SYSTEMIC RISK: EXAMINING REGULATORS' ABILITY TO RESPOND TO THREATS TO THE FINANCIAL SYSTEM

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TUESDAY, OCTOBER 2, 2007

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ADDITIONAL MATERIAL SUBMITTED FOR THE RECORD

SYSTEMIC RISK: EXAMINING REGULATORS' ABILITY TO RESPOND TO THREATS TO THE FINANCIAL SYSTEM

Tuesday, October 2, 2007

U.S. HOUSE OF REPRESENTATIVES,
COMMITTEE ON FINANCIAL SERVICES,
Washington, D.C.

The committee met, pursuant to notice, at 10:03 a.m., in room 2128, Rayburn House Office Building, Hon. Barney Frank, [chairman of the committee] presiding.

Present: Representatives Frank, Waters, Maloney, Watt, Hinojosa, McCarthy, Miller of North Carolina, Scott, Cleaver, Moore of Wisconsin, Ellison, Klein, Donnelly, Marshall; Bachus, Castle, Manzullo, Biggert, Capito, Garrett, Brown-Waite, and Neugebauer.

The CHAIRMAN. The hearing will convene. This hearing is one in a series we are having on the question of innovation in the financial system and what is the appropriate response. And I want to be very clear that I think overwhelmingly, probably unanimously, members of this committee welcome innovation in the financial system. And I believe in the essential rationality of the market system. I don't think you get innovation unless those innovations do some good and meet a need. I don't think that this is purely random.

On the other hand, there is a tendency—and I was pleased to see Secretary Paulson say essentially that a week or so ago—for innovation to outrun regulation. That's very sensible. You don't regulate in the abstract and in anticipation generally. What we have been able to do I believe in our financial system over time is to create regulations that allow the financial system to do its work with some protections, and we should not lose sight of the fact that an important part of the regulation we talk about investor and consumer protection, which is important.

We obviously have the concern about systemic risk, which today is the most important. And I have been saying that it seemed to me less important than investor protection, but here we have an issue, we see this in some aspects of subprime where investor protection becomes, at the very least, market enhancing, and in some cases it may be a necessity for markets. That is, in the current situation, we are confronted with a substantial lack of investor confidence. And simply talking our way out of it doesn't work. Sensible regulation that provides some degree of quality assurance is very important if you want to get a market going again. My view is that

if we want to get back into a secondary market for mortgages, and I believe the secondary market for mortgages has had enormous benefit as well as causing us problems, that can only be done if the—in the near term, if the investors have some confidence in the quality of what they're being asked to buy. And that's one of the things we're working on. I was pleased to see that Chairman Bernanke acknowledged that.

We have been focusing on the subprime issue, and it seems to me that's a clear case of innovation leaving regulation behind. And if you look at the regulated set of institutions that make mortgage loans—the banks and the credit unions subjected to State bank authorities, the FDIC, the OCC, and others—they did not—the problems weren't there. The problems arose in the unregulated sector. We had a pretty good case study of this. And our job in part legislative leaves the job which the ranking member and the gentleman from North Carolina who is here, Mr. Miller, the gentleman, Mr. Watt and I started working on 2½ years ago, and we were rudely interrupted. But we will restart that up to do—essentially, we know that there are regulations in the area of mortgages that have worked reasonably well. And to some extent, our job is to write those down and apply them to everybody who regulates mortgages.

We also, as I said, want to put some confidence into the investors in the secondary market that they have some quality assurance, and that I think goes to the duty of the servicers, the active element in the packaging and selling.

The question that is harder to answer is what do we do about the broader market? We should be very clear. Virtually everybody was surprised by the extent to which the problems in the subprime market spilled over into the broader market. There are people who tell me that they saw it coming. I have asked them for any copy of the correspondence in which they notified anybody else. So far, nothing. The Fed acknowledges it was surprised. The Treasury was surprised. The Financial Services Authority in England was surprised, the EU. No one saw the extent to which this was going to spill over, at least no one in the regulatory area.

That raises the first question: Do they need to have more information? Certainly that ought to be at least a minimum amount that we do. I also want to be clear, we are not here focused on the particular entity that does the investing. It's not hedge funds. It's not private equity. It's not investment banks. It's the type of investment, particularly the great increase in leverage. A combination of technology and other factors have allowed people to do virtually a new form of investing. People will tell me maybe it's always been there, but as Marx said, in this case accurately, changes in quantity become changes in quality. And that's what we have to look at.

Are there in our financial markets today—is there a degree of leverage that people have lost sight of? We can say that individuals, individual entities, know what they have. But do they know what everybody else has sufficient to make a judgment? Do they know that if they need to get out of a certain instrument, they won't be in a race with a lot of other people trying to do the same thing, devaluing what they have? And I am pleased to say that the regulators sense that we really need to take a hard look at this and think what it is we have to do.

I also will note one thing, with a little satisfaction. A little less than a year ago when I became the chairman of this committee, the dominant discussion in the financial press was the need for us to deregulate very rapidly lest everybody with more than $100 go to England. There was this fear that we were going to be depopulated in our financial markets, and we had the McKenzie report from Mayor Bloomberg and Senator Schumer. We had the report that Secretary Paulson got out of Harvard Law School.

Clearly, we have to look to our competitive situation. And we've done some things that we think help with that, and I've been a supporter of the SEC, for instance, I think this committee in general has, of trying to work with the European authorities to get joint accounting, to do other things that will ease transnational operations.

But I think the tone has shifted. We are still talking about the international aspect, but we've shifted from a kind of argument that we had better deregulate more so that we catch down with England, to the notion that the regulators need to work together to create some rules. There is an understanding, and in fact, I don't know if there are as many enthusiasts, for instance, in Europe, some of them were hit pretty hard by the consequences of our unregulated subprime market.

So, obviously, regulation should be diminished. This committee is working, for instance, with the American bankers and the Financial Services Roundtable to cut down the amount of paper that has to be sent to the Treasury, which we think is unnecessary. There are other regulations where we have moved to cut back. But on this whole question of whether or not the fundamental regulatory structure is today adequate to keep the regulators informed of what's going on in these new developments in the financial market, that's very much an open question, and that's what we are focusing on here, and I appreciate the witnesses joining us.

The gentleman from Alabama is recognized for his opening statement.

Mr. BACHUS. Thank you, Mr. Chairman. I appreciate you calling this hearing on systemic risk. I thought the earlier hearings on systemic risks were very helpful, and how regulators and market participants can manage the risk that is really inherent in a market, if "manage" is a good word. I'm not sure it is.

Since the implosion of Long-Term Capital Management in 1998, which required a bailout orchestrated by the Federal Reserve, the Treasury Department, and other regulatory bodies, the subject of systemic risk posed by the operations of large, complex financial institutions has been a concern of financial regulators, and rightly so. Systemic risk is not theoretical, and if not properly contained and managed, could threaten the stability and soundness of financial markets. There's always the potential for massive losses at a single financial institution to trigger a cascading effect that could impact the broader financial markets, and ultimately the global economy.

The recent instability we've seen in global capital markets arising primarily out of problems in subprime mortgage lending in the United States have renewed concerns about systemic risk. These concerns were underscored by the collapse of large hedge funds operated by Bear Stearns and Goldman Sachs in August, and reports

that other highly leveraged hedge funds had suffered substantial losses from investments in residential mortgage-backed securities.

The fact that hedge funds and other lightly regulated private pools of capital operate under a less stringent disclosure regime than banks and other regulated entities helped fuel some of the concern, and in some cases, bordering on the panic we saw in the markets over the summer. This relative lack of transparency complicates the task of identifying and mitigating the types of losses at individual firms that could give rise to systemic risk. While the financial contagion that many predicted when credit markets first began experiencing disruptions 2 months ago has not materialized, that is certainly no cause for complacency on the part of either regulators or market participants. For hedge fund investors and counterparties, the challenge is to demand a level of financial transparency and market discipline that allows for a meaningful assessment of the risk involved in the complex trading strategies employed by many funds.

As for financial regulators, they must insist that the institutions they oversee are well-capitalized and have the risk management systems in place to weather financial shocks and severe market downturns. At the same time, regulators must avoid the type of heavy-handed market intervention that could stifle innovation and actually harm those investors, including public employee and private pension funds, which have enjoyed strong returns from their investment in hedge funds in recent years.

Finally, given the global nature of our financial markets, U.S. regulators must work closely with their international counterparts to promote cooperation, not competition, among regulatory bodies, and ensure that information about potential systemic risk is shared promptly.

The chairman mentioned this committee and its involvement in subprime legislation, and I'd like to take this opportunity to commend Mr. Pollock. Your one-page disclosure on subprime lending was actually included in the bill that I introduced earlier this year. I always try to borrow the best approaches out there, and I thought it was something that very much needs to be done. And I think there's pretty much unanimity that it would be of great help to homeowners to really see what they're getting and what their future payments would be. So I commend you for that.

Let me close by again thanking Chairman Frank for his continued attention to the issue of systemic risk and by welcoming our distinguished panel of witnesses to today's hearing. We look forward to hearing your insights on this important subject.

Thank you.

The CHAIRMAN. Is there any other member who wishes to make an opening statement? Mr. Scott.

Mr. SCOTT. Thank you very much, Mr. Chairman. I want to thank you for having this important hearing because our financial system is so very precious, so very important, and we want to make sure we learn some things from this crisis that we're going through.

I'm very interested in learning more about how the President's Working Group on Financial Markets is progressing, on its assessment regarding systemic risk in our financial markets as well as

their processes that might be improved to ensure that our markets are secure. That is the important bottom line, that our financial markets are secure, and that's what the American people are looking to this Congress to make sure.

Questions like, could more have been done to assess, anticipate, or even prevent the subprime mortgage crisis? Unfortunately, this is a question we can ask, but I believe that at this time we must more intently focus on ensuring regulators in the future have the necessary tools at their disposal to mitigate future financial market crises. Private equity transactions in the United States last year totaled $406 billion, and between 1991 and 2006, private equity created more than $30 billion in profits for their investors. This is our system at work. These funds hold unmatched sway over our markets. Eight—I'm sorry—are responsible for more than a third of stock trades, control more than $2 trillion worth of assets, and each of the top hedge fund managers earned more than $1 billion in 2006. That is the state of affairs which faces us.

Now I understand a growing number of market watchers wonder whether the system is encouraging hedge funds to take on too much risk, and I certainly appreciate and would appreciate hearing your comments on this statement and whether or not you believe these funds do not warrant increased attention. As a majority of hedge funds seek out increasingly exotic but not always so much marketable investments, what further action has the President's Working Group taken to somewhat monitor the potential systemic risk of these funds? Critics of the hedge fund industry cite investor protection and systemic risk as the basis of their concern about hedge funds, but the question is, is more regulation really the answer? And if so, what kind of regulation? Granted, many bankers and regulators consider this process to be one of the great advances in finance over the past 5 years. However, how dependent has this new financial system become on hedge funds?

We have some very, very dynamic issues we're faced with. I look forward to your testimony on some of the issues that I have raised. I yield back the balance of my time. Thank you, Mr. Chairman.

The CHAIRMAN. The gentleman from New Jersey.

Mr. GARRETT. I thank the chairman, and I also thank the witnesses for coming to testify. While I'm aware that much of today's focus is on the current troubles in the housing market and the concerns of hedge funds and those concerns that the chairman raised, I hope that some attention will be directed to our ongoing potential problems created by the large portfolios held by Fannie Mae and Freddie Mac, particularly since some of the suggestions that we've heard would enlarge their portfolios, that may be a solution.

There are basically two options now being discussed—to allow the GSEs to help ease the current housing crunch. I believe that over the last several weeks, these two options have become somewhat muddled together and there's some confusion as to how much either will help and how much they can really help far in the future.

The first option under consideration is to increase the conforming loan limits for Fannie and Freddie and allow them to securitize mortgages over 417. Now these are jumbo mortgages that carry a much higher spread and would be really a boon to Fannie and

Freddie to be able to purchase. In his testimony before this committee on September 20th, Chairman Bernanke stated that, "Raising the conforming loan limit would expand this implied guarantee to another portion of the mortgage market, reducing mortgage market discipline further. If, despite these considerations, the Congress were inclined to move in this direction, it should assess whether such actions could be taken in such a way that would be both explicitly temporary and able to be implemented sufficiently promptly to serve its intended purposes."

Now based on this testimony, the only way that raising the conforming loan limits can help stabilize the current market is if Congress moves quickly and makes it temporary. Well, we know how quickly Congress acts. In fact, the time for quick action may have already passed. I've already seen data that indicates jumbo mortgage rates have declined some and are expected to fall even more in the future. In regard to making an increase temporary, well, I believe that none of us are so naive as to think that once Fannie and Freddie get their teeth into this very lucrative and tasty part of the housing market, that they're ever going to let it go. We just passed a 15-year extension to the temporary TRIA program, all by making that temporary program permanent. So who's to say that's not going to occur here?

The second question discussed for allowing the GSEs to help their subprime market is to raise the current caps on the size of the portfolios. Currently, the GSEs only participate on the fringes of the subprime market, only purchasing the best and most creditworthy subprime mortgages because of the limitations in their charter. So raising their portfolio limits will only allow them to buy and retain more prime mortgages where there's no really a credit problem, and further exacerbate the current systemic risk posed to the broader economy by the complicated hedging of the increased interest rates.

When we talk about giving the GSEs expanded powers and larger shares of the housing market, we should ask ourselves this question: Are these the same GSEs that just this week had some of their former top executives cut a deal with the SEC in which they will now pay thousand dollars in fines and are barred from ever working there in the future? And are these the GSEs that are having such difficultly with their financials that it has taken them over 3 years to get them close to be accurate? Would it not really be prudent, then, to require them to prove themselves before giving them even more power?

The recent actions taken by the Fed to cut interest rates by 50 basis points has substantially helped the overall economy rebound from the recent downturn. Yesterday the Dow rose by over 190 points; it's back over 14,000 for the first time since July. Also, the tightening of the underwriting standards, coupled with an increase in skepticism of the ratings assigned to the mortgage-backed securities, has allowed the market to basically self-correct a lot of its own problems.

I know that foreclosures and reset data indicates that the worst may be yet to come, and that the problems will probably bottom out sometime in February or March of next year. However, the data also indicates the problem in the longer term is subsiding, and

that the market is self-correcting. So by the time Congress would pass substantive legislation trying to help, in all likelihood, it will already be too late.

I believe we should help people suffering from the housing crunch and exhaust all options to help keep people out of foreclosure. But I do not feel that we should make statutory changes that will have negligible positive effects in the short term and possible negative, long-term lasting and systemic consequences in the long term.

I look forward now to working with my colleagues and the chairman to ensure that we examine all these options at our disposal and keep the U.S. housing market the strongest in the world.

And, again, I thank you and the members of the committee, and the witnesses for coming to testify. Thank you. I yield back.

The CHAIRMAN. Are there any further opening statements? If not, we'll go to the witnesses. I do—I wouldn't want the witnesses to feel that they were prepared for the wrong hearing. Obviously, the gentleman from New Jersey feels very strongly. You shouldn't feel that was the subject of the hearing. I mean, you may go ahead and talk about the subject of the hearing. I wouldn't want—none of those issues have been involved in this hearing. We will continue to debate those in other forums. The gentleman was referencing bills that have already passed the House.

Mr. BACHUS. Mr. Chairman?

The CHAIRMAN. Yes?

Mr. BACHUS. I believe part of the point Mr. Garrett was saying is the market has corrected itself in the situation.

The CHAIRMAN. Well, I understand that. But just there were references to specific legislative issues. And I don't—sometimes witnesses wonder if they were supposed to discuss them.

We will begin, if there are no further statements, with Mr. Bookstaber.

STATEMENT OF RICHARD BOOKSTABER, AUTHOR, "A DEMON OF OUR OWN DESIGN: MARKETS, HEDGE FUNDS, AND THE PERILS OF FINANCIAL INNOVATION"

Mr. BOOKSTABER. Thank you, Mr. Chairman, and members of the committee. I thank you for the opportunity to testify today. My name is Richard Bookstaber. Until June of this year, I was in charge of a long-short equity quantitative hedge fund at FrontPoint Partners. Before that, I had quite a bit of experience in the risk management area. I was in charge of market risk management at Morgan Stanley. I oversaw firm-wide risk management at Salomon Brothers, and was there during the LTCM crisis, and then I moved to the buy-side and was in charge of risk management at Moore Capital Management and then Ziff Brothers investments. I also have written a book that recently came out called, "A Demon of Our Own Design: Markets, Hedge Funds, and the Perils of Financial Innovation.

My comments today will take some of the themes from that book, which in turn is based on a number of the experiences and lessons that I learned over the period of time that I worked in risk management and before that in other capacities on Wall Street.

I believe that the threats to the financial system stem largely from two increasingly dominant market characteristics. The first is the complexity of the market. Complexity basically means that an event can propagate in unanticipated ways. And for financial markets, complexity comes through derivatives and other innovative products. Many derivatives have nonlinear payoffs, which means that a small market move in some situations can lead to really substantial impacts on the derivatives.

Also, many derivatives lead to unexpected and sometimes unnatural linkages between instruments and markets. We observed some of these unnatural linkages during the subprime problems. Subprimes were included in a number of CDOs, along with other types of mortgages and corporate bonds. And like a kid who brings a cold to a birthday party, the subprimes mingling with these other instruments led to contagion into these other markets.

The second characteristic besides complexity that I think is critical to understanding the nature of the market and market crises is the tendency for markets to move rapidly into a crisis mode with little time or opportunity to intervene. Borrowing a term from engineering, refer to the second characteristic as tight coupling. Examples of tight coupling in other areas of engineering include the launching of a space shuttle, a nuclear power plant moving toward criticality, or even something as prosaic as the process for baking bread. The main point is that during periods in a process that has tight coupling, you don't have time to pull an emergency stop switch and convene a committee to figure out what's going on. Things propagate and move from one market to the other because of the interconnectedness across the markets.

In financial markets, tight coupling can come from computer-driven strategies, which is what we saw occur during the portfolio insurance issues that caused the crash in 1987. But more commonly, tight coupling comes from the effects of leverage. When things go badly for a very highly-leveraged fund, its collateral can drop to the point that its lenders can force it to liquidate assets. This liquidation can lead to a drop in prices, which leads to the collateral dropping even more, and therefore forcing more sales and more liquidation. And the result is a downward cycle, which is the sort of thing that we saw with the demise of LTCM in 1998, and it also is what we saw with a number of hedge funds in the recent past.

And it can get even worse than that, because just like complexity, leverage can lead to surprising linkages between markets. In fact, high leverage in one market can end up devastating another unrelated and perfectly healthy market. This happens because when a market is under stress, it becomes illiquid, and fund managers must look to other markets to liquidate. Basically, if you can't sell what you want to sell, you sell what you can.

We observed this sort of unpredictable type of linkage again during the LTCM crisis. The trigger for LTCM's failure was the default of the Russian debt market. But interestingly, LTCM had virtually no exposure in Russia. This year, we observed the same sort of strange result when the equity quantitative funds somehow came under stress as a result of what occurred with the subprime mortgages, even though not only did they not hold subprime mort-

gages, but they tended to be very scrupulously hedged against most type of market risks.

So I believe that the two characteristics, complexity and tight coupling, are at the source of market crises ranging from the crash in 1987 to the failure of LTCM to the current subprime-related crisis. That means that regulation needs to control level and complexity.

If we allow leverage to mount and allow new derivatives and swaps to grow unfettered and then try to impose regulation on top of that, I believe that we will fail to stem market crises. I suggest instead that the regulatory system should be actively engaged in controlling leverage and in limiting the arms race of innovative products. Now this is a difficult approach to regulation. It's different than the approach taken now. It might be considered invasive to the markets. It might face political hurdles that would make it impractical to execute. However, I believe that structuring effective regulation one way or another will need to address these key sources of market crisis head on.

Let me close, if I can have an extra minute, with an analogy that makes my point from the field of biology. The lowly cockroach, I believe, can teach us a few things about how to structure and regulate markets. The cockroach has existed for hundreds of millions of years and survived as jungles turned to deserts and deserts turned to cities, and it survived using a very simple and coarse defense mechanism. The cockroach doesn't hear. It doesn't see. It doesn't smell. All it does is it moves in the opposite direction of a gust of wind. Now in any particular environment, the cockroach would never win the best-designed insect award; but it always seems to be good enough to survive. Other insects might be more fine-tuned for a particular environment, but are incapable of surviving the inevitable change as one environment moves to another.

I believe that we need to keep the cockroach in mind when we think about how to address systemic risk. We must rethink efforts that engineer and fine-tune the markets in an attempt to seek out every advantage in the world as we see it today. When faced with the inevitable march of events that we cannot even anticipate, simpler financial instruments and less leverage will create a market that is more robust and more survivable.

Thank you.

[The prepared statement of Mr. Bookstaber can be found on page 47 of the appendix.]

The CHAIRMAN. Mr. Schwarcz.

STATEMENT OF STEVEN L. SCHWARCZ, STANLEY A. STAR PROFESSOR OF LAW AND BUSINESS, DUKE UNIVERSITY SCHOOL OF LAW

Mr. SCHWARCZ. Thank you, Mr. Chairman, and members of the committee. My name is Steven Schwarcz, and I am the Stanley A. Star professor of law and business at Duke University and the founding director of Duke's Global Capital Markets Center. My testimony today is based on the results of my research over the past year on systemic risk, but the research is set forth more fully in my paper, "Systemic Risk," which is a forthcoming draft.

Today I will first describe a conceptual framework based on my research in which to think about systemic risk, and then using that framework, I'll try to answer the questions that the committee specifically asks.

In terms of the framework, the classic example of systemic risk, of course, is a bank run. Companies today, though, are able to obtain most of their financing through the capita markets without the use of intermediaries. As a result, capital markets are increasingly central to any examination of systemic risk.

Whether systemic risk should be regulated can be viewed as a subset of the question of whether it's appropriate to regulate financial risk. Now the primary justification for doing that is to maximize economic efficiency. Without regulation, the externalities—the third-party harmful effects—caused by systemic risk would not be prevented or internalized.

Now this reflects, I believe, a type of what is called a tragedy of the commons. This is an event in which the benefits of exploiting finite capital resources accrue to individual market participants, each of which is motivated to maximize use of the resource, whereas the costs of the exploitation are distributed among an even wider class of persons, in this case ordinary people who are harmed by unemployment and poverty.

I considered a number of regulatory approaches, of which I'll discuss a few today. One approach is disclosure. Disclosure, of course, has been viewed traditionally as the primary market regulatory mechanism. However, I argue that because of the tragedy of the commons, requiring additional disclosure would do little to deter systemic risk. Investors already can negotiate the type of disclosure they need when they deal with hedge funds or so forth who act as counterparties, but in terms of disclosing risk that affects third parties, investors may not care.

Further commentators, including Mr. Bookstaber, have argued that imposing additional disclosure requirements may even backfire. The efficacy of disclosure also is limited, and Mr. Bookstaber also said this, by the increasing complexity of transactions in markets. And I have researched and written an article called, "Rethinking the Disclosure Paradigm in a World of Complexity," in which I look at the increasing complexity of financial instruments, and what it means in terms of the ability to achieve transparency. So I conclude that disclosure at least itself is a weak regulatory approach.

Another approach I look at is ensuring liquidity, and the most practical way to do this is through a lender or market maker of last resort. A market maker or lender of last resort could be an expensive proposition because you have two costs. You have moral hazard, and you have the potential shift of cost to taxpayers. I show in my research that these costs are controllable.

Another approach is market discipline. Under this approach, the regulators' job is to ensure that market participants exercise the type of diligence that enables the market to work efficiently, and this is the approach presently taken by the Executive Branch. This approach, though, I argue is inherently suspect. Again, you have the problem of the tragedy of the commons that no firm has sufficient incentive to limit its own risk to avoid risk to third parties,

and also regulators have a mixed track record of ensuring that participants in fact maintain market discipline, and I argue that this is a behavioral psychology effect. So I look at market discipline as a potential supplement to other regulatory approaches.

In terms of recommendations, I propose that there be created a lender/market-maker of last resort, that to minimize moral hazard, the market-maker/lender of last resort could adopt a policy of constructive ambiguity; that is that no third party would know when the lending or the market making would occur. And also, I show how this can be done in a way that only minimally transfers risk—transfers cost, I should say—to taxpayers. And this approach should be supplemented by market discipline approach. And to the extent none of those works, then you always have potential for ad hoc approaches.

Now let me address the committee's specific questions. One is, what are the major challenges facing the U.S. financial regulators? And the immediate challenge of course is to instill additional investor confidence in the financial markets. I argue that the recent monetary policy actions by the Fed are helpful, but they primarily impact banks, not financial markets, and that one, to the extent necessary, there should be a lender of last resort set up to deal with the situation with the markets' collapse, similar to the tight coupling suggested by Mr. Bookstaber.

Two, what challenges will regulators face going forward? I believe regulators need to come to grips with changing market realities in at least two ways. They should shift their focus from banks more to financial markets, to address the reality of financial disintermediation, the shifting from bank finance to capital market finance. And second, they should begin thinking more seriously about the increasing problem of complexity.

The third question is, do regulators have the tools they need to meet these challenges? And I propose that the Fed or some other governmental entity be given the power to act as, or at least to arrange for, a market-maker/lender of last resort along the lines discussed. And also because financial markets and institutions increasingly cross sovereign borders, that the Federal Reserve be given any necessary authority to work with regulators outside the United States, including the possibility of establishing an international lender or market-maker of last resort.

The next question the committee asked is what changes, if any, should be contemplated to our regulatory system? And again, I repeat what I said before, that the Fed be given that authority to work both domestically and internationally, including as a lender of last resort.

And the fifth question is what powers or information could have allowed regulators to anticipate and prevent the current subprime mortgage crisis and its impact on the broader financial system? I believe it would have been possible through a lender/market-maker of last resort to mitigate the impact of that crisis on the broader financial system. And, furthermore, I think that if the collapse were more severe, a lender or market-maker of last resort would have been even more important.

I am less than certain, however, what powers or information could have allowed regulators to anticipate and prevent the current

subprime mortgage-related crisis. Now Alan Blinder in his Sunday Op Ed in the Sunday Times tries to identify what caused the mortgage crisis. But I believe that even if one could identify that, there are infinite other ways that crises could occur in the future, and trying to regulate all of them would dampen the economy. I will give you an example. The underlying cause of the subprime mortgage crisis was that mortgage loans turned out in retrospect to be undercollateralized, given the drop in home prices. One could consider, for example, imposing going forward a restriction on these types of loans, akin perhaps to what the Fed did in response to the problems you had in the 1920's and 1930's, the Great Depression. And that is the margin regulations, G, U, T, and X. This would basically require for mortgage lenders additional collateral so that you didn't have a collateral shortage. For example, in a securities context of those regulations, you have two-to-one collateral coverage of margin stock to margin loans. You could say, for example, that you would have additional collateral coverage of home mortgage loans.

The problem I have with something like that, although I think it would be very effective to limit the risk going forward, is that you impede homeownership, basically, and you would also impose a high administrative cost. So one has to be very circumspect as to any regulation.

And finally, it is easy to rush to incorrect conclusions. Also on Sunday, Blinder criticized the rating agencies being paid by the issuers, a supposed conflict of interest, and arguing that if students paid him directly for grading their work, his dean would be outraged. But that's misleading. Because for rating agencies, the rating is universally independent of the fee, and so one needs to be very careful not to make false analogies.

Thank you.

[The prepared statement of Professor Schwarcz can be found on page 72 of the appendix.]

The CHAIRMAN. Thank you.

And Mr. Kuttner.

STATEMENT OF ROBERT KUTTNER, EDITOR, THE AMERICAN PROSPECT

Mr. KUTTNER. Thank you, Mr. Chairman, for this invitation. My name is Robert Kuttner. I'm an economics journalist, editor, author, former investigator for the Senate Banking Committee, and I have a book coming out in a few weeks that addresses the systemic risks of financial innovation coupled with deregulation and the hazards of periodic bailouts.

In my research, I reviewed the abuses of the 1920's, and the efforts in the 1930's to create a stable financial system. The Senate Banking Committee in the celebrated Pecora hearings of 1933 and 1934 laid bare the abuses of the 1920's and devised the groundwork for modern financial regulation. If you revisit the Pecora hearing records, I think you will be startled by the sense of deja vu and the parallels to today's excesses.

Although the particulars are different and some of today's innovations are highly technical, financial history suggests that the risks and abuses are enduring. They are variations on a few hearty

perennials: Excess leverage, conflicts of interest, nontransparency, misrepresentation, and engineered euphoria. In the 1920's, such practices as stock pools, margin lending, pyramiding of holding companies, and the repackaging of dubious loans and bonds all promoted by middlemen with conflicts of interest, created asset bubbles and ultimately lead to the great crashes.

In the 1930's, Congress barred these abuses through regulations that required transparency, eliminated excess leverage, abolished holding company pyramids, limited margin accounts and prohibited insider self-dealing out of the conflicts of interests. But thanks to deregulation, many of these abuses were repeated in the scandals of the 1990's where the malfactors were auditors and accountants and stock analysts, and it remains to be seen what role the bond rating agencies have played in the current crisis.

Securitized credit. Some people think this is an innovation of the past 30 years. In fact, it was absolutely central to the abuses of the 1920's, and those abuses led Congress to separate investment banking from commercial banking in the Glass-Steagall Act. Since repeal of Glass-Steagall in 1999, trillion-dollar superbanks have been able to reenact the same kind of structural conflicts of interest.

Though these entities are only partly government-guaranteed and supervised, they are nonetheless treated as too big to fail. And anybody familiar with derivatives or hedge funds knows that margin limits, although they're still on the books, are for little people. Private equity, which might be better named private debt, gets its astronomically high rate of return on equity through the use of borrowed money. As in the 1920's, the game continues only as long as assets continue to inflate.

Now there's one enormous difference. The economy did not crash with the stock market collapse of 1989 or of 2000, 2001. And while there are other differences, the primary difference is that in the late 1920's, the Federal Reserve had neither the tools nor the expertise nor the self-confidence to act decisively in a credit crunch. Today when speculative meltdowns risk hurting the larger economy, the Fed floods the market with cash and lowers target short-term rates.

This was the case in the Third World loan losses of the 1980's, the currency speculation losses of 1997, and of course the collapse of long-term capital management in 1998. Even though Chairman Greenspan had expressed worry 2 years and several thousand points earlier that irrational exuberance was creating a stock market bubble, the big losses led Greenspan to keep cutting rates despite his foreboding that the cheaper money would only pump up asset bubbles and invite still more speculation.

I just read Chairman Greenspan's fascinating memoir in which he confirms both this rescue philosophy and his strong support for free markets and deep antipathy to regulation. But I don't see how you can have it both ways. If you believe that markets are self-regulating and self-correcting, then you should logically let markets live with the consequences. On the other hand, if you were going to let markets—if you're going to rescue markets from their excesses on the very reasonable ground that a crash threatens the larger system, then you have an obligation, I think, to act prophy-

lactically to head off the wildly speculative behavior in the first place. Otherwise, the Fed is just an enabler.

The point is not that the Fed should let the whole economy collapse in order to teach speculators a lesson. The point is that the Fed needs to remember its other role as regulator. Financial regulation is too often understood as merely protecting investors. If investors are consenting adults, who needs regulators? But of course the other purpose is to protect the system from moral hazard and catastrophic risk.

As these hearings proceed, here are the issues that I think require further exploration. First, which innovations of financial engineering truly enhance economic efficiency and which ones mainly enrich middlemen, strip assets, reallocate wealth, and increase system risk?

Secondly, which techniques and strategies of regulation do we need to moderate these new systemic risks that were at the heart of the financial crisis of the 1920's, the 1990's, and the zeroes? Again, there are recurring abuses: Lack of transparency, excessive leverage, and conflicts of interest. Those in turn suggest remedies: Greater disclosure, either to regulators or to the public; requirement of increased reserves in direct proportion to how opaque and difficult to value are the assets held by banks; some restoration of the laws against conflicts of interest once provided by Glass-Steagall; and tax policies to discourage dangerously high leverage ratios in whatever form.

Finally, a third big question to be addressed is the relationship of financial engineering to corporate governance. Ever since Berle and Means, it has been conventional to point out that corporate management is not adequately responsible to shareholders. Since the first leveraged buyout boom, advocates of hostile takeovers have proposed a radically libertarian solution to the Berle Means problem. Let a market for corporate control hold managers accountable by buying, selling, and recombining entire companies. There have to be better strategies to hold managers accountable.

One last parallel. I am chilled, as I'm sure you are, Mr. Chairman, every time I hear a public official or a Wall Street eminence utter the reassuring words, "the economic fundamentals are sound." Those same words were used by President Hoover and the captains of finance in the cold winter of 1929. They didn't restore confidence.

The fact is, the economic fundamentals are sound if you look at the real economy. It is the financial economy that is dangerously unsound. And as every student of economy history knows, depressions, ever since the South Sea bubble, originate in excesses in the financial economy and go on to ruin the real economy. Not all innovations are constructive.

It remains to be seen whether we have dodged the bullet for now. If markets do calm down, then we have bought precious time. The worst thing of all would be to conclude that markets have self-corrected once again. The Fed has really ridden to the rescue once again, and the worst thing of all would be to take no action and let the bubble economy continue to fester.

Thank you very much.

[The prepared statement of Mr. Kuttner can be found on page 53 of the appendix.]

The CHAIRMAN. Thank you, Mr. Kuttner.

Mr. Pollock.

STATEMENT OF ALEX J. POLLOCK, RESIDENT FELLOW, AMERICAN ENTERPRISE INSTITUTE

Mr. POLLOCK. Mr. Chairman, Ranking Member Bachus, and members of the committee, thank you for your kind comments on my proposal in your opening remarks. My own career has included many credit cycles which involved issues of systemic risk, starting in my case with the credit crunch of 1969, the commercial paper panic of 1970, the real estate investment trust collapse of 1975, and so on to the current subprime mortgage and housing bust, with numerous others in between. I have also studied the long history of such events.

I expect, Mr. Kuttner, that you and I disagree on many things, but we agree on the importance of looking at these historical patterns. Systemic risk always makes me think of a memorable saying of John Maynard Keynes, that a prudent banker is one who goes broke when everybody else goes broke. As Keynes suggests, prudence means doing what everybody else is doing, and that's a key component in financial booms and busts.

To put these in context, maximum, long-term growth and the greatest economic wellbeing for ordinary people depends on market innovation and experimentation. But these, of course, make the future more uncertain. Markets for financial instruments by definition place a current price on future, thus inherently uncertain, events. That much is obvious, but it's easy to forget this when addressing the results of a bust with the benefit of hindsight, when it seems like you would have had to be stupid to make the mistakes that smart people actually did make.

In the boom, many people succeed, just as many people succeeded in the long housing boom just past. This success gets extrapolated and makes lenders and investors and regulators confident of the "new era." Investor confidence leads to underestimation of future uncertainties, notably in a leveraged sector, and there comes to be a lot of investing long and borrowing short. Risky, illiquid assets get to be financed by very risk-averse, short-term lenders, like commercial paper buyers and repo dealers, and in a previous day, unsecured bank depositors.

These short-term lenders are likely to behave like the depositors of Britain's Northern Rock, that is to say, in the manner of the Plank Curve. I hope you can see this, ladies and gentleman. This is the Plank Curve. It is the pattern of credit available in a panic. You can see it goes like this and then it drops off the end. It's called the Plank Curve because it is the pattern of a man walking the plank.

We know for certain that markets will create both long-term economic growth and cyclical booms and busts. Markets are recursive. Regulations change the market. Models of financial behavior themselves change the market, and thereby become less effective or obsolete, as did the subprime credit models of both investors and the rating agencies.

One way to go broke when everyone else does is to use models with the same assumptions that everyone else has. This should make us skeptical of the model-based regulatory approach currently popular as Basel II.

The great economic historian, Charles Kindleberger, surveying several centuries of financial history, observed that financial crises and scandals occur on average about once every 10 years regardless of what legislators or regulators do. The lessons are all learned after the fact.

Every bust is followed by hopes that the reforms have solved the problem. For example, in 1914, the then-Comptroller of the Currency announced that with the creation of the new Federal Reserve, "financial and commercial crises or panics seem to be mathematically impossible." Of course in time, the next bust arrives nonetheless.

Although this should make us skeptical of excessive claims about what regulation can do, it doesn't mean that we shouldn't have reforms. Greater disclosure certainly makes sense. The subprime mortgage bust suffered from inadequate disclosures all the way from the consumer, as was mentioned a little bit ago, to the ultimate investor levels and at a good many places in between. The role of the credit rating agencies is part of this issue. I think we should be working on ways to make investor-paid rating agencies a greater force in this key information providing sector.

A particular disclosure reform pertinent to private pools of capital would be to require symmetrical disclosure of short and long equity concentrations. Concentrated short positions in a company's stock should be disclosed publicly in exactly the same way as long positions are.

And it would certainly be a good idea to make whatever deal with the Senate is necessary to enact regulatory reform of the housing GSEs.

Good times, a long period of profits, and an expansionary economy induce financial actors, regulators, and observers to take readily tradable markets, otherwise called "liquidity," too much for granted, so liquidity comes to be thought of as how much you can borrow. When the crisis comes, it's found that liquidity is about what happens when you can't borrow, except from some government instrumentality.

At this point, we have arrived at why central banks exist. The power of the government with its ability to compel, borrow, tax, print money, and credibly guarantee the payment of claims can intervene to break the everybody-stops-taking-risk-at-once psychology of systemic risk. The key is to assure that this intervention is temporary, as are credit panics by nature.

As historically recent examples of government interventions in housing busts, since 1970, we've had the Emergency Home Finance Act of 1970, the Emergency Housing Act of 1975, the Emergency Housing Assistance Act of 1983, and the Emergency Housing Assistance Act of 1988. And I don't count the Hurricane Katrina Emergency Housing Act of 2005, since that's a special case.

As Walter Bagehot wrote, "Every great crisis reveals the excessive speculations of many houses which no one before suspected." The current bust is true to type, and we are seeing and will con-

tinue to see large losses revealed. As everybody gets used to the idea that these losses have happened, I think liquidity will return reasonably quickly to markets for prime instruments. I agree with Congressman Garrett that we don't need Fannie and Freddie in the prime jumbo market.

One insightful observer has predicted that the panic about credit markets will be a memory by Thanksgiving. For prime markets, I believe he's right. However, the severe problems with subprime mortgages and securities made out of them related defaults and foreclosures, and most importantly, falling house prices, will continue past then. The interesting times we're experiencing in the wake of the bursting of the housing bubble does have a good way yet to run.

Thank you for the opportunity to share these views.

[The prepared statement of Mr. Pollock can be found on page 66 of the appendix.]

The CHAIRMAN. Thank you, Mr. Pollock. Let me begin with you. You say of your 90 percent, 10 percent policy mix, and you say when the system hits its inevitable periodic crisis, about 10 percent of the time the intervention is necessary. What kinds of intervention? For instance, I assume, as you acknowledge—not acknowledge, as you note, this is one of those times. What sorts of intervention have been and are appropriate now since you say we are in one of those 10 percent times?

Mr. POLLOCK. Thank you very much, Mr. Chairman, for reading my testimony about what I call the Cincinnatian Doctrine, which is this 90 percent/10 percent.

The CHAIRMAN. Why Cincinnatian?

Mr. POLLOCK. If I may have a minute to explain.

The CHAIRMAN. Sure.

Mr. POLLOCK. Cincinnatus—

The CHAIRMAN. Yes.

Mr. POLLOCK. —the great Roman hero, left the plough to save the state—became temporary dictator of Rome.

The CHAIRMAN. Right.

Mr. POLLOCK. And after he saved the state by expelling the barbarians, he resigned his dictatorship and went back to his farm.

The CHAIRMAN. Why 90/10?

Mr. POLLOCK. Excuse me?

The CHAIRMAN. Was that like 10 percent of his life? I just didn't understand the 90/10.

Mr. POLLOCK. No, no.

The CHAIRMAN. I thought maybe because he was a farmer, he was getting 90 percent parity.

Mr. POLLOCK. There are, of course, agricultural busts as well, Mr. Chairman.

The CHAIRMAN. All right. Why Cincinnatus? I just didn't get the name.

Mr. POLLOCK. That is why Cincinnatus.

The CHAIRMAN. All right.

Mr. POLLOCK. Of course, George Washington, who also could have been king and instead went back to his farm, had Cincinnatus as—

The CHAIRMAN. Well, he was more of a politician than Cincinnatus. He stayed a while.

Mr. POLLOCK. Well, then he came back, of course. Anyway, 90/10 is because about once every 10 years is the time of the bust. Appropriate actions—

The CHAIRMAN. I've always found that the more remote people are in time, the easier it is to impute total purity to their motives. But let's get back—

Mr. POLLOCK. That's very true. The less well we know them, Mr. Chairman.

The CHAIRMAN. What kinds of interventions would you say should have been, and are now, relevant to this 10 percent crisis?

Mr. POLLOCK. We are clearly with the subprime bust in this 10 percent period. We've had the central bank intervening, as it did with discount—

The CHAIRMAN. What forms of intervention do you think are appropriate, the ones that have happened? Are there things that happened that shouldn't have, or has everything been done correctly?

Mr. POLLOCK. I think the actions of the Fed were quite appropriate and seemed to have been successful in returning the prime markets to much more normal functioning, which we're seeing. I do think, as we discussed in the previous hearing, that in the current subprime bust, the ways to refinance subprime ARMs in particular are appropriate interventions, using the FHA, for example.

I had the honor of proposing to you when I was last here that Fannie and Freddie might be used to acquire in segregated special portfolios refinanced subprime ARMs. I think that would be an appropriate intervention in this 10 percent period.

My point with the 90/10 is that all of these things should be temporary. The lessons will be learned by all, government and market, and when we get past the—

The CHAIRMAN. Let me just say, on that, I appreciate with regard to the Fed, obviously those are temporary. And a special Fannie/Freddie subprime would be. The FHA proposal from the Administration and what we've done would be permanent. Should that be—I mean, that is letting the FHA from now on deal with people with weaker credit. Is there any reason to limit that, going forward?

Mr. POLLOCK. If you look at subprime delinquencies and FHA delinquencies, Mr. Chairman, they are quite similar in the fixed-rate area—almost half of subprime loans are fixed-rate loans. And fixed-rate subprime delinquencies actually are not that much more than FHA delinquencies. And of course, total FHA delinquencies are well up into double digits. So I wouldn't support lowering the credit standards of the FHA by a lot. But I would support their temporary ability to refinance subprime—

The CHAIRMAN. Okay. I understand that. What the Administration asked for was a permanent change, so I appreciate your noting a difference there.

Let me just say to Mr. Kuttner that I think he—I was glad to see he hit on what I think is a central point, and that is Mr. Greenspan has been criticized by some who say that he should have acted with regard to the stock market exuberance and also subprime by deflating the entire economy. And when he said he

shouldn't have done that, you and I agree, and that of course would have exacerbated what is America's number one economic problem now, which is the increasing inequality where wage earners are falling further and further behind.

But as you note, implicitly, when you get into that debate, that assumes that the choices are either deflating the entire economy or letting problems happen, that there is only a macro response, and that is of course the case for sensible regulation, that among the arguments for regulation is that it gives you a third choice, and that you don't have to choose between this bringing about a recession or tolerating abuses. And because of Mr. Greenspan's role, and I think, frankly, some of my friends on the liberal side were so eager to criticize him, that they fell into that trap without realizing what the consequences were, and there was an alternative.

Let me just, finally, to Mr. Schwarcz and Mr. Bookstaber, I note what seem to be some similarity between your argument about the government as a provider of funding for last resort. Is that accurate? The question is, is it just lending? Mr. Bookstaber, you talked about maybe buying up the assets. Mr. Schwarcz, are there differences—I mean, there's a good degree of congruence there, and I think that's—I welcome that, because we don't always get a lot of specific suggestions from people, and I thank you.

Will you both talk about that, that area of whether there is congruence or maybe some shading of difference?

Mr. BOOKSTABER. I look at it a little differently. I call it a liquidity provider of last resort, but I think we're thinking along the same lines.

The CHAIRMAN. By the way, leave the label aside. We'll come up with the most perfumed name possible though. You just describe the substance.

Mr. BOOKSTABER. The reason this happens is if you look at the dynamics of what occurs in most crises, LTCM is sort of the poster child for it, but we see it with other crises, especially when it's hedge-fund oriented. There's a market shock that occurs, and a highly levered hedge fund, because of that market shock, now has to essentially sell assets because it's collateral is below the margin or haircut required by the lender.

The selling of the assets drops the market even more, which requires even more liquidation, and you just get this cycle. People who are astute in the business, for example, Citadel, then recognize that the reason this market is down 50 percent—

The CHAIRMAN. I don't want to—I mean that was the thrust of your testimony. I guess the shading—is whether it's all loans or would you have purchases as well. And I'd be interested in Mr. Schwarcz's view.

Mr. SCHWARCZ. Let me respond. I think that what Mr. Bookstaber is saying is you would potentially have both, which is what I'm saying as well. I referred to a lender/market-maker of last resort, which—I could have said liquidity provider.

The CHAIRMAN. You're lending, knowing full well that this loan may never be repaid and you're in effect going to be buying it.

Mr. SCHWARCZ. Well, it would be repaid, and let me give an example. Presently you do have a lender of last resort in inter-

national context, the IMF. And the IMF, of course, makes loans in a country debt crisis situation.

The argument, I know, of former Treasury Secretary Rubin is that governments do not lose money on this. And generally that's true because those loans are ultimately repaid. And I think it would be true as well that the—

The CHAIRMAN. Just a final question from me, and I appreciate the indulgence. Is there a difference when the lender of last resort, the provider of liquidity, whatever, is it the Fed in both cases, let me ask you, or are we talking about a new entity to do that?

Mr. SCHWARCZ. Well, I think that the Fed—in my research I look at possibilities. I think the Fed is the most logical—

The CHAIRMAN. Okay. That's good. "Yes" is a good answer sometimes.

Mr. SCHWARCZ. Yes.

The CHAIRMAN. And the question then would be when the Fed or whomever is doing this, do they have—I mean do they start out constantly saying, "Well, am I going to lend or am I going to buy," or is it kind of they go into it and play it by ear as they go into it?

Mr. SCHWARCZ. I think it will depend on the situation. If there is an institution that is failing, say LTCM, and if there's not a private arrangement it would probably be a loan if the private market—

The CHAIRMAN. And let me ask the both of you, what about the—one of the arguments we'll get is what about moral hazards being created by this. Go ahead, Mr. Bookstaber.

Mr. BOOKSTABER. What I'm thinking is in a fairly limited context where you're looking at hedge funds. And there will be no moral hazard because in that case you're actually buying up the assets of the firm—

The CHAIRMAN. And putting them out of business?

Mr. BOOKSTABER. And they're out of business, but you stop the dominoes from propagating out.

Mr. SCHWARCZ. And there could be moral hazard certainly in terms of markets, but the idea would be to purchase assets in the market to prevent the collapse but still do so at a sufficient discount to impose pain on those—

The CHAIRMAN. I think that's very important, a little bottom feeding by the Fed.

Mr. Kuttner, quickly.

Mr. KUTTNER. I would just put more emphasis on prevention rather than on—

The CHAIRMAN. Well, I understand that—I'm all for prevention—but that doesn't mean I don't go to the doctor when I need an operation. The gentleman from Alabama.

Mr. BACHUS. Thank you. First I'd like the record to show that Chairman Frank and I, neither one of us have farms—unlike George Washington or Cincinnatus—so I don't suppose we'll be leaving any time soon.

Mr. Pollock, there are persistent rumors that there is going to be—in the Judiciary Committee this week or next week, there is going to be an emergency mortgage bankruptcy bill, and one of the

provisions in that bill will allow bankruptcy judges to reduce loan principals, reduce interest rates, and extend loan terms.

Do you believe this would disrupt the market for mortgage-backed securities, any fear of that? Would it discourage lenders in the future from making loans? Would it—the liquidity crisis seems to be passing. Would that not just bring it back?

Mr. POLLOCK. Congressman, since the chairman has said yes is a good answer, yes, I think it would hurt the market, and yes, it would cut future access to home finance because the house itself and the ability to pledge it is the principal thing that a mortgage borrower brings to the transaction.

Mr. BACHUS. Thank you. Professor Schwarcz, this international lender of last resort, discuss—one of the questions I was going to ask about is moral hazard, but you've sort of explained that away by saying that these assets, you could turn around and sell them for more money. But if that were the case, wouldn't private parties also come in and buy those? Why would you need a quasi-government agency?

Mr. SCHWARCZ. In a perfect market you are correct, the third parties would come in and buy them. I guess you have two problems. Problem number one is that people or institutions or third-party buyers are going to be very hesitant to come in, and that is both a psychological thing and it also goes to the institutional structure.

Institutions are worked by people, and a person who is going to make a decision is going to be unlikely to want to have the institution buy into a market when the market is dropping and everyone is saying, "Let's abandon the market." People tend to go with the herd. You have a certain herd mentality and this could deter buying. Individuals in institutions also may find it safer to conform to the herd view even if they believe there is value there.

So a lender of last resort would take a more objective position. That would be the argument.

Mr. BACHUS. Mr. Bookstaber, is that how you pronounce your name?

Mr. BOOKSTABER. Bookstaber.

Mr. BACHUS. Bookstaber, I'm sorry.

Both of you have talked about this lender of last resort. Do you subscribe to an international lender of last resort like the professor or does that create some problems?

Mr. BOOKSTABER. Well, I haven't thought of it in an international context.

Mr. BACHUS. You what?

Mr. BOOKSTABER. I haven't thought of it in an international context, so I couldn't really say. The cases I've looked at have tended to be domestic. The examples I use are Citadel's purchase of Sowood and Amaranth.

Mr. BACHUS. Let me ask you this. Professor Schwarcz, you actually said it wouldn't be predictable, you'd do it sometimes, you wouldn't do it other times. You know, allowing a governmental or quasi-governmental agency to bail some folks out, intervene in some cases and not in others, doesn't that—couldn't that breed favoritism or unequal treatment?

You're a law school professor. Does it bother you that you might be picking winners and losers?

Mr. SCHWARCZ. I think if you picked winners and losers on a basis as to who they were, that would bother me.

Mr. BACHUS. You'd obviously know who you were bailing out.

Mr. SCHWARCZ. Right, but I mean in terms of saying we're going to decide to bail out these types of entities but not those types of entities. I think one needs to decide it on an ad hoc basis to see what the effect is going to be of a failure on the markets and then to make a case-by-case determination.

I agree with you that it's not a perfect solution. These are all second best solutions here.

Mr. BACHUS. Mr. Bookstaber.

Mr. BOOKSTABER. Yes, the way I would see it occurring in most circumstances, it would be a bailout of the market in the sense that it would prevent the market from cascading into crisis, but it wouldn't be a bailout of the firm.

Mr. BACHUS. But you do it sometimes, you don't do it other times? You know, you were with Goldman Sachs.

Mr. BOOKSTABER. Yes, I agree that there would always be some judgment. And as Professor Schwarcz is saying it wouldn't be so much an issue of the failure of the firm, it would be the question of whether there's a fear that the firm's failure would propagate out to affect other markets.

Mr. BACHUS. Professor Schwarcz, you mentioned that the IMF, I think you seemed to imply they always get paid back, that the World Bank—I mean I actually have had the debt relief bill, I sponsored that bill, and the reason it was debt relief is because a lot of those countries were not paying it back. And a lot of the loans didn't go to the benefit of the country, they went to what I would term insiders with the World Bank or the IMF or a lot of times corporations, you know, which—it was really a subsidy to the corporation. The country or the citizens didn't receive any benefits.

I wish you'd kind of look at that whole history of debt relief. I think you might—you know, the idea that they always get paid back.

Mr. SCHWARCZ. Sir, I was trying to quote Secretary Rubin, former Secretary Rubin on that. My view, and I have said this in writing, is that the IMF, the way it does its lending of last resort is not a way to be necessarily modeled because it does a number of things wrong, including it charges a lower interest rate than its own cost of funds, but I propose a situation that solves that.

Mr. BACHUS. In fact, a lot of the poverty in a lot of these third world countries is the result of the massive debt that they owe, and it really caused tremendous long-term problems, a real headache.

Mr. SCHWARCZ. That is correct.

Mr. BACHUS. May I just close by saying this international lender of last resort, how do we go to the taxpayers of the United States and ask them to finance this? Wouldn't they rather sort of finance a road in front of their house or the school down the block as opposed to funding loans by some international agency?

Mr. SCHWARCZ. I agree with that, that other things being equal they might. But the question is going to be—the funding would occur only in those situations where the potential for market col-

lapse would be so severe that it would really outweigh other uses of the money. And that would have to be determined, again, on a case-by-case basis.

But the rationale for having a lender or international lender of last resort in place is because the collapse of markets can be so quick, the so-called tight coupling that Mr. Bookstaber mentioned, that you may be faced with a sudden collapse no matter what you've done to try to prevent the problem from arising.

And in that case I think the lender of last resort is probably the best solution.

Mr. BACHUS. Yes, I guess what I'm thinking about, we talked about Russia, which didn't have disclosure, so all of a sudden we bail out a country because they didn't have disclosure or because they didn't have sound practices. So the countries that have done a better job end up bailing out those countries who haven't.

Mr. BOOKSTABER. When I think of this, I'm thinking of it not so much in an IMF, country bailout or loan mode. I think the best example of this is to look back at LTCM, and we went a different route. But remember, Warren Buffett almost bought all the assets of LTCM, and if he had done so, the crisis would have ended right then because he could have held those assets, which clearly were priced very low because of this liquidity event.

So, what if Warren Buffett isn't around to do it, and as Professor Schwarcz has mentioned, in these situations often everybody scurries for the sidelines. If the government can say, here's a fund that is close enough to cause a systemic problem that, rather than allowing it to cascade, we'll walk in and buy the assets for pennies on the dollar, you now are out of business. We have assets that probably, once you adjust for liquidity, are under their true value.

For the same reason that Citadel bailed out, so to speak, Amaranth, and hopefully turned a profit from it, I think more often than not if the government had a liquidity provider of last resort, at the end of the day, the taxpayers would end up making money from it.

Mr. BACHUS. Of course, you know, the government usually doesn't turn a profit. Thank you.

Mr. BOOKSTABER. Thank you.

Ms. WATERS. [presiding] Thank you very much. I'll recognize myself for 5 minutes. I'd like to thank all of our panelists for being here today.

We have spent quite a bit of time in this committee dealing with the home foreclosure disaster, and I suppose I could ask you a lot of questions about our regulatory agency and why they have not been stronger and more aggressive in monitoring what was going on with our financial institutions, or I could talk about our attempts to do something about predatory lending in this committee and do away with prepayment penalties, and I could talk about these exotic products that were advanced, the interest-only, the no-doc loans and all of that, but I really do know the answers already, and I know that we don't have a lot of regulations.

There is a resistance to regulations. The financial institution is extremely powerful, and I had an opportunity to serve on another subcommittee of this committee, the Subcommittee on Financial Institutions and Consumer Credit, but I declined. I declined, and I'm

chairing the Subcommittee on Housing and Community Opportunity, because I thought I could get something done there. I did not think that I could get anything done on Financial Institutions. They are just so powerful, so influential, and the regulatory agencies are not at all willing to cross them and to come up with strong regulations, so I'm not going to bother you with that.

I want to talk to Mr. Kuttner. I have long been a fan of yours, and I'd like to ask you what we can do to prevent the impending crisis, the collapse of the market. What can be done at this point?

Mr. KUTTNER. Thank you very much, Madam Chairwoman. I think the Fed did what it had to do, but I think going forward the proverbial ounce of prevention is where we ought to be emphasizing our public policy.

That is to say, without the benefit of hindsight, because people were criticizing it at the time, you can say that the underwriting practices of these subprime lenders never should have been permitted.

Had the Fed not stonewalled in the issuance of regulations under the 1994 Homeownership Equity Opportunity Protection Act, there would have been underwriting standards in place. Just the fact that some consenting adult can be found to buy the paper is not a good justification to allow predatory lending practices.

And by the same token, the most unscrupulous lender's willingness to make a loan is not a substitute for a low-income housing policy. It just creates heartbreak later on. So I think a lot of these mortgages ought to be refinanced.

It is up to Congress to decide whether that is done through FHA or the GSEs or some other entity. I think someone needs to decide which of these borrowers were innocent victims of predators and which of them were a bit predatory themselves, which of them were speculators themselves.

The ones who are innocent victims ought to be permitted to get refinancings that save their homes, and going forward, the predators should be put out of business. We have had the homeownership rate in this country trickle upwards, but we need a real housing policy to encourage first-time homeownership and not one based on speculation.

Ms. WATERS. If I may interrupt you for a moment, I've been trying to focus on the servicers. Those entities that are collecting the money, doing the foreclosing, the late payments, all of that, I supposes some are independent, some are owned by—I don't know if Countrywide, for example, did their own servicing.

Oh, and as I have asked about the ability for the servicers to renegotiate these loans, rearrange them in some way, I am being told that some of the servicers are saying, but we are liable. We are liable, and if we make arrangements that fail, we can be held liable by the company that we are working for.

Do you know anything about these servicers and what potential we have to enter there in order to readjust these loans?

Mr. KUTTNER. Well, I think there are some bad actors in this industry, but I think there is a structural problem with the way securitized mortgage credit creates an incentive against workouts.

If the lender is the originator and also the holder of the paper, the lender is more inclined to do a workout. If there's a whole chain

with middlemen each extracting a fee at each link in the chain they actually make more money by letting the foreclosure go forward.

I did some research on whether securitization of mortgage credit actually helps lenders, and I think by the time you look at the fee extracted by the mortgage broker, the fee extracted by the mortgage banker, the fee extracted by the investment bank that packages the loans into securities, and the fee extracted by the bond rating agency, the borrower is no better off, and the borrower may, in fact, be at a higher risk.

So I think the whole system of securitized credit and the role played by these middlemen and the greater hazard that it creates in the event of foreclosure is ripe for broader investigation.

Ms. WATERS. Thank you very much. I will now recognize Mr. Garrett for 5 minutes.

Mr. GARRETT. Thank you. I think I'll take up where the ranking member was finishing off, and that goes back to the issue of the lender of last resort. Maybe I'll start on the other end of the table there, since I don't think Mr. Pollock has weighed in on that.

In a sense, don't we already have a couple of lenders of last resort in existence now? And one, correct me if my analogy is wrong, but one would be the Fed, by doing what it did that, in essence, facilitated that? And although the chairman thinks that this was an inappropriate word to bring up during this discussion, GSEs, aren't they also a—if they're doing their job or, I should say, if they're doing what they proclaim to do, although the evidence would say that they actually don't do this after times of trouble like this?

And after 9/11, the evidence would show to the contrary that they do not get actually into the market but they're supposed to. Aren't they the other lender of last resort that we actually have right now?

Mr. POLLOCK. Congressman, I agree with that. Certainly to be a completely capable lender of last resort, you have to be able to print money; the Fed is the only one that can do that. That is to say, just write in your books, "this is money," and it is the definition of the Fed.

But it also is very helpful if you can sell debt, which is treated as a government liability, which is what the GSEs, Fannie and Freddie and the Federal Home Loan Banks do. This was the pattern if you look historically in the times of crisis when various organizations were set up to finance the bust and try to stop debt deflation, such as the Reconstruction Finance Corporation or the Homeowner's Loan Corporation.

All of these things were set up to be able to sell debt, which was taken by the market actually as government debt. Once you have that, then you can fulfill this role.

I'd say, Congressman, in my view we do not want any such organization buying assets, at least unless we get into a real bust like the 1930's, in which you are willing to do things you might not do otherwise. I think that such operations should be limited to lending and should be accompanied by, as was pointed out by some of my colleagues on the panel, a replacement of the management which

got the organizations into the trouble where they needed the lender of last resort financing.

Mr. GARRETT. And if Mr. Schwarcz or others want to chime in on this point, I think you made the comment, correct me if I'm quoting you wrong, that in this frame of the discussion—whereas, well, we may not actually want to have the choice for the tax dollars, and the example was fixing the hole in front of my street. I think it was the example somebody said in there before as far as the lender of last resort, where the dollars go to.

Of course, whether it's that little project or the bigger picture, when it is the Fed, that is—as I'm describing it, as the lender of last resort stepping in, and when they do what they do and which then theoretically or in actuality has a downward pressure on the dollar, so now our dollars are less, doesn't that actually also have a hit-it-home impact upon those other tax dollar expenses as well because now we actually—the dollar is less?

So in order to fix that hole at home in front of my street, for the government to do that, there's actually less of an ability for the government to provide those other functions because of the actions over here by the Fed acting on that matter? Is that clear?

Mr. SCHWARCZ. Well, I'm—let me, I guess, respond in two ways. First, your question, your original question was, don't we already have a lender of last resort in terms of the Fed, and we could. I don't think the Fed has the powers presently to act in the role as I envision it and as I think Mr. Bookstaber, although I shouldn't speak for him, but I believe he envisions it.

What they've done in terms of their so-called liquidity injections really are—that's a misnomer. They have of course, you know, lowered the discount rate and the Fed funds rate, and these are rates in terms of bank borrowings.

All I'm suggesting is that the Fed be given the authority, and they have to decide when to use it, so they can do things like purchase securities in markets that are collapsing. And that of course, that power would be used with a great deal of discretion because you'd want to—I think Mr. Pollock said this—use it only when the market was truly collapsing.

Whether it would, in fact, have been used in these circumstances now I'm not 100 percent sure whether it would have done that.

Mr. GARRETT. I don't have much time. I guess I'll close on this. I'll take one of your comments home with me tonight. I think you said that everything we do is—these proposals are second best.

Mr. SCHWARCZ. That is correct.

Mr. GARRETT. And I'll take the other comment as well in this area from Mr. Pollock in that we've had these things since the statement in 1914 that the Fed is going to resolve these problems into the future. Every decade we have them and sometimes more than once in a decade. And that, despite the fact of all the work that Congress has done.

And I don't see that, from the examples or the testimony here—Mr. Kuttner gave the example, the only differences, I think, in the last period of time would be expiration and repealing of Glass-Steagall and involvement of the Fed more recently. But that was really the most significant difference that we saw in the last cycle. So other than that, Congress has repeatedly gotten into the action,

tried to resolve their issue, and regardless, 10 years later or within the next decade we still get into this.

So maybe the best thing is to really go slow before we pick up one of these second bests because we may just be picking something that is going to even exacerbate the problem ever forward because we know—I think everyone will agree on this, we will have another, we will have another crisis within the next 10 years or so. Does everybody agree on that one?

Mr. SCHWARCZ. Mr. Garrett, may I just quickly respond? One of the things about the lender of last resort is that it's—the potential is out there. It could solve any problem, irrespective of its cause. Trying to address, I think, the cause, is almost like fighting the last war because the next problem will be different.

Mr. GARRETT. Mr. Kuttner is shaking his head, "no."

Mr. KUTTNER. I really disagree, and I think if we have more hazard with the Fed bailing out the systemic effects of speculation as it has done with the 50-basis-point cut, I think to allow the Fed to buy individual securities issued by private actors would be even more inducing of moral hazard, and I would rather see more preventive regulation going in.

Mr. POLLOCK. Mr. Kuttner and I certainly agree on the Fed not buying assets. You know, Congressman, I agree with your statement.

Mr. GARRETT. Thank you.

Mr. BOOKSTABER. Again, I think there may be—again, I can't speak for Mr. Schwarcz completely, but I think although we hadn't talked before this, we're on the same wavelength. And there is a distinction between being a liquidity provider of last resort and the traditional role of the Fed or the IMF in being a lender of last resort.

If essentially you see a market that's in crisis and the reason it's in crisis is because there's huge liquidity demands, somebody is forced to sell. And you can walk in and say, "You need to sell those assets, and I'll buy them from you, for pennies on the dollar," and that stops the crisis from then cascading out.

The person who caused the problem is still out of business, therefore there's not a moral hazard problem, but you've done what the market with its particular temperament and risk aversion in times of crisis wouldn't do, unless you happen to have a Citadel around or a Buffett around that has the deep pockets and is willing to walk in and do it.

Mr. SCHWARCZ. And may I just—

The CHAIRMAN. No, you may not. We have gone over time.

Mr. Miller.

Mr. MILLER OF NORTH CAROLINA. Thank you, Mr. Chairman.

Mr. Pollock, it is good to see you again.

In answer to Mr. Bachus's question about whether a bankruptcy court should be able to modify the terms of a home mortgage you said—and his question was wouldn't that make things worse, your short answer was yes.

Every other form of secured debt is subject to modification and bankruptcy; only home mortgages are not. That went into the bankruptcy code in 1978. I have looked to try to find what the rationale was. Near as I can tell, it was just a sloppy compromise on

the Senate side, which isn't to say that we don't—excuse me, in the other body, which isn't to say we don't have sloppy compromises also.

But the lending industry opposed any kind of modification in bankruptcy. Consumer advocate supporters of the bankruptcy bill at that time wanted everything to be modified in bankruptcy. Can you explain to me the rationale, if you see one, between home mortgages and mortgages on investment properties or any other kind of secure debt?

Mr. POLLOCK. Congressman, this is obviously a question that has been debated quite a bit, and reasonable men can disagree.

I think the difference is that the home loan is far and away the biggest and the most important form of debt, and you want to give people the right truly to hypothecate the house if people are able to borrow as they are, in the mortgage system as it is, extremely large amounts to become homeowners. That seems to be a valuable right to have.

Mr. MILLER OF NORTH CAROLINA. Why is the right different from that of an investment property where people also borrow substantial amounts of money? Why should a bankruptcy court—in a hearing in the Judiciary Committee a couple of weeks ago the head of the Financial Services Roundtable said, "You're right."

It wasn't me asking the question. It may have been Mr. Watt asking the question—said that none of those should be rewritten.

Mr. POLLOCK. I would go that way on investment properties, Congressman. Indeed, as you suggest, I don't think investment properties in particular should be modified.

Mr. MILLER OF NORTH CAROLINA. You don't think any sort of secure debt should be modified in a bankruptcy court?

Mr. POLLOCK. In bankruptcy. However, I do think that we ought to have ways, as we've previously discussed, of refinancing mortgages where we're in the negotiating space in which the haircut taken by the lender is less than the cost would be to proceed through foreclosure. You can create a win-win refinancing. That I do favor.

Mr. MILLER OF NORTH CAROLINA. Mr. Kuttner, you were a student of history in this area. In 1934, Congress allowed for modification of mortgages on family farms. The Depression began on the farm before it began in the factory.

When farm prices collapsed in the 1920's, farmers borrowed to try to get through, and when farm prices did not improve they had no way to pay the mortgages. And Congress enacted legislation. It's called the Frasier-Lenke Act of 1934 that allowed the bankruptcy court to limit the amount secured by a family farm to the value of the farm and then set an interest rate that reasonably reflected what the risk was of that borrower.

Did credit collapse for farm mortgages? Did grass grow in the street? Well, actually, at that point grass was growing in the streets, but what was the result of that and do you see a rationale for a distinction?

Mr. KUTTNER. Yes, I do. Of course, that wasn't all that Congress did. Congress enacted the Homeowner's Loan Act. Congress invented the modern long-term self-amortizing mortgage. Congress intervened in the free market in a number of ways to get mortgage

markets functioning again and to prevent millions of people from losing their homes. And that's what it took to get normal markets functioning again.

So I think there is a role both for modification of bankruptcy law and for refinancings that allow folks to keep their homes. And if it can be a win-win situation, that's fine. If it simply requires the private mortgage lender to be taken out of the picture and the Federal Government to use the Federal borrowing rate to underwrite some of these refinancings, that's okay too because I think the mortgage lending industry, particularly the predatory part of it, deserves more than a haircut; it deserves a scalping, and we should act so that this doesn't happen again anytime soon.

Mr. MILLER OF NORTH CAROLINA. Mr. Chairman, I'm not sure I have the time to begin another line of questioning.

The CHAIRMAN. Go ahead.

Mr. MILLER OF NORTH CAROLINA. Mr. Pollock, when we last spoke—I guess it was last week or the week before, we talked about the duties or whether there should be a duty by broker or loan originator, a loan officer. And I told you of rate sheets that we had seen that showed a grid. Down one side was loan to value, down the other side was a credit score for the borrower, and you followed it across and you found the interest rate that borrower qualified for. And then there was a footnote, and it said for every point above that that the borrower paid that the loan provided for, if there was also a prepayment penalty that the broker would get an additional half-point payment from the lender, called a yield spread premium.

I viewed that as a conflict of interest. Mr. Kuttner spoke of conflicts of interest as being part of the problem. You seem to be less offended by it and used the analogy of a used car salesman. Do you think a mortgage broker is simply a used car salesman?

Mr. POLLOCK. I think a mortgage broker is a salesman, and that should be understood by the borrower.

Mr. MILLER OF NORTH CAROLINA. And so the borrower was simply a chump to have believed what the broker told them?

Mr. POLLOCK. Congressman, my view is that borrowers and ordinary people deal successfully all the time with salesmen of all varieties. But as you know, I think they need to be told the truth about the deal being offered.

Mr. MILLER OF NORTH CAROLINA. There are actually other relationships. Not every relationship we have in society is a "buyer beware." The law has long recognized that there are certain kinds of relationships where we are entitled to trust the person we're dealing with, for instance, a lawyer.

And usually what marks those relationships is that there is a disparity in knowledge and power. And one way that you create, you put that burden on yourself, a fiduciary, is you tell the person you're dealing with, "Look, I'm on your side; this is complicated; I know it, you don't know it; I'll be on your side; I'll do what's best for you." If you say that you have created a greater obligation than what a used car salesman has, which everyone knows is a buyer-beware relationship.

Why is there not a greater expectation, given the disparity of knowledge, given the disparity in power, given what brokers hold

themselves out to be, for a broker than there is for a used car salesman?

Mr. POLLOCK. Congressman, I think it actually would be a very good idea for a set of mortgage brokers, and I think there is such a set, to create themselves as fiduciaries.

There is a very interesting organization called Upfront Brokers organized by a friend of mine, where these brokers say to the customers exactly what you're suggesting and pledge to act that way, as agents for the customer, not agents for the lender.

I think that's a very healthy thing to have in the market. I hope it expands.

The CHAIRMAN. The gentlewoman from Illinois.

Mrs. BIGGERT. Thank you, Mr. Chairman. Just to go back to the securitization, which I think is the next step in the chain here, it has been an important tool in providing liquidity to the mortgage market and has really led to an explosion, I think, for residential mortgage-backed securities.

As with any investment, there is a potential to make money or to lose money. And I think as many of the investors are now finding out the hard way, they can lose money.

But some have suggested that third parties such as the investors should be held liable for contributing to the problems in the subprime market. Shouldn't the market determine who is rewarded and who should be punished? Isn't that enough when the investors lose money on the investments?

And I'd like to know what you see as the short- and long-term implications of imposing such liability. Mr. Pollock, I will start with you.

Mr. POLLOCK. I don't think we should impose liability on the investors in mortgage-backed securities for the very reasons you mentioned, Congresswoman.

Clearly the market has punished a lot of people already. The danger point is when the flight of short term creditors happens on my Plank Curve shape and then it takes some kind of stabilizing intervention. Past that, I think the market discipline is in fact working right now.

A lot of jobs are being lost. A lot of loss is being taken and companies closing, as you say.

Mrs. BIGGERT. Thank you. Mr. Kuttner.

Mr. KUTTNER. Well, I think this is not a case where the market self-corrected. This is a case where the Fed came in with a 50-basis-point bailout that it would not have otherwise done, which may be having really hazardous effects on the dollar, that was necessitated by a credit crunch that could have been prevented had the Fed issued regulations under existing law.

And I think the toleration of speculative underwriting standards based on a kind of black hole in the rating process and the assumption that someone is going to be induced to buy the paper because they think mistakenly that the reward justifies the risk has created a whole climate of moral hazard that is not worth the candle.

So I think if you believe, and I don't mean you personally, I mean if one believes that this is the market self-correcting, one has to first define the Federal Reserve as something other than part of

the government. The market did not self-correct. That's why the Fed had to make heroic interventions.

Mrs. BIGGERT. Well, there has been a lot of criticism that the regulators didn't do enough and should have acted sooner.

Mr. KUTTNER. Yes.

Mrs. BIGGERT. How would they know? I mean looking back it's easy to say, well, we saw that the signs were there.

Mr. KUTTNER. You know, there were all kinds of serious people warning that this was a disaster waiting to happen, and when Congress legislated on this in 1994 it wasn't just to protect consumers. It was also a lot of concern for systemic risks.

We had a member of the Board of Governors, recently deceased, playing the role of Cassandra on this, and he wasn't listened to. So it's not like Monday morning quarterbacking. There were people who saw this coming, and we should have acted before it happened.

Mrs. BIGGERT. Thank you. Anyone else? Mr. Schwarcz?

Mr. SCHWARCZ. I don't—I think your question was whether investors should be punished in some way.

Mrs. BIGGERT. Or be held—is there any liability?

Mr. SCHWARCZ. Right. I think I agree with Mr. Pollock that their liability already is the loss of a portion of their investment, and I don't see anything inherently wrong or inappropriate in what the investors do.

Part of the problem of course is that our system thrives on innovation and change, and innovation and change always creates a potential for problems, and I would be very hesitant to create negative incentives.

Mrs. BIGGERT. Do you think—and I agree with you that we really need the creativity and the innovation, and particularly with the hedge funds it really is a competitive issue for the United States. Do you think if we attempt to regulate and perhaps over-regulate, would you expect to see the hedge funds leave for Europe or other friendly confines?

Mr. SCHWARCZ. I have looked at it in terms of regulating disclosure, increasing disclosure. I have indicated that because of the tragedy of the commons I'm not sure that more disclosure would really change how parties would behave vis-a-vis systemic risk because counterparties who—people who deal with hedge funds as counterparties already will get the information they need to make their investment decision.

To the extent they find information that could create harm to third parties and not to them necessarily or not directly to them, they will ignore that information. So I'm not sure how much is to be gained by regulating hedge funds.

Mrs. BIGGERT. Thank you. I yield back.

The CHAIRMAN. The gentlewoman from New York.

Mrs. MALONEY. Thank you, Mr. Chairman, and I thank all of the participants for their testimony. It is very good to see you again, Mr. Pollock

Mr. Bookstaber, I was interested in your comments on the reducing leverage and market complexity in your statement at the end, suggesting that the regulatory system actively engage in controlling leverage. I'd like you to elaborate on that.

And related to that, I am concerned about reports of major institutions that not only have exposure to direct loses in credit and asset-backed products but which also may have significant credit-derivative exposure, meaning that they have to pay out to the investors in the event of a downgrade or of a negative event affecting credit.

And the Fed acted in a way you would like them, and in 2005 they expressed concern about a lack of transparency in this market due to flaws in the mechanics of processing the transactions. I guess that means that no one knows what anyone is owing to whom or what the product is really worth.

In your view can regulators ascertain the true risk exposures from credit derivatives of the institutions they supervise? And what information would they need to do that?

It ties into your overall theme, how do we bring in knowing what's out there? There's a sense that no one knows what the credit is, and you see that in the LIBOR rates that remain so high.

Mr. BOOKSTABER. I think this is a central issue.

From somebody who has been in the risk-management area, it is extremely troubling that some of the key data, the sort that is Risk Management 101 type of data, are simply not available.

We don't know the web of counterparties for swaps or credit default swaps, who owes what to whom. And if some entity goes bankrupt how will that filter out to affect others? We don't even know by hedge fund type the amount of leverage hedge funds have and whether the leverage is going up or not.

So again, I don't know the issues of how this information is garnered, but certainly as a starting point you would want to know that. You would want to know—

Mrs. MALONEY. But what information should we be asking for in order to be able to answer these questions?

Mr. BOOKSTABER. I think in the ideal world what you would want to know from all the banks and investment banks, you would want to know what the counterparties are for all the transactions they are in and similarly for hedge funds.

And for hedge funds you'd want to know the degree of leverage that they have and be able to look at it historically, just as a starting point.

Mrs. MALONEY. I'd like to go back to the LIBOR rates, which is the global rate at which banks lend to each other. It's remained very high, despite the cuts by the central banks like the Fed.

One interpretation of this high LIBOR rate might be that while banks may be perfectly happy to borrow at discounted rates from central banks, they are reluctant to lend to each other because of just what you said. They don't really know, and I would like to know, do you agree? Is that why that is happening, and does this reluctance, in your opinion, mean that banks see something disturbing in each other's credit quality? And are the banks concerned that the fallout from the current credit squeeze is still not being fully reflected on the balance sheets of credit quality of their fellow banks? Why does it remain so high when all of this is happening, in your interpretation?

And I invite Mr. Pollock and the others to join in.

Mr. BOOKSTABER. I agree with the statements that you're making, that the banks understand the fragility of the ratings and the fragility basically of the counterparty system. And that would be one of any number of different causes for what we're observing right now in the LIBOR rate and the general disinterest in providing credit.

Mrs. MALONEY. I'd also like to ask you, do you think that depositories and investment banks should be required to market their own securities and holdings as aggressively as they value the collateral against loans and credit of their customers?

Mr. BOOKSTABER. You are hitting a lot of critical points. I think the mark-to-market is—there are basically different levels of mark-to-market, the most extreme being what some people have termed "mark to make-believe," and I think mark-to-market based on ratings is not too far behind that.

So at a minimum, getting back to the sort of information you'd want, you would like to know, both for hedge funds and investment banks, when profits and returns are mentioned how much of it is realized versus unrealized, and if it's unrealized, what is the marking convention that's been used, and is it being applied consistently.

Mrs. MALONEY. Mr. Pollock.

Mr. POLLOCK. Thank you, Congresswoman.

I mentioned in my testimony, coming back to the point on the LIBOR rate, that one of the characteristics of credit busts generally is that we get a lot of what's effectively lending long and borrowing short, and the short money is typically provided by lenders who are highly risk averse.

Operators who are running short-term money desks are not in the business of taking much risk. So when the crisis comes and no one is sure who is broke and who isn't, which is the uncertainty and the penumbra of fear in a crisis, you see the short-term money pull back very fast. That's a regularity.

We're seeing instances of that, as you suggest, in the LIBOR rate. As the losses come out and are reported, as the market sorts out who is broke and who isn't, we'll see that correct. I think that will correct fairly quickly.

The CHAIRMAN. The gentleman from Illinois.

Mr. MANZULLO. Well, thank you. I'm sorry that I missed the testimony. I've been trying to catch snippets back in the office, and I've been able to read through some of this right here. I guess I have more of a theoretical question, knowing that you gentlemen don't get involved in theories, that everything is absolute and that you can predict with great experience how people are going to react in the world, but it appears that we have—every 10 years we have a problem like this. And I guess the first question is if we know we're going to have a problem like this every 10 years, Mr. Pollock, why do we have to repeat it again 10 years from now, which means that I would need the wisdom of all four of you to let us know what we could do now so it doesn't reoccur, if any of you want to try to answer that question.

Mr. POLLOCK. Congressman, I'll try, since you have called on me.

Mr. MANZULLO. All right. Okay.

Mr. POLLOCK. That is the great paradox or conundrum, that not only over decades, but over centuries, these patterns repeat. Every time we have a problem we enact reforms and do controls and then problems emerge yet again. The reason for that is precisely that finance is really about human behavior and human behavior is not predictable, as you suggest, Congressman. And it is not mechanistic. It's organic and recursive, to use a technical term. And we're always finding new ways to become very confident investors, to run up leverage and short-term debt and then be surprised when it doesn't work out the way that the optimistic players thought. That seems to be a regularity of human nature when enmeshed in financial systems.

Mr. MANZULLO. Well, Mr. Greenspan says that the housing problem is over, so maybe we could take his wisdom. Who is shaking their head over there? Yes, sir. Anybody want to—go ahead.

Mr. KUTTNER. I'm not sure it's quite accurate to say we have a problem every 10 years no matter what we do. I mean the regulatory schema that was invented in the 1930's really was quite solid for 40 or 50 years, and that was in the era when there was bipartisan support for the premise that finance should be regulated and well-disciplined so that the real economy could flourish.

And it wasn't until we started dismantling some of that and not keeping up with the innovations that we started having the big time problems. And I think as we have deregulated more and not kept up with the innovations, the problems are occurring at a rate more frequent than every 10 years.

The late 1990's was a period of multiple problems, currency speculation, long-term capital management. We had the dot com bust. It's only 7 years later and now we're having a big problem again. I think that correlates with the fact that we've deregulated. So I don't accept the premise that we should just say, "Well, this is going to occur every 10 years no matter what we do." I do think even though mistakes are made, Congress does have the ability to head off the worst.

Mr. POLLOCK. The regulation will change the form. We should be precise about the 1930's. As far as housing finance goes, the extremely heavily regulated housing finance system created in the 1930's was in trouble already by the mid-1960's and of course collapsed utterly in the 1980's.

Mr. KUTTNER. But 50 years as these things go, and this was a period where the rate of homeownership expanded from 40 percent on the even of World War II to 64 percent by the mid-1960's, that's a stunning, unrivaled record. If I could bet on a system that would last 30 or 40 years, I would take the bet.

Mr. POLLOCK. We'll have fun talking about the history another time.

Mr. SCHWARCZ. I would respond that there's a pattern based in human behavior, which I described in my testimony as alternating optimism and skittishness, which reflects the availability bias, the tendency of a recent crisis to be the most—the one that people really see. And so part of the pattern is that once the crisis fades people start getting more risk prone, and once the crisis occurs, they become overly risk averse and then the markets fail.

It is very hard to prevent this human behavior, and one of the reasons why a liquidity provider of last resort is needed is that it can stand there and be available irrespective of what the cause of the problem is.

Mr. BOOKSTABER. I would say that things are even worse than what you're suggesting because I believe that the number of crises has accelerated over the course of the last decade or two, even at the same time that actual underlying economic risk, the exogenous risk, has reduced, which means that more and more of the crises that we're seeing are really endogenous to the financial market.

I'd also say that one of the problems that we have with financial crises is that they're inherently unpredictable because what causes the crisis depends on who owns what, who's under pressure and what else they happen to own when they are under pressure.

So it changes, the likely candidates for market crisis change every time somebody changes their positions.

The CHAIRMAN. The gentleman from Georgia, but I would ask the gentleman to give me just 45 seconds. I did want to comment.

There was reference to the analogy between the mortgage broker and the used car salesman, which frankly baffles me. Used car salesmen work for used car agencies. Brokers are freelancers. The difference between walking into an establishment and talking to an employee of that establishment and hiring an independent contractor who presumably is picking and choosing certainly ought to be big enough to say they're different

Now there may or may not be other arguments that apply, but the notion that you should assume that the consumer thinks he's in the same relationship with an employee of a business he walks into and an independent contractor just baffles me. That has to be the worst analogy I've ever heard.

Mr. Pollock, did you want to respond?

Mr. POLLOCK. I do, Mr. Chairman, thank you.

My analogy was to salesmen in general.

The CHAIRMAN. Okay. I thought you said used car salesman. Then it had nothing to do with you.

Mr. POLLOCK. That was mentioned by the Member.

The CHAIRMAN. Okay. Well, if you were talking about a free-floating salesman, if there was a profession of used car sales agent who held herself out as someone who would help you get the best used car anywhere, that would be different, but I have heard the used car analogy from other people, and I would say, yes, there is a difference between a sales person whom you know works for a particular company and someone who holds him or herself out as an agent to get you the best deal.

The gentleman from Georgia. I appreciate it.

Mr. CLEAVER. To any of you and each of you, if you could comment on this, you would say that investor protection and systemic risk really form the basis of the concerns that we have with hedge funds, is that correct? Pretty much? And with that being the case, I think the question has to be, is more regulation the answer. And how far down does the impact go?

My specific question is, what impact, for example, would taxing private equity firms have on some of our smaller firms, minority owned, black owned firms, firms owned by women, many of whom

are backed by these private equity firms? Would there be an undesired consequence on some of these smaller firms if we move with a form of taxing carried interest, for example, which is being bandied about?

But I think I would like to get some thorough discussion on what might we do or not do? But let's put these smaller businesses, African American owned businesses, many of these businesses who are in real estate who invest in lower income areas, can you give me some answer to the concerns that many of these smaller businesses have?

That in our quest to hit these folks and put these kinds of—and also, if you would, kind of let us examine the impact of what we are doing in regulating hedge funds and specifically taxing them and specifically the carried interest, and what impact this has on African American owned businesses, minority and small owned businesses, many of whom are backed heavily by these private equity firms.

Mr. Kuttner.

Mr. KUTTNER. Well, let's take these separately. I think with hedge funds, there is a regulatory problem of a lot of this being a kind of a black box and regulators not being able to know what the balance sheet risk is for the banks and the investment banks that are funding these folks. I think there, the remedy is one part disclosure and one part a limitation on leverage.

I think the tax issue is a separate issue. It's an equity question, is it reasonable that a billionaire, who makes his money from so-called carried interest, which simply means that his income is treated as capital gains, even though the man on the street would view it as ordinary income, is it reasonable that that person should pay income tax at a lower rate than the janitor who cleans out his office?

Now, on the question of whether this hurts small businesses, my study of this field suggests to me that there are a couple of different kinds of animals here, both parading under the name of private equity. You have the kind of firm that does provide equity sometimes to small businesses, and that's a very valued player in our financial system.

You have other players who also call themselves private equity, who are mainly borrowing money to buy and sell assets and extract as much fee income and as much asset income as they can.

I think those very short term round trips should be heavily taxed. I think someone who is mainly in the business of extracting wealth should be treated as different from someone who is investing long and benefitting the community. And it's always the case that the small business person, the minority businessman, the low-income homeowner is used as the poster child for practices that may be unsavory, and I think we really need to distinguish different kinds of financial players who merit different treatment.

Mr. CLEAVER. I want to just get—and Mr. Schwarcz, we'll get to you, but I want to make sure in my time that I really get on the record a good response to this.

I want to just share something which was brought to my attention in my office but also from Financial Week, which says that a coalition of minority and women businesses have come out against

efforts to tax private equity. The Access to Capital Coalition comprises a number of private equity and real estate firms, including smaller firms which focus on investing in low- and moderate-income areas.

And as one who is very interested in building wealth in the minority communities, can you give me a response? Is this something they should not be concerned about? Or is this a legitimate concern that this group has that we should be concerned about?

Yes, sir, Mr. Pollock?

Mr. POLLOCK. Congressman, my view, and here perhaps Mr. Kuttner and I agree, is that carried interest is, in fact, a bonus and it ought to be taxed the way other bonuses are taxed.

Mr. CLEAVER. Excuse me, you said what should be taxed?

Mr. POLLOCK. Carried interest is, in fact, a management bonus.

Mr. CLEAVER. Could you tell us exactly what that is?

Mr. POLLOCK. It means that in exchange for the performance of your managerial responsibilities, as measured by some criteria you are given by your employer a payment. So I think it should be taxed the same way managers' bonuses are taxed. And I don't think you really have to worry at all about the impact on smaller businesses and so on. I don't think there will be any.

Mr. CLEAVER. So the worry is unfounded?

Mr. POLLOCK. That is my belief, yes, sir.

Mr. BOOKSTABER. One way to think of it is that my incentive is still to maximize return. If somebody is paying me 20 percent of the return versus 10 percent of the return that I can get through the funds, the private equity fund or the hedge fund, I am still going to do the same thing. It is just that I won't make as much money.

So the effect, really, of the carried interest incurred as ordinary income is that now my bonus is taxed so effectively I am only getting 10 percent, say, rather than 20 percent of the return that I generate for the fund.

Mr. CLEAVER. So everyone here supports the tax on carried interest?

Mr. SCHWARCZ. Well, I would say that I have not studied that issue sufficiently to come to a view. And the issue is consequences. Any regulation can have potential undesired consequences.

Part of this also goes to the issue of reducing leverage. I think that was implicit in your question. Let me simply say that I have looked at the issue of reducing leverage, and it is a very complex issue. I would urge that if there is any consideration given to reducing leverage by regulation that it be carefully studied, because I think it could be a very expensive and potentially negative proposition, which could limit, you know, economic ingenuity and innovation.

Mr. CLEAVER. In conclusion, my final point, gentlemen, is do you believe that our financial system now has become overly dependent on hedge funds?

Mr. SCHWARCZ. Hedge funds, of course, have a bad rap. Perhaps some of it is deserved. But they do have the potential to spread risk, and I think they have been spreading the risk, reducing the risk to any given player, and that actually reduces systemic risk.

Mr. KUTTNER. I disagree. I think hedge funds increase systemic risk to a far greater degree than is often recognized. The bets are often in the same direction and I think further disclosure would not be a bad thing.

Britain is not known as a nation that is hostile to hedge funds, but the largest hedge funds in Britain are required to make disclosures to their regulatory authority that our hedge funds are not.

And the economy got along very, very well in the boom years of the last century without hedge funds.

Mr. CLEAVER. Thank you. I understand my time is up.

Thank you, Mr. Chairman.

The CHAIRMAN. The gentlewoman from Wisconsin.

Ms. BEAN. Thank you, Mr. Chairman, and I thank the distinguished panel for coming here. I have been very fascinated by your testimony, and very confused. But thank you for trying to present in sort of layman's terms that some of us can really understand. Your engineering analogies and certainly your cockroaches have been very, very informative.

And what I am hearing really is a wide range, and I just want to get some clarity here. You know, we hear everything from Mr. Pollock, you know, where trying to re-regulate or trying to regulate too much, you know, it is not possible, as you say, to design society. And no matter what regulatory system we may implement, we are not going to avoid these financial booms and busts.

And I hear from another of our speakers, from Mr. Kuttner, that perhaps the lack of transparency and the excesses of leverage and conflicts of interest, things that would in fact speak to our re-regulating, as it creates these moral hazards that we need to do.

And then in between, I am listening to folks like Mr. Bookstaber, who gave us the engineering and cockroach—gave me the creeps analysis, that I am confused when you say, sort of in between, I get more mixed up when you say that regulation may add to the complexity of this and we may have unintended consequences.

And then when we talk about the lender of last resort, we talk about some sort of shell game where you have these funds but, you know, it is put together in a constructive ambiguity where people don't know whether you are going to bail them out or not. And so my question is, after reiterating all of your testimony, my question really is, do you think that it is really possible to mix some of these things that you have said and not over-regulate to the point that we harm our ability to be competitive and put good products together, but do some common sense kinds of things?

You know, this notion that we have some idea of what is going to happen, that we have stuff that is so highly leveraged that I think you might all agree that investors don't necessarily care about the systematic impact that they are making; they only care about whether they are right up to the margin and whether they are going to get the highest return possible. Would it be possible to price this risk and make them pay premiums into this fund of last resort?

I heard you, Mr. Pollock, say that only people who could print money could be the lender of last resort. But would it be possible, number one, to make people who want to be high rollers pay a huge premium for these risks, as one thing to do? Disclosure is not

enough, but what is wrong with some disclosure? Is it possible to put a package together that sort of meets all of the essentials? And certainly ends some of the conflicts of interest like—like the waiting agency being paid by the investors?

Mr. POLLOCK. Shall we just go in—

Ms. BEAN. Yes, go for it.

Mr. BOOKSTABER. I don't know the complexities of enacting regulation. But it seems to me that of the various proposals that were put forward, and I think some of my colleagues would share, the one that seems almost immediate to me is trying to get more data. I think we truly do face substantial risk of a crisis through credit default swaps and through the interweaved counter-parties. And we don't know who is who.

I think we have seen what would happen with the quantitative funds in August. We don't know how levered people are, and therefore how susceptible they are to crisis. So if I were going to start from the top and go down the list, the one that I would think is the easiest to start with is identify and try to get the critical data.

Ms. BEAN. Okay, Mr. Schwarcz?

Mr. SCHWARCZ. I think your suggestion is a good one. And on page 6 of my photocopied testimony, I say that any shifting of costs to taxpayers could be controlled. Rather than using taxation to establish a pool of funds from which a lender of last resort can make advances or investments, the pool can be funded, for example, by charging premiums to market participants, not unlike insurance. I assume deposit insurance, for example, is financed this way. So I agree with you.

Ms. BEAN. All Right, thank you. Mr. Kuttner.

Mr. KUTTNER. Yes. I think we should certainly start with a great deal more required disclosure, so that we can find out just how serious these problems are. So the extent that some of this information is proprietary and competitive, it could be disclosed to the SEC or the Federal Reserve.

But I think at the end of the day, we are going to have to act to make certain practices illegal because the benefit doesn't outweigh the risk.

Ms. BEAN. Okay, Mr. Pollock, last but not least.

Mr. POLLOCK. Okay, thank you Congresswoman. First of all, let me say, if I may, I really enjoyed your summary of our various positions. The essential framework, we are talking about today the relationship between systemic risk and regulation, is a long-debated question.

In my testimony, I did suggest several things which could be done, including promotion of investor paid rating agencies, one of the things you mentioned. And, of course, as you know, on the simplest and post commonsensical level, I have suggested a much better disclosure for the consumer, which I hope you have seen and like.

The CHAIRMAN. The gentleman from Illinois has a supplemental question, then I will have one comment, and we will be out of here.

Mr. MANZULLO. Thank you. My question dealt with the Pollock two-page disclosure.

I practiced law from 1970 until I was sworn in as a Member of Congress in January of 1993, and I closed probably 1,500 real es-

tate transactions. And we could close them in a relatively short period of time, then along came RESPA in 1975 or 1976. Of course, out in the country, it took 3 years for news to get there, and the real estate transaction should have closed 3 days before we were meeting so people would have the opportunity to shop.

And now you go to a real estate closing and it has to be a stack this thick. People have no idea what is going on. They go through—

The CHAIRMAN. This is a supplemental question.

Mr. MANZULLO. Absolutely. My question is, Mr. Pollock, you have a two-page disclosure, and I think the Washington Post commended you on that. Will that make that much of a difference? Will people read it? Will they understand it?

Mr. POLLOCK. I think they will. We have done a good bit of discussions and trying this out on people. It is the only thing that really speaks to the consumer's problem, that problem itself, what does this mean for me? So I think it will. Not for everybody, but for a very large number of people, Congressman.

Mr. MANZULLO. Chairman, with your permission, could I have included as part of the record the two-page disclosure?

The CHAIRMAN. Certainly.

Mr. MANZULLO. Thank you.

The CHAIRMAN. It has been in before, but we will append it to that question. I just want to make two quick comments.

One, I noticed, Mr. Pollock, you talked about the housing every 10 years or so. We are 19 years into your 10-year cycle, I just would note. And people might say, well, that is because the Republicans were in power. Well, they were during one of those cycles, at least in part, in 1983, and ascended to the presidency. But no one that I know of has proposed one of those housing bills.

We have talked about some of us getting back into the affordable housing business. But there has been no emergency housing bill of that sort proposed for 19 years and none pending even now.

Mr. POLLOCK. Thank you, Mr. Chairman, for your detailed attention to my comments. It was 10 years on average over time.

The CHAIRMAN. If you look back, it was 1983, 1988, there were less than 10 years, there were four between 1970 and 1988. And we have gone 19 years. One thing, if we do run into it, and we have made things different, we still think we need to improve the supply on a general basis.

The other thing I would say is this with regard to you pass these things and they don't make any difference, sometimes they do. In 1988 and 1989, we had the terrible crisis, 1987, 1989, in the S&L. We passed legislation that included bailing out the depositors, not on the whole but the stockholders or the bond holders. We did make good our promise to depositors.

And since that time, that bill was passed, I think, in 1989, we have not had a serious problem with the S&Ls. And not only that, we were worried about a potential domino effect in the commercial banks and we passed FIDICIA, I believe was the name of it, in 1990, and we had in the period since then great success, and there has in fact been a far lower incidence of bank failures since then.

So that package of legislation, and Chairman Gonzales was presiding at the time in cooperation with the Treasury Department, which was then under Republicans, so the notion that it never

works when you have these things and you try, I would point to the S&L and commercial bank twin bills of the late 1980's and early 1990's as a very successful response. And the record since then has really been very good.

Mr. POLLOCK. Mr. Chairman, I would never wish to be understood as saying that legislation never makes a difference. Of course it can make a difference—

The CHAIRMAN. That would be the thrust I would take from your testimony—

Mr. POLLOCK. But the point I was trying to make is the busts and the systemic risks come along anyway. They tend to come—

The CHAIRMAN. Well, they did not in the banking area—

Mr. POLLOCK. Oh, no, I understand. But in the market in general, they tend to come from different directions.

The CHAIRMAN. I will re-read your testimony, but I would say the thrust of it predating your refinement of it right now would suggest that it was a futile operation. I think it was unduly pessimistic paced on the record, to be honest.

The gentlewoman from Wisconsin had something to say?

Ms. BEAN. Thank you so much, Mr. Chairman.

I forgot which one it was in your testimony that I read that talked about the risks and costs of systemic failure as it filters down to people, loss of jobs and so on. I know that my sister worked for TWA and folks committed suicide and so on when they lost jobs. Is there a way to price this kind of risk? That's my question.

Mr. SCHWARCZ. I have certainly spoken to that issue in my testimony and in the paper. In the paper itself, I attempt to do some calculations which attempt to price that. But I admit very much it's highly speculative and I conclude that I am—I simply look at it and say, if one looks at this, one could come to certain views. It is a way of thinking about it. But I couldn't find a clear way of pricing it.

The CHAIRMAN. I thank the panel. It has been very useful. And luckily, a lot of members left. It seems like the fewer members we have, the better, sometimes, the conversation.

I am reminded of Washington Irving and the Knickerbocker history when he said, the ship sailed around the bend and crashed and we will never know what happened because there were too many survivors.

As we have fewer people, we can sometimes focus better. Thank you.

[Whereupon, at 12:26 p.m., the hearing was adjourned.]

A P P E N D I X

October 2, 2007

Opening Remarks of the Honorable Maxine Waters, (CA-35)

Financial Services Committee

Hearing on "Systemic Risk: Examining Regulators' Ability to Respond to Threats to the Financial System"

Tuesday, October 2, 2007

10 A.M.

Room 2128 Rayburn House Office Building

Thank you, Mr. Chairman.

The subprime mortgage crisis is affecting the lives of families and influencing foreign and domestic financial markets. Foreclosures are continuing to rise, increasing 36 percent from July to August. In my home state of California, 58,000 families, or one out of every 224 households, were in some kind of default last month. And this crisis is only going to get worse. The interest rate on $1 trillion in adjustable rate mortgages, or 12 percent of all mortgages, will reset by next year. This will have a devastating impact on the economy and on financial markets.

Regulators, banking entities, and mortgage providers have been playing a very risky game, betting that housing prices would continue to rise

and that interest rates would remain low. The proliferation of mortgage-backed securities meant that a significant part of our economy was tied into this risk as well. This risk was exacerbated by companies like Countrywide and American Home Mortgage that based their entire line of business on this game. Countrywide, for example, had issued 17 percent of all mortgages in the United States. Its loan portfolio, as well as that of other lenders, is now heavily devalued. And the resulting "credit crunch" continues to cause shockwaves throughout the country and the world.

In his testimony before this Committee on September 5th, Secretary Paulson stated that the economy was strong and that the "reappraisal" of credit markets resulting from the subprime crisis could result in a "modest penalty" to economic growth. Mr. Paulson stated that the reappraisal needs time to work itself out but that the underlying strength of the economy should allow for continued growth.

Given the increasing number of families confronting foreclosure, it is difficult for me to share the Secretary's optimism about this situation. On the contrary, it seems that there has been something fundamentally flawed in the U.S. mortgage and banking system, including an over reliance on mortgage-backed securities and little checks on those companies like Countrywide who made these instruments their bread and butter.

The subprime crisis and credit crunch did not happen overnight. These events were laid into motion by decisions made and policies enacted years before. The reaction of our regulators to this crisis is "after the fact." Many of them are now playing "catch up" by trying to fix something that they should have known could break eventually. Another crisis like this can simply not happen again. Our regulators must not only have the tools to prevent these crises, but also the foresight to see them coming.

I am looking forward to hearing the perspectives of the witnesses on how this crisis could have been averted and how we can provide our regulators with the foresight to anticipate problems like this before they balloon out of control.

Thank you, Mr. Chairman. I yield back the balance of my time.

Testimony of Richard Bookstaber

Submitted to the Congress of the United States, House Financial Services Committee
For the Hearing: "Systemic Risk: Examining Regulators Ability to Respond to Threats to the Financial System"
October 2, 2007

Mr. Chairman and members of the committee, I thank you for the opportunity to testify today. My name is Richard Bookstaber. Until this June I ran a quantitative equity hedge fund at FrontPoint Partners. I have also worked extensively in risk management. In the 1990's I was in charge of market risk management at Morgan Stanley and then oversaw firm-wide risk management at Salomon Brothers. Following that, I oversaw risk management at two buy-side firms, Moore Capital Management and Ziff Brothers Investments. I am also the author of a recently published book, A Demon of Our Own Design – Markets, Hedge Funds, and the Perils of Financial Innovation.

1. The challenges facing U.S. financial regulators charged with supervising the modern financial system

I believe the threats to the financial system stem largely from two increasingly dominant market characteristics. The first is the complexity of the markets. The second is the tendency for the markets to move rapidly into a crisis mode with little time or opportunity to intervene. Borrowing from engineering nomenclature, I refer to this second characteristic as tight coupling. The challenges in supervising the financial system, and particularly in safeguarding against market crises and systemic risk, are centered in dealing with these two characteristics.

Market Complexity as a Source of Crisis
Complexity means that an event can propagate in nonlinear and unanticipated ways. An example of a complex system from the realm of engineering is the operation of a nuclear power plant, where a minor event like a clogged pressure-release valve (as occurred at Three Mile Island) or a shift in the combination of steam production and fuel temperature (as at Chernobyl) can cascade into a meltdown.

For financial markets, complexity comes through derivatives and other innovative products. Many derivatives have nonlinear payoffs, so that a small move in the market might lead to a small move in the price of the derivative in one instance and to a much larger move in the price in another. Many derivatives also lead to unexpected and sometimes unnatural linkages between instruments and markets.

We observed this in the subprime market meltdown. Subprimes were included in various CDOs along with other types of mortgages and corporate bonds. Like a kid who brings his cold to a birthday party, the sickly subprime mortgages mingled with these other instruments. The result was contagion between markets. Investors that have to reduce their

derivatives exposure or hedge their exposure by taking positions in the underlying bonds will look at them as part of a CDO. It doesn't matter if one of the underlying bonds is issued by an AA-rated energy company and another by a BB financial; the bonds in a given package will move in lockstep. And although subprime happens to be the culprit this time around, any one of the markets involved in the CDO packaging could have started things off.

Tight Coupling and Market Shocks

Tight coupling is a term I have borrowed from systems engineering. A tightly coupled process progresses from one stage to the next with no opportunity to intervene. If things are moving out of control, you can't pull an emergency lever and stop the process while a committee convenes to analyze the situation. Examples of tightly coupled processes include a space shuttle launch, a nuclear power plant moving toward criticality and even something as prosaic as the process of baking bread.

In financial markets tight coupling comes from the feedback between mechanistic trading, price changes and subsequent trading based on the price changes. The mechanistic trading can result from a computer-driven program, like what we saw with portfolio insurance during the 1987 crash. Or, more commonly, it can result from the effects of leverage. When things start to go badly for a highly leveraged fund, its collateral can drop to the point that its lenders force it to start selling assets. This selling can lead to a drop in prices leading the collateral to decline further, forcing yet more sales. The resulting downward cycle is exactly what we saw with the demise of LTCM.

And it gets worse. Just like complexity, the tight coupling born of leverage can lead to surprising linkages between markets. High leverage in one market can end up devastating another unrelated and perfectly healthy market. This happens when a market under stress becomes illiquid and fund managers must look to other markets: If you can't sell what you want to sell, you sell what you can. This puts pressure on markets that have nothing to do with the original problem, other than that they happened to be home to securities held by a fund in trouble. Now other highly leveraged funds with similar exposure in these markets are forced to sell, and the cycle continues. Looking back again at LTCM, the trigger for LTCM's failure was a default in the Russian debt market, a market where LTCM had little if any exposure. The point is that ultimately most financial crises have to do with who owns what, who is under pressure and what else they own.

2. Do regulators have the tools they need to meet these challenges?

The starting point for grappling with systemic risk, and in particular with dealing with the threats that come from innovative products on the one hand and from high leverage on the other, is getting the right data. And we do not have much of the data we need.

For example, can we lay out the intricate web of counterparty risk for swaps and derivatives – who owes what to whom? Can we monitor the amount of leverage being employed by various types of hedge funds? Can we tell, even after that fact, the nature of the positions or strategies that are concentrated in specific types of market participants? At

this point, we cannot. And so we cannot map out how a failure in one segment of the financial market might propagate out to affect other segments. Nor can we learn from past market crises, because we cannot recreate what occurred.

It is as if the NTSB were not given flight recorders or allowed to investigate the crash site, or the NRC were not allowed access to nuclear power facilities. For example, in a few days in early August many quantitative long/short equity hedge funds suffered large losses, in some cases of over 30 percent. We do not know what set off the wave of these losses or why the losses affected so many of these funds. We suspect high leverage was a culprit and the triggering event was somehow related to the subprime and credit stresses, but we do not know because we do not have the relevant data.

I suggest three steps to improve the tools for meeting the regulatory challenges.

The first step is to create a committee to review the types of data that would be necessary to evaluate market dislocations and to monitor system risk at the broad market level. I have mentioned a few of the areas of critical data above.

The second step is to determine the necessary powers to allow the regulatory bodies to access these data. The most glaring area where such powers are absent is in the realm of the hedge funds. There are arguments made against providing position transparency to regulators because of the sensitivity of this information. The issues are real, but that said, many hedge funds already provide their positions to third party risk management providers, and thus it seems hard to argue against also providing them to a government regulator. In any case, much critical information does not require drilling down to the position level details. We should also consider how to extend regulatory powers to compel banks and investment banks to provide counterparty and inventory data. On a technical note, with the use of modern extensible mark-up languages there is little difficulty in establishing protocols for data to be provided efficiently.

The third step is to create a regulatory body, a government-level risk manager with a role perhaps modeled after that of industry-level risk managers, that can use these data to monitor potential systemic threats and to investigate and learn from market failures.

3. What changes should be contemplated to our regulatory system?

In speaking to the question of regulation, let me start by confirming the premise: The markets require regulation. There are clear profit incentives for the banks and investment banks to facilitate, even to encourage, leverage, just as there are strong profit incentives for them to design and market innovative products. And there are competitive pressures for hedge funds and others to avail themselves of these. But on the margin, each decision to increase leverage and to create an innovative product adds to the potential for market crises and systemic risk by increasing the tight coupling and complexity of the market. The business decisions do not take this into account. In other words, there is an unpriced negative externality to the actions of market participants. And unpriced negative externalities require intervention.

Reducing leverage and market complexity

Insofar as complexity and leverage are critical components of market crises, regulation needs to address these two factors. If we allow leverage to mount and allow new derivatives and swaps to grow unfettered, and then try to impose regulation above that, we will fail. Indeed, if the potential for systemic risk stems from market complexity, adding layers of regulation might actually make matters worse by increasing the overall complexity of the financial system. This may seem to be an abstract argument, but a number of crises in other industries – including ValuJet, Chernobyl and Three Mile Island – occurred due to complications that arose from mandated safety measures.

Often a hedge fund manager is faced with the choice of either increasing leverage to try to meet target returns or see his business diminish. There are thus strong incentives to push leverage to the edge. This is especially the case because few hedge funds face an accounting of their use of leverage; few provide any data on the level of leverage in their portfolios. Since high leverage is the most common source of market cascades, where forced selling leads to price drops which leads to more forced selling, the first step in addressing tight coupling is to control the leverage employed by hedge funds and others.

In terms of controlling innovative products, just because someone can design a new type of derivative or structured product doesn't mean they should. It is true that in the academic economist's view of the world they should, because each new product increases the set of contingencies that can be addressed by the market. But this ignores the implications these instruments have on the complexity of the market. On the margin they increase complexity of the markets and through that they increase the likelihood of crises.

I suggest the regulatory system actively engage in controlling leverage and in limiting the arms race of innovative products. This is a markedly different approach to regulation than is taken now. It is more invasive to the market and might face political hurdles that would make it impractical to execute. However, I believe the most effective regulation will address these key sources of market crisis head on.

Using circuit-breakers to stop a tightly coupled crisis

Regulators may be able to curb a systemic threat if they can break the tight coupling during an emerging crisis. We have had a number of successes in stemming the threats though this route. In the Crash of 1987, the seemingly inexorable downward cycle caused by the computer-driven selling of portfolio insurance programs was stemmed by the use of the so-called circuit breakers. The LTCM failure saw its systemic effects forestalled by the Federal Reserve's actions in bringing together a bank consortium and having them stop the demand for sales to meet collateral. In both of these cases a mechanism broke the tight coupling. Circuit breakers can provide breathing room so that those under pressure have time to negotiate with their creditors, seek sources of liquidity and capital, and strategize with their investors.

I suggest any regulatory solution include the ability for the regulator to invoke circuit breakers, by whatever guise, during periods of market crisis.

A "for-profit" approach to bailouts

There is an approach that we have seen executed with success in the private sector which suggests a new regulatory role. The large hedge fund Citadel has used its capital to buy up the assets of distressed firms, once with the failure of Amaranth and again with the failure of Sowood. Citadel's action was a bailout of the markets – by providing liquidity when many others in the market were unwilling to do so they helped stem a problem from getting worse, from propagating out further to affect other firms. It was not, however, a bailout of the troubled funds. Sowood and Amaranth are still out of business.

The point is that there are two types of bailouts. There are bailouts that keep the offending fund on it feet and in business. Arguably these sorts of bailouts create a moral hazard problem. But there is another sort of bailout that does not stand in the way of failure, but that still reduces the collateral damage. Citadel's were bailouts of the latter type.

I suggest the government consider a role for financial bailouts in these terms. To be specific, I suggest the government maintain a pool of capital on the ready to be the liquidity provider of last resort, to buy up assets of firms that are failing much as Citadel did for Amaranth and Sowood. (Of course, if a private entity is willing to step up to the plate, all the better). There would need to be a body with substantial market expertise to determine when this capital can be effectively applied. In this approach, there would be no moral hazard problems, since the firm would still fail. But the collateral damage would be contained; the market would be kept from going into crisis, the dominos would be kept from falling. And just as Citadel did in these cases, the taxpayer would have good odds of pocketing some profits.

5. Conclusion

In most fields, the hand of engineering leads to lower risk. We learn from our failures and year by year end up with safer bridges and buildings and cars and airplanes. But this does not seem to be the case for engineering in the financial markets. The results of financial engineering – the increasing sophistication of the markets, the complexity and the speed with which market events unfold and propagate – seem to be taking us in the wrong direction.

The lowly cockroach can teach us a few things about how to structure and regulate markets in order to better avoid systemic risk. The cockroach has existed over hundreds of millions of years, surviving as jungles have given way to deserts and deserts have been turned into cities. And it has survived with a simple, coarse defense mechanism. The cockroach does not make its escape by seeing, hearing or smelling. All it does is move in the opposite direction of any gust of wind hitting its legs. In any particular environment it would never win the 'best designed insect' award. But it always seems to be good enough to survive. Other insects might have been more fine-tuned for foraging or with camouflage perfectly suited to a particular environment, but few are as robust and capable of surviving in the face of inevitable changes.

We need to keep the cockroach in mind when we think of how to address systemic risk. We must rethink efforts that engineer and fine tune the markets in an attempt to seek out every advantage in the world as we see it today. When faced with the inevitable march of events that we cannot even anticipate, simpler financial instruments and less leverage will create a market that is more robust and survivable.

Testimony of Robert Kuttner
Before the Committee on Financial Services
U.S. House of Representatives
Washington, D.C.
October 2, 2007

Mr. Chairman and members of the Committee:

Thank you for this opportunity. My name is Robert Kuttner. I am an economics and financial journalist, author of several books about the economy, a magazine editor, and former investigator for the Senate Banking Committee. I have a book appearing in a few weeks that addresses the systemic risks of financial innovation coupled with deregulation and the moral hazard of periodic bailouts.

In researching the book, I devoted a lot of effort to reviewing the abuses of the 1920s, the effort in the 1930s to create a financial system that would prevent repetition of those abuses, and the steady dismantling of the safeguards over the last three decades in the name of free markets and financial innovation.

The Senate Banking Committee, in the celebrated Pecora Hearings of 1933 and 1934, laid the groundwork for the modern edifice of financial regulation. I suspect that they would be appalled at the parallels between the systemic risks of the 1920s and many of the modern practices that have been permitted to seep back in to our financial markets.

Although the particulars are different, my reading of financial history suggests that the abuses and risks are all too similar and enduring. When you strip them down to their essence, they are variations on a few hardy perennials – excessive leveraging, misrepresentation, insider conflicts of interest, non-transparency, and the triumph of engineered euphoria over evidence.

The most basic and alarming parallel is the creation of asset bubbles, in which the purveyors of securities use very high leverage; the securities are sold to the public or to specialized funds with underlying collateral of uncertain value; and financial middlemen extract exorbitant returns at the expense of the real economy. This was the essence of the abuse of public utilities stock pyramids in the 1920s, where multi-layered holding companies allowed securities to be watered down, to the point where the real collateral was worth just a few cents on the dollar, and returns were diverted from operating companies and ratepayers. This only became exposed when the bubble burst. As Warren Buffett famously put it, you never know who is swimming naked until the tide goes out.

There is good evidence--and I will add to the record a paper on this subject by the Federal Reserve staff economists Dean Maki and Michael Palumbo--that even much of the boom of the late 1990s was built substantially on asset bubbles. ["Disentangling the Wealth Effect: a Cohort Analysis of Household Savings in the 1990s," http://www.federalreserve.gov/pubs/feds/2001/200121/200121pap.pdf]

A second parallel is what today we would call securitization of credit. Some people think this is a recent innovation, but in fact it was the core technique that made possible the dangerous practices of the 1920. Banks would originate and repackage highly speculative loans, market them as securities through their retail networks, using the prestigious brand name of the bank – e.g. Morgan or Chase -- as a proxy for the soundness of the security. It was this practice, and the ensuing collapse when so much of the paper went bad, that led Congress to enact the Glass-Steagall Act, requiring bankers to decide either to be commercial banks—part of the monetary system, closely supervised and subject to reserve requirements, given deposit insurance, and access to the Fed's discount window; or investment banks that were not government guaranteed, but that were soon subjected to an extensive disclosure regime under the SEC.

Since repeal of Glass Steagall in 1999, after more than a decade of de facto inroads, super-banks have been able to re-enact the same kinds of structural conflicts of interest that were endemic in the 1920s – lending to speculators, packaging and securitizing

credits and then selling them off, wholesale or retail, and extracting fees at every step along the way. And, much of this paper is even more opaque to bank examiners than its counterparts were in the 1920s. Much of it isn't paper at all, and the whole process is supercharged by computers and automated formulas. An independent source of instability is that while these credit derivatives are said to increase liquidity and serve as shock absorbers, in fact their bets are often in the same direction – assuming perpetually rising asset prices – so in a credit crisis they can act as net de-stabilizers.

A third parallel is the excessive use of leverage. In the 1920s, not only were there pervasive stock-watering schemes, but there was no limit on margin. If you thought the market was just going up forever, you could borrow most of the cost of your investment, via loans conveniently provided by your stockbroker. It worked well on the upside. When it didn't work so well on the downside, Congress subsequently imposed margin limits. But anybody who knows anything about derivatives or hedge funds knows that margin limits are for little people. High rollers, with credit derivatives, can use leverage at ratios of ten to one, or a hundred to one, limited only by their self confidence and taste for risk. Private equity, which might be better named private debt, gets its astronomically high rate of return on equity capital, through the use of borrowed money. The equity is fairly small. As in the 1920s, the game continues only as long as asset prices continue to inflate; and all the leverage contributes to the asset inflation, conveniently creating higher priced collateral against which to borrow even more money.

The fourth parallel is the corruption of the gatekeepers. In the 1920s, the corrupted insiders were brokers running stock pools and bankers as purveyors of watered stock. 1990s, it was accountants, auditors and stock analysts, who were supposedly agents of investors, but who turned out to be confederates of corporate executives. You can give this an antiseptic academic term and call it a failure of agency, but a better phrase is conflicts of interest. In this decade, it remains to be seen whether the bond rating agencies were corrupted by conflicts of interest, or merely incompetent. The core structural conflict is that the rating agencies are paid by the firms that issue the bonds. Who gets the business – the rating agencies with tough standards or generous ones? Are ratings for

sale? And what, really, is the technical basis for their ratings? All of this is opaque, and unregulated, and only now being investigated by Congress and the SEC.

Yet another parallel is the failure of regulation to keep up with financial innovation that is either far too risky to justify the benefit to the real economy, or just plain corrupt, or both. In the 1920s, many of these securities were utterly opaque. Ferdinand Pecora, in his 1939 memoirs describing the pyramid schemes of public utility holding companies, the most notorious of which was controlled by the Insull family, opined that the pyramid structure was not even fully understood by Mr. Insull. The same could be said of many of today's derivatives on which technical traders make their fortunes.

By contrast, in the traditional banking system a bank examiner could look at a bank's loan portfolio, see that loans were backed by collateral and verify that they were performing. If they were not, the bank was made to increase its reserves. Today's examiner is not able to value a lot of the paper held by banks, and must rely on the banks' own models, which clearly failed to predict what happened in the case of sub-prime. The largest banking conglomerates are subjected to consolidated regulation, but the jurisdiction is fragmented, and at best the regulatory agencies can only make educated guesses about whether balance sheets are strong enough to withstand pressures when novel and exotic instruments create market conditions that cannot be anticipated by models.

A last parallel is ideological -- the nearly universal conviction, 80 years ago and today, that markets are so perfectly self-regulating that government's main job is to protect property rights, and otherwise just get out of the way.

We all know the history. The regulatory reforms of the New Deal saved capitalism from its own self-cannibalizing instincts, and a reliable, transparent and regulated financial economy went on to anchor an unprecedented boom in the real economy. Financial markets were restored to their appropriate role as servants of the real economy, rather than masters. Financial regulation was pro-efficiency. I want to repeat that, because it is

so utterly unfashionable, but it is well documented by economic history. Financial regulation was pro-efficiency. America's squeaky clean, transparent, reliable financial markets were the envy of the world. They undergirded the entrepreneurship and dynamism in the rest of the economy.

Beginning in the late 1970s, the beneficial effect of financial regulations has either been deliberately weakened by public policy, or has been overwhelmed by innovations not anticipated by the New Deal regulatory schema. New-Deal-era has become a term of abuse. Who needs New Deal protections in an Internet age?

Of course, there are some important differences between the economy of the 1920s, and the one that began in the deregulatory era that dates to the late 1970s. The economy did not crash in 1987 with the stock market, or in 2000-01. Among the reasons are the existence of federal breakwaters such as deposit insurance, and the stabilizing influence of public spending, now nearly one dollar in three counting federal, state, and local public outlay, which limits collapses of private demand.

But I will focus on just one difference – the most important one. In the 1920s and early 1930s, the Federal Reserve had neither the tools, nor the experience, nor the self-confidence to act decisively in a credit crisis. But today, whenever the speculative excesses lead to a crash, the Fed races to the rescue. No, it doesn't bail our every single speculator (though it did a pretty good job in the two Mexican rescues) but it bails out the speculative system, so that the next round of excess can proceed. And somehow, this is scored as trusting free markets, overlooking the plain fact that the Fed is part of the U.S. government.

When big banks lost many tens of billions on third world loans in the 1980s, the Fed and the Treasury collaborated on workouts, and desisted from requiring that the loans be marked to market, lest several money center banks be declared insolvent. When Citibank was under water in 1990, the president of the Federal Reserve Bank of New York

personally undertook a secret mission to Riyadh to persuade a Saudi prince to pump in billions in capital and to agree to be a passive investor.

In 1998, the Fed convened a meeting of the big banks and all but ordered a bailout of Long Term Capital Management, an uninsured and unregulated hedge fund whose collapse was nonetheless putting the broad capital markets at risk. And even though Chairman Greenspan had expressed worry two years (and several thousand points) earlier that "irrational exuberance" was creating a stock market bubble, big losses in currency speculation in East Asia and Russia led Greenspan to keep cutting rates, despite his foreboding that cheaper money would just pump up markets and invite still more speculation.

And finally in the dot-com crash of 2000-01, the speculative abuses and insider conflicts of interest that fueled the stock bubble were very reminiscent of 1929. But a general depression was not triggered by the market collapse, because the Fed again came to the rescue with very cheap money.

So when things are booming, the financial engineers can advise government not to spoil the party. But when things go bust, they can count on the Fed to rescue them with emergency infusions of cash and cheaper interest rates.

I just read Chairman Greenspan's fascinating memoir, which confirms this rescue role. His memoir also confirms Mr. Greenspan's strong support for free markets and his deep antipathy to regulation. But I don't see how you can have it both ways. If you are a complete believer in the proposition that free markets are self-regulating and self-correcting, then you logically should let markets live with the consequences. On the other hand, if you are going to rescue markets from their excesses, on the very reasonable ground that a crash threatens the entire system, then you have an obligation to act pre-emptively, prophylactically, to head off highly risky speculative behavior. Otherwise, the Fed just invites moral hazards and more rounds of wildly irresponsible actions.

While the Fed and the European Central Bank were flooding markets with liquidity to prevent a deeper crash in August and September, the Bank of England decided on a sterner course. It would not reward speculators. The result was an old fashioned run on a large bank, and the Bank of England changed its tune.

So the point is not that the Fed should let the whole economy collapse in order to teach speculators a lesson. The point is that the Fed needs to remember its other role – as regulator.

One of the odd things about the press commentary about what the Fed should do is that it has been entirely along one dimension: a Hobson's choice: – either loosen money and invite more risky behavior, or refuse to enable asset bubbles and risk a more serious credit crunch – as if these were the only options and monetary policy were the only policy lever. But the other lever, one that has fallen into disrepair and disrepute, is preventive regulation.

Mr. Chairman, you have had a series of hearings on the sub-prime collapse, which has now been revealed as a textbook case of regulatory failure. About half of these loans were originated by non-federally regulated mortgage companies. However even those sub-prime loans should have had their underwriting standards policed by the Federal Reserve or its designee under the authority of the 1994 Home Equity and Ownership Protection Act. And by the same token, the SEC should have more closely monitored the so called counterparties—the investment and commercial banks—that were supplying the credit. However, the Fed and the SEC essentially concluded that since the paper was being sold off to investors who presumably were cognizant of the risks, they did not need to pay attention to the deplorable underwriting standards.

In the 1994 legislation, Congress not only gave the Fed the authority, but directed the Fed to clamp down on dangerous and predatory lending practices, including on otherwise unregulated entities such as sub-prime mortgage originators. However, for 13 years the Fed stonewalled and declined to use the authority that Congress gave it to police sub-

prime lending. Even as recently as last spring, when you could not pick up a newspaper's financial pages without reading about the worsening sub-prime disaster, the Fed did not act—until this Committee made an issue of it.

Financial markets have responded to the 50 basis-point rate-cut, by bidding up stock prices, as if this crisis were over. Indeed, the financial pages have reported that as the softness in housing markets is expected to worsen, traders on Wall Street have inferred that the Fed will need to cut rates again, which has to be good for stock prices.

Mr. Chairman, we are living on borrowed time. And the vulnerability goes far beyond the spillover effects of the sub-prime debacle.

We need to step back and consider the purpose of regulation. Financial regulation is too often understood as merely protecting consumers and investors. The New Deal model is actually a relatively indirect one, since it relies more on mandated disclosures, and less on prohibited practices. The enormous loopholes in financial regulation—the hedge fund loophole, the private equity loophole, are justified on the premise that consenting adults of substantial means do not need the help of the nanny state, thank you very much. But of course investor protection is only one purpose of regulation. The other purpose is to protect the system from moral hazard and catastrophic risk of financial collapse. It is this latter function that has been seriously compromised.

HOEPA was understood mainly as consumer protection legislation, but it was also systemic risk legislation.

Sarbanes-Oxley has been attacked in some quarters as harmful to the efficiency of financial markets. One good thing about the sub-prime calamity is that we haven't heard a lot of that argument lately. Yet there is still a general bias in the administration and the financial community against regulation.

Mr. Chairman, I commend you and this committee for looking beyond the immediate problem of the sub-prime collapse. I would urge every member of the committee to spend some time reading the Pecora hearings, and you will be startled by the sense of déjà vu.

I'd like to close with an observation and a recommendation.

My perception as a financial journalist is that regulation is so out of fashion these days that it narrows the legislative imagination, since politics necessarily is the art of the possible and your immediate task is to find remedies that actually stand a chance of enactment. There is a vicious circle – a self-fulfilling prophecy -- in which remedies that currently are legislatively unthinkable are not given serious thought. Mr. Chairman, you are performing an immense public service by broadening the scope of inquiry beyond the immediate crisis and immediate legislation.

Three decades ago, a group of economists inspired by the work of the late Milton Friedman created a shadow Federal Open Market Committee, to develop and recommend contrarian policies in the spirit of Professor Friedman's recommendation that monetary policy essentially be put on automatic pilot. The committee had great intellectual and political influence, and its very existence helped people think through dissenting ideas. In the same way, the national security agencies often create Team B exercises to challenge the dominant thinking on a defense issue.

In the coming months, I hope the committee hears from a wide circle of experts – academics, former state and federal regulators, financial historians, people who spent time on Wall Street – who are willing to look beyond today's intellectual premises and legislative limitations, and have ideas about what needs to be re-regulated. Here are some of the questions that require further exploration:

First, which kinds innovations of financial engineering actually enhance economic efficiency, and which ones mainly enrich middlemen, strip assets, appropriate wealth, and increase systemic risk? It no longer works to assert that all innovations, by definition,

are good for markets or markets wouldn't invent them. We just tested that proposition in the sub-prime crisis, and it failed. But which forms of credit derivatives, for example, truly make markets more liquid and better able to withstand shocks, and which add to the system's vulnerability. We can't just settle that question by the all purpose assumption that market forces invariably enhance efficiency. We have to get down to cases.

The story of the economic growth in the 1990s and in this decade is mainly a story of technology, increased productivity growth, macro-economic stimulation, and occasionally of asset bubbles. There is little evidence that the growth rates of the past decade and a half – better than the 1970s and '80s, worse than the 40's, 50's and '60s -- required or benefited from new techniques of financial engineering.

I once did some calculations on what benefits securitization of mortgage credit had actually had. By the time you net out the fee income taken out by all of the middlemen – the mortgage broker, the mortgage banker, the investment banker, the bond-rating agency – it's not clear that the borrower benefits at all. What does increase, however, are the fees and the systemic risks. More research on this question would be useful. What would be the result of the secondary mortgage market were far more tightly subjected to standards? It is telling that the mortgages that best survived the meltdown were those that met the underwriting criteria of the GSE's.

Second, what techniques and strategies of regulation are appropriate to damp down the systemic risks produced by the financial innovation? As I observed, when you strip it all down, at the heart of the recent financial crises are three basic abuses: lack of transparency; excessive leverage; and conflicts of interest. Those in turn suggest remedies: greater disclosure either to regulators or to the public. Requirement of increased reserves in direct proportion to how opaque and difficult to value are the assets held by banks. Some restoration of the walls against conflicts of interest once provided by Glass Steagall. Tax policies to discourage dangerously high leverage ratios, in whatever form.

Maybe we should just close the loophole in the 1940 Act and require of hedge funds and private equity firms the same kinds of disclosures required of others who sell shares to the public, which in effect is what hedge funds and private equity increasingly do. The industry will say that this kind of disclosure impinges on trade secrets. To the extent that this concern is valid, the disclosure of positions and strategies can be to the SEC. This is what is required of large hedge funds by the Financial Services Authority in the UK, not a nation noted for hostility to hedge funds. Indeed, Warren Buffet's Berkshire Hathaway, which might have chosen to operate as private equity, makes the same disclosures as any other publicly listed firm. It doesn't seem to hurt Buffett at all.

To the extent that some private equity firms and strategies strip assets, while others add capital and improve management, maybe we need a windfall profits tax on short term extraction of assets and on excess transaction fees. If private equity has a constructive role to play—and I think it can—we need public policies to reward good practices and discourage bad ones. Industry codes, of the sort being organized by the administration and the industry itself, are far too weak.

Why not have tighter regulation both of derivatives that are publicly traded and those that are currently regulated – rather weakly-- by the CFTC: more disclosure, limits on leverage and on positions. And why not make OTC and special purpose derivatives that are not ordinarily traded (and that are black holes in terms of asset valuation), also subject to the CFTC?

A third big question to be addressed is the relationship of financial engineering to problems of corporate governance. Ever since the classic insight of A.A. Berle and Gardiner Means in 1933, it has been conventional to point out that corporate management is not adequately responsible to shareholders, and by extension to society, because of the separation of ownership from effective control. The problem, if anything, is more serious today than when Berle and Means wrote in 1933, because of the increased access of insiders to financial engineering. We have seen the fruits of that access in management

buyouts, at the expense of both other shareholders, workers, and other stakeholders. This is pure conflict of interest.

Since the first leveraged buyout boom, advocates of hostile takeovers have proposed a radically libertarian solution to the Berle-Means problem. Let a market for corporate control hold managers accountable by buying, selling, and recombining entire companies via LBOs that tax deductible money collateralized by the target's own assets. It is astonishing that this is even legal, let alone rewarded by tax preferences, even more so when managers with a fiduciary responsibility to shareholders are on both sides of the bargain.

The first boom in hostile takeovers crashed and burned. The second boom ended with the stock market collapse of 2000-01. The latest one is rife with conflicts of interest, it depends heavily on the perception that stock prices are going to continue to rise at multiples that far outstrip the rate of economic growth, and on the borrowed money to finance these deals that puts banks increasingly at risk.

So we need a careful examination of better ways of holding managers accountable – through more power for shareholders and other stakeholders such as employees, proxy rules not tilted to incumbent management, and rules that reward mutual funds for serving as the agents of shareholders, and not just of the profit maximization of the fund sponsor. John Bogle, a pioneer in the modern mutual fund industry, has written eloquently on this.

Interestingly, the intellectual fathers of the leveraged buyout movement as a supposed source of better corporate governance, have lately been having serious second thoughts. Michael Jensen, one of the original theorists of efficient market theory and the so called market for corporate control and an advocate of compensation incentives for corporate CEOs has now written a book calling for greater control of CEOs and less cronyism on corporate boards. That cronyism, however, is in part a reflection of Jensen's earlier conception of the ideal corporation.

I don't have all the answers on regulatory remedies, but people smarter than I need to systematically ask these questions, even if they are beyond the pale legislatively for now. And there are scholars of financial markets, former state and federal regulators, economic historians, and even people who did time on Wall Street, who all have the same concerns that I do as well as more technical expertise, and who I am sure would be happy to find company and to serve.

One last parallel: I am chilled, as I'm sure you are, every time I hear a high public official or a Wall Street eminence utter the reassuring words, "The economic fundamentals are sound." Those same words were used by President Hoover and the captains of finance, in the deepening chill of the winter of 1929-1930. They didn't restore confidence, or revive the asset bubbles.

The fact is that the economic fundamentals **are** sound – if you look at the real economy of factories and farms, and internet entrepreneurs, and retailing innovation and scientific research laboratories. It is the financial economy that is dangerously unsound. And as every student of economic history knows, depressions, ever since the South Sea bubble, originate in excesses in the financial economy, and go on to ruin the real economy.

It remains to be seen whether we have dodged the bullet for now. If markets do calm down, and lower interest bail out excesses once again, then we have bought precious time. The worst thing of all would be to conclude that markets self corrected once again, and let the bubble economy continue to fester. Congress has a window in which restore prudential regulation, and we should use that window before the next crisis turns out to be a mortal one.

Testimony of

Alex J. Pollock
Resident Fellow
American Enterprise Institute

To the Committee on Financial Services
United States House of Representatives

Hearing on Systemic Risk and Regulation

October 2, 2007

Mr. Chairman, Ranking Member Bachus and members of the Committee, thank you for the opportunity to be here today. I am Alex Pollock, a Resident Fellow at the American Enterprise Institute, and these are my personal views. Before joining AEI, I spent 35 years in banking, including twelve years as President and CEO of the Federal Home Loan Bank of Chicago. I am a Past President of the International Union for Housing Finance and a director of three companies in financial businesses.

My career has included many credit cycles which involved issues of systemic risk, from the credit crunch of 1969, the commercial paper panic of 1970, and the real estate investment trust collapse of 1975 (in which the entire commercial banking system was thought by some to be insolvent) to the current example of the credit panic triggered by the ongoing subprime mortgage and housing bust, and a number of others in between. Moreover, I have studied the long history of such financial events and their recurring patterns.

Booms and Busts in Context

To begin with, let me try to put the issues of financial booms and busts and the related question of systemic risk in context.

The fundamental principle is that long term growth and the greatest economic well being for ordinary people can only be created by market innovation and experimentation. Markets for goods and services must be accompanied by markets in financial instruments, which by definition place a current price on future, thus inherently uncertain, events. This much is obvious but easy to forget when addressing the results of a bust with the benefit of hindsight, when it seems like you would have to stupid to make the mistakes that smart people actually made.

Dealing with putting prices on the inherently uncertain future, all financial markets are constantly experimenting with how much risk there should be, how risks are distributed, what the price of risk-bearing should be, and how risk trades off with financial success or failure. Should individuals and institutions be free to take financial risks if they want to? Yes, they should.

In the boom, many people succeed, just as many people succeeded for a long time in the subprime mortgage and housing boom. This success gets extrapolated, supports optimism and makes lenders and investors, including private pools of capital, confident. Lender and investor confidence tends to the underestimation of risks, in particular, the risk that the price of the asset in favor, most recently houses, could fall or fall very much; and underestimation of the risk that if prices fall, especially in a leveraged sector, asset and credit markets could become illiquid.

In my opinion, the principles stated by the President's Working Group for private pools of capital are professional and sensible. But even if everybody followed them, we would not avoid the inevitable times of financial turbulence.

We know for certain that markets will create long term growth and also cyclical booms and busts, but just what or when the outcome of a particular innovation will be cannot be known in advance. It can only be discovered by running the market experiment, as so brilliantly discussed in Friedrich Hayek's "Competition as a Discovery Procedure."

How hard it is to outguess this discovery procedure is shown by the fact that a mere three months ago, the financial and economic world was constantly treated to statements by very intelligent and well-informed people that there was "abundant liquidity" or even a "flood of liquidity," which would guarantee a firm market bid for risky assets and narrow spreads. Then we were suddenly confronted with a lack of bids, nonfunctioning markets and the "evaporation of liquidity."

Likewise, some very intelligent and well-informed people said, up until August, that the subprime mortgage bust would be "contained" and not cause wider financial or economic problems. Now we have had a subprime-induced credit panic and an ongoing credit crunch, with falling house prices, but the stock market has gone back up to near its high. How do we interpret that?

A fundamental point is that markets are recursive. Whatever opinions influence buying and selling and hedging, whatever models of financial behavior are relied on, whatever is done to regulate them, are all fed back into the system of interactions and change behavior in unpredictable ways. Thus models of financial behavior, themselves changing the market, tend to become less effective or obsolete, as did subprime credit models.

Regulations likewise change financial behavior, are arbitraged, and may end up producing the opposite of their intent. This is why regardless of what any regulator or legislator may do, markets will always create however much risk they want. Then when the bust has begun, regulatory actions to reduce or control risk may turn out to be procyclical, reinforcing the downward momentum.

Models

To successfully avoid booms and busts, regulatory operations or market actors would have to know the future. They often attempt to do so through creating models.

Of course, there is always a difference between financial models, however mathematically refined, and financial reality. This is so whether the models are those of Wall Street "rocket scientists" structuring securities, credit rating agencies, hedge funds or other private pools of capital, sophisticated institutions, the Federal Reserve or other regulators, or investment analysts. Finance cannot in principle be turned into physics.

John Maynard Keynes memorably observed that a prudent banker is one who goes broke when everybody else goes broke. One way to do this is to use models with the same assumptions that everybody else has. Then you can be confident when everybody else is confident and afraid when everybody else is afraid. (We can be skeptical of the models approach of Basel II in this respect.)

Once a Decade, On Average

The classic patterns of booms based on credit overexpansions and their following busts are colorfully discussed by such students of financial cycles as Charles Kindleberger, Walter Bagehot and Hyman Minsky.

Kindleberger, surveying several centuries of financial history, observed that financial crises and scandals occur, on average, about once every ten years. This matches my own experience. Every bust is followed by reforms, but the next bust arrives nonetheless. Still the trend of market innovation and long term growth continues.

The increased risk accumulated in credit overexpansions ultimately comes home to roost and prices of the favored asset fall. There is a hangover of defaults, failures, dispossession of unwise or unlucky borrowers, revelations of frauds and swindles (always), and then the search for the guilty. There is a sharp restriction of credit. For example, the chief executive of Countrywide recently announced, "We are out of the subprime business."

There is a generalized retreat from risky assets, and a new danger arises: fire sales of assets turning into a debt deflation and the ruin of the financial system—systemic risk has arrived. Our students of financial cycles all support government intervention to stabilize the downward momentum. This is the correct answer as long as it is temporary.

To come to the current situation, it is evident that the present combination of the excess inventory of houses and condominiums, with the rapid restriction of mortgage credit—in other words, increased supply plus falling demand, equals a trend of falling house prices. The models used to analyze, rate and price subprime securitizations include as a key factor house price appreciation ("HPA" in the trade jargon). Now that we have house price *depreciation*, what will happen if prices fall much more and much more broadly than the models, the investors, the lenders and the regulators thought they could could?

Unfortunately, a vicious cycle of falling house prices, more defaults, further credit tightening, less demand, further falls in prices, more defaults, and so on, is possible for a while, though of course not forever. Financial market result: Fear.

The fear is increased by great uncertainty about the value of subprime securities if no one wants to buy them anymore. What are they worth as assets to an investor, notably a leveraged investor? What are they worth as collateral to a lender—especially a very risk-averse repo dealer or commercial paper buyer?

Greater disclosure and transparency are reasonably suggested, although financial accounting, at least, is never truly "transparent."

For example, what does "value" even mean when there are few or no buyers? How can assets be marked to market if there is no active market? Should everybody's portfolio be marked to fire sale prices, or instead to some estimate of intinsic value? Who is actually broke and who isn't? The answers to these classic questions of the bust are never clear, except in retrospect.

Liquidity

As Bagehot wrote, "Every great crisis reveals the excessive speculations of many houses which no one before suspected." So has our current bust, and these unpleasant surprises reinforce the uncertainty make about who is broke and who isn't (perhaps including yourself). With this uncertainty and personal as well as institutional risk, everyone becomes conservative at once. When all investors and lenders, institutionally and personally, try quite logically to protect themselves by avoiding risk, the result is to make liquidity disappear and to put the whole at risk. Note that possibility of regulatory or political punishment arising form the search for the guilty will increase the risk aversion.

In other words, it is belated risk aversion which creates systemic risk. To understand why this can happen, we have to see that "liquidity" is not a substance which can "flow," be a "flood," "slosh around," or be "pumped" somewhere, to use a number of misleading expressions.

In fact, liquidity is a figure of speech. It is verbal shorthand for the following situation:

-A is ready and able to buy an asset from B on short notice

-At a price B considers reasonable

-Which usually means C has to be willing to lend money to A

-And if C is a dealer, both A and C have to believe the asset could readily be sold to D

-Which means A and C believe there is an E willing to lend money to D.

Good times, a long period of profits, and an expansionary economy induce financial actors and observers to take this situation, "liquidity," too much for granted, so liquidity comes to be thought of as how much you can borrow. When the crisis comes, it is found to be about what happens when you can't borrow, except from some government instrumentality.

At this point we have arrived at why central banks exist. The power of the government, with its ability to compel, borrow, tax, print money, and credibly guarantee the payment of claims, can intervene to break the everybody-stops-taking-risk-at-once psychology of systemic risk.

The key is to assure that this intervention is temporary, as are credit panics by nature. As historically recent examples of government interventions in housing busts, since 1970 we have had the Emergency Home Finance Act of 1970, the Emergency Housing Act of 1975, the Emergency Housing Assistance Act of 1983, and the Emergency Housing Assistance Act of 1988. (I do not count the Hurricane Katrina Emergency Housing Act of 2005, a special case.) This is in line with Kindleberger's estimate of about once a decade on average, and an emergency housing act of 2007 would fit the pattern.

The liquidity crunch won't last forever. Large losses will be taken, the market get used to the idea, who is broke and who isn't sorted out, failures reorganized, risks reassessed, models rewritten, and revised clearing prices discovered. A, B, C, D and E will get back into business trading and lending to each other again.

Liquidity will return reasonably quickly for markets in prime instruments. One long time observer of finance, whose insights I value, has predicted that "the panic about credit markets will be a memory by Thanksgiving."

I believe this is probably right; however, the severe problems with subprime mortgages and securities made out of them, related defaults and foreclosures, and falling house prices will continue long past then. They will continue to cause macroeconomic drag and financial difficulties, but the moment of systemic panic will have passed.

The "Cincinnatian Doctrine"

In conclusion, my view is that it is not possible to design society, no matter what regulatory systems may be implemented, to avoid financial booms and busts and their resulting risk of systemic panics. We do need temporary interventions of the government periodically, when the financial system is threatened by a downward spiraling debt deflation. In other words, booms and busts are endemic to market economies with financial markets in which people are free to take risks and engage in borrowing against the uncertain future. They are a price well worth paying in return for the innovation and growth only such markets can create.

In normal times, that is, about 90% of the time, we predominately want the economic efficiency, innovation, productivity and the resulting well-being for ordinary people produced by competitive markets. But when the financial system hits its inevitable periodic crises, about 10% of the time, the intervention of the government is often necessary. This intervention should be temporary. If prolonged, it will tend to cartels, bureaucracy, less innovation, and less growth. In the extreme, of course, it becomes socialist stagnation.

Thus I suggest a 90%-10% policy mix. I have elsewhere explored this idea as the "Cincinnatian Doctrine."

In the wake of every bust, various plans are put in place to prevent all future ones, but the next bust arrives in about ten years anyway. Such plans suffer from the assumption that financial

group behavior is mechanistic and can be addressed by designing mechanisms. In fact, it is organic, creative, recursive and emergent. That is the source of its strength in creating wealth, also of its weakness in getting periodically carried away. I do not believe any regulatory structures can alter these fundamental characteristics.

Thank you again for the opportunity to share these views.

TESTIMONY BEFORE THE U.S. HOUSE OF REPRESENTATIVES COMMITTEE ON FINANCIAL SERVICES, OCTOBER 2, 2007, REGARDING "SYSTEMIC RISK: EXAMINING REGULATORS' ABILITY TO RESPOND TO THREATS TO THE FINANCIAL SYSTEM"

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Note: This testimony is based on the results of Prof. Schwarcz's research over the past year on systemic risk, such research and results being more fully set forth in the forthcoming paper, "Systemic Risk," which is available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1008326 or, for the most current copy, by contacting Prof. Schwarcz, SCHWARCZ@LAW.DUKE.EDU or 1-919-613-7060.

I. INTRODUCTION

This hearing focuses on the following issues, relating to systemic risk: What are the major challenges facing U.S. financial regulators charged with supervising the modern financial system? What challenges will regulators face going forward? Do regulators have the tools they need to meet these challenges? What changes, if any, should be contemplated to our regulatory system? What powers or information could have allowed regulators to anticipate and prevent the current sub-prime mortgage-related crisis and its impact on the broader financial system? My testimony will first suggest a conceptual framework in which to think about systemic risk and then, using that framework, will attempt to answer these questions.

II. DEFINING SYSTEMIC RISK

There is a great deal of confusion about what types of risk are truly "systemic." Alan Greenspan has summed up the confusion, observing that although "[i]t is generally agreed that systemic risk represents a propensity for some sort of financial system disruption[,] one observer might use the term 'market failure' to describe what another would deem to have been a market outcome that was natural and healthy, even if harsh."[1] As a result, the very definition of systemic risk is still somewhat unsettled.

A common factor in the various definitions of systemic risk is that a trigger event, such as an economic shock or institutional failure, causes a chain of bad economic consequences—sometimes referred to as a domino effect—to financial institutions and/or markets.

Financial Institutions:

[1]From Remarks at a Conference on Risk Measurement and Systemic Risk, Board of Governors of the Federal Reserve System, Washington, D.C. (1995).

Banks and other financial institutions (collectively, "institutions") are important sources of capital. Therefore their failure, especially in large numbers, can deprive society of capital and increase its cost. Increases in the cost of capital, or decreases in its availability, are the most serious direct consequences of a systemic failure.

The paradigmatic example of systemic risk in this context is a "bank run," in which the inability of a bank to satisfy withdrawal-demands causes its failure, in turn causing other banks or their creditors to fail. The original failure can occur when depositors panic, converging on the bank to quickly withdraw their monies. Because banks keep only a small fraction of their deposits on hand as cash reserves, a bank may have insufficient cash to pay all withdrawal-demands, causing it to default and ultimately fail. A chain of subsequent failures can occur because banks are closely intertwined financially. This is most graphically illustrated by the Great Depression.

Although a chain of bank failures remains an important symbol of systemic risk, the ongoing trend towards disintermediation—or enabling companies to access the ultimate source of funds, the capital markets, without going through banks or other financial intermediaries—is making these failures less critical than in the past. Companies today are able to obtain most of their financing through the capital markets without the use of intermediaries. As a result, capital markets themselves are increasingly central to any examination of systemic risk.

Markets:

Under modern finance theory, investors and other market participants can protect themselves from risk by diversifying their investments. To the extent risk is negatively correlated, or uncorrelated, with market risk, the randomly distributed risks of a diversified investment portfolio "would tend to cancel out, producing a riskless portfolio." To the extent systemic risk affects markets, however, it is positively correlated with the markets and cannot be diversified away.

An Integrated Perspective:

It may be confusing to separate institutional and market systemic risk, since institutions and markets can be involved in both. Perhaps a better way to think about systemic risk is that its focus is sometimes critical financial intermediaries, like banks, that are pivotal to the funding of companies, and other times markets and/or institutions, such as hedge funds, that are either not financial intermediaries or at least not critical financial intermediaries. As disintermediation increases, systemic risk will increasingly be viewed by its impact on markets, not institutions per se.

This perspective also reveals that the business or legal characterization of any given institution should be far less important, from the standpoint of systemic risk, than whether such institution is, in fact, a critical financial intermediary. Hedge funds, for example, are not critical financial intermediaries since they are not pivotal to the funding of companies. The likelihood that systemic risk would result from the failure of a hedge fund therefore depends not on such entity's characterization as a hedge fund per se but rather on the likelihood that its failure would jeopardize the viability of capital markets. Other than their lack of transparency—making it difficult to publicly determine the size of hedge fund exposures—there is little inherently unique about hedge funds from the standpoint of systemic risk. In Long Term Capital Management (LTCM), the potential for systemic risk existed not by reason of its intrinsic status as a hedge fund but by the sheer size of its exposure to other institutions and market participants. *Size matters.*

This is not to say that hedge funds, as operated in today's market environment, do not pose greater systemic-risk potential than many other types of business organizations. They may because of

their aggressive quest for above-market profits and quick returns. But these characteristics are not intrinsic to the nature of a hedge fund as a private and unregistered investment vehicle, and indeed other types of business organizations, including private-equity firms and even ordinary operating companies, can, and sometimes do, engage in aggressive investing techniques similar to those used by hedge funds.

Synthesizing these factors, we can reach a working definition of systemic risk: the risk that (i) an economic shock such as market or institutional failure triggers (through a panic or otherwise) either (x) the failure of a chain of markets or institutions or (y) a chain of significant losses to financial institutions, (ii) resulting in substantial financial-market price volatility (which price volatility may well reflect increases in the cost of capital or decreases in its availability).

III. REGULATING SYSTEMIC RISK

Having defined systemic risk, I next examine whether such risk should be regulated.

A. The Appropriateness of Regulation

Whether systemic risk should be regulated can be viewed as a subset of the question of whether it is appropriate to regulate financial risk. I attempt to answer that general question and then examine how the answer should change by reason of the financial risk being systemic.

Regulating Financial Risk:

The primary if not sole justification for regulating financial risk is maximizing economic efficiency. Because systemic risk is a form of financial risk, efficiency should be a central goal in its regulation. Without regulation, the externalities caused by systemic risk would not be prevented or internalized because the motivation of market participants "is to protect themselves but not the system as a whole. . . . No firm . . . has an incentive to limit its risk taking in order to reduce the danger of contagion for other firms."[2] Furthermore, the externalities of systemic failure include social costs that can extend far beyond market participants, and market participants will not want to internalize those costs.

As a result, there is a type of tragedy of the commons, in which the benefits of exploiting *finite* capital resources accrue to individual market participants, each of which is motivated to maximize use of the resource, whereas the costs of exploitation are distributed among an even wider class of persons. Furthermore, behavioral psychology predicts that individual market participants—by discounting the impact of systemic risk since it is so rare relative to other market risks—may perceive an even greater mismatch between benefits and costs.

To minimize the externalities caused by this tragedy of the commons (and thereby maximize efficiency), regulation of systemic risk appears not only appropriate but needed.

Beyond Economic Efficiency:

Efficiency, however, should not be the only goal of regulating systemic risk. Even though systemic risk is a form of financial risk, it stands apart and should be differentiated from traditional

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[2] Report of the President's Working Group on Financial Markets, Hedge Funds, Leverage, and the Lessons of Long Term Capital Management 31 (April 1999).

financial risk. Traditional financial risk focuses on risks *within* the financial system, and then efficiency should plainly be the central goal. Systemic risk, though, focuses on risks *to* the financial system.

Failure of the financial system can generate social costs in the form of widespread poverty and unemployment, which in turn can destroy lives and foster crime. Protecting health and safety therefore should be additional goals of regulating systemic risk. These additional goals can be reduced, however, to the single goal of preserving stability of the financial system, since preserving stability would avoid the breakdown that could lead to health and safety concerns.

The goals of regulating systemic risk thus should include both efficiency and stability.

Regulatory Costs and "Efficiency":

I next use these goals to attempt to identify potential approaches to regulating systemic risk. Regulation, however, is not costless. Its costs can include hiring government (or government-delegated) employees to enforce the regulation as well as associated monitoring and compliance costs, as well as unintended consequences of regulation such as moral hazard, loss of economic welfare caused by firms performing fewer transactions, and the dynamic costs of regulations acting as a barrier to innovation. In identifying regulatory approaches, I therefore take into account not only the goals of stability and efficiency but also the costs of regulation based on these goals.

B. Identifying Regulatory Approaches

To understand how systemic risk should be regulated, it is helpful to first examine historical approaches.

Historical Approaches:

Historically, regulation of systemic risk has focused largely on preventing bank failure. Even in their limited contexts, these approaches are imperfect.

Some economists argue, for example, that rules preventing bank failure can cause moral hazard. Banks may increase risk exposures and reduce their capital ratios, knowing that the safety net (e.g., deposit insurance) will protect against sudden runs. Safety nets also can permit insolvent banks to remain in operation and continue to generate losses, such as the $150 billion of losses generated by the ongoing operation of insolvent savings and loan associations.

Capital requirements are similarly imperfect. Constraining lending activities of banks can redirect funds to banks whose constraints are not binding. Capital requirements also are said to undercut the ability of banks to build equity value. These requirements also can be imprecise, since the standards by which they are imposed are imprecise.

After the near-failure of LTCM, an attempt also has been made to study how to mitigate systemic risk arising from hedge-fund failure. However the main government report, spearheaded by the Federal Reserve Board, provided only general recommendations. Even the Chairman of the U.S. Federal Reserve Board acknowledges the ongoing challenge.

The primary lesson of these historical approaches is that attempts to regulate systemic risk can be imperfect and messy.

New Approaches:
I next examine a range of potential regulatory approaches.

Averting Panics. One possible approach to regulation is functional: to attempt to prevent financial panics, since they are often the triggers that commence a chain of failures. This approach appears to be a key feature of existing bank regulation, in which governmental deposit insurance is aimed at preventing bank runs.

Any regulation aimed at preventing panics that trigger systemic risk, however, could fail to anticipate all the causes of these panics. Furthermore, even when identified, panics cannot always be easily averted.

Furthermore, because the same trigger can foreshadow small consequences some times and large consequences other times, regulation intended to avert panics should attempt to take into account what it is beyond the triggering event that sorts the magnitude of the consequences, and should apply only to deter panics that trigger large consequences. It is questionable, though, whether such a sorting mechanism is always discernible ex ante.

Disclosure. Disclosing risks traditionally has been viewed, at least under U.S. securities laws, as the primary market-regulatory mechanism. It might seem that, in a world of perfect disclosure, financial panics would be minimized because investors would price in all risks. Indeed, the federal government report issued after LTCM's near-failure recommended increased public disclosure by hedge funds.

In the context of systemic risk, however, my research has shown that individual market participants who fully understand that risk will be motivated to protect themselves but not the system as a whole. Accordingly, requiring non-public entities such as hedge or private-equity funds to disclose their financial condition or leverage would do relatively little to deter systemic risk, since investors in those entities are unlikely to care about that disclosure to the extent it pertains to systemic risk.

The efficacy of disclosure also is limited by the increasing complexity of transactions and markets. In the hedge-fund context, for example, even if disclosure is provided, the investment strategies utilizing derivative instruments are so complex that even sophisticated investors (or regulators) might not be able to fully appreciate the risk of any given strategy. And commentators have argued that imposing disclosure requirements may even backfire, one contending that market participants presently have an incentive to carefully investigate their counterparties' creditworthiness but, if the market were regulated, less experienced actors might engage in derivatives trading, another arguing that increased disclosure would cause market participants to change their behavior (e.g., traders would become more cautious, demanding that prices move farther before making trades), thereby ultimately reducing market liquidity.

Disclosure alone therefore appears to be a weak regulatory approach.

Reducing Leverage. Reducing leverage would reduce the risk that a financial entity fails in the first place and also reduce the likelihood that problems at one financial institution could be transmitted to other institutions.

Requiring reduced leverage nonetheless could create significant costs. Some leverage is good, though there is no optimal across-the-board amount of leverage that is right for every company. Regulation that attempts to track optimal leverage thus would be nuanced and highly complex, as

illustrated by the complexity of the Basel II capital adequacy requirements for banks. It has been observed that "the advanced approaches of Basel II are 'too complex' for anyone to understand, and the mathematical formulas in various drafts of the framework can look like a foreign language to some readers." Imposing unnuanced limitations on leverage, however, could impair a firm's ability to operate efficiently and impede economic growth.

Ensuring Liquidity. This approach, at least in theory, could facilitate stability in two ways: by providing liquidity to prevent financial entities from defaulting (or to prevent defaulting financial entities from failing), and by providing liquidity to capital markets as necessary to keep them functioning.

There are at least two possible regulatory ways to ensure liquidity: creating a lender/market-maker of last resort (hereinafter, "lender of last resort"), and imposing entity-level liquidity requirements. Economists argue that panic will not usually become contagious (and thus systemic) when a lender of last resort provides adequate liquidity.

Establishing a lender of last resort could be an expensive proposition, potentially creating moral hazard and shifting cost to taxpayers. Nonetheless, these costs may be controllable.

The moral-hazard cost could be controlled, for example, by following a policy of "constructive ambiguity" under which the lender of last resort would have the right but not the obligation to intervene, and the rules by which it decides which to do would be uncertain to third parties.

Any shifting of costs to taxpayers could also be controlled. Rather than using taxation to establish the pool of funds from which the lender of last resort could make advances, the pool could be funded, for example, by charging "premiums" to market participants, not unlike insurance. FDIC deposit insurance, for example, is financed in this way.

Even if the pool of funds is raised by taxes, the funds could be invested to maintain their value until used, and loans could be advanced at a market interest rate. The IMF's failure, when acting as a lender of last resort to sovereign states, to charge a market interest rate on its loans is precisely what shifts costs to the taxpayers of IMF member-nations, who fund the loans. That failure, however, is political and not inherent in the concept of a lender of last resort.

Yet another way to avoid shifting lender-of-last-resort costs to taxpayers is to privatize the role of lender of last resort, or at least to reallocate the source of loan-funding from taxpayers to private credit and other capital markets.

I've so far focused on using a lender of last resort to reduce institutional systemic risk. Consider next using a lender of last resort—focusing now, of course, on its role as a market-maker of last resort—to reduce *market* systemic risk. Although providing liquidity to capital markets for that purpose is different in several ways from using a lender of last resort to reduce institutional systemic risk, the differences are surmountable.

The other possible regulatory means to ensure liquidity is to impose entity-level liquidity requirements. Even in the banking context, however, these types of requirements are expensive, and they would be even harder to apply and manage in a broader context since the entities would be less uniform. Entity-level liquidity requirements also would not be applicable to ensuring market liquidity.

Diversifying Risk Through Hedging. Hedging is intended to protect institutions from risk by using credit derivatives to diversify that risk. The most widely used derivative instrument for this purpose is the credit-default swap, under which one party agrees, in exchange for receipt of a fee paid by a second party, to assume the credit risk of certain debt obligations of a specified borrower or other obligor. If a "credit event" (for example, default or bankruptcy) occurs in respect of that obligor, the first party will either (i) pay the second party an amount calculated by reference to post-default value of the debt obligations or (ii) buy the debt obligations (or other eligible debt obligations of the obligor) for their full face value from the second party.

Hedging also is effected through risk securitization, in which a company, bank, or other entity (a "hedged party") transfers the credit risk of a portfolio of corporate loans, bonds or other debt obligations to a special-purpose vehicle ("SPV"). The SPV raises funds to support that assumption of risk by issuing securities to investors in the capital markets. The SPV agrees to make certain pre-determined payments to the hedged party if the credit risk of the portfolio increases (as determined by the default or bankruptcy of the borrowers or other parties that are obligated to the hedged party in respect of the debt obligations in the portfolio). Because any such payments would reduce the SPV's assets from which investors receive repayment of their securities, investors are exposed to the credit risk of the portfolio. In return for assuming this risk, the hedged party pays the SPV fees that are applied, along with the SPV's other assets, to repay the investors at a rate-of-return appropriate to the risk.

The effect of these hedging strategies is to facilitate risk-spreading to parties better able to bear the risks, including the "deep pockets" of the global capital markets. This diversification of risk reduces the likelihood that a default will cause any given institution to fail, and also mitigates the impact of any such failure on other institutions—not unlike the effect of limiting financial-exposure limits.

On the other hand, diversifying risk through hedging increases linkages among market participants which, at least in part, could offset the risk spreading and foster systemic risk: if an institution fails, it would potentially impact many more other institutions. *The net effect, however, appears to be a positive reduction of risk.*

Hedging strategies nonetheless can fail. For example, convergent hedging strategies could concentrate rather than diversify risk. Credit-default-swap markets also might generate perverse incentives. Furthermore, hedging strategies are sometimes unrealistic and, as illustrated by LTCM, can fail spectacularly when market liquidity dries up.

This discussion so far focuses on the use of derivatives for hedging risk. Derivatives also can be used for speculation. My research, and thus my testimony, does not address the specific debate of whether to regulate derivatives used for speculation.

Ad Hoc Approaches. The extent to which ad hoc responses to systemic risk facilitate stability and efficiency is, of course, partly dependent on what those responses turn out to be. Nonetheless, some general observations can made.

For example, ad hoc approaches do not always work. Sometimes they are too late and the harm has been done or no longer can be prevented, and sometimes there is insufficient time to fashion and implement an optimal solution.

From an efficiency standpoint, ad hoc approaches can help to minimize the difficulties in measuring, and balancing, costs and benefits. Furthermore, ad hoc approaches reduce moral-hazard cost to the extent an institution cannot know in advance whether, if it faces financial failure, it will be bailed out or fail.

Market Discipline. Under a market-discipline approach, the regulator's job is to ensure that market participants exercise the type of diligence that enables the market to work efficiently. This is often achieved by ensuring that market participants have access to adequate information about risks, and by arranging incentives so those who influence an institution's behavior will suffer if that behavior generates losses. This is the type of approach presently taken by the United States government to minimize hedge-fund failure and the resulting possibility of systemic risk.

For two reasons, however, a market-discipline approach only weakly facilitates the goal of stability. Market discipline to avoid systemic risk already has been shown to be inherently suspect because no firm has an incentive to limit its risk taking in order to reduce the danger of systemic contagion for other firms.

Furthermore, even outside of the systemic-risk context, regulators have a mixed track record, absent prescriptive rules, of ensuring that participants exercise market discipline.

This mixed track record of ensuring that participants exercise market discipline can be partly explained by behavioral psychology. Investors cannot accurately price risks that rarely occur and are unpredictable, and often alternate between assessments of that risk that, in hindsight, were either much too high or much too low, creating a "pattern of alternating optimism and skittishness." This pattern partly reflects "availability bias," or the tendency of a recent crisis to be the most available concept in an investor's mind. In part, also, it reflects the documented human tendency to underestimate the likelihood of very rare but potentially devastating risks.

Thus, although market discipline is attractive as a supplement to other regulatory approaches, there is some doubt whether it should serve as the exclusive, or even primary, regulatory mechanism.

C. Assessing Regulatory Approaches

The discussion so far has identified potential regulatory approaches. I now attempt to assess these approaches, first by examining cost-benefit balancing as a means of assessment, then by considering whether that balancing should be influenced by possible application of a precautionary principle.

Cost-Benefit Balancing and the Precautionary Principle:

Cost-benefit balancing as a means of measuring the efficiency of regulation is also a well-recognized test for regulatory political viability. For example, before any major rule may take effect, U.S. regulatory agencies must submit a cost-benefit analysis to Congress.

To the extent regulation deals with health and safety issues (as could arise in the case of systemic risk), agencies go even further beyond strictly econometric cost-benefit modeling. Perhaps the most relevant example for systemic risk is regulation designed to address the risk of catastrophic events or large, irreversible effects where the actual level of risk is indeterminate. In these cases, regulators often apply a precautionary principle under which regulators may decide to regulate an activity notwithstanding lack of decisive evidence of the activity's harm, such as controlling low-level exposure to carcinogens

notwithstanding lack of proof of a causal connection between such exposure and adverse effects to human health.

Assigning Possible Values to the Cost-Benefit Balancing:

My research next applied these principles to assess the potential regulatory approaches. A quantitative analysis is no better than its assumptions, of course, and the assumptions I used relied on no hard empirical data. Furthermore, a truly realistic balancing of costs and benefits could depend on the particular mechanisms by which systemic failures can arise.

All that truly can be said with confidence is that so long as the cost of a systemic meltdown is much greater than the cost of regulation, then regulation should be justified.

This provides, however, a useful way of thinking about the balancing because I show in my research that the cost of a systemic meltdown is likely to be much greater than the cost of regulation. Moreover, because a systemic meltdown can be catastrophic though the actual level of risk is indeterminate, my research suggests that a precautionary principle might appropriately apply to the balancing, allowing regulation based on a presumption that benefits will outweigh costs.

D. Recommendations

Based on my research, I propose regulation to establish a lender/market-maker of last resort. The lender of last resort would provide liquidity to help prevent critical financial intermediaries from defaulting and to help prevent defaulting critical financial intermediaries from failing. It also would provide liquidity to capital markets as necessary to keep them functioning.

To minimize moral hazard, the lender of last resort would adopt a policy of constructive ambiguity, refusing to commit itself unequivocally to bailing out defaulting parties. For this policy to be credible, however, the lender of last resort might sometimes have to let a critical financial intermediary fail.

The lender of last resort should not, or should only minimally, shift costs to taxpayers. This can be accomplished either by charging premiums to market participants or by privatizing the lender-of-last-resort function or, where that function is taxpayer-financed, by investing funds to maintain their value until used and charging market interest rates on any loans.

This approach should be supplemented by a market-discipline approach, under which regulators would attempt to ensure that market participants exercise the type of diligence that enables the market to work efficiently.

To the extent these approaches fail to deter a systemic meltdown, government should seek to prevent the meltdown or mitigate its impact by implementing whatever ad hoc approaches appear, at the time, to be appropriate.

IV. CONCLUSIONS

Let me now apply these findings to address the Committee's specific questions.

1. What are the major challenges facing U.S. financial regulators charged with supervising the modern financial system?

To some extent this question overlaps the next one, so my answers to both questions should be read together. The immediate challenge facing U.S. financial regulators charged with supervising the modern financial system is to instill investor confidence in financial markets. The recent monetary-policy actions by the Federal Reserve are helpful but they primarily impact banks, not financial markets; and it is markets, not banks, that are at risk in the current crisis. This is not to say that monetary policy should be discarded, merely that it must be supplemented. As my testimony proposes, one idea is to utilize a lender/market-maker of last resort to provide liquidity to failing markets.

2. What challenges will regulators face going forward?

I believe that regulators need to come to grips with changing market realities in at least two ways. First, they should shift their focus from banks more to financial markets, to address the reality of financial disintermediation—the ability of companies to access capital market funding without going through banks or other financial intermediaries.

Second, regulators should begin thinking more seriously about the increasing problem of "complexity" and the dilemma that many financial transactions are so complex that disclosure to investors of the company originating the transaction is *necessarily imperfect*—either oversimplifying the transaction, or providing detail and sophistication beyond the level of even most institutional investors and securities analysts. Complexity, I believe, forces a rethinking of the effectiveness of the long-held disclosure paradigm of securities law. *See* "Rethinking the Disclosure Paradigm in a World of Complexity," 2004 U. ILLINOIS L. REV. 1 (2004) (republished in SECURITIES LAW REVIEW 28 (2006, Donald C. Langevoort, ed.).

3. Do regulators have the tools they need to meet these challenges?

No. I propose that the Federal Reserve be given the power to act as, or to arrange for, a lender/market-maker of last resort along the lines discussed above. I also propose, in line with the discussion below of the international dimensions of the systemic-risk problem, that the Federal Reserve be given any necessary authority to work with foreign regulators on international regulatory solutions, including possibly establishing an international lender/market-maker of last resort.

4. What changes, if any, should be contemplated to our regulatory system?

As discussed in answer to the previous question, I would propose authorizing the Federal Reserve to act as, or to arrange for, a lender/market-maker of last resort and to be given any necessary authority to work with foreign regulators on international regulatory solutions. I also propose that regulators, including the Securities and Exchange Commission, begin rethinking the effectiveness of the long-held disclosure paradigm of securities law (as discussed in my answer to question 2 above).

5. What powers or information could have allowed regulators to anticipate and prevent the current sub-prime mortgage-related crisis and its impact on the broader financial system?

My answers to the prior two questions indicate how I believe it would have been possible, through a lender/market-maker of last resort, to mitigate the impact of that crisis on the broader financial

system. I am less certain, however, what powers or information could have allowed regulators to anticipate and prevent the current sub-prime mortgage-related crisis in the first place. As my testimony and, in much greater detail and application, my forthcoming article[3] show, the problem is that systemic risk results from a type of tragedy of the commons in which the benefits of exploiting finite capital resources accrue to individual market participants, each of which is motivated to maximize use of the resource, whereas the costs of exploitation are distributed among an even wider class of persons. Therefore traditional market-discipline protections, including disclosure, are not always effective.

These answers address systemic risk without necessarily engaging the international financial infrastructure. Because financial markets and institutions increasingly cross sovereign borders, a systemic collapse in one country inevitably will affect markets and institutions in other countries. Regulatory approaches in the United States thus should be coordinated with approaches in other countries, including the possibility of international regulation. It may well be appropriate, for example, to have an international lender/market-maker of last resort. Ignoring the cross-border nature of the problem invites inefficiencies, including the possibility of a regulatory race to the bottom.

Irrespective of whether regulation is domestic or international, I caution in closing that the choice of specific regulatory approaches, including a realistic assessment of their costs and benefits, ultimately may depend on the particular mechanisms by which systemic failures can arise. To that extent, regulation is a moving target since new financial instruments and markets continue to be developed.

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[3] *See* "Systemic Risk," available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1008326 or, for the most current copy, by contacting Prof. Schwarcz at SCHWARCZ@LAW.DUKE.EDU or 1-919-613-7060.

THE BASIC FACTS ABOUT YOUR MORTGAGE LOAN

Borrower:_____ Property address: _____

Lender:_____

Amount of loan: $_____, which is_____% of the property's appraised value.
Your loan is for_____ years. Its final maturity date is_____,
The type of loan you have:_____

Your beginning interest rate is_____%. This rate is good for_____ months/years. The rate and your payment can go higher on _____ and each _____ months after that.

Today's estimate of how high the rate will go, called the fully indexed rate, is_____%.
The maximum possible rate on your loan is_____%.

THIS LOAN IS BASED ON YOUR MONTHLY INCOME OF $_____.

Your beginning rate = a monthly loan payment of $_____ = _____% of your income.
-including taxes and insurance this is about $_____ = _____% of your income.

The fully-indexed rate = a loan payment of $_____ = _____% of your income.
-including taxes and insurance this is about $_____ = _____% of your income.*

*This is called your fully indexed housing expense ratio.

Special factors you must be aware of:

-A prepayment fee of $_____ must be paid if_____.
-A "balloon payment" of $_____to pay off your loan will be due on _____.
-You do/do not have a "payment option" loan. If you do, make sure you really understand what this means. Start with the definition on p. 3.

Total "points" plus estimated other costs and fees due at closing are $ _____.

FOR QUESTIONS CONTACT: Name: _____
Phone:_____ e-mail:_____

See definitions of underlined terms and guidelines on pages 2–3.
DO NOT SIGN THIS IF YOU DON'T UNDERSTAND IT!

_____
Borrower Date

_____ _____
Authorized Signer of Lender Date Borrower Date

The Basic Facts about Your Mortgage Loan

This form gives you the basic facts, but some mortgage forms may use terms not listed here. For a good, borrower-friendly information source, try the Mortgage Professor online (www.mtgprofessor.com), which includes detailed explanations of the technical mortgage terms in its glossary and other helpful information.

Definitions and Guidelines Used in This Form

The *appraised value* is what a professional appraiser estimates the house could be sold for in today's market.

The *type of loan* determines whether and by how much your interest rate can increase. If it can, your monthly payments will also increase—sometimes by a lot. For example, in a thirty-year fixed-rate loan, the interest rate is always the same. In a one-year ARM, it will change every year. In a 2/28 hybrid, it will be the same for two years and then go up a lot, and change frequently after that.

The *beginning interest rate* is the interest you are paying at the beginning of the loan. It is the rate which you will hear the most about from ads and salespeople. But how long is it good for and when will rates increase? In many types of loans, the rate will go up by a lot. You need to know.

The *fully-indexed rate* is an essential indicator of what will happen to your interest rate and your monthly payments. It is today's estimate of how high the interest rate on an adjustable rate mortgage will go. It is calculated by taking a defined "index rate" and adding a certain number of percentage points, called the "margin." For example, if your formula is the one-year Treasury rate plus 3 percent, and today the one-year Treasury rate is 5 percent, your fully-indexed rate is 5% + 3% = 8%. This will *always* be higher than your beginning rate.

The index rates are public, published rates, so you can study their history to see how much they change over time. If the index rate stays the same as today, the rate on your loan will automatically rise to the fully-indexed rate over time. Since the index rate itself can go up and down, you cannot be sure what the future adjustable rate will be. In any case, you must *make sure you can afford the fully-indexed rate*, not just the beginning rate, which is often called a "teaser rate" for good reason.

The *maximum possible rate* is the highest your interest rate can go. Most loans with adjustable rates have a defined maximum rate or "lifetime cap." You need to think about what it would take to make your interest rate go this high. How likely do you think that is?

Your *monthly income* means your gross, pretax income per month for your household. This should be an amount which you can most probably sustain over many years. Make sure the monthly income shown on this form is correct.

Your *monthly payment including taxes and insurance* is the amount you must pay every month for interest, repayment of loan principal, house insurance premiums, and property taxes. Expressed as a percent of your monthly income, this is called your housing expense ratio. Over time, in addition to any possible increases in your interest rate and how fast you must repay principal, your insurance premiums and property taxes will tend to increase. Of course, your monthly income may also increase. How much do you expect it to?

Your *fully-indexed housing expense ratio* is a key measure of whether you can afford this loan. It is the percent of your monthly income it will take to pay interest at the fully-indexed rate, plus repayment of principal, house insurance, and property taxes. The time-tested market standard for this ratio is 28 percent; the greater your ratio is, the riskier the loan is for you.

A *prepayment fee* is an additional fee imposed by the lender if you pay your loan off early. Most mortgages in America have no prepayment fee. If yours does, make sure you understand how it would work before you sign this form.

A *"balloon payment"* means that a large repayment of loan principal is due at the end of the loan. For example, a seven-year balloon means that the whole remaining

loan principal, a very large amount, must be paid at the end of the seventh year. This almost always means that you have to get a new loan to make the balloon payment.

A *"payment option" loan* means that in the years immediately after securing a mortgage loan, you can pay even less than the interest you are being charged. The unpaid interest is added to your loan, so the amount you owe gets bigger. The very low payments in early years create the risk of very large increases in your monthly payment later. Payment option loans are typically advertised using only the very low beginning or "teaser" required payment, which is less than the interest rate. You absolutely need to know four things: (1) How long is the beginning payment good for? (2) What happens then? (3) How much is added to my loan if I pay the minimum rate? (4) What is the fully-indexed rate?

"Points" are a fee the borrower pays the lender at closing, expressed as a percent of the loan. For example, two points mean you will pay an upfront fee equal to 2 percent of the loan. In addition, mortgages usually involve a number of *other costs and fees* which must be paid at closing.

Closing is when the loan is actually made and all the documents are signed.

The *For Questions Contact* section gives you the name, phone number, and e-mail address of someone specifically assigned by your lender to answer your questions and explain the complications of mortgage loans. Don't be shy: contact this person if you have any questions.

Finally, *do not sign this form if you do not understand it.* You are committing yourself to pay large amounts of money over years to come and pledging your house as collateral so the lender can take it if you do not pay. Ask questions until you are sure you know what your commitments really are and how they compare to your income. Until then, do not sign.