



David Skeel, S. Samuel Arsht Professor of Corporate Law at the University of Pennsylvania Law School.



long, and value will be destroyed while it works its way out. Or it leads to a fire sale. Either way, it doesn't work." This argument, he said flatly, "is wrong. It's not accurate." What about Lehman Brothers? Given the billions of dollars of value that disappeared when it defaulted, Lehman seems to confirm the view that bankruptcy destroys value. But the conventional understanding of Lehman is deceptive, said Skeel: "They were dumped into bankruptcy. By the time Lehman filed, most of the value had already been destroyed," due at least in part to the government's decision not to provide a rescue loan after having strongly suggested that it would bail out any large, troubled investment bank. Moreover, Skeel argued, the most important question is not whether a firm has any value after it defaults, but whether its assets are redeployed effectively.

The second argument—that the failure of a large, interconnected financial institution could have systemic effects—poses "a real concern": If a firm's default could cause a marketwide crisis, a rescue loan may sometimes be preferable to bankruptcy. However, said Skeel, "before we assume you can't use bankruptcy with a firm like Bear Stearns or General Motors, we need to think about the tradeoffs." Skeel qualified his comments when it came to commercial banks, which are subject to separate insolvency rules. "I'm not arguing against recapitalizing banks," he said. But not every financial institution failure creates a systemic issue, and treating every firm in trouble as if it did obscures the benefits of existing remedies, starting with bankruptcy.

Skeel listed the major issues for firms in financial distress:

- "You worry that the firm won't be able to borrow because of debt overhang." If the firm is viable but in debt, a new lender will hesitate to lend if most or all of the benefits made possible by the loan would simply go to other creditors.
- "It may be more difficult to sell the firm, because the buyer could end up with liabilities."

- "There could be a panic run, and competitors will grab the assets."

"The beauty of bankruptcy," said Skeel, is that it addresses these issues. Bankruptcy manages debt overhang by authorizing the court to give a "debtor-in-possession financier priority over all existing creditors." Another provision facilitates sales that are free and clear of liabilities. "You're better off selling in bankruptcy than outside it," said Skeel. Panic runs are arrested by an automatic stay on collection activities when a firm files.

In contrast, the firm-by-firm-bailout (or not) policy followed by the Treasury and the Bush administration has created at least five major problems, said Skeel:

- "Moral hazard is talked about a lot, and rightly so. The Treasury didn't want to create an expectation that shareholders at [companies like] Bear Stearns and AIG would be bailed out," because this would create perverse incentives for shareholders in the future. So, it insisted that shareholders be almost completely wiped out. But at Bear Stearns, the creditors were made whole. Shareholder moral hazard may have been limited, but only at the cost of creating creditor moral hazard. "You try to fix one moral hazard problem [when you provide a bailout], and you create another. Bankruptcy creates less moral hazard."
- "Bailouts are corporate governance by public opinion. At AIG, the government "kick[ed] all the management out without asking if current management [had] created the problems."
- "The third problem is the costs of uncertainty: Will a given firm be bailed out or not?" Many commentators argue that this uncertainty is a good thing: "If Lehman doesn't know that they'll be bailed out, they won't count on it. They'll have to act as if not, and worry about internal controls and risk." The reality was that uncertainty gave both Lehman and its potential buyers an incentive to play chicken with the government. "The worse we look, the better the chance we'll get a bailout. Likewise, GM has been doing nothing. In effect, they've said: 'We're not preparing for bankruptcy.' That's playing

chicken with the government, which often makes things worse.”

- “If you do bail out the firm, you may delay a necessary and inevitable restructuring. The Chrysler bailout of the 1980s delayed the restructuring of Detroit.”
- “The final cost of a bailout is that it short-circuits the political process. If Bear Stearns had not been bailed out ..., it would have failed, people would have gotten upset and we would have gotten regulatory change. Change has been delayed by the use of bailouts. By not letting companies fail, you dissipate the public pressure for reform.”

Skeel briefly compared the special “prompt corrective action” rules used to resolve the financial distress of commercial banks with the ordinary bankruptcy rules that apply to other financial institutions and nonfinancial firms. Would this approach—prompt corrective action overseen by the FDIC—be better for investments banks? Skeel was skeptical.

Investment banks present a particular problem. Skeel observed:

The effectiveness of the bank-resolution process seems to be tied to the nature of commercial banks. First, they’re essential to the payment system, and we can’t let it be tied up even a day. The other reason is the Federal guarantee of deposits. This gives the FDIC, and us as taxpayers, a large stake in commercial banks—which arguably justifies FDIC resolution and also simplifies the sale of a commercial bank’s assets. All of these factors are distinctive to commercial banks.

Should the government let the largest investment banks file for bankruptcy when they are in financial distress? The question was not directly answered. But Skeel hinted that the answer will at least sometimes be yes, and he emphasized that bankruptcy protections “are likely to work for most financial firms.” Moreover, nothing prevents the government from providing funding in the bankruptcy context. The thrust of his argument was that bankruptcy’s protections have not been allowed to work, at a high cost in moral hazard and in perverse effects on public opinion that have rendered reform less likely. He also made clear that the issue of when systemic risks outweigh those costs has yet to be fully or rationally addressed, and must be, because this will not be the last financial crisis.

Bankruptcy’s protections have not been allowed to work, at a high cost in moral hazard.

4. Reforming financial practices: From micro-prudence to macro-prudence

“We’ve had an unprecedented spate of major financial crises in 30 years,” said Charles Calomiris, “and they are not due to bad luck. They’re due to incentive problems embedded in our financial structure. The size, extent and frequency are more severe now, and two issues are involved.” The first issue, emerging from the literature, “points to moral hazard and protection of creditors as being a primary cause,” said Calomiris. The second, “really important” issue, said Calomiris, is that “the way [creditor moral hazard] plays out is loading on systemic risks, because the likelihood of protection is greater.”

The creditor moral hazard problem is “new to our era,” said Calomiris. It manifests in “safety nets applied to banking systems and beyond that protect creditors.” Its fundamental principle, he said, is that “you get protection if you’re not alone.” The consequence is that “people load risk on the systemic factors. This leads financial institutions to take risks that lead to systemic collapses.”



Charles Calomiris, Henry Kaufman Professor of Financial Institutions at Columbia Business School.

(Jean-Charles Rochet, professor of mathematics and economics at the Toulouse School of Economics agreed: "The main reason crises are recurrent is that governments can't commit not to bail out failing banks.") Calomiris added, half-jokingly: "If you buy a put option on the entire S&P 500, that's the one that gets bailed out." The process is not unconscious, he suggested: "The pattern of CDS spreads among different institutions shows that the markets are very aware of when you're in risk situations of linkages between financial institutions."

"People knew exactly what they were doing, and their managers told them to shut up or fired them to [get these people to] do what [the managers] wanted, which was to overpay for those risks," Charles Calomiris said.

While creditor moral hazard emerged in the public debate over bailouts, a less debated but urgent contributing factor resides in "a managerial agency problem." Calomiris asked rhetorically: "Why do large financial institutions have worse corporate-governance problems and agency problems than others?" He insisted: "We have to take this managerial-agency issue seriously, not just creditor

moral hazard." Sweeping aside the notion that market actors were unaware of the possible implications of their actions, he said

The current crisis has a large managerial-agency component. This was not an accident. I could prove to you that people who bought this risk in 2004-07 as agents for their institutions and stockholders knew they were overpaying and doing so massively.

People knew exactly what they were doing, and their managers told them to shut up or fired them to [get these people to] do what [the managers] wanted, which was to overpay for those risks.

The solutions require different approaches at the micro (operational), macro (systemic) and corporate-governance (executive) levels of prudential regulation, said Calomiris:

- At the operational level, "micro-prudential rules aren't working well." Nonregulatory checks are needed on "the discretionary power of politicians, regulators and supervisors." Calomiris said, ... "We have to create a system of manager, regulator and political incentives." Compensation practices are clearly a priority, he said:

Rules were established for subordinates that reward them for practices that are obviously wrong—like rewarding people for revenue or asset growth without a clawback for risk. What if a manager said, 'I'll lose some people, but I want a guy who won't accept clawback for risk to go to my competitors'?

Calomiris also supported fuller disclosure practices, citing the minimum subordinated debt requirement as an example. Though the rule did not halt the onset of crisis, said Calomiris, "once we were into the crisis, it was very informative."

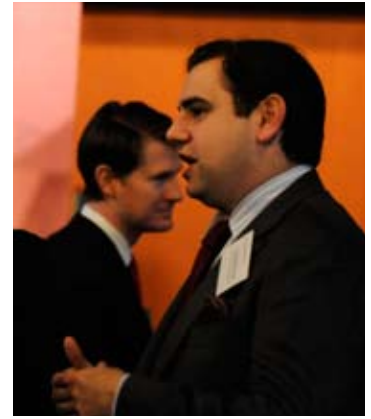
- At the systemic level, in contrast, a different, new kind of regulation is required:

When everyone has the possibility to underestimate risk, we can't rely on market opinions in the supervisory process, because of massive agency problems that encourage people to hide problems and because of creditor moral-hazard problems that encourage people to load on systemic risk. *We need macro-prudential regulations [emphasis added].*

As Calomiris used this novel term,⁶ he explained that macro-prudential regulation requires or incentivizes actors to avoid systemic risk rather than load it on. An example is afforded by Colombia, which responded



Ron Freeman, former chief operating officer of the European Bank for Reconstruction and Development and former head of Salomon Smith Barney in London.



to the very rapid growth of its credit markets in 2006 (nearly four times the 8% growth rate for its GDP) by adopting “dynamic provisioning and reserve requirements,” observed Calomiris. “The central bank is feeling smart.” Similar regulations should be adopted in the U.S., argued Calomiris:

The tendency for people to load on systemic risk in credit booms can be dealt with effectively by dynamic provisioning and reserve requirements. Don't use interest rates [to temper booms], use these.... Using a dual-threshold criterion of rapid credit growth and asset prices is effective.

The idea of threshold criteria was likewise proposed by Rochet in the context of European bank regulation: “The rules should be designed to provide early warnings that force regulators to intervene. The crucial factor is not the behavior of bankers but the behavior of regulators, who must intervene before it's too late.” Frederic Mishkin observed in this context:

“The view that you can't identify asset-price bubbles is not tenable.... One kind of asset bubble is driven by credit. What's driving them is poor prudential supervision, lax underwriting standards and incentives to take on excessive risk. That's easy to identify.... More difficult is stock-market bubbles, enthusiasm-driven. For the government to think it knows more about prices than the market is dangerous. Price bubbles are dangerous only when they destroy the balance sheets of financial institutions.”

Thus, he said, “we need a regulatory structure that's less procyclical, that thinks in terms of activities and not institutions.”

- At the corporate-governance level, reforming financial services firms will require opening management to more intense scrutiny and, by extension, greater market pressure. That could involve measures repealing regulatory limits on corporate control,

“Markets don't pressure people to do stupid things. The idea that you'll maximize short-term profits through destructive practices isn't something the market for corporate control would encourage,” said Charles Calomiris.

bank holding company limits, limits on regulated institutional investors and the Williams Act, said Calomiris. From the floor, Ron Freeman, former chief operating officer of the European Bank for Reconstruction and Development and former head of Salomon Smith Barney in London, argued that the travails of Charles Prince at Citigroup showed that bank executives are already “much more exposed to the pressure of the market” and of boards demanding better performance than they were two decades ago: “The idea

of exposing an executive in a bank to more pressure from the market, rather than providing barriers to pressure from the market, may be worth more thought.” Calomiris replied:

Markets don't pressure people to do stupid things. The idea that you'll maximize short-term profits through destructive practices isn't something the market for corporate control would encourage. Everybody wasn't doing what Citibank, Bear Stearns

Politics and the Bailout Vote		
Variable	Democrat	Republican
Ideology	—	Conservatives oppose
Financial Services contributions	For	For
Financial Services committee member	—	Against (diehard deregulators)
Vulnerable incumbent	Against	Against
Retiring incumbent	N/A	For
New York state	For	—
High-income district	For	—

Figure 10: The political map of congress's voting on the bailout. Original bill would have passed if all Democrats on Financial Services had voted for it. *Additional note: Original bill likely to have failed because of preelection jitters.* Presented by Howard Rosenthal, professor of politics, New York University, and Roger Williams Straus Professor Emeritus of Social Sciences at Princeton University.



and UBS were doing.... We need to look beyond Citi to what incentives do in organizations.

He added: "You may feel sorry for those CEOs, but they are rich and will stay rich. They won't go to jail, because they can show you models" to prove they acted prudently. (Rochet commented acidly that these models were based on "ridiculous assumptions.... Very nice formulae, very complex, too simple to be true, too complex to be verified by outsiders.")

In contrast to Tano Santos, who stressed the danger of "dumb markets," Calomiris's main concern was leadership and incentives at every level that drive people to do dumb things.

5. The role of political constituencies in preventing crisis

It is politicians who will validate any regulatory framework that succeeds the current apparatus. It is possible, but hardly certain, that their involvement will be based on the general interest, suggested Howard Rosenthal, professor of politics at New York University. In analyzing three financial crises (1819, 1933 and 2008), Rosenthal confirmed that legislators supported policies that reflected the interests of regions more and less affected by each crisis. The same "tension," he noted, is "playing out today in how legislators from high-default states vote compared to legislators from low-default regions." The former, as one would expect, are far more likely to support support limiting foreclosures and adjusting the terms of mortgages.

The interests of constituents—especially wealthy voters in high-income districts who can contribute to political campaigns, and industries that likewise contribute—are powerful influences on legislative votes, Rosenthal confirmed. However, they are not the only influences. In 1933, Republicans unsuccessfully opposed measures that allowed devaluation of the dollar, and that turned out to be beneficial for the commonwealth, on the basis of "pure ideology." In debating and voting on the 2008 bailouts, Republican ideology again played a key role,

but Republicans "were most sensitive to districts where Republican [voters] default rates were high, especially in [electorally] competitive districts."

In some if not all of these cases, outcomes are of wide benefit, said Rosenthal: "Political intervention in crises may not be as bad as people fear." However, he added, the historical record shows that where legislative action is necessary in crisis, "timely intervention won't be effective, because of political pressures and politicians' inclination to pander." Thus, in times of crisis competent and confident regulators will probably be more effective than elected officials.

A strategy for preventing the next crisis, then, requires that influential actors "create a constituency that has an incentive to implement good regulations." Jean-Charles Rochet clearly implied that the financial community must be among its leading elements: "Bankers have always been well connected with politicians and able to lobby for important reforms." The absence of such a politically potent constituency for oversight helped enable the regulatory failures that preceded the crisis. One probable result is that politics will return, with a vengeance, to the financial sphere. "We agree that we're moving into an era of big government and more intervention," said Matthew Bishop, U.S. business editor of the *Economist*. "Government is going to feel it should be doing things."



Howard Rosenthal, professor of politics, New York University, and and Roger Williams Straus Professor Emeritus of Social Sciences at Princeton University.

The View from Abroad: Regulation and Crisis in the International Banking System

1. Replace the failed Basel Accords

Since the crisis began, about 20 major banks have failed. The Northern Rock failure is exemplary in terms of how insufficient capital requirements indirectly fed the disaster. After a first profit warning in 2007, the bank increased its dividend to shareholders, on the grounds that it had surplus capital. This is evidence, according to Jean-Charles Rochet, that the Basel I and II accords, which set minimal capital requirements for financial institutions, “didn’t do any good” for the European nations that adopted them. The Basel Accords “should be reformed in depth.”

Part of the issue, he argued, is that “regulators grossly underestimated how much capital was needed by banks.” More important, “Risks were not correctly assessed by regulators. Transformation risk was completely ignored. Risks cannot be reduced to asset risks. The first source of bank risk is transformation.”⁷

In Rochet’s view, the accords reflect commercial and political (specifically, nationalistic) interests more than a concern to safeguard the international financial system.

Basel I, he said, “was affected by fears of the U.S. and U.K. banks that Japanese banks would take them over.” Similarly, the criteria embedded in Basel II, notably value at risk, are “inappropriate for regulators. At Basel II people chose the criteria appropriate for the banks.... The regulators have outsourced their role to the market.” Under the accords, risks in excess of capital are covered by regulators. Added Frederic Mishkin, Basel II is “very reliant on credit rating agencies.” One consequence is that “increasing reliance on credit rating agencies can destroy information in the markets.”

Nor does Basel II contain measures to counter or even assess systemic risks. Its process of monitoring, which considers banks one by one, is “insufficient,” said Rochet. “We need to monitor banks’ bilateral exposures.”

In particular, he said, “Model risk was not properly taken into account. Many examples show us that mathematical models have limited predictive power, from regime changes [to] endogenous risk.”

The failure of the accords has left the door open to “regulatory capture” of the system, which in Rochet’s view will not offer better protection against future crises:

The notion that regulators can advise bankers on risk management is a joke.... I don’t believe regulation is meant to tell bankers how to manage risk. That’s their job. We have to identify the bad sheep, the banks that endanger their deposits or the financial system, and curb their behavior.

This, Rochet said, will require strong, independent (of political pressure) regulators, working on the basis of simple “rules of thumb” that trigger regulatory intervention, rather than complex models. The

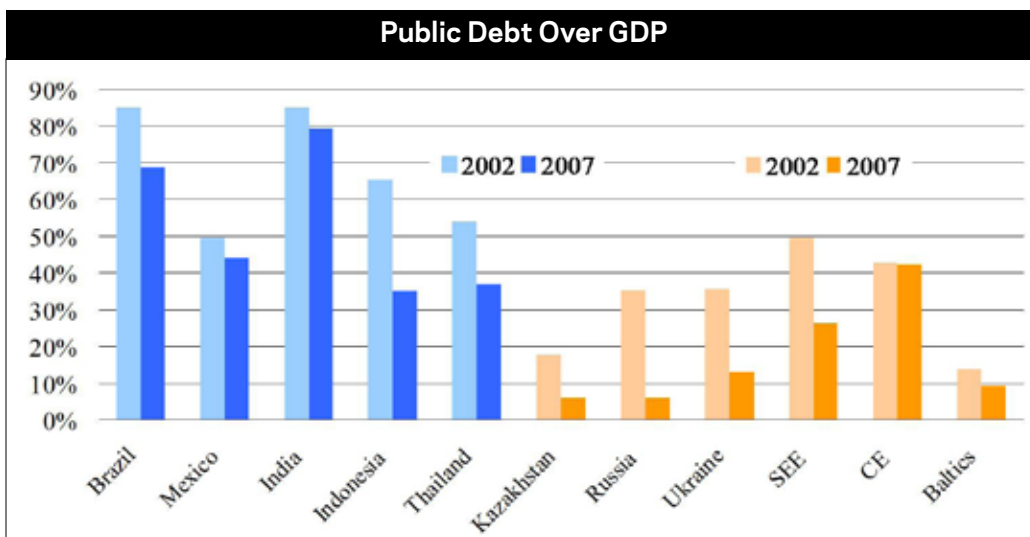


Figure 11: Public debt ratios have declined—and are especially low in Eastern Europe. Presented by Erik Berglof, chief economist and special adviser to the president at the European Bank for Reconstruction and Development.

most urgent tasks on this path, he said, include

- “Reform bankruptcy procedures, so regulators can close banks before they are insolvent.”
- “We need simple measures of correlation between banks’ risks.”
- “A crucial reform: crisis-management procedures....” Rochet explained that “there will be crises in the future, because innovation cannot be stopped, and people have a tendency to be naïve and enthusiastic about new financial techniques. But there should be a better way to manage the next crisis. Instead of improvising under pressure, we need to set up rules for different institutions. As much as possible, we should be able to pinpoint who does what when in advance.”

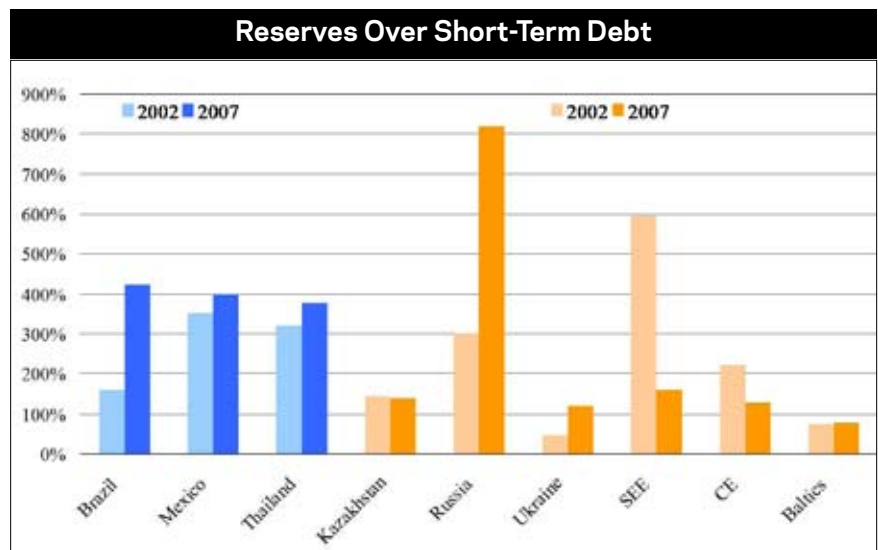


Figure 12: Liquidity ratios improved in many emerging markets, not in Eastern Europe. Presented by Erik Berglof, European Bank for Reconstruction and Development.

Rochet believes that “the current crisis is a unique opportunity to reform regulation. Taxpayers are fed up with bailouts—‘How come you don’t have money for hospitals?’” That is clearly true at the national level, though it remains quite unclear (as Rochet acknowledged in response to a direct question about France) whether new regulations will reinforce supervisory independence or political dependence. He also acknowledged that “the basic difficulty is at the international level.” There is no visible constituency in the European financial sector, or among the national political elites, for a new institution that will have the power to shut down banks across borders.

crisis in advanced economies risks causing a meltdown in emerging markets in general, and Eastern Europe in particular. He warned: “There’s recession in all major industrial regions, world trade and capital flows are declining, and emerging markets are facing a potential sudden stop in the supply of capital. Eastern Europe may implode if we don’t get it right.”

Berglof observed that the so-called global financial architecture (GFA), “despite all the talk,” has changed very little since 1998. The deficiencies of the GFA were of little importance in preventing the crisis, he believes:

That may not matter greatly in the run-up to crises, said Erik Berglof, chief economist and special adviser to the president at the European Bank for Reconstruction and Development: “The lack of cross-border coordination does not explain why policymakers fail to prevent crises.” However, he argued, it matters very much to how policymakers get us out of crises. In particular, it may explain why this crisis is getting worse fast in Eastern Europe.

2. The urgent need for bailouts without borders in Eastern Europe

Erik Berglof argued that the economic and financial



Monika Mantilla, president and CEO of Altura Capital.



"Global institutions could have handled it, but the same can be said of national institutions." It is hard to see which international financial arrangement would have prevented the build-up of toxic assets in the United States.

What did change were the emerging markets. In fact, they had become much more resilient with smaller national debts, more solid macroeconomic frameworks and better governance. But at the same time, many emerging markets had more deeply integrated economically and financially into the global economy, making them more vulnerable to external shocks. And this is where a better-functioning GFA could have made a difference. Existing national and regional architectures simply did not offer sufficient regulation and supervision. The lack of architecture has become particularly apparent in the management of the crisis. "This is where reform is particularly needed," Berglof said.

The need is particularly urgent in Eastern Europe. Berglof recalled, "There is an extraordinary level of financial integration" between the EU and the former Soviet satellite states. According to Berglof, 80–90% of the banking systems in the East (excluding Russia) are now owned by Western European financial groups. This quiet takeover was accompanied by a market ideology that demanded commitments and promised rewards to Eastern Europeans: "They deregulated, were given promises of joining the Euro zone and left a lot of their banks' supervision in the hands of Western European regulators." The crisis hit as they were "in the midst of integration into Europe." The successful financial integration now constitutes a potential danger to these economies.

The EU leaders have made what Berglof called "a small effort" to protect financial systems in Eastern Europe.

Total net lending from the international banks is still high, though syndicated bank lending and bond financing have more or less dried up. "Ukraine would never have survived as long as it has without the continued support from the banks and eventually from the IMF," said Berglof. However, the overall picture may fairly be called frightening:

"The problem is that countries are tempted to take actions in the national interest, at the expense of the collective interest.... These bailout schemes in Western Europe could constrain what banks can do to support subsidiaries in Eastern Europe.... It's

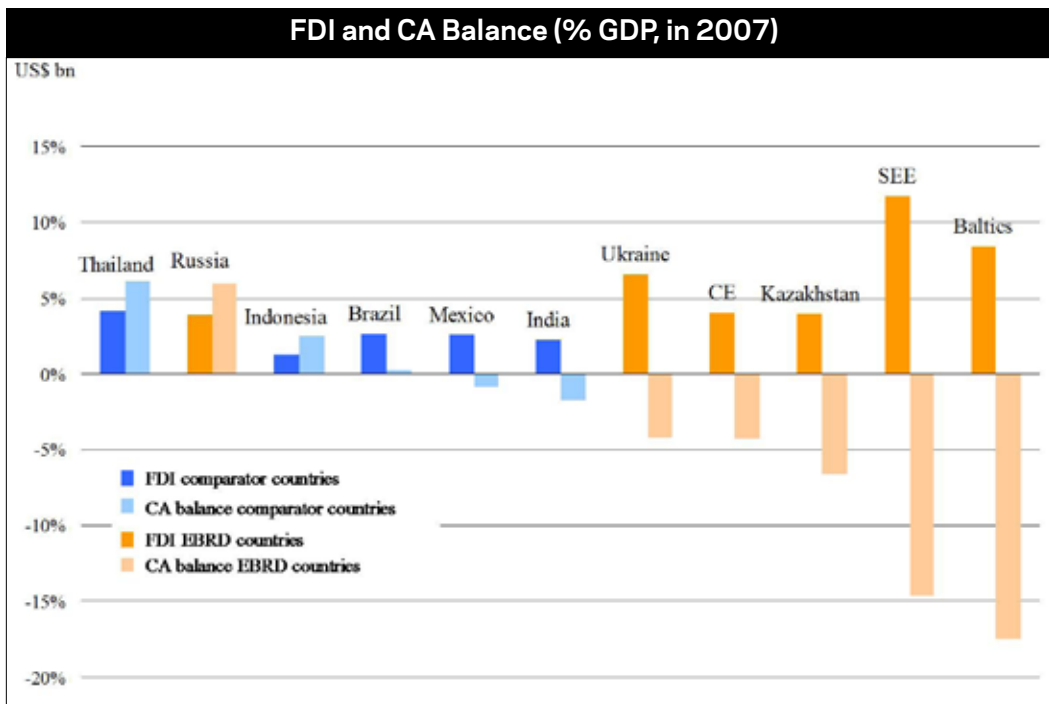


Figure 13: Unlike other emerging markets, current account deficits are large in Eastern Europe, though they have largely been financed by FDI. Presented by Erik Berglof, European Bank for Reconstruction and Development.

good they're being bailed out, but the restrictions threaten the critical channel of funding [to Eastern Europe]. These countries don't have resources for general deposit guarantees, or to bail out their banks."

The IMF is "ill equipped" to address this crisis, said Berglof; its funding quotas have not been revised since 1998. Therefore, he said, "The European Union countries must step in." However, that will require a certain amount of international cooperation:

"We have to find mechanisms to compensate for the spillover from national schemes. We need

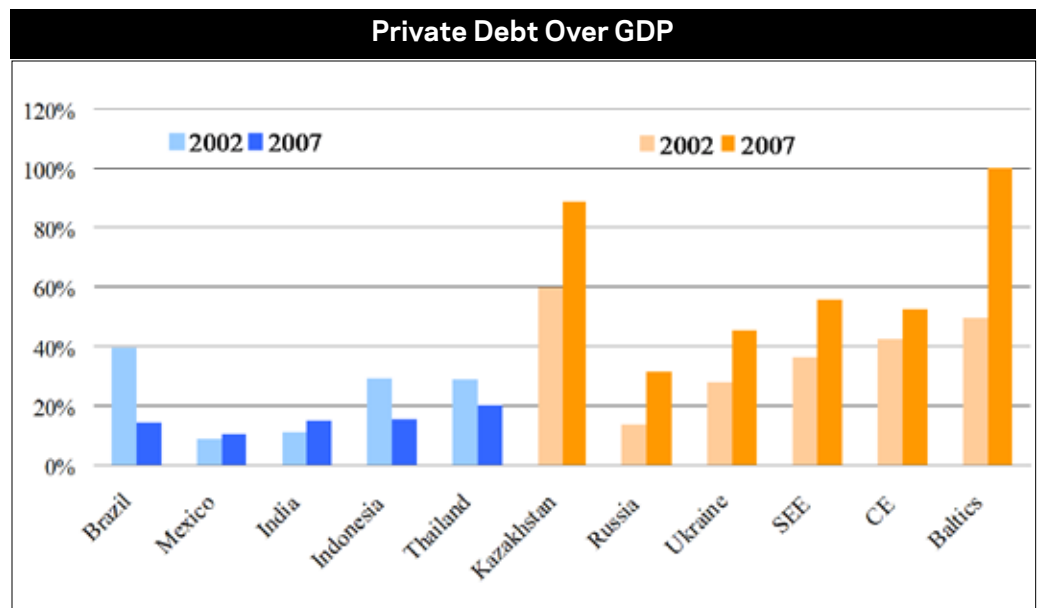


Figure 14: What sets Eastern Europe apart is the huge increase in private external debt. Presented by Erik Berglof, European Bank for Reconstruction and Development.

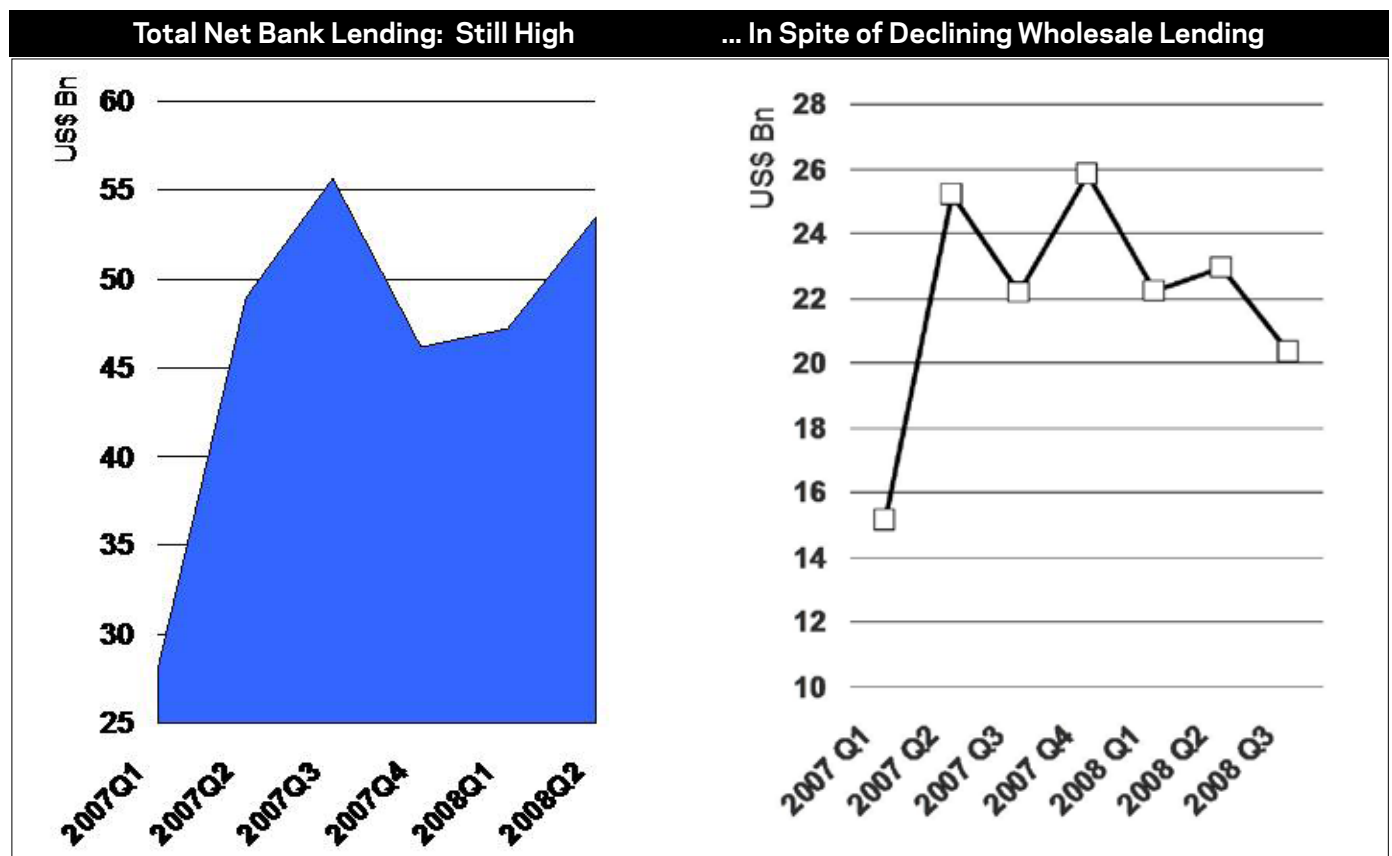


Figure 15: Syndicated lending is sharply down, but parent-bank financing has held up so far. The left chart shows total lending by BIS-reporting banks to EBRD area of operation. The right chart shows total lending in international markets to the EBRD area of operation (that is, excluding parent bank financing) from the Dealogic database. This is mainly syndicated lending. Note: It cheats a bit to get to the main message, because the data in the left chart stop in the second quarter, while the right chart includes the third quarter. Presented by Erik Berglof, European Bank for Reconstruction and Development. Sources: BIS and Dealogic.

to coordinate at the European level, find a way of injecting funds at the parent level that are earmarked for support of the subsidiaries. This is absolutely critical if we're not going to see a major implosion in Eastern Europe."

Berglof summed up:

- The lack of a functioning GFA cannot really be blamed for the crisis; the failures were primarily in national and regional architectures. However, the GFA is a huge and urgent issue going forward. And Europe, said Berglof, needs an "immediate" plan. The plan should be based on fair process: "When you ask emerging countries what they expect from the GFA, they don't necessarily want more influence—they want everyone exposed to the same kind of scrutiny."
- Ways must be found, probably at the European level, to deal with spillover effects from national crises. In particular, more effective mechanisms are required to regulate the impacts of international banking groups spread over several countries.

However, Berglof acknowledged in subsequent conversation that there is at present no constituency for rapid action on behalf of Eastern Europe at the EU level. His intervention was clearly meant to alert the conference to the danger of continuing inaction, and to help build that constituency. Even prior to the crisis, there had been a resurgence of nationalist, anti-Western and anti-Semitic political movements across Eastern Europe. "The people who will be punished are the [pro-market] reformers. Finance to small and medium-sized

compliance and microfinance are being cut, [which is causing] a backlash to these reformers," Berglof said. "We told them capitalism was great, and now they're getting rapped," summed up Chrystia Freeland, U.S. managing editor of the *Financial Times* and a former Moscow correspondent.

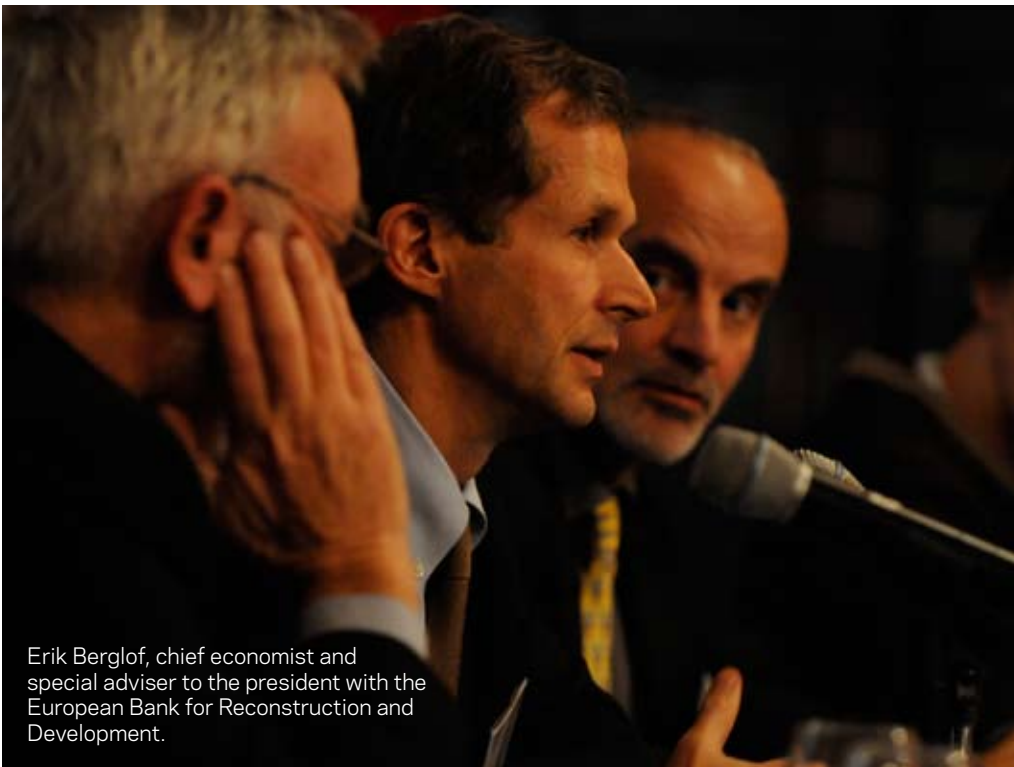
3. The media under fire

On December 9, the day before the conference, the Tribune Co., whose holdings include two historic titles, the *Los Angeles Times* and the *Chicago Tribune*, filed for bankruptcy when its owner's highly leveraged investments blew up. The long-term trend for the news industry was discouraging well before the crisis erupted, with an aging and declining audience for print media, fragmentation and decline of advertising revenues and worsening conditions of employment for journalists (the worst-paid white-collar profession, according to the U.S. Bureau of Labor Statistics, and the only one whose effectives were declining before the crisis). The crisis has intensified the predicament facing the business press in particular:

- Leading journalists believe that they raised timely questions about trends that led to the crisis: "Since 1997 we've taken the view that markets were overvalued, and that America faced massive structural imbalances," said Matthew Bishop. "We don't think what happened is surprising."
- Yet, said Chrystia Freeland, "I'm hearing a lot of criticism of us as being to blame for the global recession and credit crunch: 'If you talk down the economy, there won't be any advertising, and you'll lose your jobs.' That's true, but it's not our job to keep the economy going." Likewise, Floyd Norris recalled,

I had lunch with [Lehman Brothers CEO] Dick Fuld in January 2008, and he berated us for not writing stories saying that Lehman was drastically undervalued.... In 1929, there was something positive in every headline in the *Times*. The paper didn't want to be held responsible [for making the depression worse].... Not shouting 'Fire' is worried about in every newspaper office, sometimes too much.

Meanwhile, said Freeland, it is difficult to make sense out of the ambient uncertainty,



Erik Berglof, chief economist and special adviser to the president with the European Bank for Reconstruction and Development.

instead of falling into the “instant comment culture” of blogs and television:

It’s so hard right now to know what is going on. the *Wall Street Journal* said [in its recent advertising], ‘We’ll tell you what happens tomorrow.’ That’s more than I and my reporters feel comfortable with. We have to be humble. It’s so hard to piece together what they’re talking about in Congress.

Going forward, the crisis has exposed structural problems that affect even the cream of the financial press:

- Though it can’t realistically foretell what happens tomorrow, the business press’s essential value is to explain what happened today. As the panelists acknowledged, that mission was only partially fulfilled. A key reason is that reporters rarely know more than their sources, and in this case their sources were either ignorant about key facts and issues or hiding them. “The complexity of what was going on in the banks is beyond the ability of journalists or anyone to explain... We’re not going to be as good on bank models,” Bishop said. Likewise, Norris’s humble admission that “I didn’t understand that securitization was developed to avoid ratings issues” surely applies to his sources in the SEC.
- Will the crisis force journalists, to keep their credibility, to be more critical toward their sources and subjects? As Bishop said, “There’s a huge job to do to win back credibility for the whole academic discipline of finance,” and the same demonstrably applies to the news industry. He indirectly acknowledged the danger: “If Lehman calls you up and says, ‘We have capital, we’re going to survive’ ... and the prices fall, it looks like you’ve been lied to.”

But the current tendency is opposed, said Freeland: “If anything, we are being a bit too bullish in our reporting in general. It’s getting painful to write these stories. We’re getting worried, we want things to be better than they are.” She added, in a remark that applies not only to reporters:

One thing this crisis should remind all journalists about is our duty not to be seduced by the trappings of wealth and power, to be skeptical... That can be hard if you’re a reporter, if all the people you’ve talked to are powerful and seem to have succeeded in their bets and agree with each other.



Chrystia Freeland, U.S. managing editor at the *Financial Times*.

Conclusions: New Rules, New Incentives



The sense of the conference was that in the run-up to the crisis, regulatory authorities were fooled by market players and, worse, set themselves up to be fooled. Faced with actors who sought to escape its scrutiny, the SEC obligingly looked away. Ratings agencies validated the trustworthiness of players who did not trust one another, and of products that the agencies could not fairly evaluate. The absence of effective oversight, and even of the information required for insight into key market players in a time of crisis, became a terrible handicap when the crisis hit. The conference participants agreed that this can't and won't continue.

In the middle of the crisis, there is little doubt that regulators will soon play a far more prominent role, armed with new powers and prerogatives, and perhaps even with new institutions, such as a clearinghouse or a Crisis Resolution Board (see Appendix). The sole limit on government's role, at least in the United States, will be outright, explicit nationalization of financial institutions. Regulatory agencies will be expected to act more swiftly and more decisively. Market actors will consequently be more exposed to regulatory disclosure (though how much more remains uncertain). They may also face new sanctions, as individuals and as institutions. It is possible that their privileges—notably as lenders in the housing and consumer credit markets—will be constrained and curtailed. Some may lose their licenses to operate.

The limits of reform will depend to a large degree on whether government actions designed to contain the crisis have the ultimate effect of calming public outrage or inciting it. For the moment, bailout plans for major companies have served to “dissipate” public pressure for reform (according to David Skeel). The effect may be quite different if those same bailouts later feed high inflation and starve the working economy of funds, as numerous conference participants predicted. Bailouts were accepted by a sufficient portion of the polity as a necessary condition to keep the economy afloat. If that implicit promise is not kept, public and political reaction may go far beyond anything we have witnessed so far.

Public perception of fairness will clearly be a factor in whether or not there is broad support for necessary reforms. However, the conference participants made it plain that so far, the process of managing the crisis has not been sufficiently fair.

The conference explicitly and implicitly raised another issue that has been surprisingly absent from the public debate during the crisis: fairness. If taxpayers bear the costs of saving the financial system, how are the subsequent benefits apportioned? (President Obama's demand that banks receiving bailout funds must cap executive salaries at \$500,000 is a dramatic but incomplete answer to that question.) If financial actors load on systemic risk to limit their individual risks, should they pay a price (such as clawbacks) in case of systemic damage? If misleading lending practices result

in home foreclosures, should lenders be allowed to block negotiations to avoid that outcome? Public perception of fairness will clearly be a factor in whether or not there is broad support for necessary reforms. However, the conference participants made it plain that so far, the process of managing the crisis has not been sufficiently fair.

Erik Berglof's warning of the massive collapse of Central and Eastern European banking systems also raises profound questions of fairness. As Bruce Kogut summarized, “We built these economies on the basis of liberal markets, we encouraged foreign banking takeovers, and now these markets

are collapsing due to bad regulation in the U.S. and Europe, while foreign banks respond by pulling back.” The biggest challenge going forward is what happens when a negative externality crosses the border and the responsible party refuses to take accountability for it. Noted Kogut, “This is not unlike what happens when an originating provider sells a terrible mortgage without any further accountability.” This has proven to be difficult to resolve in the United States; here, the contagion is even more complex, because taxpayers in Western Europe don't want to pay for bank bailouts or nationalizations in other countries. Who, then, should be the lender of last resort in world capital markets? The answer currently is, the global resources are limited. That answer is clearly inadequate. This, as Berglof argued, is where a new global financial architecture is necessary.

A further issue is, what kind of incentives for market actors can replace the failed ones that energized them but also brought the system to its knees? Incentives to maximize short-term financing and to pile on systemic risk accelerated the crash; incentives to refuse settlements favorable to borrowers prolong it; incentives to refuse bankruptcy and play “chicken” with the government make it harder to resolve. Clearly, the conference participants want to see incentives written into regulations that make actors responsible for the consequences of their acts at a systemic level. Rewards for short-term performance must fall; rewards for sustainable growth must rise. Sanctions for adding to systemic risks must likewise increase. Leadership in financial institutions must be overseen by regulators who judge not only the health of individual institutions and the impact of their actions on shareholders, but also the effects that an institution’s actions may have on the financial system.

The markets and their actors have failed. But, we need the markets, and we need to rely on the incentives that markets can provide to help resolve this crisis and prevent the next. Markets cannot and will not regulate themselves to the extent necessary to forestall or to resolve crises, unless we consider the creation of immense amounts of suffering by irresponsible actors as a viable resolution. The limits of a certain logic have been reached, and we are now defining new boundaries between markets and regulators, public and private interests. The conference participants believe that economics, and not only politics, must play a key role in that process. That has not been the case so far, and that too has to change.

Endnotes

- ¹ “Deciphering the 2007–08 Liquidity and Credit Crunch,” *Journal of Economic Perspectives* (forthcoming). Draft version, May 19, 2008.
- ² See Jo Becker, Sheryl Gay Stolberg and Stephen Labaton, “The Reckoning: White House Philosophy Stoked Mortgage Bonfire,” *New York Times*, December 21, 2008.
- ³ As defined by Brunnermeier: “The CDS buyer pays a periodic fixed insurance fee to a protection seller in exchange for a payment by the seller contingent upon a credit event or default. CDSs are fairly liquid. Banks can also directly trade liquid indices that consist of portfolios of CDSs, such as CDX in the U.S. or iTraxx in Europe.” Op. cit.
- ⁴ Fannie Mae and Freddie Mac are “government-sponsored enterprises,” or GSEs.
- ⁵ Santos did not need to spell out the implications: Use of information by a public entity can have massive consequences. The principle was hardly abstract for this group. The refusal of the Treasury to provide liquidity to Lehman, and the catastrophe that followed, were painfully fresh in the minds of conference participants. Said Holmström: “The way the Lehman thing was handled is terrible.” Not one kind word was said about the Treasury during the day.
- ⁶ At least it was novel to the *New York Times*’ highly experienced financial correspondent Floyd Norris, who also cited the concept of dumb markets as one he “hadn’t heard before.”
- ⁷ Transformation refers to the pooling, transfer and mobilization of liquid factors, reduction of information asymmetries concerning capital supply and demand, and allocation of resources. See Laura Giurcă Vasilescu and Ana Popa, “Capital vs Bank-Oriented Financial System—Beneficial Transformation Trends for Firms,” <http://anale.steconomice.evonet.ro/arhiva/2006/finante-contabilitate-si-banci/63.pdf>.

Appendix: A Proposal for a Crisis Resolution Board

Patrick Bolton, Bruce Kogut and Tano Santos

Innovative regulatory initiatives in the United States occur after financial crises. The Federal Reserve System grew out of the 1907 bank runs, the Securities and Exchange Commission and the Commodity Futures Trading Commission were regulatory results of the Great Depression, and the Sarbanes-Oxley Act that codified corporate governance followed the collapse of major corporations because of speculation and accounting manipulation.

We can't prevent crises, but we can be prepared for them—and right now, we are not. Interventions by the Fed and the Treasury have been only stopgap measures to forestall a meltdown. The costs include the depletion of both public coffers and regulatory credibility. As in previous crises, the financial sector requires a new regulatory framework.

Our current financial-crisis regulatory structure is tripartite: It includes a lender of last resort when market liquidity dries up, a fiscal actor of last resort to redress the consequences of insolvency and a market watchdog to safeguard the payment and brokerage system and protect investors. Currently, the Fed provides the liquidity, the Treasury has stepped in as the actor of last resort for insolvent firms and the SEC and a bevy of other federal and state institutions are charged with regulating markets day to day.

We can't prevent crises, but we can be prepared for them—and right now, we are not.

For this system to be effective in crisis prevention, it should be—but is not always—following three general principles.

- The first is incentive-based regulation. Regulators and regulated should have incentives to prevent excessive risk taking that leads to systemic risk. The current crisis revealed perverse incentives: fees that were collected on mortgages without regard to the creditworthiness of borrowers; fees for rating agencies that offer no reward for monitoring systemic risks; bad corporate governance and pay structures that led management to pursue bonuses at the expense of systemic “tail” risk; and banks whose capital requirements fell with the business expansion rather than increasing. (The latter would have been required under an innovative bank

regulatory system recently set up in Spain.)

To refocus attention on such risks, incentives have to change. Actors should have to keep skin in the game beyond the short term—and clawbacks of bonuses based on mistaken expectations must be the norm. Regulators and rating agencies must be rewarded for assessing the quality of assets and overall systemic risks, as well as the compliance of financial institutions with rules.

- The second principle is to avoid divided regulation of the same firm across different financial operations. Unfortunately, American regulation is divided between the federal and state governments and overlapping regulatory bodies. The Fed and the Office of the Comptroller of the Currency at the Treasury regulate banks, the SEC regulates investment banks (which should have been the Fed's purview) and no one regulates hedge funds. The states regulate insurance, which is why AIG's rogue credit-default-swap shop, headquartered in London, was not regulated. At a time when CEOs are charged with understanding all risk-taking activities, it is senseless for the regulatory structure to be organized in functional silos that blind it to systemic risk. The UK's Financial Services Authority recognizes this; the U.S. regulatory institutions do not.
- The third principle of financial-crisis preparation is prudential regulation. Capital requirements afford a good example. Basel II institutionalized a new approach to risk by requiring banks to provide their own models of risk measurement and risk-weighted capital. The intention was to lower the costs of excessive capital reserves. Instead, Basel II introduced complexity that rendered risks opaque to regulators. Thus we saw credit default swaps grew into a multi-trillion-dollar market conducted through private contracts. Such trades must be moved to centralized clearinghouses, because otherwise regulators will have no knowledge of global exposure.

These principles are necessary for prevention, but they are as insufficient for resolving the next crisis as the Maginot Line was for defeating the blitzkrieg. In this crisis, regulators sought to quarantine the contagion piece by piece. The hope was that a leak in one module



of the market would not spill into the entire market. Unfortunately, the hallmark feature of modern financial crises is that modularity dissolves. All the markets behaved erratically at once, and the problem became global.

That is why a regulator of regulators—call it the Crisis Resolution Board—must monitor and respond to systemic risks. Absent this supra-regulator, the tripartite separation of powers among the Fed, the Treasury and regulators can become a catfight on a burning deck. And it does: UK Chancellor Alistair Darling's public fury at the Bank of England's proposal to inject capital into banks mirrored behind-the-curtain negotiations in the United States. Of course, in a tripartite system the central bank does not normally have the jurisdiction to deplete the treasury. But crises by definition are not normal.

The Crisis Resolution Board cannot be merely an honorary post. Effective intervention will require social capital, because solving crises requires the personal knowledge and influence of the players. (To take a current example, whether a financial institution is illiquid or insolvent depends upon whether you think market prices are correct or reflecting severe informational asymmetries, and can get anyone else to agree.) The Crisis Resolution Board should have an oversight board, which would include the chiefs of the Treasury, the Fed and the regulatory agencies, as well as industry and investor representatives. In addition, the Board must have knowledge of global exposure and systemic risk provided by a research staff that continually tests its instruments against the dynamic evolution of markets. (If the SEC or rating agencies had such staffs, they were not in evidence when it counted.)

Concretely, what would the Board do?

- First, it will have power to monitor the exposure of all financial institutions and markets and to issue early warning signals. This is hardly a radical idea. The IMF plays a similar role at the global level in monitoring national reserves. The role is clearly feasible for a national regulator and will lead to a strengthening of global-financial-market coordination.

- Second, like any good fire brigade, which has a deep respect for plumbing, when things get hot the Board will ensure that the financial markets' plumbing is functioning. Markets depend on brokerage, exchanges and settlement. That's their plumbing, and it's also the key to systemic risk. It must be charted and understood if we are to know what to do when the next crisis comes.

The current crisis shows that none of the tripartite system's players are doing so systematically. The Fed and the Treasury understood that Bear Stearns provided critical brokerage services to hedge funds and that AIG was the pivotal player guaranteeing collateral behind the enormous credit-default system. That part of the plumbing was salvaged. The Treasury allowed Lehman's bankruptcy to destroy the value of the credit-default swaps that Lehman had sold to guarantee the bonds it underwrote, and in the process, the corporate bond market was gravely impaired. When those pipes froze, so did the financial system.

Regulatory reform should seek to distinguish between crisis prevention and crisis resolution. Prevention relies upon a tripartite structure and clear rules of accountability. Crisis resolution demands an integrated approach to systemic risk. Both structures are required, but to date no country has designed such a system. This is the time to do so.

Regulators and regulated should have incentives to prevent excessive risk taking that leads to systemic risk.

The Sanford C. Bernstein & Co. Center for Leadership and Ethics is the umbrella for all activities on leadership, ethics and governance at Columbia Business School.

The Bernstein Center supports faculty research projects and case development on such topics as socially responsible investing, the role of private equity and sovereign wealth funds, corruption and bribery in developing countries, governance of and by financial institutions, and the global evolution of boardrooms to encompass more women and diversity.

The Sanford C. Bernstein & Co. Center
for Leadership and Ethics
Columbia Business School
Uris Hall
3022 Broadway, Room 203
New York, NY 10027
T. 212-854-1060
F. 212-854-0016
www.gsb.columbia.edu/leadership