Assessing Dodd-Frank

Andrew Verstein and Roberta Romano, Editors

Abstract

This is an edited transcript of the proceedings of the Yale Law School Center for the Study of Corporate Law's Weil, Gotshal & Manges Roundtable on Assessing Dodd-Frank, which was held on April 1, 2011. The roundtable was jointly sponsored with the Yale Law & Business Society and *Yale Journal on Regulation*, and brought together policymakers, legal practitioners, members of the financial community, and academics from finance, economics and law to discuss the principal legislative response to the financial crisis.

The roundtable consisted of four panel sessions. The first session, "Overview," was introduced by Robert Post, Dean and Sol & Lillian Goldman Professor of Law, Yale Law School. Panelists were Viral V. Acharya, Professor of Finance, New York University Stern School of Business; John Geanakoplos, James Tobin Professor of Economics, Yale University; Gary B. Gorton, Frederick Frank Class of 1954 Professor of Management and Finance, Yale School of Management; and Lawrence S. Makow, Partner, Wachtell, Lipton, Rosen & Katz. Roberta Romano, Sterling Professor of Law and Center Director, moderated.

The second session addressed, " 'Too Big to Fail' and the New Resolution Authority." Panelists were Thomas C. Baxter, Jr., General Counsel and Executive Vice President, Legal Group, Federal Reserve Bank of New York; Jeffrey N. Gordon, Alfred W. Bressler Professor of Law, Columbia Law School, Randall D. Guynn, Head, Financial Institutions Group, Davis Polk & Wardwell; and Andrew Metrick, Deputy Dean for Faculty Development, Theodore Nierenberg Professor of Corporate Governance, Professor of Finance and Faculty Director of the Millstein Center for Corporate Governance, Yale School of Management. Alan Schwartz, Sterling Professor of Law, Yale Law School, moderated.

The third session considered "Housing and Mortgage Reform." Panelists were Christopher J. Mayer, Senior Vice Dean and Paul Milstein Professor of Real Estate, Finance & Economics Division, Columbia Business School; Robert J. Shiller, Arthur M. Okun Professor of Economics, Yale University; Susan M. Wachter, Richard B. Worley Professor of Financial Management and Professor of Real Estate and Finance, University of Pennsylvania Wharton School; and Peter J. Wallison, Arthur F. Burns Fellow in Financial Policy Studies, American Enterprise Institute and Member, Financial Crisis Inquiry Commission. The moderator was Robert C. Ellickson, Walter E. Meyer Professor of Property and Urban Law, Yale Law School.

The fourth session, "Assessment," had the following panelists: Michael S. Barr, Professor of Law, University of Michigan Law School and former U.S. Department of Treasury Assistant Secretary for Financial Institutions; H. Rodgin Cohen, Senior Chairman, Sullivan & Cromwell LLP; Eugene A. Ludwig, Founder and Chief Executive Officer, Promontory Financial Group LLC and former Comptroller of the Currency; and Jonathan R. Macey, Sam Harris Professor of Corporate Law, Corporate Finance, and Securities Law, Yale Law School. The panel was moderated by Shyam Sunder, James L. Frank Professor of Accounting, Economics, and Finance, Yale School of Management

Table of Contents

Editors' Note

This transcript of the proceedings of the Weil Gotshal & Manges Roundtable on Assessing Dodd-Frank makes available to a wider audience the roundtable discussion on where we are in the financial crisis, how Dodd-Frank is affecting financial institutions and the housing and securitized mortgage market, and the path to economic recovery. This transcript has been edited by the speakers and editors to clarify and correct occasional grammatical and transcription errors, in order to facilitate readers' following of the discussion. The video recording of the panel discussions, from which the transcription was derived, can be viewed on the Yale Law School Center for the Study of Corporate Law's webpage archiving the event at http://www.law.yale.edu/cbl/roundtables.htm#April_1__2011.

The editors would like to thank the Center's founder and Advisory Board chairman, Robert Todd Lang, of Weil, Gotshal & Manges LLP, and a member of the Yale Law School class of 1947, whose support and inspiration made the roundtable possible.

Alphabetical List of Speakers and Moderators

Viral V. Acharya, New York University Stern School of Business (Session 1)
Michael S. Barr, University of Michigan Law School (Session 4)
Thomas C. Baxter, Jr., Federal Reserve Bank of New York (Session 2)
H. Rodgin Cohen, Sullivan & Cromwell LLP (Session 4)
Robert C. Ellickson, Yale Law School (Session 3)
John Geanakoplos, Yale University (Session 1)
Jeffrey N. Gordon, Columbia University (Session 2)
Gary B. Gorton, Yale School of Management (Session 1)
Randall D. Guynn, Davis Polk & Wardwell (Session 2)
Eugene A. Ludwig, Promontory Financial Group, LLC (Session 4)
Jonathan R. Macey, Yale Law School (Session 4)
Lawrence S. Makow, Wachtell, Lipton, Rosen & Katz (Session 1)
Christopher J. Mayer, Columbia Business School (Session 3)
Andrew Metrick, Yale School of Management (Session 2)
Roberta Romano, Yale Law School (Session 1)
Alan Schwartz, Yale Law School (Session 2)
Robert J. Shiller, Yale University (Session 3)
Shyam Sunder, Yale School of Management (Session 4)
Susan M. Wachter, University of Pennsylvania Wharton School (Session 3)
Peter J. Wallison, American Enterprise Institute (Session 3)

Session I: Overview

ROBERT POST: Good morning. I'd like to welcome you all here. My name is Robert Post, and I'm the Dean of the Law School. In my capacity as Dean, I have the privilege and honor of welcoming many conferences. But I want to assure you that when you see a turnout like this, at this time in the morning on a snowy day in April, you know that you have something very special in store for you today. This turnout, the inspiration of this conference is a testament, I think, not only to its topic, but also to its sponsors. And first and foremost among them, I want to thank the Yale Law School Center for the Study of Corporate Law, which is led by the moderator of today's first panel and the Director of the Center, Roberta Romano. And as I often say in these contexts, Roberta is a force of nature in making the Center truly an astonishing institution. So, thank you, Roberta.

I also want to thank the Yale Law and Business Society and the Yale Journal on Regulation, which will be publishing many of the papers that you will hear today. I also want to thank Todd Lang, who is an alumnus of this school, and a distinguished partner at Weil, Gotshal & Manges. Twelve years ago Todd had the inspiring idea to create both the Center for the Study of Corporate Law at Yale and also this Roundtable. And at that time the Roundtable was one of the first institutions of its kind in the law school world. It brings together practitioners and academics to study issues of moment and significance. It's since been replicated, of course, throughout the country. But, we, in this roundtable, have a very long tradition of sponsoring the most knowledgeable scholars, the most experienced and wise practitioners to think about issues of contemporary importance in corporate law. And we've done this now for a long time, over

two decades, over three presidential administrations, and over, let us say, a wide variety of market conditions.

In many ways, the conversation that we're having today is a continuation of one that we first started two years ago in February 2009. In that year, the Roundtable was entitled, "The Future of Financial Regulation," and it featured proposals to respond to what was then the most extensive economic upheaval that the country had suffered in three decades. Now, I think it's generally true that sequels don't quite live up to the originals. Iron Man II is not quite as good as Iron Man – that sort of thing -- but I think this sequel has every chance of outdoing its original in 2009. And that's because since that time, financial regulation has become one of the most hotly debated issues in American public life. We all now know acronyms that before none of us would have recognized, acronyms like CDO or GSE or CDS or TARP. And since that time, Congress has impaneled the Financial Crisis Inquiry Commission, which is really an historical event, comparable to the investigative commissions that looked into Pearl Harbor or 9/11 or the Great Depression. But, I think most relevant to today's discussion, Congress has passed the Dodd-Frank Wall Street Reform and Consumer Protection Act, which President Obama signed into law last July. This small piece of legislation, 848 pages, fundamentally transforms our nation's approach to financial regulation. It makes major changes in the treatment of derivative markets; it imposes new regulations on banking activities and corporate governance; it gives broad grants of new authority to existing regulators; and it creates a new and independent agency to regulate consumer financial products. The bill has, on the one hand, been heralded as the strongest consumer financial protection in history, and, on the other hand, it's been criticized as a threat to financial stability that codifies too big to fail. So, it's quite controversial, but I would say the one thing that everyone agrees upon is it is one of the most consequential pieces of

financial regulation since the New Deal. That it ranks alongside the Federal Reserve Act, the Glass-Steagall Act, and the Federal Deposit Insurance Act, as one of the most important bits of banking legislation in our country's history. So, it's worth thinking about. It's worth putting it under the microscope, which you'll be doing today, and deciding whether it will work, how it will work if it does work. And that's the question that inspires this gathering.

In the four panels that you'll be hearing from today, you will be listening to some of the most distinguished, diverse, and sophisticated thinkers on financial regulations anywhere in the world. You'll be hearing speakers from the world of academics, speakers from the world of practice, speakers from the world of regulation, think tank experts, and so on. So, you will be addressing the state of the financial system in the United States today, the impact of the Dodd-Frank bill on financial institutions, the future of the housing and securitized mortgage market, the implication of the housing crisis for economic recovery, and so forth and so on.

Federal Reserve Board Chairman Ben Bernanke once famously said there are no atheists in foxholes and no ideologues in financial crises. I think we can amend that with one more clause. There is never a boring discussion at the Weil, Gotshal & Manges Roundtable. These discussions are known for their candor, for their diversity, for their perceptiveness and intelligence, and on behalf of the entire Yale Law School, I want to welcome you to these discussions and wish you the most entertaining and most enlivening and the most illuminating day possible. I give you now to your host, Roberta Romano.

ROBERTA ROMANO: Thanks everyone. To maximize time, I'm just going to say the names of our panelists, because the bios are in your material, plus fuller ones are on the website, as are the papers. We're going to do an overview, and the format for the day is each of our panelists is going to make some remarks. Then we'll allow interaction among the panelists and

then we're going to open up for Q and A. Please use the microphones so everyone can hear what you are asking.

Our panel is Viral Acharya from NYU. John Geanakoplos from Yale. Gary Gorton from Yale. Ed Herlihy gives us his regrets; he had some pressing business that came up and he couldn't make it. And Larry Makow from Wachtell was kind enough and generous enough to pitch in, so we're really delighted he could be here. And we'll turn it to Viral.

VIRAL ACHARYA: [CLICK HERE TO VIEW SLIDES] Thank you, Roberta. My comments are based on joint work with a number of my colleagues at NYU Stern, crystallized in the book "Regulating Wall Street: The Dodd-Frank Act and the New Architecture of Global Finance." We commented on the crisis and the Dodd-Frank Act as a group. We started this work when the first version of the House Bill came out in December 2009, and then we had been steadily tracking the Bill. The Senate version came out in April 2010. They were then reconciled. It was quite a painful process to keep updating a book, to delay things in response to the regulation.

The Dodd-Frank Act is quite broad, quite overarching. So I've decided to focus on one aspect of it that pertains to capital requirements. It is an issue that has been bothering me quite a lot. It is not getting talked about much, and so I thought I would make a pitch for this point.

Everywhere you read in newspapers, the talk is about getting banks and the financial sector to hold more capital. Let's raise the ratios from 4 percent common equity to 7 percent common equity. In the UK, they want to go all the way to 15 percent. Yesterday, a few days back, Jamie Dimon said anything more than 11 percent is the last nail in the coffin of American banking and so on.

What's missing in all of this discussion is that when you say 11 percent capital or 15 percent capital, against what risk are we talking about this capital be held? Now, look at one of the striking statistics of the crisis. This is a table that I display a lot. It is in essence a "Google Map" of the U.S. real estate exposures as of June 2008 — this was one of the useful services that Lehman Brothers provided in June of 2008. They put together who was owning what — The first column is loans, then home equity lines of credit, agency MBS and all the GSE-backed stuff. And then non-agency AAA, CDO subordinated, and non-CDO subordinated stuff – roughly you can call these last three as the private label securitization, or let's just put it under the bracket of subprime, even though it's not all subprime.

The "subprime" stuff is about 20 percent of the U.S. real estate market. If you look at the column in red over there, those are the non-agency, AAA mortgage-backed securities. These are the very safe tranches of diversified pools of mortgages that the traditional theory of securitization, such as Gary Gorton and George Pennacchi's, for example, would suggest were designed because mortgage originators want to sell them to the pension fund of the Norwegian village. So what we found surprising when we looked at this table was that more than 50 percent of the securitization was not with the Norwegian village-style pension funds. More than 50 percent of this was actually within the financial sector itself. As you see, the banks and thrifts had about $380 billion. The GSEs and Federal Home Loan Banks had close to $300 billion. And broker-dealers had $100 billion – smaller in absolute sense but quite large relative to their size. When you dig deeper into this, you realize that one reason why we had so much creation of this asset class was primarily because this asset class was favored in the risk weights of capital calculations. Now, under the Basel capital weights, which is still the framework for calculating capital requirements, if you have a AAA corporate loan portfolio, that would have effectively 8

cents on a dollar capital requirement. But if it was a AAA residential mortgage backed security, you would get 1.6 cents on a dollar.

I won't have time to get into what might be the political economy of why you get such a low risk weight on residential mortgage-backed securities, but what I am trying to highlight here is that an institution in the middle of the crisis that was owning just poor quality subprime backed, but rated AAA, mortgage-backed securities would have looked perfectly well capitalized. Bear Sterns was perfectly well capitalized by regulatory standards on the day it failed. This suggests that perhaps something is wrong with the way we are charging capital in the system. We are assigning assets as being safe or risky based on their historical performance. We never change these classifications (other than after a significant crisis), and, what is more, once we assign these capital charges, we never really ask the question whether the system as a whole is digging at the corners of some of these criteria and as a result is becoming systemically risky. So, this is an example wherein a great deal of asset creation is taking place to reduce regulatory capital on the balance sheet, even though the economic leverage might be rising in the process. And it just seems to miss the picture since we are not asking the question, "are we holding capital against a stress event of the financial sector?" We are just deciding based on some historical track records that this (residential mortgages) has been a safe asset class. We give it a low risk weight and forget that this asset could become *endogenously* systemic as a whole. Once the risk weights are set such, regulators become box tickers. Let's send supervisors into banks. "What kind of assets do they have? What risk weights do they have? Do they have enough regulated capital against the risk-weighted assets?" We think this is not a great way of designing capital regulation of a financial sector that is so sophisticated that it's going to organically develop new products in the next quarter once you set these rules.

What's disconcerting, therefore, is that we can have the following kind of phases. The financial sector as a whole is actually growing at a frantic pace. Consider this slide from the IMF Global Financial Stability Report of April 2008, which shows that the top ten global financial institutions doubled their balance sheets; however, the risk-weighted assets or the Basel regulated capital requirements hardly moved. One view of this was that oh, we have developed an extremely proficient financial sector that is able to double its balance sheet without ever increasing its risk, without needing to put up much capital against these risks in the first place.

Now, of course, what happened was that because there was a correlated exposure building up in the system, which we had completely ignored in our risk weights, when the housing crisis did materialize, banks like UBS that had the lowest risk-weighted assets, because they were primarily just owning AAA mortgage backed securities, had the worst performance. If you look at this crisis and you look at which banks performed the worst, banks that performed the worst were those that had the best-regulated capital ratios going into the crisis. UBS, Bear Stearns were on regulated capital basis as well capitalized as other banks – in fact, JPMorgan, Wells Fargo, and Bank of America at the beginning of the crisis were worse in capital terms if you use regulated capital ratios as the benchmark.

So, I'm somewhat depressed by Basel III. Because rather than learning that something was drastically wrong with the risk weights, what Basel III is effectively doing is going in and saying, let's move these ratios from 4 percent to 8 percent, let's move these ratios from 8 percent to 15 percent, but without actually thinking hard about against what kinds of risks are we asking the financial sector to hold this capital.

We need a fundamental re-think on this front.

Now, how does all this tie to the Dodd-Frank Act? Even with all its flaws that probably will get talked about in the rest of the day, the Dodd-Frank offers many options that I think are going to be better than Basel III. So, I'm going to focus, as I said, on one aspect of this. The Dodd-Frank Act requires we put in place a Financial Stability Oversight Council (FSOC), which is a council of regulatory heads from the various regulatory agencies we have in our fragmented financial regulatory structure. It's going to be headed by the Treasury Secretary - right now, by Timothy Geithner. What is the Council's task? I see three tasks: One, they have to designate institutions as being systemically important financial institutions (SIFI); Two, once they do this designation, they can regulate them differently from other institutions, so they can charge them higher capital, higher liquidity, they can do their stress tests on an ongoing basis – something I'll come back to and spend more time on. And, three, in the worst case, the Act even gives them the legislative authority to break up the SIFI.

My analogy for all this is from Steven Spielberg's movie "Minority Report." In the movie, there's a lab in D.C. that has these "precogs," which have visions of how future crimes – in our case, sources of systemic risk – are going to arrive. The lab is headed by Tom Cruise, so that's Timothy Geithner. And what is the task? The task is that once these precogs have a vision that systemic risk is arriving, if all the precogs agree, so that it isn't the minority report and there's no deviation between these precogs, then they can go and prevent the crime before it's going to happen. That's really what this task is. I think it's a fun analogy, but it's also a right analogy, because we are trying to prevent systemic risk through this Council before the crisis plays out by looking for early warning signals.

Even if imperfect in many ways, an approach of this type is fruitful. The reason is that it at least asks the right question. Let's hold capital against systemic risk if we can measure it in

some interesting ways. Answering this question of how to measure, of course, is not easy. Alan Greenspan just came out with a criticism of Dodd-Frank in the Financial Times two days back, saying, we have no hope as regulators of ever knowing better than what the financial sector does; it's too complex; it's too interconnected; we have no real chance of actually presaging what systemic risk contributions are going to arise next time.

Having looked back at the history of banking crises, at least for the last 40 years in the emerging markets and this recent crisis, I beg to differ with Alan Greenspan on this front. It is true that probably the next crisis will be different from where we are right now. But most financial crises have two common themes: those are one, high leverage in the financial sector, and, two, some asset class to which the financial sector as a whole becomes exposed.

This might seem very naïve; it might seem like making the FSOC's problem almost too trivial, but we think that having a simple notion of what brings about crises is potentially quite useful. What we've done at NYU Stern is create this website, called Vlab, or Volatility Laboratory – run by Rob Engle – and some of us help with his effort. On Vlab, we produce our own ranking of the systemic risk of financial institution every week. So, how do we do this?

We get into the shoes of a regulator like the FSOC that's supposed to do a stress test, but, of course, we don't have the wealth of information that regulators have about institutions. So, what we do is something very simple. We say a stress test or a crisis is a scenario in which the market or the financial sector as a whole is going to lose something like 40 or 50 percent of its market cap in six months to a year. This is what happened in the Great Depression. This is what happened in 2008.

Then we ask the question: If you think about a scenario of this type, who will lose most of the equity cap in the scenario. The stock markets are not perfect, but they give us a pretty

reasonable sense of who has more Beta versus less Beta. So, when we do this exercise on Bear Sterns, which the regulators thought was well capitalized based on regulatory capital weights, we find that it actually had the highest Beta exposure to the market in every single year from 2003, ’04, ’05, ’06 and ’07. Now, add to that the fact that Bear Stearns was actually operating at a market leverage that was always in the range of twenties-to-one or higher. What these two facts are telling you is that if you imagine a stress scenario, Bear Stearns is going to lose more market capitalization, and because it’s starting out at a very high leverage, it’s going to become more undercapitalized and sooner than anyone else out there in the system.

Now you can repeat this exercise at any point of time. Here I’m showing you this exercise done most recently. Our measure, MES (Marginal Expected Shortfall), is like a tail-beta – I always call it MES because it sounds like “mess” – how much mess is a financial firm going to create? So, MES says that when there’s a 2 percent shock to the market, the MES that Bank of America is going to create is to lose 3.2 percent of its market cap. And it has a leverage of 16. All that put together says that now I can project how many billion dollars of equity capital will Bank of America be short by to meet a market leverage ratio of at most12.5 to 1. And then, when I add up all those shortfalls, Bank of America’s contribution to the total shortfall of the financial sector is 20.7 percent. And therefore, that’s our measure of the systemic risk of this institution.

Now, I have to answer Greenspan’s question, does this really help us with anything? We looked at the stress tests that the regulators in the United States conducted in the spring of 2009. And they went into these institutions and subjected them to a macro stress scenario— 11 percent unemployment rate, Great Depression-style housing price crash, GDP contraction for the next two years. We think this is a way of doing a more sophisticated stress scenario than a 50 percent

market cap correction of the type I just described. And what did they find? What they found was that if you look at their capital shortfall (SCAP numbers), those are the dollar billion shortfalls of different institutions from being well capitalized in these stress scenarios. Bank of America had a shortfall of $34 billion; that was 45 percent of the total shortfall of $75 billion across these 19 bank holding companies.

Now consider the measures that I just described, the MES and the market leverage computed as of the 15th of September 2008. It was six months before the stress test was actually conducted. And what you find here is that those institutions that had a shortfall versus those that did not are very clearly separated on these measures into two groups. The institutions that had the shortfall in regulatory stress tests were also high MES firms, that is, firms that were heavily correlated with the market, so they were moving a lot every time the market went down or the market went up. And, they had higher balance sheet leverage as well.

So the key lessons are: Don't do any risk rating, nothing, leave that to the market. How many dollars of assets do I have for one dollar of equity? And we find these measures of MES (downside risk to the market) and simple market leverage work reasonably well. So, this gives me some hope that the kind of provisions that Dodd-Frank has, which require the Federal Reserve Board to conduct annual stress tests, are a much better way of assessing whether the financial sector as a whole is exposed to some common risks out there. We may not always get the stress scenarios right. We may be missing out on some factors. But at least on what we know, I think we will do a much better job than what Basel III reforms are doing right now.

So, let me conclude – I believe that the call for more bank capital that one sees out there is perhaps the right call, but not in the form that it is currently being made, because there's a part of capital calculation which is against what asset, what kind of capital you need to hold, and no

one is actually talking about that at all. We should be charging more capital for those assets which are systemically risky, likely to perform poorly in a recession, or lose their liquidity if the financial sector as a whole collapses. But we are not asking these questions as seriously as we should right now. Thank you.

JOHN GEANAKOPLOS: [CLICK HERE TO VIEW SLIDES] I believe that in these kinds of discussions it's good to always return to first principles and see what's at stake and see what we should be trying to do. And to even take an extreme view of talking about what we haven't done to prod policymakers to do more. So, I'm going to basically make the following points: that this crisis that we went through was fundamentally a problem of too much leverage causing the boom and then suddenly collapsing; and many crises in the past have been of this form, and so the most obvious thing to do is to regulate leverage, prevent it from getting so high and to do that in a sensible way. And as Viral was just saying, we haven't quite got yet the right approach, at least in Basel III, and I'm not so sure that we're going to have the right approach yet, even through these stress tests.

Now, when the leverage collapses, you have to do something to re-leverage the system. We have done almost no thinking about putting in place a permanent facility that can stand by to re-leverage the system. It's all emergency measures and one off measures that we took, and we're not going to be better prepared the next time. One of the remedies to a leverage-cycle crisis, as we'll see, is to inject equity. Well, we haven't answered the question. Why didn't we force banks to inject more equity? What happened? In January 2007, the subprime mortgage market had already collapsed, as you'll see in a later slide. The banks didn't admit any losses until the end of 2008. Where were the regulators saying they should be raising more equity? That's something that needs to be fixed for the next time. In a leverage cycle crisis, people

basically leverage too much, asset prices go down, and people get in tremendous debt. The only way to remedy the problem in the end and get out of the crisis is to think about forgiving the debt. So, we don't have any permanent mechanism, well-defined principles for forgiving the debt. Our housing foreclosure problem is a catastrophe, and we still haven't figured it out in this crisis, much less preparing for the next crisis. So, those are the points I'm going to make.

So, the Fed traditionally has just managed interest. They're obsessed with the interest rate. Whenever anything goes wrong, people say lower the interest rate. When everything is going too well, they say raise the interest rate. In my view, collateral rates, or leverage, is a much more important variable, although until recently it's hardly been paid any attention to. If you think about macro-economic models, they didn't predict the crisis; they didn't predict the effect of the stimulus. Remember, the stimulus was supposed to prevent unemployment from ever going above 8 percent. It went to 10 percent very soon after that. The models are based on technology shocks principally. Even after the fact, the models don't explain the crisis. If you ask the standard macro model that's calibrated and that the Federal Reserve uses, what was the shock that caused the crisis? It's not in any of the models. They don't even feel the obligation to identify the shock that caused the crisis. There are shocks that are causing everything, but they don't have to identify them.

Finally, the models really don't have at their heart the idea that credit gets tighter when people worry about default. It's not the interest rate that changes, but the lending conditions that change. It's a faulty understanding of the debtor/creditor relationship. Now, two years ago I spoke about these same things, and I mentioned the Merchant of Venice. It's now become even more relevant, because there's a play on Wall Street of the Merchant of Venice, which is a

fabulously well done production that completely misunderstands the play. Beautiful production, but it mirrors the misunderstanding the Fed has of the economy.

The heart of the play is the loan that Shylock gives to Antonio and Bassanio. The play concentrates on anti-Semitism, comedy and Bassanio being a fool. That's a love story where Bassanio is a fool. That's the gist of the play, brilliantly done, but the real heart of the play is this lending – there's an incredibly long discussion about what the right rate of interest should be. Shylock is three hundred years ahead of his time explaining interest has to do with impatience. But in the end, Shakespeare understood that it's collateral and leverage that's more important than interest. Who today can remember the interest rate that Shylock charged Bassanio and Antonio? Yet everybody remembers the collateral, the pound of flesh. That's because it was more important. Now, the play should end at the trial. The trial comes when the boats sink and they don't have the money to repay, and so, the court rules that they're not going to change the interest rate, they're not going to change what's owed, they're going to change the collateral – it should have been a pound of flesh, but not a drop of blood. So, even though it's in the interest of the state to enforce contracts, it's in the greater interest of the regulatory body to manage collateral rates. So, that's the message of the play. But, the play doesn't end there. There are three or four more scenes about the rings. So, Portia, the judge lends her ring – all this lending of rings – and Bassanio and Antonio give away the ring. If you know the play, you don't need that explained. So, why did this happen at the end? The point is that Shakespeare is ending his play with an even more important theme: the quality of mercy is to forgive. When you have an unpayable debt, or some extraordinary circumstance arises, it's better for the lender, it helps he who giveth and he who receiveth, to forgive the debt. That's the final message of the

play and that's the appropriate message for our time and our crisis, and we haven't understood that either. That's why there are all those scenes about the rings and breaking promises.

I've written about this subject and the leverage cycle for ten or fifteen years, including after the '98 crisis in 2000 and 2003. I even coined the phrase "leverage cycle." So, other people had written about collateral, in particular Bernanke, and Kiyotaki-Moore, but they weren't talking about leverage and changes in leverage. Now, recently, there's been a tremendous amount of growth in interest and leverage, and two of my colleagues here on the panel have done some of the most important work on the subject. By leverage I just mean, as Viral said, loan-to-value, or what the down payment is. So, you put 20 percent down to buy a house, you're borrowing 80 percent, 80 percent is the loan to value, the leverage is 5. Those are all different ways of saying the same thing. The crucial thing is that it be on new loans. You can look at leverage on old loans, like Reinhart and Rogoff did in their famous book, and they say that leverage goes up for two years after a crisis, and then takes seven years to go down after a bad crisis. That's because they're looking at leverage on old loans. You know, the price of the assets is going down, and you still owe the same amount of money, still borrow the same amount of money, so the ratio of loans to equity is rising on old loans for two years after the chrisis. But on the new loans, it gets much harder to borrow. Before the crisis begins lenders start to ask for more down payments or equity. So, leverage actually collapses before the crisis on new loans. So, the point of my theory is that supply and demand determines leverage and not just interest rates. How can one equation can determine two variables is not too obvious, but I don't have time to explain it here. Anyway, the bottom line is that Shakespeare was right. Impatience is what's driving interest; volatility and uncertainty is what's driving leverage. Financial inovation also increases leverage. There's a scarcity of collateral and the economy is always going to

develop ways of stretching the available collateral and increasing leverage. That's an inevitable outcome of the scarcity of collateral. We should expect that, and we have to take that into account in our regulation.

Leverage is important. People say now because, " well, if the banks weren't leveraged so much, 30 to 1 or something, they wouldn't have lost so much money when prices went down. And people have nonrecourse loans; they can walk away from their houses." Well, those are two very important aspects of leverage, but the third aspect is the most important, which is that higher leverage makes for higher assets prices. It explains bubbles. And Viral referred, I think, a little bit to this. So, the higher the leverage, the higher the asset prices; the lower the leverage, the lower the asset prices. And it's for a very simple reason. People who want to buy the assets, the natural buyers, the optimists, the risk tolerant people, if they can borrow more, they're going to buy more assets or try to buy more assets and the price is going to go up. The marginal buyer is going to be higher. And if leverage goes down, those people at the top aren't going to be able to buy as much and the asset is going to fall into the hands of people who value it less. That's a simple theory.

The leverage cycle, in short, is that there's a long period of low volatility during which leverage gradually increases. Because it's a long period, financial innovations also increase. Leverage builds up for that reason. The optimists will acquire more and more of the assets; the asset prices go up; and then when they're at that very high level, held by these few optimists, that's the stage set for the crisis. And the crisis always happens basically in the same way. There's bad news –, that makes the asset prices fall; but it creates bad news of a special kind. It creates more uncertainty. This is overlooked in all these macro models, which don't realize that the crucial shock is one that creates more uncertainty, which is why the lenders ask for more

collateral and leverage goes down. Then you have the bad news. It takes more buyers to hold the stuff because they can't borrow, and the optimists who were so exposed lose all their money.

These leverage cycles have recurred over and over again.

The current leverage cycle is exactly like this, I claim. Look at Shiller's green graph of housing prices going up 90 percent and then collapsing by 30 or 40 percent. His explanation is irrational exuberance. But the down payment, or the loan-to-value, on non-Government loans (which is measured from the top of the graph), the average down payment was 14 percent in 2000; leverage in housing hit its peak, going to 2.7 percent down payment, in exactly the same month that housing prices hit its peak, and then leverage collapsed. You can do the same in the repo market. Look at the history of down payment at Ellington Capital this is a hedge fund I work with. You can see it expanded greatly in '98. Down payments went way up and went way down and then down payments went way up again. And the current crisis is on the right, and prices follow.

So why did the crash happen? The news was that in 2007, you see the subprime market, the ABX market, started to collapse. Why did it start to collapse? It started to collapse because delinquencies went up. That was the bad news that created more uncertainty. It's not like delinquencies were up that high from 2 percent to 5 percent, but that out-of-the-ordinary increase made people scared, that maybe they'd go to 30 percent or 50 percent. Actually, they did. And that's what got everybody worried and made the market start to unravel and leverage started to change. That's my theory.

So, to repeat, leverage got higher than ever before, because of the long period of low volatility, because of all the innovation, because of the government guarantees of Fannie Mae and Freddie Mac and the too big to fail banks. Of course, everyone knows their debt is good;

they're going to be able to borrow at much lower rates. They have an incentive to leverage more. They lied about their leverage. CDSs (credit default swaps) also played a big role. CDSs allowed the pessimist to leverage, and so that helped make prices go down, and unfortunately the CDSs didn't get going until the market was already at its peak in mortgages.

All right. To get to the punch line – what do you have to do about leverage and what haven't we done? You've got to make the data available. You've got to regulate leverage. And I think it should be done on the asset level. You should say people can't put 2 percent down to buy a house. The Fed should simply set a higher target, asset class by asset class. That's my remedy for leverage. And then you have to have something in place to re-leverage the system when it collapses and to inject equity into the natural buyers. As I said, we completely blundered that. And then we have to do something about the debt overhang. And that's what I think is one of the most serious mistakes that we made. We haven't really addressed this problem. Four years ago, the subprime housing market collapsed, and still we haven't done anything about it. We've tried, but we haven't succeeded.

Now, there will be many speakers this afternoon who I'm sure will defend the government policy. I don't want to be critical of the people, but let me just lay down the gauntlet: It's failed. There are two and a half million homes already lost to foreclosure. There are another five million people seriously delinquent. They're all going to lose their homes; that seven and a half million. Of the fifty million homes that are left, eight and a half million are under water. A lot of them will probably lose their homes. We're talking about ten million homes lost to foreclosure. No wonder housing prices are going down.

Now how did we get into this problem? Why didn't we do something? I think it's because we thought it was a temporary problem, and we reduced the interest rate to help people

get over the tough times and thought that would be enough. And we thought that by giving incentives to servicers and bankers, they would help us remedy the problem. Well, two and a half years ago, and also at this conference two years ago, Susan Koniak and I warned in The New York Times that servicers had all the wrong incentives; they weren't going to help do the modifications, it's against their interests. And sure enough, we've seen how bad that's turned out. And the only way to solve the problem is to reduce principal, not just to reduce interest rates. We recommended taking the decision out of the hands of those servicers and hiring community bankers and giving them the job of modifying the loans with the goal of making as much money for the lender as possible. That's a well-defined goal. The HAMP's (Home Affordable Modification Program) goals are hard to even follow. This is a well-defined goal. Modify to make as much money as possible for the lender. That would involve writing down principal most of the time. This graph shows the relationship between the CLTV (combined loan to value) and the defaults per month. These are defaults per month during the crisis, and these are more recent figures. You see that the higher the loan to value, the higher the default rates.

So, principal should be written down. And why won't they write it down? The servicers don't have the right incentives; it's expensive for them to figure out; you have to know what to write it down to – you have to hire people to figure it out; they don't want to do that. They own the second loans; they don't want to write down second loans. If they cut the principal in half, they cut their fee in half. That's why they don't do it. The big banks don't want to admit that they're going to take losses so soon. So, the modifications have been few and they haven't stemmed the problem. And if you look at recidivism, comparing banks and HAMP, HAMP's done better than the banks, but they're all bad. Look at the percent that have defaulted again

over 18 months after a modification: 80 percent down to 50 percent depending on the coupon. That hasn't worked. It's because we haven't written down principal.

So, the last slide is on how to get out of the crisis in the end – and I'm not just talking about the housing crisis; I'm talking about the European debt crisis; I'm talking about all our pension problem crises – in all these, you get too far into debt. It's impossible to pay your debt. It's not good to make the borrower pay the debt. It's bad for the borrower and bad for the lender. The lenders can make more money by writing down the principal. That's what the lenders want to do; they're being prevented by the banks. The way to solve many of our problems in many different areas is to follow Shakespeare's and Portia's lead regarding the quality of mercy: it's good for he who gives and he who receives. Thank you.

GARY B. GORTON: Let me start by just responding to a couple of points that the dean made. First, I would point out that Godfather II is widely regarded as the best film in that series, though that is a sequel.

The other thing is the dean said he was very happy at the turnout. There's a sense in which I'm a little surprised at the turnout. Frankly, economists were the very people who, five years ago, were saying that this could never happen, and there was a Great Moderation. And somehow the doctors who botched the operation are now called in to help the patient. It strikes me as a little bit ironic. And it seriously strikes me as something that ought to be explained. That is to say, we have an academic profession that has a massive intellectual failure staring them in the face. And individually, each economist is going to claim that their research was relevant, and if only they had been listened to, none of this would have happened. I think that before we make a lot of statements, it's important to try to understand this intellectual failure. And that's what I'm going to briefly talk about. I will come to that momentarily.

As of February 2011, the realized losses on AAA subprime – if you look at the amount issued in 2004, ’05, ’06, ’07, the realized losses on AAA subprime is about $2 trillion or about 17 basis points. It’s almost nothing. So, the shock from the subprime market that has received all this attention is extremely small. And yet, the banking system was essentially bankrupted. The way Bernanke put it was that 12 of the largest 13 financial institutions were essentially insolvent. What you have to explain to explain the crisis is how such a small shock gets such a big effect. I’ve written a lot about that. I’m not going to go into that or repeat it or try to summarize it. But I think when you think about that question, the next question that ought to come to mind for an economist is whether the explanation you’re going to provide has a structural feature, as John was suggesting, or whether it’s something special – whether it’s a kind of unfortunate coincidence of a number of bad things. And the fact of the matter is that these kinds of financial crises are pervasive in U.S. history, and they’re pervasive around the world. It happened that from 1934 to 2007, we didn’t have a systemic financial crisis. One could point to that and say, well, we all forgot that such a thing could happen. And it’s true that economists don’t typically focus on other countries. I mean they’re very narrow: they focus on the United States and are less aware of the rest of the world. But the fact of the matter is that the IMF and the World Bank have studied crises around the world. They have extensive databases. It’s not clear why economists wouldn’t have been aware of that. It’s interesting because if you ask why did economists get it so wrong, I think there are a lot of explanations that aren’t very persuasive. It could be stupidity. But there are a lot of smart people in the profession. So, it’s not clear that’s going to work. You could say well, we only look at short time series. Macro has very sophisticated econometric methods, but they use about 40 years of data. But that was a choice they made. They could have looked back further. They didn’t. You could say, well, economists

don't typically study economic history. Most top departments don't have economic history any more. And the history of economic thought is, in fact, almost extinct. We never hire people who teach history of economic thought.

So, we're left with this puzzle about why economists got it so completely wrong. And it's interesting because when you go to these kind of panels, which are pervasive, economics conferences and so on, you never hear economists being introspective about this. As a profession, we always seem to be in a rush to get on to giving advice about Dodd-Frank and this and that. Whereas before, we were saying that there was a Great Moderation.

I think there's an answer to the question of economists failed to foresee the possibility of a financial crisis, at least an answer that I would propose. Let me start by going back to the National Banking Era. That was the period before the Federal Reserve, from about 1863 to 1914. It was an interesting period because it's a homogeneous period. We have data on it. There were many financial crises, as there were throughout U.S. history. And these financial crises, banking panics, they're quite understandable. They happened at the peak of business cycles, at which point. Bad news arrives, bringing the uncertainty John was talking about. And people respond to that by rushing to their bank. It happens repeatedly. And, of course, after every one, the press is outraged and bankers are vilified, and some legislation is passed, and seven years later there's another one. And this goes on for some time.

Now, you can pose the econometric question of what would have happened had we not had the Fed and we had simply gone forward with the National Banking Era? And the answer is, that there would have been a banking panic in 1920, and there would have been a banking panic in 1929. But, with the Fed in existence, there was no banking panic in 1920. And in the Great Depression, the panics happened much later. They happened in the early 1930s. The reason I

mention this is that it's the first inkling that the presence of the Fed changes things. And, in fact, if you look around the world, you notice another very large difference. In the banking panics before you had a dominant player, the central bank or the government, there would be a run on the banks. There would be suspension of convertibility. But the actual losses on deposits were miniscule. A cent lost per deposit dollar would be large. Much of the time it was less than a cent per dollar of deposits. And the fraction of banks that actually failed was also very small. But in the modern era, if you look at the last forty years, you find that whole banking systems are insolvent, that the cost of cleaning up these banking systems, is on average about 20 percent of GDP, sometimes larger like 40 percent of GDP. This is reminiscent of the U.S. S&L crisis. It seems that if there had been a panic in the S&L crisis, the whole thing would have ended much earlier. But instead, it took us ten years, and about 3 percent of U.S. GDP to clean this mess up.

It seems that agents in the economy expect the government is going to do something when the bad news arrives. Often times they're right. We did bail out the money market mutual fund industry in the recent crisis. The problem for an economist is that when you look at the behavior of people once the central bank is active, you're not seeing their pure response as you would see if you looked at the National Banking Era. What you see is a response that's colored by people's expectations of what the government is going to do in response. So the fact that the government can act, the fact that the central bank acts, colors everything, and then we come along and we try to study it. We don't see banking panics. For example, there was no banking panic in Japan. There was no banking panic in many developing countries. But there were crises. So, there are two kinds of crises: one is when there's either a run on the banks; and in the other, there would have been a run, but there wasn't a run because of expectations about the government response; however, the whole banking system then has to be bailed out.

The problem for economists is a complicated problem when we can't study things in their pure form. No amount of mathematics can help this problem. The first thing is you have to be aware of this problem. So, what happens? Economists look at the period from 1934 to 2007, and they say, well, there's no problem. We didn't have any bank runs. We didn't have any bank runs because we had deposit insurance. That doesn't mean that the problem isn't there. One thing that the crisis should have clarified, because it was a bank run in the repo market, is that this issue is still present. However, because agents in the economy's actions are colored by expectations about what the government is going to do, we now focus on the government as the problem. We never focus on the underlying problem, which is what bought us a long period of quiet from 1934 to 2007. We didn't have crises. The goal of regulation ought to be to reproduce that period. But if you don't understand what happened, of course, what you focus on instead is tinkering with what the government should do, which affects what agents do.

If you think about what was successful in U.S. history, the two biggest successes were, the National Bank Act, which got money to trade at par for the first time in U.S. history, and Federal Deposit Insurance. Neither of those acts were the outcome of intelligent design. The Nation Bank Act was passed to finance the Civil War. Deposit Insurance was passed with a populist mandate over the objections of all economists, who said there was going to lead to an increase in moral hazard. Dodd-Frank doesn't do what those successes did. Those successes carved out a set of institutions, national banks, and then insured institutions, and said, you get to have special benefits in exchange for following the certain rules. Dodd-Frank creates massive uncertainty. No rules have been written. You have these wise men, the Financial Stability Oversight Council, in Washington who are going to make decisions. All this discretion

misunderstands what the intellectual problem was, and then makes it all worse because they misunderstood it.

Economists have a very big problem. You have all these entrenched tenured famous people, like us, who have made these claims earlier, and they run journals and so on. And then we have this failure, this huge failure. So, just to go back to the beginning, I'm a little stunned that you would even care what we have to say!

ROMANO: So with that, we're going to turn the floor over to Larry, our only lawyer on the panel.

LAWRENCE S. MAKOW: Good morning. I'm not an academic, and I've heard a lot of interesting things today. I just have to say about Viral's reference to Minority Report, I thought that was science fiction, and I was thinking that's actually a good way of looking at Dodd-Frank. And I think at the end, that precog thing turns out to be deployed in the service of a rather fascist society that over-intervenes. And so that's actually a good lead-in to the way I see it. I work with a lot of financial institutions, and so what I'm going to try to do is give some impressions. And obviously Dodd-Frank is very large, and you can't cover the whole thing in 15 days, much less 15 minutes.

I do think that the painting that Roberta chose for the poster is an interesting choice. It's a Pollock. It's highly abstract, hard to understand, it's a little bit messy – but on the other hand, it's one of the least abstract Pollocks. It's not a drip painting. It purports to be representational. It's a very interesting choice.

I think that Dodd-Frank has some good aspects. I think the attempt to reduce the complexity of the regulatory structure is commendable. Unfortunately, as things turn out, the theory and the practice are different, and we actually ended up with more agencies and sub-

agencies than we got rid of. But at least there was the thought to try to streamline it. The attempt to institutionalize a broader systemic view of risk is a positive. Although, as I just indicated, I'm a little bit skeptical about the efficacy of attempts to gaze into the crystal ball as is at least one of my colleagues here. I think trust-preferred securities, although it was a very painful thing to eliminate them as Tier 1 capital, have proven not to be good Tier 1 capital in hard times. Apart from the issue of how much capital banks should carry, I do think we should look at the quality of the capital as well. I also think reducing the reliance on rating agencies is probably a good idea in the long term. Incidentally, I think we should probably do the same thing with proxy advisory services. But that's just a personal view.

To give you some idea, in January 2008, there were only 12 companies in the world that merited a AAA rating. Yet we had 64,000 structured vehicles that were rated AAA. Again, something was a little bit off there. The issue is, what are we going to replace rating agencies with? And I don't think that is completely clear yet.

But having said all this, there are a lot of areas of concern in Dodd-Frank. I'll try to touch on a few.

One practical issue without getting into the substance of Dodd-Frank is its size, its mass, the fact that it all drops on financial institutions at the same time, and these are institutions that also have a business to conduct. It's a kitchen sink basically and then some. There are a couple thousand pages, at least in the original committee print. They create a passel of new agencies and sub-agencies. They require 250 rule-makings, probably a lot more to come. As a reference point, Sarbanes-Oxley required 16 rule-makings, and that took several years to do. Some of the new agencies have broad mandates that will result in reams of additional new rules. If you look at the rules that have been issued so far, the proposed one on compensation, the proposed rules

that just came out on living wills, the documentation and information reporting requirements are simply stunning. The demands that compliance is making on financial institutions are very substantial, probably unprecedented, especially for larger institutions.

In particular, the burden on boards of directors, which has already grown substantially in recent years, will mushroom again. Starting a little bit before Sarbanes-Oxley, the standard legislative and regulatory solution now seems to be to make sure the board of directors—particularly the outside directors—have skin in the game. Get them personally involved, and then probably get the CEO and the CFO to personally certify to whatever it is. We see it play out again in Dodd-Frank. It's replete with provisions that require the active involvement of boards, particularly for larger institutions. These requirements range from involvement in the design of incentive compensation deep within the organization to a major role in formulating the institution's living will. These are extraordinarily complex tasks, and the stakes for doing them right are very, very high. And these boards are actually already rather busy. Whatever you think of them, and I know the popular conception of boards are they fly to Florida for a retreat, they work very hard. They've been occupied with such things as TARP, stress tests, and horizontal reviews of incentive compensation. The regulators, even before Dodd-Frank, had reacted very much to the crisis and were much, much more active on the enforcement front. Anybody who works in a financial institution or a regulator will tell you, enforcement actions are being brought against a wide slate of institutions over capital adequacy, asset quality, risk management issues. And, by the way, is there any doubt that once the Bureau of Consumer Financial Protection is finally set up, a whole new wave of consumer related enforcement actions is coming?

Such enforcement actions often explicitly call for an active role by the outside directors. In fact, often, it's outside directors who have to be the main contacts with the regulators to

resolve them. They are basically already busy meeting with unprecedented intensity. Basically, being an outside director in one of these institutions is almost a full-time job. I'm not sure how people do it. We just had a resignation from the Bank of America board recently of a very good director. Hopefully, that's not a harbinger of things to come. But I think in terms of thinking about how do we address the crisis, we also have to think about how we allow these institutions to run efficiently in the ordinary course of business. What do we do in the five, ten, hopefully fifteen or twenty years between crises? Again, we can't cure the disease by making the patient stay in the house all the time.

In some cases the tasks that boards are being asked to do are entirely novel. And they also will run counter to legal responsibilities that directors have elsewhere. Let's look at the living will requirement for a second. If you look at the rule that was proposed by the Fed and the FDIC, it's very, very interesting reading. I recommend it to you. The propose rule contemplates that the companies are going to have to map their business lines to their material legal entities. So, your living will will need to tell the regulators which legal entities within your structure conduct your business lines. Now, in a particular line of business, especially in one of these more complex institutions, you can have literally dozens, if not hundreds of legal entities that somehow touch on an individual line of business. Now, you're going to submit that plan and if you're told the plan is deficient, you have to re-file an amended plan that, among other things, identifies any changes to the company's business operations and corporate structure that the company, euphemistically, proposes to undertake to facilitate the implementation of the revised living will. Let's think about that. The regulators can require a financial company to realign its legal structure to facilitate a liquidation. So, putting aside the possibility that this task will be massively complicated to do – keep in mind, you're dealing with complicated tax laws; you're

dealing with institutions that are in a large number in foreign jurisdictions – the structure that best facilitates a clean liquidation may not be, and probably isn't, the structure that is most efficient to carry out the duties to shareholders. That is, to actually run and operate the business in a profitable and healthy way. This may be the way a receiver thinks, but I doubt that many CEOs and boards have spent much time to date pondering how they can best organize their company so they can be most efficiently put into liquidation, broken up, and sold.

In addition to the compliance burden, Dodd-Frank will almost certainly increase substantially the costs incurred by banks in defending themselves from various legal attacks. I won't go into detail, because I have a very limited amount of time, but it's just replete with things, and you can think about the consumer financial products, the role of the state attorney generals in that whole process. There will be many more lawsuits against financial institutions. People may think that's a good thing, but I can tell you that it's very distracting. It takes up a lot of time, and it does have an impact on the competitiveness of these institutions. It takes their eye off the ball of new crises that may be developing because you're always focusing on dealing with the last crisis, particularly when new rules come out that force you to do that, and you're not always looking for the next thing that you should be looking for on the horizon. So, whatever benefits Dodd-Frank may have substantively, it's important to fully consider in assessing it the cost of complying. And I think that's something that's missing from the discussion. We often focus on the theoretical benefits, but think about the cost of actually doing it. Jamie Dimon pointed out on Wednesday that U.S. financial institutions don't exist in a vacuum, but in a globally competitive world, and we certainly pay a price for these thousands of pages of new regulation, and we have to be sure we're getting out money's worth.

The second thing I want to talk about is -- being a lawyer, I find it comfortable now that I have argued that Dodd-Frank has too much in it and is too big – to turn around and argue that it's missing things. And what it's really missing is addressing the root cause of this crisis. And I know there's a lot of debate about what the root cause is, but I think everyone agrees that a good old asset bubble is a huge element of what caused this. The bubble was created primarily by imbalances that built up during decades-long federal government policy of massively subsidizing home ownership. Numerous federal policies from Fannie Mae and Freddie Mac and the infamous implicit guarantee, income tax breaks for residential housing, over many years, shifted excessive investment to residential real estate. Regulatory capital rules, as we've heard, were a double whammy. They allowed banks to become over-leveraged. They also encouraged banks, rather than keeping mortgages on their own balance sheets, to sell them to Fannie and Freddie. And that fueled the growth of these entities to the point where they completely and utterly dominated the mortgage market. Just how big did they get? I mean, keep in mind that Fannie and Freddie at their peak had a balance sheet that was larger than the Federal Reserve's balance sheet. This is actually very interesting, because we worked a little bit with Treasury during the conservatorship process in August of 2008, and there was real concern at that point about the amount of debt that Fannie and Freddie had, and whether that debt would go on the United States' balance sheet and what that would do. That's how big they were. They obviously entered into buying subprime MBS, and that massively goosed liquidity in that sector. Nearly 30 percent of new mortgages were interest-only and in negative amortization by 2005. And this basically cranked the tap all the way open for the origination of more subprime mortgages and even more attractive terms to borrowers.

I think to summarize this, you have a law that really doesn't do anything about Fannie and Freddie. Fannie and Freddie are only two companies, but they are massively important in our system. We have the potential right now, today, and we're probably already doing it again, to inflate this real estate asset bubble again. When you have bubbles like that, you have misallocation of capital; you have investment in places it shouldn't necessarily be; and you have perverse behavior, that people take risks because they misprice those risks. And we saw all of that in the crisis. And until we fix that, we're going to have the crisis again no matter what we do elsewhere. In addition, I think Dodd-Frank actually exacerbates problems by operating asymmetrically and not addressing the mortgage market the same time that we address the banks. You weaken the banks relative to Fannie and Freddie, and you make the transition from this subsidized mortgage market to a private mortgage market, which is where we have to get to, more difficult to do and more time-consuming. So, I think thought needs to be given very seriously about balancing these two things.

I'm going to move quickly to my final point: the resolution regime. This was the key provision of an effort to end too big to fail. The approach that has been put in has a certain theoretical elegance. Under Dodd-Frank a systemically significant bank holding company that's in danger of failing can be placed in receivership on the initiative of the Treasury Secretary with a recommendation from the Fed and the FDIC. The receivership is very different from a bankruptcy. The FDIC, as receiver, has extremely broad powers – none of the checks and balances of bankruptcy exist, nor is there a court that really must approve everything out of the ordinary course, nor a role for stakeholders, like creditors, to come and be heard. The FDIC determines all claims. The burden is on the claim-holder to come forward with an objection to

any FDIC determination. It has plenary power to run the company. It can even sell the company without the permission of any other stakeholder.

Language throughout Dodd-Frank purports to end the possibility of any future bailout. It says taxpayer funds are not to be used. It says all losses will be on creditors and shareholders. But let's think about it. How will the FDIC pay for a resolution under Title II of Dodd-Frank? The law says that in the first instance the FDIC will borrow from the Treasury. As Ronald Reagan put it, very famously, the Treasury has no money of its own to lend. So, if this sounds like taxpayer support, well, it kind of is. Now, hold on a second. The FDIC is empowered to assess other large financial institutions to recoup its costs. So, if Lehman had been done through this process, the FDIC could have assessed, say, BofA, Citigroup, and Morgan Stanley, among others. I picked those names because I just wonder how much assessment BofA, Citigroup, and Morgan Stanley could have withstood at the time of Lehman's decline.

The FDIC also has to first assess any claimant of the resolved company to the extent that it receives more in the receivership than it would have received in a pro rata liquidation. So, let's say if AIG had gone through this, I suppose this means that the CDS counterparties that were made whole could be liable for assessment later on to defray the FDIC's receivership losses. Now query whether this outcome is comforting enough to creditors to stop a run in the first place. They may think, "okay, I'm going to get paid, but later on they're going to come after me and assess me." Granted, the FDIC's power to assess large institutions for the cost of the failure will presumably give it more leverage to arrange a Long-Term Capital Management-type private rescue that avoids the need for a receivership. And it may be that the numerous provisions of Dodd-Frank which discourage size, the assessment provision, the shift in deposit insurance assessment, the hard caps on size, it may be that ultimately this forces large institutions to sell

pieces of themselves off to downsize, but I can't see evidence of that at this point that is happening.

If there is a precipitous failure, will the Resolution Authority really avoid a bailout? I, for one, am skeptical. The system that Dodd-Frank puts in place depends on the Treasury stepping up so the taxpayers are most definitely the first responders, even in this regime. Recoveries from assessments may or may not pan out. If one institution is in trouble at a particular point in time, others may be as well. It may not be a terribly good time to assess other institutions. Also, if creditors do not like their odds in this receivership model, then, Dodd-Frank or no Dodd-Frank, they will head for the exits if things begin to look dire. And the possibility of getting assessed by the FDIC might act as a brake on this because people will know that even if I get out, I will be assessed later on. But some counterparties may be beyond the reach of the FDIC's jurisdiction, such as foreign counterparties. You may see things shift out of sight of the jurisdiction. And as alluded to earlier, the complexities of breaking up a multinational finance institution are immense. I recommend reading the Fed and the FDIC release on this because it does give you a flavor.

I think, at the end of the day, people should realize that the financial system, for all its vilification, is a public good. It's like any other vital infrastructure, it's important to preserve and there's a public interest in doing so. Ultimately, it won't be allowed to collapse, as long as the capability exists to avoid it. And, not withstanding all of these safeguards, that may require the use of public money. If it does, I suspect it will be used no matter what the law says. In the end, in a crisis, as we saw in 2008, the first question will always be, "How do you stop the run on the bank?" If this system does not prove credible to counterparties who start heading for the exits, it seems to me that other means will be used.

Thank you very much.

ROMANO: I don't know if any of our panelists would want to respond while people formulate their questions. I'll just throw out one question. People have mentioned the Financial Stability Oversight Council and Systemically Important Financial Institutions. I understand SIFI's proposed definition is completely at the FSOC's discretion. Congress didn't want to give criteria beyond what they have for financial statistics in the statute. So, I'm wondering in terms of the importance that you described to systemic risk or leverage and the like, is that a problem; should they have criteria for who are these institutions or not?

GEANAKOPLOS: I think there are systemically important assets, like houses. So rather than say a bank, because it's an important institution, can't leverage more than 15 to 1, we should be talking about what the leverage is of anybody who uses the house as collateral. And that way you don't get leverage, If you try to limit the leverage at the bank, the leverage moves to some hedge fund, or it moves to the shadow banking system, it moves somewhere else. If you limit the leverage on the asset, then it's curtailed systemically throughout the whole economy. So, that's the principal of how to control leverage. It's also related to Viral's point about the risk classes. You can't apply a single leverage number at a bank, for example, because it will switch to riskier securities that it doesn't need to leverage as much. You might, in fact, get a riskier portfolio if you put an overall limit blindly on the total leverage.

Dodd-Frank leaves a lot of opportunity to do the right thing. I think Dodd-Frank doesn't hem in the new regulation. Dodd-Frank says let people figure it out. So, I think in that sense it was very good. But I think Basel III is less good.

ACHARYA: I had one thing to add. I think what the Financial Stability Oversight Council is trying to do is to create sufficient uncertainty as to what criteria they're going to use. There is good gaming of regulation, which is that if FSOC has the right principle for classifying

– say if it's leverage and that's what FSOC is going to judge firms by, then firms will reduce leverage. But there's also bad gaming, which is if that if FSOC makes the criteria too precise, then firms will know exactly how to get around it. For example, we put up this measure of systemic risk on Vlab and because we update it every week, insurance companies are coming to us saying, we are not systemic because you are measuring our leverage in this fashion but our real leverage is this. And I can imagine if they get a bit annoyed when they're talking to us, then when they talk to the regulators, they could get especially peeved and find ways to get around regulatory measures for determining SIFIs.

ROMANO: We're going to go from one side to the other – so we'll take the first question from over there.

JAMES WILCOX: James Wilcox, Quinnipiac Law School. We just heard some excellent presentations. I find myself wondering whether we could talk more frankly about the role of perverse incentives in causing the problems that we've had and the extent to which the new legislation doesn't sufficiently undo the perverse incentives. The figures and the charts are stunningly useful. The most, perhaps, disappointing thing I've heard is that economists aren't paying any attention to history anymore, but perhaps that's not surprising. But I wonder if the speakers would agree with the proposition that the incentives built into the system that Wall Street has thrived on in recent years are simply perverse? Thank you.

GORTON: No, I don't agree with that. You have a strange view of crises. Crises in the 19th century, are all of those due to perverse incentives? Is that the theory of crises, that they're always due to perverse incentives? I mean it's exactly the point that I was trying to make, which is that once the government is present and is expected to act, or even explicitly has policies, of course they're going to influence things, which we can name perverse incentives. But the

inability to separate that out from the structural features of bank-created liabilities or leverage is really the underlying problem. We can rant and rave about bonuses and all that, but the reality is you have many, many economic systems that had devastating crises like this, even when you didn't have such incentives. So, that can't be the first order effect.

ACHARYA: I tend to agree with Gary on this – I think incentives were the first order effect for Fannie and Freddie, because there it's a very, very explicit government push for home ownership – it wasn't designed primarily just to deal with a crisis. This was a political objective to stimulate housing and consumption in the United States economy. The government took Fannie and Freddie off its balance sheets because the government didn't want to recognize the debt on the balance sheet and keep it within the debt ceiling. Fannie and Freddie were effectively given a blank check to privatize profits and get the full downside guarantee. That was an extremely poor incentive design to place out there in the financial sector. It then interacted with lots of other features.

MAKOW: I would just say about perverse incentives that when you subsidize an asset class, the most rational people are going to make erroneous decisions about how to invest and the risk to take to invest. And this is really the flip side of what's been said. But I'd also like to add, I think there's a little bit too much emphasis on this perverse incentive, moral hazard argument. I mean, the people who went through this – and I don't know if you want to talk to the shareholders of Citigroup, the shareholders of WaMu (Washington Mutual), the shareholders of Bear Stearns – these people were wiped out. And the employees. Some counterparties of AIG were paid a hundred cents on the dollar, but the idea that people deliberately play Russian roulette because they think that somebody is going to ride to their rescue ignores the whole other side of this, which is there's huge amounts of pain, huge amounts of financial loss that's real.

NATHANIEL LOWENTHEIL: I'm Nate Lowentheil. I'm a first year student here at the Law School. I'm not an economist or a lawyer – and I have no formal training in either. You guys touched a little bit on the rule making process and a little bit about the development of new agencies – and obviously such a big piece of legislation doesn't really take shape in a vacuum. There's the rule on the books, but then there's how it's actually going to be implemented over time. And since we're at the outset of the day and we discuss how this is going to look in the future, I'd be interested in hearing a little bit about how you think the political economy is going to affect the actual implementation of this law. Given the switchover to a Republican Congress and the potential of the next election cycle, how will these dynamics impact the extent to which these new agencies really work to implement these complex rules?

MAKOW: I can respond to that. First of all, we saw the OTS get eliminated. Regulators are human beings. They do their jobs with great dedication, great care, but they cannot be deaf to the politics around them. And so, I do think political winds affect things. I don't think the fact that the Republicans have a majority in the House is really going to make much difference in the short term. Who knows what happens in 2012? I do have concerns that one casualty of this is that, although the Fed's independence has never been pure, I do think it took a hit in this process and I do think it's less independent going forward. And that's a concern just systemically for this country. And finally, the one place I worry about, the one agency that will be immune to all of this will be the consumer finance agency. It's self-funding; they don't need to go back to Congress every year – there's no appropriations process; it's run by a single czar, who hasn't been identified yet; it's basically immune to the Fed's tinkering. So, this is one agency we're going to have to keep an eye on because it's really been designed in such a way to make it bulletproof.

ACHARYA: I think the interesting political economy consideration might end up being international in my view. We are already seeing it playing out. The derivatives reform in Dodd-Frank, in my view, is actually pretty reasonable. It does many things that you would think are right from first principles. The problem right now is that the UK and Europe really haven't designed their regulation that much. Especially in Europe, they have bigger problems to solve right now than getting what the new derivatives regulation should be. The design of regulation in the United States risks being determined by the notion that if U.S. banks are charged the same leverage restrictions on their foreign derivatives positions as their U.S. ones under the Dodd-Frank, then the U.S. banks lose out to foreign banks. Now, I agree that is what the U.S. should be concerned about, and that is what banks should be concerned about themselves. But at least as a principle of where the level of regulation should be, I find it extremely disappointing that it's going to be based on what Europe is going to base its regulation on. I think the better thing would be for these international regulators to recognize that these kinds of regulatory arbitrages are going to take place, and harmonize to a better standard rather than having a regulatory race to the bottom.

ROMANO: Should we harmonize or should we say we don't care if JPMorgan is competitively disadvantaged, "we think we need to have 10 percent capital requirements, and if the French think they should have 7 percent, fine. If you're going to be here, you're going to have 10 percent, and if you don't like it, go take your business to France and have lower capital." So, you're just assuming that we should just say, "yes for competitive purposes, we ought to be lower, but it's not obvious to me why we should respond in that way.

ACHARYA: If we could get JPMorgan to spin that off as a purely French entity, with absolutely no recourse back to the U.S. balance sheet, then I absolutely agree.

ROBERT HOCKETT: Robert Hockett from the Cornell Law School. I'm actually somewhat optimistic about both Dodd-Frank and Basel III – but I'm kind of metabolically optimistic, so I'm hoping you might do me a favor by dashing my hopes again. The reason I'm optimistic about Basel III actually centers on the so-called optional countercyclical lever, and then the reason I'm optimistic about Dodd-Frank is the same reason that Viral is. That optimism is rooted in, I guess, my own diagnosis of the crises, insofar as I have one. It seems to me we've just gone through a classic credit fueled asset price bubble. And the hallmark of these things is that it's individually rational for each individual to go ahead and keep bidding. But then what ends up being individually rational ends up being collectively calamitous. Since we've talked about films, Minority Report and Godfather II, I like to think of the film, Rebel Without a Cause in this connection. You think of all the punks driving at top speed toward the cliff side in the drag race chicken game. If you just slightly vary the game so that each of them is blindfolded forwardwise, but they can look to each other side by side, I'm imagining also that each of them is paid by the yard, each yard that they go. Also, none of them knows right where the cliff side is in the same sense that nobody knows exactly when the credit will finally dry up. And then finally, there are a number of safety nets down at the bottom, so nobody actually plummets to their death, but they just lose varying amounts of money. If they do go over the edge, it seems to me it's not clearly irrational for people to play that game. You might have a good reason to think that I might be able to bail before other people do. Even if I don't manage to bail, I get caught by a net, and I'm making lots of money as I go along. It's not clearly irrational to play that game. And in that sense you have a classic collective action problem. The solution to a collective action problem, I guess, is a collective agent. In this case that would be our systemic risk regulator or a Fed that makes it a point essentially to tighten up on credit conditions across

the economy. That would mean presumably tracking leverage rates across the economy as a whole, in addition, of course, to interest rates, which everybody's been on about. It seems to me that the systemic risk council that's instituted by Dodd-Frank will probably act in that way, or at least can be expected to act in that way, or at least can be prevailed upon to act in that way if we all get our intellectual models correct. It seems to me by the same token that the countercyclical buffer that's advocated at least in an optional sense by Basel III might constitute an entry point for advocating that kind of collective action solution under the Basel framework. Sound plausible?

GORTON: No. That's just ridiculous. We just had this huge crisis. In the background you have this idea that somehow we can predict a crisis, that somehow we can all see these bubbles. *Ex post* everything's very clear. But the idea that these crises are predictable just flies in the face of any human experience. We haven't been able to predict crises. The other thing is when you think about whether legislation is good or bad, you should have some benchmark in mind. We have a history of legislation, financial legislation. You can look at this history and you can ask, "What legislation was successful?" I pointed to two: the National Bank Act and FDIC insurance. Those, I think, have very important features. They eliminated uncertainty by identifying certain institutions that were restricted and had certain powers. They didn't create massive amounts of uncertainty by endowing all sorts of people with discretion. The idea that the very same people in Washington who met and could have foreseen this crisis before are now put on this council, suddenly they're endowed with these super human powers, makes no sense.

MAKOW: But a lot of people actually did see it coming, right?

GEANAKOPLOS: I'd like to offer a view between the two – I think that just focusing on a problem goes a long way. So, when we had the Fed focus on unemployment and focus on

price stability, I think that was a big help. We don't have anybody – we didn't have anybody until now focusing on a problem of systemic risk. For example, the data I showed you about the leverage on households, I presented this many times to the Fed, and I said, "Why weren't you guys monitoring this?" Well, it turns out you have to buy it from these private vendors, which the hedge fund I work with did, for $400,000 a year. The Fed thought it was too expensive to buy. So they were unaware of what leverage was in households. They now made the decision to buy that data. So, the leverage about the repo market, which Gary is also famous for having provided more data – why do we have to be the people providing the data? Why wouldn't the Fed be keeping track of that? Well, they didn't think it was an important problem, and they didn't follow it. So, I think if you identify an important problem, and I think leverage runs through a huge number of crises. It's not like the next crisis is going to have nothing to do with leverage. I mean, it might, but the odds are 80 percent it will have something to do with leverage. If you have an agency that's focused on measuring it and publishing it and making it publicly available, I think that can have a beneficial effect, even if they don't have any regulatory powers.

MAKOW: Like the Army, they'll fight the last war.

GEANAKOPLOS: Well, does that mean we shouldn't have an Army? So anyway I'm a little discouraged to see what's happened with the Office of Financial Research, which is supposed to be the arm that's supposed to find this data. It's been eight months. The Treasury hasn't been able to figure out whom to hire for this job. How could that be? It might be one of the most interesting jobs in the country to run the Office of Financial Research and to have the power to gather this incredible amount of data on every financial institution and leverage and all

kinds of things. Make it public and analyze it with an army of a thousand people from universities and so on that you'll be able to pay. And they can't find a director to do it.

SPEAKER: Are you volunteering?

GEANAKOPLOS: I'm not volunteering. I'm just saying something's wrong that this job hasn't been filled. When you say what are the political problems – I don't know what's going on. Maybe there's a political problem going on there.

ACHARYA: If I can just say one specific thing about the Basel III countercyclical buffer –there's a bit of a confusion about this and John Geanakoplos pointed to this between concepts of "stock" of credit versus "flow" of new credit. Basel III wants to base this countercyclical buffer on credit-to-GDP ratio from some long run trend. Now, if you look at the stock, credit-to-GDP ratio in a recession usually goes up, because credit is very high entering the recession and GDP is contracted. There is a calibration done by authors in Spain that shows that the countercyclical buffer, as proposed in Basel III, is paradoxically highly pro-cyclical, because what you should be looking at is new credit to GDP, which will have the right structure, but that's not what they're talking about as of now.

Session II: "Too Big to Fail" and the New Resolution Authority

ALAN SCHWARTZ: Our first speaker is Tom Baxter, who is the General Counsel and Vice President of the Federal Reserve Bank of New York.

THOMAS C. BAXTER, JR.: [CLICK HERE TO VIEW SLIDES] Thank you, Alan. And let me thank Professor Romano for inviting me to speak, and the Yale Law School as well. It's a pleasure to be here to speak about our topic, which is "'Too Big to Fail' and the New Resolution Authority."

With respect to the "Too Big to Fail" problem, I want to start by quoting Tim Massad, who is a Treasury official and who testified about this topic two days ago. With respect to whether Dodd-Frank solved the "Too Big to Fail" problem, Tim said that Dodd-Frank is not a magic wand. Ladies and gentlemen, I brought my pocket Dodd-Frank, and let me tell you the pain in my forearm can testify that it is not a magic wand. And what Tim meant by that is that it's not a magic wand to solve the "Too Big to Fail" problem. Instead, the Dodd-Frank Act addresses the tools that can be used to address the "Too Big to Fail" problem. And I hope that when I'm done with my 15 minutes, you'll appreciate that it does that in three different ways. First, it takes away some tools that the government had to address the "Too Big to Fail" problem before the enactment of Dodd-Frank. Second, it adds some new tools to the arsenal that we can use to address the "Too Big to Fail" problem. And third, it leaves some of the tools alone, and doesn't touch them in any way.

Now, what I'm going to try to do in the short time available is to convince you of that proposition. And I'm going to do that by focusing on "Too Big to Fail" problems that we had to address during the crisis. The first "Too Big to Fail" problem I'll talk about is the "Too Big to Fail" problem that was presented by Bear Stearns -- some other speakers already talked about

Bear Stearns -- which resulted in a rescue of Bear Stearns. The second "Too Big to Fail" problem I'm going to talk about is the "Too Big to Fail" problem of Lehman Brothers. Now wait. You may be thinking, Lehman Brothers, too big to fail? But it did fail. What's wrong with that picture? And I'll talk a little bit about that. In both of these cases, we used tools to address both of these "Too Big to Fail" problems. And I will talk a little bit about the tools that we used, and then I'll come back to Dodd-Frank and I'll show you how the tools have changed in the three ways I mentioned at the outset. So with that as background, let me go to my first slide, and I'm going to talk to you about the rescue of Bear Stearns.

Now, I've tried to summarize that rescue in this single slide, and the rescue was achieved by the Fed using a vehicle called, Maiden Lane Limited Liability Company, which borrowed from the Fed and JPMorgan Chase a grand total of $30 billion. Now, JPMorgan Chase had the first loss position and a small loss position of about a billion dollars in a loan to this vehicle. The Fed had the lion share, which we did in the form of a loan under § 13(3) of the Federal Reserve Act. And that was about $29 billion. This transaction closed on June 26, 2008. Now, with the proceeds of these loans, the vehicle bought from Bear Stearns $30 billion in assets. Some of you might describe those assets as toxic. We don't use that adjective at the Federal Reserve!

Now, the way this rescue worked is the assets were brought out of Bear Stearns and that facilitated the acquisition of Bear by JPMorgan Chase. And that acquisition was announced on Sunday, March 16th, at the end of a weekend we refer to at the Fed as "Bear Weekend." Now, the conclusion of Bear Weekend ended in two things: one, it ended in the announced rescue of Bear Stearns, but it also ended in the announcement of a new credit facility at the Federal Reserve called the Primary Dealer Credit Facility. And just a moment about that credit facility: We set that up over Bear Weekend in anticipation that we might not have a durable solution, or

rescue, for Bear at the end of the weekend, and we'd have a run on all the primary dealers come Monday morning, March 17th. So, over the course of that weekend, we set up a new facility that enabled broker-dealers to borrow cash from the Fed. And that was called the Primary Dealer Credit Facility. Now, in an earlier panel, someone said that the shareholders at Bear were wiped out. That's not true. Shareholders of Bear received $10 a share in this particular transaction.

Now, a couple of other features of this. One, and this is an important feature to understand what happened in Lehman, and that is to stop the run on Bear, one of the things we needed to do with this acquisition was have the acquiring institution guarantee the trading obligations of the broker-dealer from the time of the merger contract until it closed. The guarantee was significant not simply in ensuring the acquisition of Bear by a stronger institution, JPMorgan Chase, but also in terms of stopping the run on Bear. I'll come back to that shortly. Now, this acquisition closed on May 30th of 2008. Some of the key features were the deal certainty provisions in the merger contract. And the reason those were so important is JPMorgan Chase did not want a failed shareholder vote. It didn't want a failed shareholder vote because of the guarantee of the trading obligations of Bear.

Now, this rescue was successful. Bear Stearns did not go bankrupt. It was acquired by JPMorgan Chase. People say about that successful rescue that it led to two problems: One is the moral hazard problem and the decline of discipline in the market on the assumption that the government would rescue other broker-dealers. The second is a perception that for some institutions perceived to be "Too Big to Fail," that they have a special funding advantage over others, because of what is perceived to be a government guarantee. So, those are the issues with respect to "Too Big to Fail" that concern many people.

Now, what happened with respect to the Lehman rescue, this attempted rescue I mentioned? When we went in, September of 2008, into what we know of at the Fed as "Lehman Weekend," we had the basic model of Bear Stearns in our heads. But it's important for you to know that we were trying to adjust that model in a particular way. We began Lehman Weekend on Friday, September 12th, by calling the major counterparties dealing with Lehman into a room at the New York Fed, where they appeared before the Treasury Secretary, Tim Geithner, who was then our President at the New York Fed, and Chairman Christopher Cox of the SEC. And Treasury Secretary Hank Paulson opened that meeting by saying to the assembled, this time it's going to be different. And this time the Fed isn't going to finance the assets that are taken out of the acquired institution; this time it's going to be you. That was a significant change, a permutation, if you will, on the basic plan we used with Bear Stearns. Now, ladies and gentlemen, having been there throughout that weekend, I can assure you that the large counterparties of Lehman did not want to finance an acquisition by one of their competitors. They hated that idea. And in the room were the twelve institutions that were the largest counterparties of Lehman, household names you would all know. Who wasn't there? The institutions that weren't there were Bank of America and Barclays, because those two institutions were in the role of the acquirer. Neither, of course, was Lehman, who was the target.

Now, what happened over the course of Lehman Weekend is that by Sunday the institutions that were brought into the room agreed to finance the assets that would be taken out of Lehman. Let me say that once again. Those twelve institutions had agreed to provide the financing by Sunday morning. And the reason that's significant is this is a permutation on the Bear solution. It also, for those who studied other interventions over the years, is reminiscent of an intervention we did at the Fed in the fall of 1998 with respect to an institution called Long

Term Capital Management. We brought the creditors of Long Term Capital Management into a room and they agreed, after being enlightened as to their self-interest, that it would be better for them to finance LTCM. This was the same technique. And this was what we were trying to accomplish over Lehman Weekend.

Now, why did it not work? The reason it didn't work relates to the guarantee that I mentioned with respect to JPMorgan Chase. The first thing that happened was on Saturday Bank of America ran off with a different bride. That was Merrill Lynch. So Bank of America decided to acquire not Lehman, but Merrill. That left us with one prospective acquiring institution, which was Barclays. Barclays is a UK institution. And Barclays told us on Sunday it could not do the guarantee. And because we couldn't do the guarantee, we had a problem in getting this rescue done. Now, there was another point that happened along the way, and that was the UK government not feeling favorably disposed to Barclays, as a UK charter, buying all of Lehman. And the result of that was Plan A failed and we had to revert to Plan B. Plan B was to put the parent in bankruptcy while the subsidiary U.S. broker-dealer continued in operation with financing from the Fed at the Primary Dealer Credit Facility, which was that facility we set up in March. And on September 15th, 16th, and 17th of 2008, we lent across each of those three days to the Lehman U.S. broker-dealer amounts ranging from $45 billion to $60 billion a day. That's the Lehman story.

Now, let's return to my point, and my point is about the tools that are available. The first issue is with respect to the elimination of tools that were available. If you go to the very back side of Dodd-Frank, you'll find in Section 11.01 a provision that says the Federal Reserve can't lend under § 13(3) to remove assets from the balance sheet of a single and specific company or for the purpose of lending to a specific company to help it avoid bankruptcy. Ladies and

gentlemen, what that means is the tool we used to rescue Bear Stearns is no longer available. That tool was killed by §11.01 of Dodd-Frank.

Now, new tools have come in its place. Let me mention a couple. First, Section 113 of Dodd-Frank, going back to the beginning of the statute, gives the FSOC (Financial Stability Oversight Council) the authority to subject a non-bank financial company that presents systemic risk, like a Bear or a Lehman, to enhanced prudential standards similar to what we would apply to bank holding companies of over $50 billion. So, there are new prudential standards with respect to the things John was talking about, capital, leverage, liquidity, and risk management. What's expected is you won't lend to rescue the "Too Big to Fail," institution but you'll apply more prudential standards to avoid it getting into the zone of insolvency. Another thing this does is it counters the funding advantage the "Too Big to Fail" institution has, because now it faces higher costs with these additional prudential standards.

Another feature of Title I is in Section 165. And that authorizes and directs the Federal Reserve to develop special prudential standards and to apply them to the non-bank financial companies that are systemically important, as well as the large bank holding companies. Now, that is incredibly significant, because what has changed with respect to the basic tools is it's no longer the function performed that determines the supervisor. In this particular instance, it's the systemic risk that's presented that determines Federal Reserve supervision.

Title II, the orderly liquidation authority in Dodd-Frank creates a new tool for reorganization, for rehabilitation, for restructuring, and that is the orderly liquidation authority in Title II. It is an alternative, ladies and gentlemen, to the Bankruptcy Code. It is a new tool, in addition to the Bankruptcy Code, and it's up to the Fed, the FDIC and the Treasury to determine whether that new tool is to be used. And I'm sure some of the other speakers here will talk more

extensively about it. Another new tool is found in Title VIII, which designates certain financial market utilities as systemically important. Now, a key feature of being designated as a market utility that is of systemic significance is that you have access to the lending facilities of the Federal Reserve, and an ability to borrow to deal with the kinds of problems we were facing in facing Bear Stearns.

So, those are some of the new tools. Let me finish with what Dodd-Frank leaves alone. First, it leaves alone what I referred to as "enlightened self-interest," getting groups of creditors together to realize that it might be in their best interest to save an institution from bankruptcy. Like the creditors of long-term capital management, like what we were trying to achieve with respect to Lehman Brothers Holdings. And then the last thing to leave you with that's been left alone is lending programs of broad-based eligibility, like the Primary Dealer Credit Facility of the Fed which we used to lend to the Lehman broker-dealer to transition it into Barclay's hands. That is also left alone in Title XI. With respect to credit programs of the Federal Reserve that are of broad based eligibility and that are not targeted to single bankruptcy situations, those programs remain.

SCHWARTZ: Our next speaker is Jeffrey Gordon from the Columbia Law School.

JEFFREY N. GORDON: [CLICK HERE TO VIEW SLIDES] In this discussion of Title II, the resolution authority of Dodd-Frank, my theme is its dangers and why it is not sufficient to address the failure of a systemically important financial institution in a way that does not pull down the financial system as a whole. I don't think it will be used, but it would create an international crisis if it were. Tom Baxter gave a generous reference to the tools provided by Dodd-Frank. In my view Dodd-Frank stripped the Fed, the FDIC, and the Treasury of the tools necessary to resolve a financial crisis. It was punitive legislation and we could

conceivably pay the price for it. The Act is focused on resolving a failing financial firm and punishing the firm's shareholders and creditors. This was to redress a major problem in the Bear-Stearns rescue: despite the firm's failure, the shareholders received meaningful consideration and the creditors were made completely whole. Similarly, the AIG shareholders were diluted, but not wiped out, and AIG's creditors were made completely whole. Resolution of a financial firm that's failed should not proceed in that way.

The issue, though, is that dealing with a failing systemically important financial firm, there are two concerns: first, in resolving the failing firm, you run the risk of triggering a systemic financial event; second, the firm's failure may itself be the result of an ongoing systemic financial crisis. Thus the way that you address the failure of a particular firm and the limits placed on additional regulatory agency action may mean that you will not resolve the financial crisis; you may make it worse, in fact. I'll sketch how resolution per Dodd-Frank could either trigger or worsen a financial crisis.

My second point is that Dodd-Frank doesn't deal with the cross border elements of the resolution of an internationally important, systemically important firm. We'll call them SIFIs (Systemically Important Financial Institutions) to save time. Tom Baxter mentioned that the Fed was able to lend to the broker-dealer in the United States, Lehman U.S. It could not support Lehman in the UK. Yet the new regime of Dodd-Frank does not address the problem of Lehman UK, which a major vector of global financial distress. An additional issue is that Dodd-Frank doesn't fit with the emerging international regime. Other nations with SIFIs don't have our fixation on winding up such a firm. Among other reasons, they may have limited ability to do so. For them, "Too Big to Fail" is not their issue; it's "Too Big to Save." We may be the only country that actually could force a resolution of our large financial firms because of the

relatively small fraction of GDP represented by large financial firm assets, roughly 60 percent. In the UK such assets are 400 percent of GDP. In Switzerland, 700 percent of GDP. Therefore, the international focus in this domain is not on resolution, but on increasing the capital requirements – we see this in Switzerland and the UK, significantly higher than what Basel III requires -- and a focus on "bail-ins" at two different moments in the downward course of a troubled firm. One potential bail-in moment is a debt-for-equity conversion at the endgame, "five minutes to midnight," as it's been described, trying to preserve "gone concern" value. The second is debt-for-equity conversion at mid-stream, as a firm becomes troubled but before its end is inevitable, the goal here is to preserve "going-concern" value. The U.S. belief that you can successfully resolve these large financial firms is reportedly making the FDIC and others more resistant to the idea of bail-ins. That's a shame because we don't have the means to resolve many large international firms, much less to handle the complicated cross-border issues that would arise upon resolution of such a firms. Thus measures to make bail-ins more effective are an important priority.

The general claim of the paper on which this discussion is based is the need for an important additional tool, a systemic emergency insurance fund. Because systemic events are inevitable, because the consequences of resolving a single firm are hard to predict, and because single firm failures may be enmeshed in general financial crisis, we need standby authority that enables broader relief. The expense involved in a single firm case might be large, because taking down the single firm case may trigger a systemic event. One firm's failure may be part of an overall financial crisis. Realistically, you need an additional source of funds to capitalize other firms in the financial sector and to support the Fed credit facilities that are going to lend to these firms. The insight is this: we need the capacity to resolve a financial crisis, not just a particular

failed firm. Future crises may occur in unforeseeable ways, and providing additional standby authority enables the government to perform a critical part of what we expect governments to do.

To be clear: the emergency fund should be an "insurance fund," not taxpayer bailout fund. The fund should be generated by assessments on firms in the financial industry but its use would be controlled by the regulators, like the FDIC's deposit insurance fund. For reasons the paper develops at length, any net increase to systemic risk taking would be small. A financial emergency is no less a threat than a national security emergency, and we need to provide for appropriate governmental authority and resources to intervene.

Let's now focus more specifically on the resolution authority provided by Dodd-Frank: The legislation gives the FDIC new authority to address failing SIFIs, and it displaces the bankruptcy regime. As noted in earlier discussions, Dodd-Frank empowers the FDIC to employ a revised version of its bank resolution model, which in an appropriate case will substitute for the court-run bankruptcy model. To add one important detail: unlike a bank resolution, which is left wholly to the FDIC's discretion, invocation of Dodd-Frank resolution requires agreement among Treasury, the Fed, and the FDIC, and the Secretary of the Treasury will be the initiator, not the FDIC.

Another possible constraint is that, although the FDIC can rearrange creditor claims, the creditors have to get at least the amount they would get from liquidation in bankruptcy. But you wonder what kind of constraint that will amount to, because in times of financial distress, these assets can be valued at an enormous discount, as shown by the Lehman credit default swap auction that valued Lehman bonds at 8 cents on the dollar. The new regime is different from a bank resolution in that losses are necessarily to be imposed on the unsecured creditors, even to the extent of clawing back payments once made. The remaining losses after creditors have taken

their hit are supposed to be covered by ex post assessments on the surviving large financial firms. The FDIC has already begun to back away, particularly with respect to short-term credit claims, realizing that if you don't protect short-term claims you're going to have anticipatory runs and thus undermine financial stability.

Another difference from bank receivership is there's no pre-existing fund like the deposit insurance fund. So the FDIC will have to borrow money from the Treasury to finance a resolution. The absence of pre-funding through an industry assessment was pure politics. The stated objection was that such a fund would give the government a license for bailouts. Promoting this argument was, I think, a fairly cynical move by the banks, who surely appreciate that pre-funding would make the use of the resolution authority more likely than otherwise. Politically, the FDIC will be reluctant to borrow money from the Treasury, precisely because the use of taxpayer money will seem a "bail-out," so the regulators are likely to postpone resolution. There will be more regulatory forbearance; and when resolution can't be avoided, we'll be at a systemically more critical place.

What are the dangers of Dodd-Frank? The argument has several steps. Step one: resolution works best if the reasons for the firm's failure are "idiosyncratic," meaning firm-specific. If the reasons are more general, resolution may exacerbate rather than reduce distress. Even if we avoid counterparty failures and direct contagion risk, there is an additional vector of financial distress. Other financial firms that followed similar business strategies, and most big firms will have to some extent, may or may not present similar solvency risks like the firm that failed. There will be uncertainty about all this, including about asset valuations and particular business lines. Fearing losses, the capital suppliers begin to withdraw. Short-term markets

begin to freeze up. A liquidity crisis becomes a solvency crisis as asset values become unstable and fire sale valuations may hasten the unraveling of it all.

Step two: Dodd-Frank withdrew prior authority from the regulators that could be used to protect firms that were not then insolvent but could become insolvent with further asset valuation collapses in the unfolding crisis. Treasury can no longer guarantee money market funds after one has broken the buck. Although the Fed can create general credit support facilities (though not programs devised for single firms), new language governing these facilities in Title 11 tightens collateral requirements. This might well mean that some of the credit facilities that were critical this time would not necessarily be within the Fed's authority the next time. Critically important, the FDIC's powers (or at least what the FDIC claimed for its powers) have been cut back substantially. In conjunction with the rollout of TARP's capital support program, the FDIC guaranteed all deposits at banks and all new bank indebtedness, including obligations issued at the holding company level. The programs contemplated guarantees for uninsured deposits and new unsecured debt of up to $1.7 trillion. TARP was $700 billion. So, the scale of the financial intervention by the FDIC was much bigger than the TARP and played a critical role in stabilizing the financial sector at a critical moment.

Step three – you could go to the legislative branch for TARP II or to give this FDIC this guarantee authority, but the politics argue against that outcome. . For firms in receivership, the FDIC has uncapped authority to provide financial aid through loans and guarantees. Liquidity support, solvency support – however you define it. So, when Congress asks what happens if we don't enact TARP II, or permit new FDIC guarantees, the answer is, well, we can support these firms so long as they go into receivership. So, I think what will happen here, the risk you face is

the occurrence of close-in-time serial receiverships, falling dominos, leading to the nationalization of a significant share of the U.S. financial system.

Step four -- the crucial further point is because you're approaching the sector as a whole with the notion that the unsecured creditors are going to pay, you could well exacerbate the risk that financial instability slides into financial crisis. Why? Because of the response by capital suppliers to this regime. Instead of pulling away only from the firm that they think is likeliest to fail, they're going to pull away from the sector as a whole. This withdrawal of support, both equity and debt, will hasten the slide from the period of the instability to a period of crisis. So, ironically, the effort to avoid bailouts is going to increase the incidence of financial crisis.

The alternative here is the availability of systemic relief and my proposal for a systemic emergency insurance fund fills the gap. My idea is that you need basically to have a trillion dollars available for emergency interventions. It's 2 percent of credit market assets. You prefund it with assessments, risk-adjusted on large financial firms. The point being, even if firms may not need direct assistance, they're free riding on systemic stability. Hedge funds are free riding on systemic stability. Everybody says our assets are worth X, assuming the markets hold together. Thus the financial sector stakeholders in systemic stability are appropriate targets for assessment.

The analogy to this new emergency fund is the FDIC's deposit insurance fund. The critical point of the FDIC insurance fund is not to protect the depositors, which it does, but to protect systemic stability. Depositor protection is a means to that end. This is a commonplace observation for sophisticated parties, regardless of the official rhetoric. It was never clearer than in the financial crisis, in which the FDIC deployed the deposit insurance fund in creative, essential ways, both directly to support asset transfers but also to backstop guarantees. With the

growth of non-bank financial intermediation, we need to come up with a comparable fund to protect systemic stability in the financial sector generally.

If these ideas have gotten your blood boiling, I've developed them at greater length and try to defend them against objections, including the potential moral hazard issues, in an article in the Yale Journal on Regulation. Jeffrey N. Gordon & Chris Muller, *Confronting Financial Crisis: Dodd-Frank's Dangers and the Case for a Systemic Emergency Insurance Fund*, 28 Yale J. on Reg. 151 (2011).

SCHWARTZ: The next speaker is Randall Guynn, -Head of the Financial Institution Group at Davis Polk & Wardwell.

RANDALL D. GUYNN: I have distributed handouts on your desks, and the take-away from that is that we have finalized 5 percent of the required rules in Dodd-Frank and about 1.5 percent of the necessary rules that are not specifically required, but will be needed. So, we have a long way to go, a lot of legal uncertainty for years to come.

About a month ago I participated in a debate with Paul Mahoney, the Dean of Virginia Law School. Our topic was whether bailouts of systemically important banks or other financial companies, otherwise known as SIFIs, are inevitable despite Dodd-Frank. My central thesis here is that taxpayer-funded bailouts need not be inevitable – and I choose those words carefully. The bank receivership provisions of the Federal Deposit Insurance Act and Title II of Dodd-Frank have the potential to make taxpayer-funded bailouts far less tempting and perhaps not compelling at all. But the road to achieving a solution to this difficult problem is a long one and we have a long way to go and it's complicated by cross-border issues. Bailouts will continue to be inevitable during any severe financial panic unless the FDIC can develop and communicate to the market a credible plan for using its new and old authorities in a manner that avoids or

mitigates a chain reaction of panics and failures that could result in a destabilization and collapse of the financial system.

The new orderly liquidation authority in Dodd-Frank has been described as one of the most important new tools in the regulatory tool kit. It's modeled on the bank receivership provisions in the Federal Deposit Insurance Act, but it's been harmonized with the Bankruptcy Code to be less disruptive for creditors of the covered institutions. The FDIC has promised that this new tool, combined with the old tool of bank receivership, will end "Too Big to Fail" and make taxpayer-funded bailouts a thing of the past. The FDIC chairman explained why governments around the world found taxpayer-funded bailouts so compelling during the fall of 2008. According to Chairman Bair, the "Too Big to Fail" problem presented governments with a dilemma. They could either allow SIFIs to be liquidated or reorganized in a disorderly fashion under the Bankruptcy Code, which risked the total collapse of the financial system, or they could bail them out. So, governments did not choose to use bailouts and increase moral hazards because they wanted to. Rather, they chose bailouts as the less costly of two evils. Now, if the new orderly liquidation authority combined with the bank receivership statute provides an escape from these two evils, it is a truly magnificent tool and maybe even wondrous.

That made me think about other tools that one might analogize it to. So, I opened a book on the essentials of woodworking. If I compared the Bankruptcy Code to a hand tool and the new orderly liquidation authority to a power tool, which one would I choose? The first chapter of the book included a list of the ten most useful power tools for an amateur carpenter: band saw, jointer, table saw, planer, hand drill and so forth. But some of these tools looked dangerous to me and I didn't want to pick the most dangerous one as my metaphor. The ideal metaphor, I thought, must be the power tool that is the most useful and the least dangerous. At length, I

came across toolcrib.com's ultimate guide to the top ten most dangerous woodworking power tools, which was based on a survey of a hundred woodworkers. Number 10, circular saw; number 9, radial arm saw; number 8, chisel – I know it's a hand tool, but – 7, band saw; 6, jointer; 5, router; 4, chain saw; 3, shaper; 2, table saw; and number 1, the most dangerous tool of all, is the operator of any tool. And this left me in a quandary. If the most dangerous tool is the operator, then the safest tool could be dangerous in the wrong hands, and the most dangerous tool could be safe in the right hands. So, what distinguishes a safe user or operator from a dangerous one? It seemed, looking through this survey, that the most dangerous user seemed to be someone who doesn't use the tool very often, or who uses the tool without considering the differences in circumstances, such as the different types of wood. We'll come back to that later on in discussing the liquidation authority.

Now, I've also had some practical experience with making some simple objects out of wood. I learned how dangerous a table saw was as a young boy since my scoutmaster had a missing index finger because it was severed by a table saw. I also learned from my own experience how dangerous a table saw could be when I fed a 2 x 4 in the wrong way of the table saw and it shot right through the window. But the worse experience I ever had involved my attempt to restore an antique 8 x 10 view camera, the sort that Ansel Adams might have used. I was an over-confident teenager at the time, and I thought that my experience with raw wood made me eminently qualified to restore an antique view camera. To make a long story short, I totally ruined the camera, making it nothing but junk.

Now, back to orderly liquidation authority. I agree with those who believe that the bank receivership provisions of the Federal Deposit Insurance Act and the new orderly liquidation authority in Title II have the potential to make taxpayer-funded bailouts far less tempting and

perhaps not compelling. This will only result if the powerful new tool is exercised with wisdom and skill. If not, it has a potential to accelerate and deepen a financial crisis the same way that I destroyed the 8 x 10 view camera.

You all know why bailouts of SIFIs seemed so compelling during the financial crisis, and I won't go into much detail. Suffice it to say that banks and other financial institutions engage in what's called maturity transformation. They fund themselves with very short-term borrowings, which they use to make long-term loans or invest in illiquid assets. Maturity transformation, of course, is considered to be the essence of banking. It's the socially useful function of banks. Financial institutions and their regulators allow a mismatch between the liquidity of the liability and asset sides of the balance sheet because they only expect a limited number of creditors to actually show up on any day and expect to get paid. But if, in fact, they miscalculate and too many people show up, then the banks can't liquidate their assets fast enough to satisfy the claims. Under normal circumstances, when an institution gets into this trouble and fails, there's little or no temptation to bail it out. It seems obvious to everyone that the social cost of bailout in terms of direct taxpayer costs, increased moral hazard, and reduced market discipline, far outweigh the social costs of allowing the institution to be liquidated or reorganized under the bankruptcy process. But there are rare circumstances when bailing out certain institutions seems compelling, because the social cost of bailout seems substantially less than the cost of allowing the institution to fail. Those circumstances appear when the failure of a SIFI appears likely to trigger a chain reaction of panic and failures throughout the system that could result in a severe contraction of money and credit in the system.

To understand how severe, just think back to your Econ 101 class about how money and credit are created in a modern economy. A central bank, like the Fed, creates central bank

money, say a hundred dollars. That gets deposited in a commercial bank, and through the magic of the money multiplier, assuming a reserve requirement of 10 percent – you set aside 10 percent of that money and lend out the rest –that hundred dollars magically multiplies into a thousand dollars of money and credit. It's important to stress "and credit" here. Now, when depositors and other short-term creditors run on a financial institution during a panic, the rational response of other institutions throughout the system is to circle the wagons, increase their cash reserves and reduce the amount they're lending. If financial institutions throughout the system increase their reserve requirements from 10 percent to 20 percent, the supply of money and credit will not contract by a mere 10 percent, but rather by a whopping 50 percent or more. This is the inverse effect of the money multiplier. Now to picture the effect that such a severe contraction of money and credit could have on the real economy, consider what would happen if a weapon existed that they could vaporize all the oil that was in all the cars across America instantly. It wouldn't take long for all those cars to grind to a halt. In many cases, their engines would be permanently damaged. They could not run again even if they received new oil. As oil is to cars, so money and credit is to our modern economy.

Now, the new orderly liquidation authority is a powerful new tool. It deserves being called a power tool. It gives the FDIC enormous flexibility to decide how to structure a liquidation or reorganization of the failed institution or its business during an emergency. That's an important point. Even if it says liquidation in the title, one can reorganize the business. But it does so without the normal due process protections that apply in a bankruptcy proceeding. It can transfer all or any part of a failed institution's business to a third party, or to a temporary new institution, called a bridge institution, without the consent of creditors or a court. The FDIC can even destroy set-off rights, or cherry pick among liabilities within a single class of creditors in

violation of the absolute equality rule. In short, it allows the FDIC to move far more quickly than a bankruptcy court could during a financial emergency. And we justify this based on the emergency circumstances.

Now, I notice that Peter Wallison is in the room, and to counter criticism from Peter Wallison and others that this new authority doesn't really eliminate bailouts, but rather institutionalizes them, the FDIC has gone out of its way to emphasize its commitment to exercising this new authority in a way that insures that shareholders and creditors of these institutions, and not taxpayers, will bear 100 percent of the losses if the FDIC is appointed as receiver. This does not, however, distinguish Title II from the Bankruptcy Code or provide a credible solution to the Hobson's choice between bailout and a forced liquidation that could destabilize the system. Indeed, unless the resolution of a non-bank SIFI, under Title II of Dodd-Frank, would mitigate or avoid the severe adverse effects on financial stability that could be caused by a liquidation or reorganization under the Bankruptcy Code, the Treasury Secretary cannot actually lawfully appoint the FDIC as receiver.

Now, in order to persuade the market that the FDIC would exercise its new authority in a manner that provides a credible solution to the "Too Big to Fail" dilemma, the FDIC must not only persuade the market that it will exercise its authority in a way that avoids taxpayer-funded bailouts, but also in a way that maximizes the value of the failed SIFI and preserves its going concern value for the benefit of its creditors, minimizes its losses and otherwise persuades creditors they could be better off under a Title II proceeding, but they could never be worse off, all the while minimizing moral hazard and maximizing market discipline.

Now, although the FDIC has considerable experience resolving community banks under the bank receivership provisions, it has no experience resolving a domestic or global SIFI. The

techniques that have worked so well for resolving community banks are unlikely to work for resolving a bank or non-bank SIFI. For example, the FDIC's technique of choice is to find a buyer to whom to sell the whole bank, but there won't be any third-party buyers large enough or confident enough during a financial crisis to buy a SIFI. So, the FDIC needs to come up with something different. One of the most promising alternative techniques that the FDIC should explore has been advanced in the form of something called a bail-in by the Europeans. Now the Europeans advance this because they think Title II is downright dangerous. It will lead to liquidation, destruction of value, loss of a difference between going concern value and liquidation value. But interestingly, the FDIC actually has the discretion under Title II to do just about the same thing as a bail-in, which is effectively transferring the good business of a systemically important firm to a bridge company and then exchanging claims against the failed institution for equity in the bridge and then basically turning the bridge back over to the private sector over a weekend.

In conclusion, the new orderly liquidation authority, when combined with the FDIC's bank receivership powers, has the potential to reduce the temptation to bailout SIFIs. But because most bank and other financial institution failures come in bunches or waves, and we're going to get back to the power tool analogy here – this tool won't be used very often. So, the user won't have a lot of experience with this tool. In addition, the balance sheets and businesses of SIFIs are totally different from the balance sheets and businesses of community banks with which the FDIC has most of its experience. So, as a result, the new orderly liquidation authority also has the potential to be like a power tool that is used only rarely and without taking into account the different type of wood that's being worked on. In short, it has the power to be either the miracle tool or the most dangerous tool in the regulatory toolkit. Thank you.

SCHWARTZ: Our next speaker is Andrew Metrick, who has too many titles to recite. So, I I'll just say he knows a lot about this stuff.

ANDREW METRICK: [CLICK HERE TO VIEW SLIDES] Thanks, Alan. I am delighted to be here. I should start with a disclaimer. I was working for the Administration last year when we were working on Dodd-Frank. I was deep in the weeds of Dodd-Frank for a part of the year, particularly interested in Title II. But I think I can be objective, because despite all of my work, I think I had zero impact on the law. Michael Barr is here and can confirm during his talk that that is indeed true. So, I think I can be very objective. I thought I would leave the Administration and I would come and start fighting about all the things I was fighting about inside the Administration, only to discover that the rest of the world thought that the entire law was crazy. And, in fact, to my horror, I 99 percent agree with Michael Barr and not 99 percent disagree as I thought I did when I was in the Administration. Instead of going into the details today I want to try to give a sense of why I think almost everything that was politically feasible that could be done to attack the economics of "Too Big to Fail" was done. There's an enormous amount still to do. And, in fact, it will require the same kind of work that it required to give a central bank the reputation that it could take care of monetary policy – we're going to need that same amount of time with the government to establish credibility about this. But we do have a lot of good things in place. So, I'm going to address that kind of big picture.

First, I will talk about the economics of "Too Big to Fail." What are the key things that economists, when they look at this problem, would identify as being the issues? Second, I will assess how Dodd-Frank addresses each of these things in some form. Then I will talk about what are the big things that are left to do? Some of those things we can do with the statutory authority that's already been granted by Dodd-Frank, some might require maneuvering by the FSOC with

their broad statutory power. And then I will conclude with what is it about this problem that is, in the end, fixable?

I want to talk about four things. First, there's a cost of failure; there's an externality of failure for financial institutions that differs from non-financial institutions. And Randy discussed this. This is really an "oil-in-the-cars" analogy. If the local McDonald's fails, there may be some small externalities, but the stakeholders of that firm largely internalize them. That's not true of financial institutions. I'm not going to debate that point; I'm simply going to assert it and hope everybody agrees. The second thing is that there are the leviathan incentives here. The negative externalities increase with size. So, it's not just that two medium size banks up to make one large bank. That one large bank is more than proportional to the two medium size banks failing. And I think that's probably empirically true, though hard to prove one way or the other, but I think that's true. Since they don't take their externalities into account, and because they get more dangerous in a non-linear way with size, left to their own devices before we do any "Too Big to Fail" insurance, financial institutions are going to be too big from a social perspective. They're going to be too big from a social perspective compared to what private actors decide. That's the kind of world we inherit before government gets involved at all. That's where we'd start.

Once government is involved and government recognizes these huge externalities, I think it's going to be the case that there will always be some cases, maybe it's an external shock, where there is an optimal time for the government to intervene and do something that looks at least to some people like a bailout. Given that there are large externalities when a large financial institution fails, it's going to look optimal, at least *ex post*, and I think *ex ante*, for the government to have some strategy that enables them to do something on balance– unless you

write down a model where there's no such thing as an exogenous shock. So, I think we're kind of stuck with that. But the market participants know that. So the fourth problem here is probability of failure. This is what people sometimes portray as the moral hazard problem. To the extent that we know that the government has these incentives, and they're real incentives, because of these negative externalities of failure, counterparties want to go and be with the big guys. And since the people who are with the big guys do not really worry about failure, they end up having a higher risk of failure because of that. So, this is the cycle that keeps going and going, and, of course, the more it looks like the government is going to bail everybody out, not just the cases that might appear to be optimal *ex ante*, but all cases, the more severe this moral hazard, this last probability problem becomes. So, if we're going to attack "Too Big to Fail," if we're going to deal with all these problems, they're going to have to deal with each of these things in some way. And I think Dodd-Frank does do that. There are pieces in Dodd-Frank that deal with each of them.

First, the costs of failure. There are a lot of reasons why large institutions create more disruption than small institutions. But here are some ways that the statute fixes that. The swaps clearinghouses are enormously important. Lehman Brothers, for example, had a flat book at the time they went bankrupt, meaning that if you had netted out everything they had, it basically would have netted out to zero on the derivative side. But it still turned out to be very disruptive in a variety of ways, not directly through the derivatives market, but through runs by their creditors because of the way derivatives get dealt with in the Bankruptcy Code. And, in fact, if we took this gross exposure – where a party has big exposure on one side, big exposure on another, but it nets to zero – and throw it in a central place where we can pay attention to it and

there can be collateral, that could significantly lower the cost of any one institution failing. The amount of disruption is just a lot lower if we can do that.

Second, orderly liquidation, which is the main topic for this panel, can lower the cost of failure as well because we have a way that firms can fail not so fast. So, they're still failing but they're failing in what we hope is an orderly way. Some of this has been discussed so far today. I don't want to go into the deep weeds here, but to me the most important part of this is what Randy mentioned toward the end of his talk, which is the ability to move lots of these assets into a bridge and to capitalize that bridge. This is essentially a way for the government to provide liquidity. The government needs to be able to provide liquidity in a crisis – that's what the discount window is, that's what Fed lending is – we need a way to get effectively the taxpayers to front money, even if they're eventually going to get it back, when there is a liquidity crisis. It's only the lender of last resort that can do that. And the bridge bank, in Title II really provides that, which means that the rules for how we're going to set up that bridge bank are very important, and I'll come back to that later. But it does provide a way to allow these institutions to fail slowly as opposed to fast.

Living wills, which I think are not a panacea for anything, but are useful going in to have an idea of what kinds of exposures different banks have to different counterparties. We don't have to call everybody into a room on one specific Saturday and Sunday and have them tell us, or make phone calls around, as I think some of Tom's colleagues must have done, to ask "what's your exposure to Bear?" Incidentally, calling people on a Thursday and asking, "what's your exposure to Bear?" is not so stabilizing for the markets. So, it's good if we have some kind of regular reporting process for that.

Finally, the broader regulatory oversight by the Fed and the FSOC. It is enormously important that every large complex systemically important institution be overseen by the Fed. This is extremely important because we didn't even know AIG had a problem until about a week before they had to be bailed out, which is just crazy. So, we did have a better idea of the status of Citi and Bank of America, and those places. We need to do better with that. We would reduce the cost of these things immensely if we had a little more lead-time.

The leviathan incentives here are just that if you get bigger, your externalities get bigger, you're still covered by implicit or explicit "Too Big to Fail" insurance. Even in a world where the government promises they won't bail you out it, we don't believe them completely. You're always going to get a little more of a benefit the bigger you are. And the right way to combat that is to force these large institutions to internalize that externality. Many economists, myself included, would prefer something that would look more like a Pigovian tax. If we think size is bad, and size imposes negative externalities, let's have some kind of tax on that. That's never really managed to get traction. Having higher capital ratios does the same thing in terms of imposing the cost. It just doesn't raise any revenue while it does it. But it does impose higher costs, and it does have the benefit of also lowering the probability of failure, which I'll come to later. So, having higher capital requirements on systemically important institutions, I think is really a good step for trying to force them to internalize these externalities as they grow bigger and bigger.

The story according to some is that "Too Big to Fail," just means too big. So, why not in this law just set a law that says, you can't be bigger than X. That will solve the "Too Big to Fail" problem. For example, you can't be bigger than 2 percent of GDP, and so on. It strikes me that in doing enormous legislation like this, such a law is an irreversible, costly and potentially

disruptive thing to do based on no evidence at all. And I say based on no evidence at all because look at the Great Depression. In the Great Depression we had only small banks. That was our problem. We had only small banks that weren't well diversified. They failed boom, boom, boom, one right after the other. That was one problem. Lehman Brothers actually wasn't that big. They would fall below a lot of the thresholds that are out there being debated. And the first-order problem when Lehman failed was a shock to the shadow banking system, not a shock to other "Too Big to Fail" institutions. And so, really, you can have a shock to the financial system that doesn't just come from "Too Big to Fail." It's not the only problem that's out there, and cutting the size of banks just may make it move all of these risks into places where we don't see them. This is the old statement, "put all your eggs into one basket, but watch that basket very, very closely." That's something that is helpful in this particular case. If we know where a lot of the risks are, we can watch them.

It is the case that facing the collapse of the financial system – I think there are always going to be some cases where the government feels the need to intervene. Orderly liquidation really gives them that third option, that thing between bankruptcy and bailout, which is part of the problem. You're going to think they're going to bail out everybody if they have very few other choices. Furthermore, as has been mentioned earlier, a lot of the things they could do before are now either impossible or much more politically costly *ex ante*. You have got to pay a lot of political costs to do them. So, if you're a market observer looking at the government, you have got to think it's a little less likely they're going to bail people out than before. It's just harder for them to do it than it was before. So changing the cost-benefit for the government can affect the way the market looks at it.

Why not put in a law that says you can't bail them out? Let's make this absolutely as tough as possible. It just seems completely impossible to me, since the President can go to war if he wants, even though the Constitution says he can't; he can go to war without Congress – I think he can bail out Lehman Brothers without Congress, if push comes to shove. So, I don't think writing a law in this way to completely tie our hands would even be enforceable.

Finally, to mitigate probability of failure, one of the things that we've done is impose higher capital requirements. They're not a tax, but they do have this benefit of lowering the probability of failure. And also stricter and more comprehensive oversight I think is important. Now, here's where people will say, well, regulators can't possible do this job. Regulators can't possibly be the ones who can figure out what these firms are allowed to do and not do, and I agree that regulators are never going to be perfect. But at least now, somebody is looking at some of the things. There were a whole lot of things before there was nobody even looking at. That's pretty defeatist. If you can't even look into the firms then there's no way we could do anything. Now, at least we have that oversight.

What's still left to do? Three things: On rule writing, there's a ton to do. We just heard from Randy about how we've only done a couple percentage points of it. I could imagine if I was suddenly made dictator, which has not been a job that has been offered to me anytime, that you could fix a lot of these problems by having very high capital requirements for equity, having a lot of things at the bottom of the capital structure, and really letting the short-term debt holders off the hook in some way by moving them to the bridge under Title II. So, the FDIC can write the rules this way. They moved a little bit towards this. This is not giving people a break. You're forcing them to hold more and more capital. That's the expensive part. The important thing for everybody to remember is that short-term debt holders do not do a good job of monitoring

companies ever, ever. They run. If a short-term debt holder sees that there's a problem, it is not going to check on it anyway. So, saying that we're letting them off the hook, or we're creating moral hazard, isn't helpful. We really need a system whereby there are folks who have a good incentive to do monitoring, we make sure there's enough of them, and then we make sure that those who can run in a crisis have no really strong incentive to run. So we can still get there through rule writing, but it's going to require a lot of cooperation.

Shadow banking – I mentioned this earlier, and Gary Gorton may have talked about this a bit in his talk, but Gary and I believe a lot of this crisis centered in shadow banking. Dodd-Frank doesn't address that. It's really much more about the "Too Big to Fail" problem. There are a lot of good political reasons why it doesn't. The thing that makes me hopeful is that the FSOC has broad authority to look at systemic risks and to shame, force and push regulators who already often have the authority, like in the case of money market mutual funds, to write rules that can make those things safer. So, I'm still somewhat hopeful on that.

And finally, all of this will work only in the long run. We change the incentives of government. We give them more options. All this only works if market participants don't believe that everything is going to get bailed out. We have to get to that point. We can't snap our fingers and make that happen. So, this will take a long time. We need smart looking rules; we need people to say the right stuff; if you're skeptical about that, well, it's good to be skeptical, because who would have believed in years of hyper inflation we could ever get central bankers who would look credible and who would be able to fix these kinds of problems. So, I maintain some optimism on that. I think we put good rules in place and that's all we could do in the law that would enable the government if it acts well to develop that reputation in the long run.

SCHWARTZ: Thank you very much. Before we open this up to questions from the audience, I wondered if any of the panelists have reactions to any other of the panelists.

GORDON: Briefly to Andrew's comments. First, I wonder if you agree with what I saw as the nationalization outcome, given, as you said, the *ex ante* political costs of going for the kind of authority that the FDIC had, much less TARP II? Secondly, Simon Johnson's book is a polemical statement, but I think in fairness to him, his concern is the political power of large banks that distorts the ability to bring regulatory oversight to bear. So, Gary Gorton this morning should have read some legal literature as well as the economics, because he would have understood that the institutional dynamics were not all about deposit insurance. That's not the only law that was relevant. Important elements of the framework were set by Glass-Steagall, then changed by Graham-Leach-Bliley. A series of laws and regulations changed the world in which the banks were able to maneuver. The banks have persistent power over the rules, because except for extreme moments, rule writing is low-visibility, favoring concentrated well-financed interests. And so, that's an independent reason why one might be concerned about Leviathan.

METRICK: The first question on nationalization, were you talking about the fact that we don't have an international system for resolving these differences?

GORDON: No. Rather, if one large institution fails, the resulting liquidity and solvency risk to other institutions and the absence of any other way to get support to them except through receivership, could result in nationalization.

METRICK: Okay. Let me answer both of those. They're both good questions and I have a view. Maybe you'll disagree. You mentioned both solvency and liquidity. I think you're absolutely right about what you will see here. Liquidity crises happen when people get worried

about solvency. But then the liquidity crisis takes on a life of its own. And the key is to provide mechanisms for the government to stop the liquidity crisis or run from happening. The reasons we see these things happening in bunches is that we don't have that ability. We create that ability through orderly resolution, and the bridge banking ability to capitalize the bridge bank. Once every counterparty doesn't have to worry that they're immediately going to get killed, we won't see these runs. I don't think that that's going to be the big problem. If you take a look at what happened in the Great Depression, after we finally had a credible statement that people wouldn't lose all their money in the banks, everything just stopped. Instead of having a run on every single bank, it just stopped.

GORDON: It's a similarity risk. If all the banks are following similar strategies –

METRICK: But again, you're talking about solvency. Your statement is that they are following similar strategies. They often dump everything at the same time and they're all going to have a solvency crisis. If they don't have to dump everything at the same time, because there's not a liquidity run, then I don't think you have a solvency crisis. I don't think we'll settle this here, but that would be my view.

On Simon Johnson's view, I don't think you need big banks to have a political problem from the banks. I think twenty banks that are 1 percent of GDP are very good at organizing and paying lobbyists, just like one bank that has 20 percent of GDP. I don't see why there's going to be a very big difference in political power from those two regimes. Furthermore, he takes a lot of shots at people. Anecdotes aren't so good, but I worked in government, and people are not taking the calls from the bankers all day. Michael Barr is no friend to the banks – sorry Michael. It's just not the case. Certainly I didn't see it. Now, it could be lobbying in Congress it's a big

deal. It's hard to pass things. But I think you would still have an issue, with very small banks the industry is very good now at organizing and hiring lobbyists and getting their bidding done.

BAXTER: On the issue of "Too Big to Fail," there is a power in Dodd-Frank that some cognoscenti refer to as the dismemberment power. Positively medieval! It's in Section 121, and it says that the Fed, after it goes through a series of conditions and procedural safeguards, can, in order to mitigate a threat to financial stability, require a bank or non-bank SIFIs to sell or otherwise transfer assets or off-balance sheet items to unaffiliated entities. So, with respect to this "Too Big to Fail" concept, one of the powers in 121 is you can require an institution to get smaller. Now, in a crisis, on the basis of my experience as a Federal Reserve lawyer for more than three decades, it's very hard to sell subsidiaries that are not really valuable in a crisis. Sometimes these things look good on paper, but they really don't work in the middle of a crisis. But there is this dismemberment provision within Dodd-Frank as a part of the new tools that are found in Title I.

GUYNN: I'm not persuaded that if you break up large institutions you necessarily lower risk, which I think is Andrew's point, because the lessons from the Great Depression seem to be the banks were all too small. We need to make them bigger and more diversified. The lesson now, because we start in a different place, seems to be "Oh, they're too big, and we need to break them up." So, we draw different lessons depending on where we're standing. The other thing is I think this whole discourse about "Too Big to Fail" would actually benefit from some common agreement on terminology. When the word "bailout" is used, people mean very different things. I would not say that the discount window is a bailout. That's providing liquidity. I frankly wouldn't say deposit insurance is a bailout, even though it creates moral hazard. I wouldn't say the § 13(3) is a bailout – that is a liquidity provision. It just happens to

be for non-banks. But there are other people who kind of use those terms as if that is a bailout, and until we somehow sort that out, we almost talk past each other when we talk about solutions to bailout.

BAXTER: I agree. I think bailout is a pejorative. You need to talk about rescues, and there are some good rescues and some that are not so good.

SCHWARTZ: We'll open this up to questions.

ROMANO: Well, I wanted to ask a question on the size issue as it affects regulators' incentives, because presumably, if you're a regulator, you're much more worried about letting the really big one fail as opposed to twenty, or are you not? I think that the issue when we think about "Too Big to Fail." is the government's incentives, that – no government actor wants to see what will happen if a large institution is permitted to fail. And after trying it with Lehman, they will not be trying it again. I know you believe that Lehman's failure is what caused the start of the crisis in the shadow banking sector. Could you address that argument?

METRICK: That's in the basic framework. We know when they get bigger, the externalities get bigger.

ROMANO: Carmen Reinhart, whose research with Kenneth Rogoff indicates that governments have been bailing out large firms for centuries, stated that her ideal solution was actually to have smaller size banks, but the transition cost of doing that immediately would be a problem.

METRICK: Are we sure? I mean "Too Big to Fail" is not the only thing that we care about. What is that world going to look like? It may be a world that just has big banks in Europe, and just has all of the systemic risk in places that is going to affect us almost as much, and we don't have a financial sector anymore, and who's going to donate money to Yale

University in that world. So, I think there are trade-offs there. The way to fix the fact that the externalities are bigger when they're bigger is to force them to internalize that and then let the market try to figure out what the optimal sizes are rather than use command and control. It's the same problem we have with almost anything that's out there that we think is a negative externality. We can even call it a pollutant. If the government is sure exactly what the right level of it should be, it can say, but I have no idea of whether 2 percent is the right number, or 1 percent is the right number, or 3 percent is the right number. Once we set it in the law, how are we going to tweak that?

GUYNN: Let me just comment. I actually don't agree that the regulators would find it easier to let the small ones fail, because it depends on whether 20 are all failing at the same time, and if they are, then you may not call it a bailout – we're getting into the definition issue again – but they'll say, oh, we need a systemwide program, like the temporary liquidity guarantee program, and then all of a sudden that's not a bailout, because it's not for individual institutions. But it's the same taxpayer exposure, creates the same sort of moral hazard. In fact, I think the limits that Congress put on the § 13(3) power could actually create an incentive to bail out more rather than less, because you'd be facing a situation saying, gee, if I want to bail out the following three big guys, I have to bail out all the community banks too, and so I guess I'll bail out everybody.

SPEAKER: I have a question specifically about instruments that Andrew mentioned quickly and were also mentioned in the previous panel, but seem to get such short shrift notwithstanding the fact that they had such a significant role in the crisis, and those are credit default swaps. In particular, I'm really baffled about the clearinghouse issues. We're talking about not just banking institutions, but non-banking financial institutions (I guess you could

describe AIG that way), and the potential that they have to trigger contagion by their participation in certain financial product markets. There seems to be a real gap in attempting to sort out what will qualify as eligible for clearing and ineligible and real transparency and disclosure concerns there. So I just want to know if Andrew or others on the panel wanted to speak to that.

BAXTER: I think you're absolutely right. I mentioned real briefly with respect to new tools, Title VIII, dealing with financial market utilities. And I think that you want to look closely at the provisions of Title VIII, because some of the new procedures in Title VIII, like access to Federal Reserve liquidity, could deal with a situation where you have a clearinghouse in which you are concentrating risk, which then has a liquidity problem. That could be our next crisis, so we don't want to fight the last war. And there are provisions that deal with having central bank accounts that deal with access to the Federal Reserve liquidity. Those are very important provisions, looking toward the future world, where you are going to have clearinghouses that are going to concentrate risk.

METRICK: And even before we get to the point that clearinghouses are in trouble, or ask questions about the CDS themselves, there are a lot of open questions about what will and won't end up in clearinghouses. I think if it were up to the people that I worked with last year, many more things would end up in those clearinghouses. But the important thing is, to the extent that the right incentives can be made to push stuff into clearinghouses, we would know about AIG's exposures and the clearinghouse would be forcing them to put up margin much earlier. And so that part is in Dodd-Frank. There are enormous fights about what would and would not go in, in part because the financial services industry makes a fortune off of the stuff that is not cleared. But I do think there is provision in the legislation to get us there – to answer that part of

the question. There are other things, such as money market mutual funds and parts of the repo system, that are not in the legislation.

SPEAKER: If I could just ask a question about the hypothetical failure of a major institution, such as JPMorgan, my first question is, from the Fed standpoint, from the standpoint of the systemic risk regulator, if JPMorgan were to go down, hypothetically, I assume that the Fed would provide liquidity so that crucial plumbing functions in the financial market, such as the clearing of tri-party repo would continue. So in that case, where does the systemic risk come from, and if that risk is primarily that the money markets would become afraid because of all the JPMorgan instruments that they're holding, how would the orderly liquidation prevent that panic? And then the second question is about the transfer of the qualified financial contracts to a bridge institution. As I understand, the law operates as a stay on the exercise of closeout rights by their counterparties. And does that not create incentives *ex ante* for parties to make more collateral calls before the institution becomes insolvent?

GORDON: I can respond to the latter point. The book needs to switch as a whole book. And there's no reason that you would be exposed to a greater degree with the bridge as a counterparty –

METRICK: Well, there is a stay. So you can't do a closeout until it moves to the bridge, and they have three days to do the bridge.

GORDON: Exactly right. But you have to move the whole book. You can't cherry pick winning positions in the move to a bridge.

GUYNN: The key is that the bridge is going to be a creditworthy counter-party, so why would you need to exercise the close-out rights?

METRICK: The incentives you point out, I think, are real. So, there is a sense in which, since you can't close out immediately, you're going to want to call for collateral earlier, you're going to want to close out earlier, that's a problem. And I think people are thinking about it, they're focused on it – there's not an easy solution. One idea would be just to have things that meet a certain definition immediately move to the bridge.

GORDON: What would be the liquidity the Fed could provide?

GUYNN: Let me answer the first question: what would happen to all those systemic operations and how would it work? If there were really a collapse, a failure, first of all, the Fed still has a lot of its tools in terms of the discount window and so forth. But if those liquidity tools weren't enough because they were actually insolvent, then you could actually transfer the viable and the systemically important part of the business – payment system and tri-party repo, and so forth – to a bridge. Now there is one question about the bridge that hasn't been answered yet. Title II, in fact, doesn't answer much specifically, so most of this has to be answered by the FDIC and, at least historically, their habits are not to answer a lot of questions but to preserve flexibility. But they're doing a little bit different job here with Title II. They have now proposed a rule that would say when you transfer those contracts to a bridge, they're actually enforceable against the bridge. What they need is they need to go a step further and say, "Who is standing behind the bridge?" I mean, what is this thing? Is it capitalized? Is the government standing behind it? Who's giving the credit support there or is it adequately capitalized? And that's an unanswered question, but presumably it will be answered at some point.

GORDON: This is part of the tension in the Act. Take the case of the money market funds. They're creditors, but not set up to bear any losses. The risk of loss can easily trigger a run, as we saw, with grave systemic implications. Yet the theory of the Act is to impose losses

on all the unsecured creditors, to encourage discipline ex ante and then to assure that creditors, not taxpayers, bear the cost of failure. If you switch money market claims to the bridge bank and you guarantee that the bridge bank is going to pay them a hundred cents on the dollar, then you've undercut part of that. What part of the credit claims of the failing financial firm are you going to switch to the bridge bank? Because insofar as you've sent them to the bridge, in order to be credible, the bridge has got to protect those claims. Congress wanted to punish, as opposed to really rehabilitate, the word that Tom Baxter used, and the issue is whether there will be enough flexibility and good sense in the FDIC to come up with a somewhat different strategy.

One final point I think is very important – the claim was made that even though authority doesn't exist, the Fed will somehow do it; the Treasury will do it, in a financial emergency. That is just wrong. These folks are rule constrained. Tom Baxter's lawyers looked for authority before they said whether the Fed could aid Lehman Brothers or Bear Stearns. If the authority is not there, and Dodd-Frank cuts back a lot of it, I think you're kidding yourself to think that the President is going to send in the troops.

SCHWARTZ: On this happy note, thank you very much.

Session III: Housing and Mortgage Market Reform

ROBERT ELLICKSON: Okay, we're ready to start. Our topic is Housing and Mortgage Market Reform. We have an all-star panel here. However, we will dispense with the elaborate introductions and we'll start with Chris Mayer, Columbia Business School.

CHRISTOPHER MAYER: [CLICK HERE TO VIEW SLIDES] Thanks a lot. I'm very honored to be here, and I must also say that I'm probably more nervous about this talk than most that I do, because I'm talking to an audience that knows more about the subject that I'm speaking on than I do. And unfortunately, my co-author, who does know a lot about the subject, which is the law of contracts, is in Spain at the moment. That's Ed Morrison, who's at Columbia Law School. This is also joint work with Tomasz Piskorski, who's a colleague of mine at Columbia Business School.

This talk is going to focus on how we got into the problems in housing, and whether there are some practical solutions to prevent some of these problems in the future. And I think changes in contracts or changes in legal rights might particularly help prevent some of these problems in the future.

Right now, there's a once in a generation opportunity to redo mortgage finance in a way that benefits consumers, and reduces the costs associated with future housing and financial crises. I certainly don't believe that, whatever policies we pursue, we're going to get rid of crises any time soon. Our goal should be to reduce the cost of them. So my talk is going to focus on some inefficiencies that developed in markets and how we might fix them.

The first inefficiency is the whole process of refinancing. That is, consumers often paying very high fees to refinance mortgages that left them with high debts. The second issue I will discuss is the securitization problem, which has been long talked about, but which I'm not

convinced we've yet really addressed adequately. In particular, servicers of privately securitized mortgages renegotiate too few loans leading to excessive and socially costly foreclosures. The third issue is second liens. And again, this is a particular structure that's been a problem, and there are serious concerns that mortgages with second liens have been very hard to modify. There has been concern in Washington –I'm one of the few people who's here who has not been in D.C. solving things, although I've been firing shots at those in D.C. from time to time – but the problem of second liens has also been a big issue, and again our belief is that there's lots of evidence to suggest that the inability to deal with second liens has also led to costly and excessive foreclosures.

By the way, for the rest of the time, I'm just going to assume that you all understand that there are many social costs associated with foreclosure, so whatever the privately optimal outcome is, there may well be a government role in mitigating foreclosures, particularly in circumstances where there's an excess incentive to do it already. How much of that is an open question, but I think there's a strong government role in trying to prevent, if at all possible, costly foreclosures while maintaining incentives for homeowners to pay their mortgages.

This is a really serious problem. There are still 4.3 million mortgages that are in some state of default or foreclosure. The recent decline in foreclosures is due to problems in enforcement and securitization. If one were to really look at desired foreclosure actions, almost surely, they're higher than this. But this is on the order of 700,000 a quarter. If you were to tell me that 700,000 American households, not just people, households, were going to get a foreclosure notice and it wouldn't warrant the mention in the State of the Union address, I would have found that to have been unbelievable. But the problem has been we just haven't really figured out much to do, and as a result, it's become much more of a depressing issue. It's not

that people in the administration don't care; it's that they're not really sure there are things that they can do that they think are politically feasible.

I want to focus on the first issue, which is refinancing. I will show you a picture-the red line is refinances; the green line is purchase money mortgages. Refinancings peaked at about 14 million refinancings in 2003. So, between 2003 to 2005 – those three years – 27 million mortgages were refinanced in the United States. And every year but one since 1999 refinancings exceed the number of purchase mortgages made. And this happened even before the big boom in subprime lending. This is a real period of subprime excesses, and this is enormously costly to homeowners for a number of reasons. Just the direct cost, $2000 per mortgage, that's $54 billion dollars spent on refinancings. Who are the ones most optimally making refinancing decisions? Well, it's financially sophisticated households. Who are the ones who are going to get stuck with high fees and do things sub-optimally? It's the least financially sophisticated households. So, we've written mortgage contracts that encourage frequent refinancing, and that refinancing disadvantages consumers that we'd like to help.

As well, although not in this particular crisis, the existence of refinancing also reduces credit to some of the least creditworthy borrowers, because of what is in the insurance industry called reclassification risk. Let me explain reclassification risk. Imagine you're giving insurance to people – what we know is the healthy people don't take health insurance, and the sick people are the ones who take health insurance, and that makes health insurance more expensive and less readily available. In mortgages, you have exactly the same thing that occurs over time. Take two risky borrowers: one of them is going to get a good shock, get a good job and do well; the other one is going to continue to be in the circumstance where they're just getting by. If you take a pool of those two people, the one who does really well is going to

refinance their mortgage within a year and go get a lower rate. The one who's really risky is going to stay in the pool. This is called reclassification risk and it presents a problem for people who want to lend to risky borrowers, because lenders have to charge really high up-front rates in order to compensate for the fact that the only people left in the pool after a year or two are going to be the riskiest borrowers. As a result, those higher rates lead to all sorts of problems.

The solution to this, by the way, counter-intuitively, is actually to not allow people to refinance, which is to limit prepayment, and thereby, what you're doing in some sense is requiring insurance. You're not letting the people who do well after borrowing get out of the pool and, as a result, they provide insurance to the people who get bad shocks. That is the intuition in a paper I've written with Tomasz Piskorski and Alexei Tchistyi. It suggests that the benefit of prepayment penalties is actually to risky borrowers. We have data that shows that the people who got the biggest reduction in up-front rates with prepayment penalties were actually the riskiest borrowers and were people with junior liens. These results are not consistent with the view of people who took mortgages with prepayment penalties just having been misled. That doesn't mean everybody understood the contracts they were doing. If we look in other countries – if you look in Canada, if you look in many parts of Europe, prepayment penalties are a consistent part of most mortgages and they are particularly available for risky borrowers. And I think as we go forward, a standardized kind of contract that potentially includes prepayment penalties is the kind of thing that can be explained to people. That is, people in the rest of the world understand prepayment penalties. If you just look at a bank website in Canada, it's enormously transparent what's happening – just go to TD Bank or whatever on your iPad or on the computer right now and go look up a Canadian bank, and you'll see this. Mortgages with prepayment penalties have become the dominant form of the contract.

So, why do we want to use prepayment penalties? Because they reduce costly refinancings; it reduces the number of times that people are going to make bad mistakes and get stuck; and it also lowers the cost of credit for the riskiest borrowers. This is the solution used in much of the world. Well, if this is so great, why don't we have them here? Well, as it turns out, there are two reasons, the biggest of which are Fannie and Freddie, who have dominated the mortgage market and have been unwilling to enforce them. And because they dominate the market, there is no private market for other kinds of contracts for most borrowers, except subprime loans to the riskiest borrowers. What happened during the subprime crisis, I think, was the start of looking at other kinds of contracts, but people didn't understand what was going on. So, I think there are a lot of opportunities for us to think about prepayment penalties in a more responsible way.

Second thing – and I realize I'm going to have to move through the next two quickly– the next two are ones you're more familiar with. The first is that securitized mortgages are modified too infrequently. We've all read about servicers doing this. My best guess estimate is, because of securitization, we may have seen upwards of 500,000 too many foreclosures out of several million – that's a really, really big cost to society, to consumers, and to lots and lots of other people. And the thing is, it's not like just consumers are complaining; investors are complaining too. Investors don't like what servicers are doing either, because they feel like the servicers are cheating them, and they're trying to get standing in court to sue the servicers. You see you have homeowners and investors who want to come to an agreement, and the servicers in the middle aren't letting it happen. That's obviously a problem. It doesn't take much to understand what we should do about it. There are lots of conflicts of interest. Some of the servicers are banks who have second liens. Some of the servicers earn fees through foreclosure. There's just a

series of problems. Servicers are not compensated appropriately for servicing troubled mortgages. Trustees aren't compensated appropriately, and some of them are conflicted also.

What are solutions to this? I'm just going to lay out a laundry list. Some of these are available in Dodd-Frank. My biggest solution, though, is, in fact, skin in the game. And you might tell me, Dodd-Frank already has that. Well, as anybody who reads carefully knows, there are these things called qualified residential mortgages. And for a qualified residential mortgage, you don't actually have to have skin in the game. People with commercial mortgage backed securities are arguing, in fact, that we don't need skin in the game; we just need a group of investors who are going to investigate these and say they're okay. That didn't work so well the last time, you know, with CMBSs, but maybe somehow it's going to work better this time. I'm skeptical, as you might guess. I would just emphasize that one of the other reasons for skin in the game is to align incentives. And everybody focuses on the losses put to investors. But there's a separate loss, which is the thing that led to the 500,000 excess foreclosures, which is that the servicers, because they're conflicted, because they don't have the incentives to do the right thing, are actually not going to behave efficiently. And that means that even above and beyond the issues with Dodd-Frank, associated with protecting financial institutions, there's a separate, and to my mind, equally important reason to require skin in the game for everybody, because of the misaligned incentives between servicers, investors and homeowners.

Now, you might say again, well, what's the problem with this? Why do we need regulation? Well, I think the problem is that it is very difficult for the parties to draft contracts that properly align incentives. And when you get the contracts wrong, there are large social costs associated with this. I think partly people will get these contracts right in the future or they'll get them more right, but because of these large social costs there's a legitimate government role in

making sure that we have a more stable housing and financial system that makes it easier to have the government eliminate barriers to collective action. For example, in some of these agreements, we should also require disclosure of conflicts of interest, and also have a strong skin in the game requirement.

The third thing I want to mention is second liens. I'll do it in two minutes and then duck. There are many people in this room who have argued for mortgage cram-down as a solution to the second lien problem. I want to say one thing to start, which is that the problem with second liens is a little bit more limited than people say. You hear a lot about how many people are delinquent on their first and current on their second. And I would say, well, there are also a lot of people who are delinquent on their first lien, who are current on their credit cards and student loans. So, if you tell me that a second lien is an unsecured debt, there's no problem. If you tell me a second lien is only secured debt, the only claim is the home, then I'm going to have a different view. However, the way second liens are written, and the way banks will claim they were originated –second liens are as much like consumer debt as they are about being a lien on the property. We would never go to a credit card issuer and tell them, well, you're going to have to stop accepting payments until the person pays up their mortgage. Well maybe we should not go to a second lien-holder and tell them you have to accept a cram down when the borrower is paying off the second lien.

I have an example in here that uses math to explain the intuition behind our idea, but do not have time to go through the slide. Basically we have a policy solution that clarifies when a second lien can have a claim on a property and when it should face an automatic strip down and be converted only to unsecured debt. We would require a provision in any second lien issued that if two conditions were met, that second lien would automatically be converted to unsecured

debt, which is what would happen in bankruptcy anyway. The first provision is that the first lien holder agrees to reduce the principal balance; and the second is that the first lien holder can show that the appraised value of the home is less than the mortgage balance on the first lien, which means the second lien is out of the money.

There are many inefficiencies associated with second liens – I don't have time to talk about all of them. Actually, the hold-up problem encourages people to use second liens, which then encourages homeowners to take excess debt and to take it in a form that is very hard to negotiate. So, the incentives are bad. But, again, I think there are policy solutions to these problems.

So, in the end we've identified costly refinancing; conflicted servicers; and inefficient second liens as three really important things to worry about. And these are all things that are in active policy conversation, and there are opportunities to address them all. Thanks.

ELLICKSON: Our second speaker, Robert Shiller, Yale Department of Economics.

ROBERT J. SHILLER: First, I think it was interesting to hear Chris advocate prepayment penalties, which we had learned to think of, since subprime mortgages tended to have them, as a source of evil. Ironies of finance: things that we are accustomed to thinking as evil really aren't. The other example that comes to my mind recently is microfinance. These people are charging really high usurious interest rates. And we used to think they were evil. But now with Muhammad Yunus winning the Nobel Peace Prize, it's looking altogether different.

So, I was going to take a bigger picture. We're here to evaluate the Dodd-Frank Act, I think, but, unfortunately, it's almost a thousand pages long. I did look through it trying to think about how it deals with the fundamental problems that we face. The fundamental problem is, I think, that we had huge bubbles in the stock market, in the housing market, the commodities

market, and they weren't dealt with appropriately, and when they crashed, all kinds of problems emerged as a result of our ill preparation for this.

This session is focusing on housing, but I do think of it as central to the big macro issues that underlie this crisis. The subprime crisis was the big event that launched all of this. It seemed to come from the U.S., but not entirely. I'm struck at how, if we're going to look at the big issues and the big questions, how much lack of agreement there is on the causes of the subprime problem. I was reading Peter Wallison and his dissenting opinion in the 2011 Financial Crisis Inquiry Commission Report. And he says, I'm quoting him, "the *sine qua non* of the financial crisis was U.S. Government housing policy." That's a strong statement and I think it's an interesting statement, because it did start here and we did call it the subprime crisis. But I'm not sure if I would write it in such simple terms, because, first of all, this was a worldwide crisis. It wasn't just the United States that suffered a real estate bubble and collapse. It was a lot of places. Some of them are doing it belatedly. There are some forces here that maybe are a little bit hard for us to understand.

I was thinking about other people who have written deep analyses of this crisis. One that is particularly interesting is Raghu Rajan's book called *Fault Lines: How Hidden Fractures Still Threaten the World Economy*. And he has a really refreshingly different analysis. He thinks that – and this is controversial – credit policy has been used by governments, like the United States Government for political reasons to offset deep problems that they don't want to address. Notably, income inequality is increasing in the U.S. and in many countries around the world. If you're a shortsighted politician who wants to get re-elected, you might take the policy of let's throw them mortgages – he has a chapter entitled, "Let Them Eat Credit." And that's what we've done.

We're evaluating Dodd-Frank here. That's why I'm bringing up these deep issues and asking whether Dodd and Frank got into those deep issues.

Another perspective, which is also refreshingly different to me, is the idea that the real problem here is that the financial community has gotten too influential and has bought out the government. This view is put forth forcibly by Jacob Hacker, who's in our own Political Science Department, and Paul Pierson, in a book called *Winner Take All Politics*. In that book they document what they call the "Thirty Year War." Ever hear of the Thirty Year War? Well, that's the last three decades, and the war that the financial community has raged on the American people by bribing congressmen and lobbying for protections and winner-take-all type of protections.

Now, I have my own view of this crisis, which is more sociological. I've written a book called *Irrational Exuberance*, and then George Akerlof and I wrote a book called *Animal Spirits*. We're a little different. We don't really have villains. I mean, it's not the rich people; it's not the politicians who are trying to dupe the public. It's more that we had bubbles, and that bubbles are generated out of complacency. They're generated by the people. They're like an epidemic social contagion. It seems to me that we need Keynesian stabilization prophecy. You, Peter, won't agree with that.

I was going to quote Peter Wallison, on one thing – I like to give credit where credit is due, even though we may not agree on everything. In 2000, he wrote a book with Bert Ely *Nationalizing Mortgage Risk: The Growth of Fannie Mae and Freddie Mac*, and I have some quotes here from that. He documents how Fannie and Freddie were already then making more and more risky loans with an implicit government subsidy. Because of lower down payments from more financially challenged borrowers on properties that may not hold their values well

during an economic downturn, losses on subprime lending could be much higher than on higher quality loans. That's how he put it in 2000. That's not quite a prediction of the current crisis – but it's getting there. And this is in 2000, way before the current crisis. So, the deep question to me is why didn't people listen to Peter's warning? That gets back to the fundamental issue. Why didn't they? Now, it is worth noting that I actually didn't read your book, Peter, until recently! . It was on my reading list for years! But it really gets back to the question, why didn't people listen. And it seems to me that – and this is the point – a big part of Dodd-Frank – the Financial Stability Oversight Commission is supposed to recognize these problems and deal with systemically important financial institutions before any crisis happens. But the last time around we didn't see it coming. And the few people who warned of it weren't heard. So, it's a really difficult problem to figure out a solution to this.

Anyway, we're here to evaluate Dodd–Frank. First of all, I like Dodd and Frank, and someone should congratulate them for making progress. Peter won't agree with me on this; – it's progress. But the deep questions that I talked about are not solved. Another way of putting it, I would think that the deep problem was that somehow we got into a frame of thinking that advocated homeowners putting their entire life savings in a highly leveraged investment that is totally undiversified. It was typically all in one city in one part of the United States. I teach undergraduate finance, and that is one of the first things I would tell you not to do. And yet everyone was told to do that. There's some kind of social force that's behind that. Try to analyze that!

So, what does the Dodd-Frank Act do? It does a lot of nice things, but they tend often to be relatively little things, like set up Elizabeth Warren's Bureau of Consumer Financial Protection. Well, that is not a little thing, it is a great thing, but it's not of the magnitude of

institution-building that we saw in the New Deal. Remember, in the New Deal in the 1930's Roosevelt changed our mortgage institutions notably, moving from the short run balloon payment mortgage to the self-amortizing mortgage, eventually thirty-year mortgage, that the financial industry had resisted for some time. Such self-amortizing mortgages had already been experimented with long before the New Deal but had never become the norm for owner-occupied homes. It seems like sometimes we need the government to get in and set up a new standard, make it clear that regulators are behind it and it's a good standard.

Now, Chris was talking about how the retention requirements don't solve any of the big problems that I talked about. I'm not even sure – there's a lot of little things when you read the Act –try to read the Act, and I doubt anyone in this room has read all of it – I'd be impressed if someone said that they did – and took note of the myriads little things it achieves. Under the Bureau of Consumer Financial Protection, they're setting up an office of fair lending and equal opportunity. They're setting up a consumer advisory board that will help. They're setting up an Office of Housing Counseling. All these are nice things that don't get at the fundamental causes of the bubble, but are still good to see. I'm not doing justice to Dodd-Frank. There's a section on appraisers – incidentally, appraisers haven't been mentioned, but they're part of the problem. And there's an Emergency Homeowners Relief Fund, but it's only one billion dollars. Only. Because the amount lost on the bursting of the bubble is probably something like six trillion dollars. There are just a lot of little things in the Act. They're all nice and it's good.

But there are bigger changes that could be made. I'll just list some things that I have advocated and some other people have advocated that don't seem to be taken seriously. One of them I propose is that the government should encourage a new institution that I call a "Continuous Workout Mortgage," and that is a mortgage with a pre-planned workout for the

future. This doesn't solve the immediate problem. It would solve the securitization problems you have, because it would be in the mortgage contract that a workout comes out when certain triggers – falling home prices or rising unemployment, or things like that could be built in – and I would like them to be continuous. The workout now -- and that's the problem with HAMP (Home Affordable Modification Program) – it's a one-time-only event, and then if you need another one; "sorry, you got your workout, you don't get another one." So, we want to have it continuous and automatic. The big problem with HAMP right now – and this is what's being talked about – is that mortgage servicers don't want to write down principal, because they would launch an avalanche of defaults. And we're talking trillions of dollars. So, that means they don't want to do it. But you're not going to solve the problem unless you write down principal. So, my continuous workout mortgages would write down principal. The government would facilitate their being started, and, after that, it would be private institutions.

I just wanted to mention competitor ideas that are also out there. Andy Caplan at NYU has advanced the idea of housing market partnerships. There's a company called Primarq trying to establish an exchange for such partnerships, through which people, instead of owning a whole house, would sell part of a house to investors. In addition, the Assura Group of New York, headed by Aaron Blackman, is right now trying to get mortgages started that would attach extra unemployment insurance with the mortgage. What you can do is you can have a private unemployment insurance policy that takes as a trigger the government unemployment insurance, so that they don't have to be in the verification process. They can just augment it. Put that on as part of a mortgage, and that would help this problem.

And finally, I'm going to mention John O'Brien at UC Berkeley, who has a company called Home Equity Securities, Inc., which is trying to get what they call a HEFI launched.

HEFI stands for Home Equity Fractional Interests. And what they would like to see is that people who are in default on their mortgage could exchange a fractional interest in their home for a reduction of their debt. This is analogous to what happens in a corporate bankruptcy. Why don't we do it with households? It doesn't seem to be set up in a way that it could actually happen. So, anyway, these are different ideas that are to me more to the point than the ideas that are in Dodd-Frank, even though, as I said, I like Dodd-Frank.

ELLICKSON: Thank you. Our next speaker, Susan Wachter, Wharton School, University of Pennsylvania.

SUSAN M. WACHTER: [CLICK HERE TO VIEW SLIDES] Thank you so much. It is a pleasure to be here. And it's particularly good to be on a panel near the end of the day to get to hear and react to both the brilliant and outrageous things that have been said, often by the very same people. It actually induces a certain amount of metaphorical whiplash as your insides say, "Yes, no, yes, no." I expect my comments may elicit similar reactions – not because they're brilliant, but because I think you're going to agree and disagree. I think these are genuinely difficult issues. I think we will be studying this for decades to come. I think there may even be new fields of study that arise.

I have been working in this area since the late 1990's. My original work was with Richard Herring, Professor of Finance at Wharton. We wrote a monograph *Real Estate Booms and Banking Busts*, where we showed that, throughout the world, real estate booms and banking busts tend to go together -- first, because leverage goes along with real estate; and second, because real estate is appraised at market value, but market values can be wrong, especially in real estate, where there's a lack of short-selling, so optimists prevail. And, of course, if banks are the providers of leverage, they will then experience the bust.

So, I've been working on this since then, and obviously to no avail. My work has since been formalized with Andrey Pavlov, including this crash, which doesn't come from the banking sector alone, but rather along with securitization. We began this work in 2005.

But my comments today will go in a somewhat different direction than the causes and the interaction of these two phenomena of real estate booms and banking busts. Rather, what could we have known if we had collected data differently in this cycle? What, in fact, did we know? Who knew it? And what might we be able to know going forward to minimize, if not prevent altogether, cycles? I say this with great trepidation, because I'm in the room where the word "proof" means something. I'm certainly not in a position to really comment on philosophically deep questions like that. But I will say, what I mean by "we" is a collective agent we who would then undertake collective corrective action, if knowing and informed. And what I mean by "know" is publicly known.

Macro-financial policy is one such collective corrective action. It aims to minimize systemic failure by targeting the combination of credit and asset booms. Funding mechanisms that amplify financial leverage cause prices to rise and then, after the credit shock, cause prices to decline, as shown cross-sectionally for the U.S. in a recent paper I co-authored with Andrey Pavlov. To quote the IMF, "Busts are more costly when booms are financed through credit and leveraged institutions are directly involved." That is, we don't really care so much when the internet stock bubble crashed. You might be upset if you own tech stock, but that's nothing compared to the devastation to the system when the financial sector goes under. So, bubbles without leverage do not raise concerns. Real estate markets, on the other hand, are susceptible to systemic failure because mortgage transactions rely on high leverage and credit is mispriced.

Securitization injects a lot more funds into this leverage game. What's worse, securitization profits are volume-generated. That is, in order to have a good year in securitizations, you must increase your volume. Whereas, if you're in the banking sector and not securitizing, in order to have a good year, your portfolio has to perform. As a result, securitization incentivizes short-term behavior. These short-term players flooded the market with increasingly risky products, whose risk was multiplied by high leverage and masked by rising home prices.

But could these risks have been known in real time? And what *was* known? Contrary to what many people might have thought, what was known was impossible to use to detect the bubble. We did know that the volume of household debt increased dramatically. It started ramping up in 2000 and again in 2003, as did financial sector debt. Meanwhile, as a percentage of G.D.P., corporate debt did not rise, nor did government debt. In fact, for the first time in post-World War II history, American households were net borrowers. We also know that the price-to-rent-ratio increased dramatically from its historic bands, while interest rates decreased although they stopped decreasing around 2003, when the bubble really did take off. We also know that securitization volume increased around that same time that interest rates no longer were contributing. Securitization volume was therefore strongly correlated with the price-to-rent ratio.

All of this was known as of 2005. According to the Wall Street Journal, Fed economists in 2005 estimated house prices were over-valued by 20 percent. And they were pretty close to being right. But they didn't want to raise interest rates because that would have thrown the economy into recession. Instead, they hoped that higher prices would simply level off. They did

not anticipate that there would be a significant deterioration of credit and re-pricing of credit once that was recognized.

None of what I've shown made it inevitable that there would be a re-pricing of credit. But I do believe that it was inevitable given the lack of information on credit deterioration. It wasn't just a liquidity shock, which we could have gotten over very quickly. To see why, we need to turn to what was not known. First, the price of credit actually declined in this period. The return on private label securities dropped dramatically, whether you're at the B tranche or the A tranches. This was not knowable because mortgage-backed securities were not traded. Nor could it be known in real time what was happening to the credit quality. We now know that (particularly from 2002 to 2004) there was incredible growth in interest rate only, negative amortization, and so-called "liar loans." And as important as the deterioration in lending terms was the overlaying of risks, which loan tapes did not reveal. According to the Fed's own retrospective study and conversations that I have had with Michael Palumbo, Governor on the Board of the Fed, there was only anecdotal information regarding changes in mortgage products, and only anecdotal information on changes in underwriting. This is what has to change, especially because it's not true that nobody knew that the credit conditions were changing. According to the FDIC testimony from Washington Mutual, they did know. In fact, they admitted that they were trying to move the product quickly because they wanted to get out before the game ended. And to do so, of course, they had to lower the standards further.

Going forward, we need to know in real time what's happening to risk premia and the underlying credit quality. If premia and the underlying credit quality are going down, the system is not stable. The remedy, which the Fed needs to start, is to collect data on mortgage origination standards and securitization thereof. In order to do that, there actually needs to be in place

mortgage standards and daily reporting standards. The commercial real estate industry has put out standards for comment. I believe this will happen going forward. I'm sounding optimistic, but that's so unlike me. So, please, someone tell me why I'm wrong. Thank you.

ELLICKSON: Peter Wallison, American Enterprise Institute.

PETER J. WALLISON: Thank you, Bob. Well, I guess now you know the many ways in which Bob Shiller and I disagree. Probably not the best way to be introduced to the Yale audience. But here I am.

It seems to me when we talk about Dodd-Frank, we're looking backwards. When we're talking about housing, we're looking forward. Most of what I'm going to talk about today, I think, will be about housing and how we revamp our housing finance system so that it does not raise the kinds of questions that in my view caused the financial crisis. But I do want to stop just for a moment and look back a little bit and talk about the Dodd-Frank Act, which I think is a very destructive law that is going to be costing us tremendously over time. I just want to say a couple relatively important things about it.

The fundamental theme that we want to look at for Dodd-Frank is whether it is a good idea to put controls on our financial system which threaten to change the nature of our financial system and to reduce very substantially economic growth in this country, when, in fact, the likelihood of financial crisis is very small. We haven't had a financial crisis like this, like the one we went through in 2008, since, we'll say, the Depression Era. And even then, I'm not sure we had the same kind of financial crisis. But here we are putting major controls on our financial system in a way that will change it fundamentally. And when I say change it fundamentally, I'm talking about one particular thing, and that is, if the FSOC, the Financial Stability Oversight Council, does designate large companies in every area-- as insurance companies, financial

companies, banks, bank holding companies, holding companies of various kinds, maybe even mutual funds-- as systemically important, they are saying that these companies are too big to fail. And if they say these companies are too big to fail, they will be treated differently from the smaller companies that they compete with. This will change the nature of our financial system. We know this happens, because banks that have been declared to be systemically important already and are thought to be systemically important are able to get a benefit of about 78 basis points in financing costs over their smaller competitors, and this will happen in every area. So, if this happens, I believe we will be changing the nature of the financial system in a very important way, a very dangerous way, and that's why I'm spending a lot of time trying to bring these dangers to the attention of people in Congress as well as in the public. Now, that's looking back.

Now I want to look forward, and I don't know whether Bob Shiller agrees with me on that or not –

SHILLER: I agree with you on a number of things.

WALLISON: Oh, okay, thanks, great.

ELLICKSON: Those things?

SHILLER: Well, I don't know.

WALLISON: Now I want to look forward a little bit, because at the American Enterprise Institute we have developed a plan for a housing finance system that does not, we believe, involve or require any government involvement. We actually started on this process in January. We issued a preliminary or draft idea for such a system. And to our huge surprise, the administration then put out its own white paper, and that white paper adopted as one of the options our proposal. This is their Option 1. They have three options. I won't go into what they

are. But their Option 1 basically relies on the quality of mortgages to provide the basis for a securitization system rather than any kind of government backing.

Now, our plan has four principles. The first is that we really have to get the government out of the housing finance business, because the government, if it continues to guarantee or in some other way back mortgages as it did through Fannie and Freddie, will ultimately suffer losses; the taxpayers will take huge losses, as they are going to now with Fannie Mae and Freddie Mac, which they took in the past with the S&Ls, which they will probably take with FHA without their approval, without even their knowledge. And the reason for all of these losses is really very simple, and that is, the government is unable to charge for the risks that it is taking. It's not an insurance company. It doesn't have the incentives of an insurance company to charge for the risks it is taking. And most of the proposals that would supplant Fannie and Freddie with some kind of other system rely on the idea that the government can recompense itself in some way by charging a fee. It can't. It can't do it because it doesn't know what fee to charge, and once it does, or sets up any kind of fund, the political pressures are to stop building that fund, to keep the cost low, and the only thing the fund produces then is the moral hazard that comes from people realizing there is a fund and they will then act accordingly because they expect some organizations will be bailed out using the fund.

So, the first principle is the government can never be fully compensated for the risks that it takes in backing mortgages. So, how do we then get people to be willing to buy mortgages, or mortgage-backed-securities more particularly? Because we can't use the banking system any more as a way of financing mortgages. It's not large enough. And the banks are over-exposed to commercial mortgage and residential mortgage loans already. So, we want to have a different

system, or supplemental system, and that, up to now, is securitization. It could be others, but securitization is certainly the best. Well, how do we do that?

The first question is, "how do we assure that mortgages will retain prime?" And this is a really interesting question because John Geanakoplos this morning talked about the "leverage cycle." And I think we see the same thing. And that is unless there is some sort of control over leverage at the borrower level, at the homeowner level, we are going to have the same problem with the securitization system. And that is, the mortgages keep getting worse and worse as the optimists believe that prices will always go up. And more and more people will be trying to buy more expensive homes and they will seek mortgages that are of lower quality, and as a result of all of that, the mortgages will gradually deteriorate as they did before 2007, and the result we will have is the same kind of subprime crisis that we had in 2007.

Now, Fannie and Freddie were very much responsible for this for other reasons – we can get into that some other time. They were actually required to produce subprime mortgages. But even without Fannie and Freddie, just the securitization system working in the usual way, would, because of the growth of bubbles, produce a large number of subprime mortgages. This is because bubbles tend to suppress delinquencies and defaults. If house prices are rising, a person who cannot meet his or her mortgage payments can usually refinance or sell the home. The result is that investors in mortgage-backed securities based on these loans are misled into believing that subprime and other low quality mortgages are less risky than in fact they are. That's what happened in the 2000s, as a result of the immense 1997-2007 bubble that was so effectively charted by Bob Shiller. So, our proposal is based on the idea that all mortgages that are securitized have to be prime mortgages. Now, banks and insurance companies and pension funds and others can buy non-prime mortgages if they want them. But they can't securitize

them. So, they can take these risks, but if you're going to securitize a mortgage, it has to be a prime mortgage. And that means, as we defined it in our plan, no less than a 10 percent down payment, that is a 90 percent LTV (loan-to-value), with mortgage insurance down to 60 percent LTV. The borrower has to have a 660 FICO score or more. Housing in total debt-to-income ratio would be 33 percent and 38 percent after the mortgage has been contracted. The MI (mortgage insurance) companies that would be providing this mortgage insurance would have to be monoline and could not insure anything but a prime mortgage as we defined it. And our discussions with mortgage insurers and with securitizers indicate to us that they could produce under these terms a 30-year prepayable fixed rate mortgage that is 25 to 40 basis points higher than the current cost of a Fannie Mae mortgage. And we presume that if the government is going to continue to raise the cost of the Fannie Mae mortgage, that that gap will actually be narrowed.

Now, a lot of questions that people raise have to do with, well, what about low-income people and we believe that there ought to continue to be some kind of government policy that assists low income people. The reason for this is that it is very good social policy. When it's a social policy, that is not a risk that should be taken by the private sector, it should be taken by the taxpayers. But we have to be very careful about how much that risk is, how we cabin it and control it, and it has to be on budget. So, we have provisions for that in our proposal.

And finally, Fannie Mae and Freddie Mac. What do we do with Fannie Mae and Freddie Mac? I think there's kind of a consensus in Washington now that Fannie Mae and Freddie Mac have to disappear. That's because they have really bad reputations. But many of the people in Washington want to replace them with something that isn't far from what Fannie and Freddie are. We believe they ought to disappear over time slowly, over a five-year period. Maybe their

conforming loan limits, which are the size of the mortgages they can actually buy, should be reduced by about 20 percent every year for five years, until they become so small that they are no longer factors. And if the rest of our proposal is in place, the private sector would be able to come in and take over in all of those areas where Fannie and Freddie have withdrawn. So, that would gradually replace Fannie and Freddie with a completely private system. Today, as a result of the fact that they became insolvent, the government is now controlling them through a conservatorship, but the government also has the power to turn that conservatorship into a receivership. After the five-year period is up, they will be relatively unimportant in our mortgage system. They are extremely important now. But they will be very unimportant in our mortgage system. The conservatorship would be flipped into a receivership. The government will then create a good bank and a bad bank out of each of them, and see if they can sell them off as private sector entities. If it can't, it will simply auction their assets to recompense the taxpayers for their costs, and that would be the end of Fannie and Freddie. But, the key point here is that the whole system can be easily replaced without a very great increase in mortgage costs by an entirely private system that relies on prime mortgages.

And I would mention one other thing, and that is, that a very substantial proportion of people in this country can afford a prime mortgage. In 1989, before we got into the problem of affordable housing requirements for Fannie and Freddie, and in 2010, after the financial crisis, 87 percent of all people who applied for mortgages made down-payments and had credit scores more than 660. So, there are people who can buy mortgages and make the down-payment requirements, and the people who haven't saved for the down-payment, as was true with my parents and even I when my wife and I started out, saved for it. And eventually you were able to buy a house. Otherwise, you rent. But if the cost of making a home available to everyone in the

United States is that we put ourselves in a position where we create all of these subprime mortgages again, it is not worth the price. Thank you very much.

ELLICKSON: Do our panelists have questions for one another?

WACHTER: Yes, I do. Peter, does your plan include adjustable-rate mortgages to be securitized?

WALLISON: Yes. The adjustable rate mortgage would have to be fixed for seven years, and then it would be adjustable after that. And during that seven-year period, you just have to be qualified for the fixed rate for that period. But it does contemplate adjustable rate mortgages.

WACHTER: I assume it would have no cap and collar, so that in the seventh year, if you go to refinance, and interest rates went up 300 or 400 basis points, so would your cost, correct?

WALLISON: Yes, you can refinance after the seven-year period. You can refinance during the seven-year period.

WACHTER: But there might be a mortgage payment shock, correct?

WALLISON: There could be, yes. But again, not much, because once again we're talking only about prime mortgages –

WACHTER: Who makes sure they are prime mortgages? There's no government in your system.

WALLISON: Yes, there is: the SEC.

WACHTER: Oh, okay.

WALLISON: Because all of these securitizations require SEC approval, because they are securities offerings.

WACHTER: Good.

WALLISON: They would be policing the quality of the mortgages.

WACHTER: It sounds very similar to the QRM proposal that has been put forth by the administration.

WALLISON: Somewhat similar, except, of course, there isn't a securitized – the QRM's apply -- Qualified Residential Mortgage – applies only to the securitizers. And so Fannie and Freddie are securitizers. They have been apparently exempted from QRM. But the other securitizers are presumably the large banks. We would do away with the QRM entirely. We don't need it as long as we have prime mortgages. The purpose of the QRM is to assure that the mortgages are good quality. We are assuring it in a different way.

ELLICKSON: There are questions on this side.

SHILLER: Well, one important role for the government, I think, is facilitating financial innovation. And your proposal sounds like, not exactly in that framework. One thing that we talked about, the government has been promoting clearinghouses for credit default swaps. That's an example of the government getting behind an innovation that can then continue. Another example is the covered bond that Scott Garrett has introduced in the Congress. There's another institution that looks better after this crisis. It's a European institution of covered bonds. It's not flourishing in the U.S. apparently because there isn't the regulatory clarity and there isn't the FDIC support. So, we can do something to create that institution. If I might add, one thing that I have been trying to do for five years now is to develop a market for real estate. We have a futures market at the Chicago Mercantile Exchange for single-family homes. And I think you said, "there's a problem; you can't short a house." That's a problem with the bubble. If no one can short them, all the enthusiasts can bid the price up and there's no one who can bet against

them. So, we created a market at the CME based on our home price indices that allow you to short the house. It hasn't gone anywhere.

I don't know for this particular example, but for financial innovation, there is a role for the government. Because often, financial innovators find it difficult. People who might even participate in their innovations don't know what the legal standards are -- they don't know how they'll be taxed, they don't feel there is support for this institution -- so they don't want to involve themselves in it. The classic financial innovation was the Roosevelt Administration creating the amortizing long-term mortgage. The government got behind that idea and the private sector then saw the way clear to develop it. And we can do other things like that now, if we are sufficiently supportive of innovation.

ELLICKSON: I have a question for you – you said the market for housing futures didn't go anywhere. Did it exist in 2007, and why hadn't all the people who read your books, why weren't they buying like crazy in 2007?

SHILLER: In 2007, the open interest was about $130 million, not much. And the reason why it wasn't bigger was because it wasn't bigger! I'll explain that. This is elementary finance. People told me they called a futures commission merchant and said, "Can I hedge a billion dollars of real estate?" And he said, "You've got to be kidding." No one will quote you on that. Why won't they quote you? It's a vicious circle. They won't quote you on it because there isn't a market. Once these things get going, they can go big time. And that's the problem with our financial system. We're stuck in certain archaic institutions that are just there because they're there. And the government has a role in thinking creatively. And I think the Roosevelt Administration did better than either the Bush or Obama Administration on that score.

ELLICKSON: Chris, maybe a question from you and then we'll open it up to the audience.

MAYER: I think there's a lot we can learn by looking at Europe. Their banks, of course, had lots of problems, but some of that was from buying our subprime loans and CDO's. But Europe has covered bonds. We, by the way, had credit card markets in the United States that performed almost as well as covered bonds did in Europe. Credit cards and covered bonds have many similarities and that kind of securitization system worked very well.

Thinking about why European mortgages performed better than US mortgages is hard. Europe has pre-payment penalties. Europe does not have 30-year fixed-rate mortgages. Same with Canada. Europe had housing bubbles that were really big, but had a very different kind of mortgage system and different kinds of mortgage contracts. The costs of housing bubbles in Europe were inordinately lower on households and the financial system than they have been here, although we have to wait for it to fully play out. I think there are lots of lessons we can learn from Europe.

ELLICKSON: Okay, questions.

ROBERT HOCKETT: I think this is mainly for Peter Wallison, but is partly for Bob Shiller as well, who can say, yes, I agree. So, the question is this: It seems to me that your gripe is actually less with Fannie and Freddie as such that it is maybe with Fannie and Freddie since 1989. FHA goes back to 1934; Fannie goes back to '38; Freddie to '68, and everything seems to have worked fine until the savings and loan institutions were sort of wiped out after deregulation in the late '80s. Furthermore, as Bob suggested, I think we owe the 30-year fixed-rate mortgage itself to FHA. It's a condition imposed in return for the mortgage insurance that no private parties were willing to extend at that time. So, is your proposal maybe not in a certain sense

simply a throwback to the pre-1990 FHA, Fannie and Freddie regime, but just under another name?

WALLISON: No, because we wouldn't involve the government, of course. Fannie and Freddie actually did some very good things. One of the things they did was they policed the market until 1992 when they were handed affordable housing requirements. When they policed the market, they required prime loans of just exactly the kind we are talking about here. What we are doing is substituting more private mortgage insurance for any kind of government backing. And it actually turns out to be a very efficient way to back these mortgages, but you're not wrong. However, any government program, like Fannie and Freddie, over time is eventually going to have exactly the same consequences, even if we hadn't had affordable housing requirements. They just accelerated the creation of this bubble and the other losses that occurred. But over time, eventually, the political system is going to extend the benefits of the government subsidy as far as it can. It did with the wealthy suburbs by increasing the conforming loan limit. It did by extending it down into subprime lenders, low-income people, because that's the way the democratic political system works. We have to get the government out so that these decisions are made economically and not on the basis of social policy.

SHILLER: Let's remember, the home ownership rate among Blacks in America was 50 percent at the beginning of this crisis, and 76 percent for Whites. After the crisis, Blacks fell from 50 percent to 45 percent, a 5-percentage point drop, and Whites fell only 2 percent. I think – the data don't go that far back, but if you went back to the 1930's, the Black/White difference in home ownership would be enormous. One thing I think Fannie and Freddie are helpful in doing is it's producing a more equitable system that gives us a better social harmony and a

feeling about ourselves. And that's something that nobody has mentioned here and it ought not to be forgotten.

ELLICKSON: Next question.

LUIS NARIO: Yes, I'm Luis Nario – I'm a student here, but for full disclosure, I used to be a managing director with Lehman Brothers in London. And I have a comment or question – I take very much the points about transparency in the market and the need to provide information, because we certainly all knew that underwriting standards were down; we certainly all knew that the spreads were contracting endlessly. But, in fact, there was no systematic way for the public to know that. But, some other proposal that directly touches on that – like skin in the game – I'm a little bit less comfortable with. In particular because it seems to be directly in conflict with another big objective of Dodd-Frank, which is reducing the systemic risk and too big to fail. To the extent that we impose on banks, because that's what we're really talking about, that they retain more and more risk in this massive market, we're also making them more too big to fail. So, I wonder if any of you share that sort of tension that I see.

MAYER: I don't share your view of the tension. If Gary Gorton or Andrew Metrick were here, they would talk more about the shadow financial system and securitization. Think about skin in the game as the equivalent of reducing leverage in the system and aligning incentives. And so the last thing you want is to have a regulated financial system that has very big limits on the leverage and unregulated financial institutions with securitization systems that can lever up to the hilt. So, I think skin in the game is exactly an attempt to provide more capital and reduce imbedded leverage in addition to improving incentives. And your point that it makes mortgages more expensive is exactly the right point, which is mortgages were too cheap. I think probably everyone – everybody here, no matter what their view is, would agree with that point.

DAVID REISS: David Reiss from Brooklyn Law School. I'd like to get back to fundamentals a little bit. So, in theory we only said we typically support government intervention in the market where there's some kind of market failure. Obviously, in the housing markets, we have tons of interventions, much of it driven by this belief that increasing home ownership is an unvarnished good. So, putting aside assistance for low income or certain special needs population, which I think everyone on the panel agrees we should have, I'm curious – on the one hand we have Peter Wallison, who has an incredible amount of intellectual clarity to his approach to government intervention in the housing markets. I'm curious for the other three panelists, if they could speak to the kinds of market failures or other problems in the housing markets that would justify additional or ongoing intervention in the housing markets.

WACHTER: Sure. The SEC role that Peter has proposed is exactly the role, it seems to me, that's necessary because of information failure, as the previous questioner pointed out. But there's another issue as well. And that is the issue that Bob Shiller raised: home ownership in a democratic society. And it's not just a question of the role of FHA, which serves a very small percentage of Americans and will likely do so going forward. The question really comes down to risk-based pricing and whether you want to have any cost subsidy in this area or you want everybody to pay precisely the risk as housing prices and rents go up over time. In the United States, we were exceptional in the fact that, for almost a hundred years, we did not have rents or prices go up in real terms. In Europe, housing prices and rents have gone up, evidence of much less elastic supply. I believe going forward in the United States we also will have inelastic supply. And I think this has potential, tremendous implications for economic democracy through access to homeownership.

SPEAKER: Hi. I'm Jia Hwang. I'm a senior at Yale College and a former student of Professor Shiller. This question is for Mr. Wallison: I was wondering if you could comment on the Danish mortgage finance model and its balancing principle, and whether it could eventually be applied to the United States.

WALLISON: Yes. I don't know how many people know about the Danish system. It's an extremely good, simple system in which the price of mortgages, the interest rates on mortgages, is essentially determined by the market in each case. It could work here in the United States, but like covered bonds, it's going to require a lot of education and a lot of legislation by Congress. All of these things are going to take a very long time, as they usually do, and as a result, I don't think it's realistic to talk about it now. But I think it is the most sophisticated system that exists in the world today as I see it. And it gives the homeowner the best options. The homeowner can actually reduce the principle amount by taking a slightly higher interest rate on the loan. It's an amazingly good system when interest rates go up; it's also a good system when interest rates go down. So, I'd be very much for it. But I just don't see it's practical for addressing our problems today.

WACHTER: How many people in this room know what happened to the Danish mortgage system starting in 2003? How many people on this panel? We're all assuming it's constant. The Danish reliance on the fixed-rate mortgage system was given up and I emphasize reliance on the fixed rate mortgage. Denmark substantially moved to interest-only mortgages and variable-rate mortgages (now 42% of all mortgages) because housing prices in Denmark increased and interest only and variable rate mortgages were more affordable. The results of that were a housing boom and bust.

WALLISON: I believe Professor Wachter's statements about the Danish mortgage system are incorrect and have asked that a letter to Professor Wachter, dated June 6, 2011, from Ane Arnth Jensen, Managing Director of the Association of Danish Mortgage Banks, be included in the materials relating to this conference.

ELLICKSON: We have time for one more question, a quick one.

JACQUELINE YEN: Hi. I'm Jackie, a graduate student at the School of Management here. I have sort of a pretty simple question, which is just that I think one of the biggest puzzles during the housing bubble was that there wasn't really a lot of consensus that we were in a bubble. It was hard to detect. And I guess given the experiences the panelists have had, in academia, in DC perhaps, in industry, and the changes you've seen since the bubble actually burst, what is your feeling on if we're actually going to do a better job next time of detecting a bubble before it happens and why?

ELLICKSON: That one is for you, Bob.

SHILLER: I'm sure we'll do a better job.

MAYER: We haven't had another tulip bubble for hundreds of years!

SHILLER: That's an interesting thing. Bubbles change. You're right. We had only one major tulip bubble – and then it changes, and we got a real estate bubble. So, it will surprise us. Like the shadow banking system surprised us. We thought we had it all fixed for banks, and then these other things – so it will come up in some different dimension that I can't predict.

WACHTER: We've had real estate bubbles every five, ten years. It's not true that we've had only one. Asia had real estate bubbles in 1996; Japan had a real estate bubble in 1990. If you have inelastic supply and growing demand with growing underpriced leverage, you're going to have bubbles, unless you have the ability to short sell, which we don't, despite

the existence of Case-Shiller futures – and I'm all for moving that to a billion dollar trading volume if that were possible.

ELLICKSON: Our thanks to all the panelists.

Session IV: Assessment

SHYAM SUNDER: The final session for the conference is "Assessment." And you already have the bios for the participants in this panel, so without further loss of time, I'm going to call on Michael Barr, Professor of Law at the University of Michigan Law School, to start.

MICHAEL S. BARR: Thanks so much. It's been a really pleasurable day so far. You know, I stepped down in December and came back to teaching, and I want to say that despite all the collected criticism of the Dodd-Frank Act, today's criticism was the nicest set of comments that I've heard in two years. So I feel especially warm and welcomed in this environment.

What I want to try to do is take the idea of assessment as being a little bit assessment of the Dodd-Frank Act and maybe a little bit assessment of the day. So I'm going to take the bulk of my time talking about Dodd-Frank and then if I have a few minutes, I hope in 30 seconds, each, to just make a small rebuttal comment on what's gone on before.

I think that one of the key things to keep in mind about the changes in the Dodd-Frank Act has to do with the discussion we've been skirting around, which is the distinction between the banking system and the shadow banking system. So, the basic model in the regulators' heads, and in the basic structure of our regulatory system, prior to the financial crisis was that there are these special things. The special things were called banks. And we had to regulate banks in special ways because they were special. They had deposit insurance. And so we would create a set of rules that were designed to have banks be safer and sounder and we would protect the banks from potential harm. And that would make our financial system safe and sound.

The fundamental problem with that approach is that we have a world of financial intermediation, and financial intermediation takes place in the banking system and in the non-

banking system, the shadow banking system. And the financial intermediation that occurs in both those systems is the same. That is, it involves maturity transformation; it involves a set a funding mechanisms; it involves a set of asset-creation mechanisms. And those mechanisms are different in each sector, but they lead to the same potential problem of financial panic. And, in particular, the crisis that we went through in 2007 to 2009 involves some classic kind of banking problems. That is, banks made some horribly bad loans, and they went bad. And the shadow banking system created some horribly bad loans that went bad. In the case of the shadow banking system, it had an additional feature, which is that it funded itself primarily not through deposits but through wholesale funding, in particular in the form of repo and in the form of derivatives. It created assets in the form of securitizations. Both sides of those activities, asset creation and funding, occurred without appropriate holding of capital, appropriate supervision, or appropriate liquidity requirements. And enormous leverage grew up in that system that magnified the financial panic once it occurred.

So, we have this set of institutions – and I'm obviously wildly oversimplifying –called banks, and we had a set of institutions called not-banks. Sometimes those banks and not banks were under the same roof. Sometimes they were wholly separate sets of institutions. In any event we had a part of the system that was more regulated and had higher capital requirements, and part of the system that was less regulated and had lower capital requirements. And when the financial crisis hit, we had a classic set of bank runs, but it was a bank run on the shadow banking system.

So, the basic approach that the Dodd-Frank Act tried to take, and which has been the subject of some critique and discussion this afternoon, was to say we don't really care anymore whether you call yourself a bank or you call yourself not a bank. We think we need to have a

system of regulation that sets appropriate rules about leverage, that sets appropriate rules about liquidity and capital, that sets rules of the game about information so that information is gathered, and that takes a holistic look at the financial sector, the financial market.

So, let me give you some examples of how that works in the Dodd-Frank Act. Many of these have been mentioned somewhat in passing. The first is the idea of designating non-bank financial firms for supervision. So, a firm like Lehman Brothers or Goldman Sachs or Morgan Stanley that before were under a voluntary system of supervision, as such, at the SEC, would now be subject to Federal Reserve supervision in a way that's consistent with bank supervision. Together with that, there is a system for resolving major non-bank financial firms in the event that they fail, without causing a financial panic. Andrew mentioned a number of the key features of that resolution approach. I think it does provide the necessary tools to resolve a major firm and to provide liquidity to the system.

A second major change under the Dodd-Frank Act is the regulation of derivatives. After the Commodities Futures Modernization Act in 2000, but also before that, there was essentially no regulation in the over-the-counter derivatives market. And the Dodd-Frank Act, for the first time, would subject that market to comprehensive oversight, including full transparency in derivatives trades, capital requirements, margin requirements in that sector, movement towards greater central clearing and exchange trading of derivatives, and trade repository usage for all derivatives contracts, and greater incentives to move over time towards exchange trading and central clearing, using primarily differential capital requirements as the tool.

A third major manifestation of this focus on the shadow banking system is in Title VIII of the bill. It provides for the Federal Reserve to be able to regulate repo markets, make requirements both with respect to the quality of collateral as well as to the extent of margin

required in that sector, and to regulate the major firms that are central to the tri-party repo market today as financial market utilities with strong capital requirements. So, there are significant changes in derivatives, significant changes in repo, significant changes in the oversight of non-bank financial firms. And then, next, there are a set of changes in the securitization markets, that is, the vehicles used for the off-balance sheet generation of assets. There I would point to a set of changes: transparency requirements that now go down to the level of the asset within the securitization trust, including how the asset was originated; risk retention requirements which are designed again to reduce leverage in those sets of vehicles and to better align incentives among borrowers, securitizers, and originators in the securitization markets; changes in accounting standards that make it harder to hide assets off the balance sheet in ways that are not appropriately taken into account by capital rules; and the development of servicing standards to go with those securitizations.

Regulation of hedge funds is another change, that again focuses on transparency, disclosure into the marketplace, and there is the ability of the new Office of Financial Research to be able to get information on any major financial firm in the economy. The idea is not that the OFR (Office of Financial Research) or the FSOC (Financial Stability Oversight Council) would suddenly become all-knowing and all-seeing, but that a combination of better oversight by regulators, and more market information and more transparency in the market, will make it so much less likely that everybody is taken off guard.

The last major change that I would highlight that has to do with this growth in the shadow banking system has to do with the capital rules and liquidity rules that have been made both in Basel and in SEC rules for money market mutual funds. The combination of the Basel changes in capital and liquidity rules and the changes in the money market mutual fund liquidity

rules would make it significantly less likely that you will see major runs in this industry. But they don't actually fully resolve the problems in the money market mutual fund aspect of the shadow banking system. And that leads me to highlight three areas of unfinished business from Dodd-Frank, obviously in addition to implementing all the rules that I'm sure Rodge will discuss.

The first is finalizing the set of changes that really needed to happen in the money market mutual fund industry, which is still quite fragile and able to run again primarily because of the stable net asset value aspect of those funds. The second is finishing the work of coordination on international resolution mechanisms. And the third is finishing the work of housing finance reform that was the topic of the last panel.

Finally, me just say a word about some of the other topics discussed earlier today. First, starting with the comment this morning about the capital rule process in Basel, I think that the process has not been sensitive enough yet to changes in risk weights. I think the regulators made a choice, basically, to try to get the quality of capital better first and to work on the risk measurement side second. And meanwhile, they have taken an important step in that direction by getting an international leverage ratio put into place for the first time that is not dependent on risk metrics.

Second, I would say just a word about Gorton's comments from this morning about uncertainty. There's certainly a good bit of uncertainty after any major piece of legislation. I don't think Dodd-Frank is unique in that regard. I would say that the 1933 reforms that today are viewed as essential lynchpins of, and a positive development in, financial stability were, at the time, viewed as huge mistakes and filled with uncertainty. And if you go back and look at the

quotes from leading economists at the time, they were the same as the comments that you heard earlier this morning.

Finally, one word about covered bonds. Covered bonds are a nifty invention, and we should have more of them in this country. But, as Professor Wachter indicated, they're not a panacea for mortgage market problems. In addition to problems she identified, the basic problem of bailouts in Europe of the banking sector, including institutions that had covered bonds, is, I think, quite a critical backdrop. And we have a form of covered bonds in the United States today in the Federal Home Loan Bank system. So, it's not that we'd be going from zero to a hundred and that would be the answer to all our prayers.

That's a quick tour through the day, and a quick tour of the basic change in Dodd-Frank, which, as I said, I think centers on this basic fundamental shift from a focus on the specialness of banks to an understanding of the role of financial intermediation more broadly.

SUNDER: Next panelist is Rodge Cohen from Sullivan & Cromwell.

H. RODGIN COHEN: Thank you very much and good afternoon. It's really an honor to be here with you and, in particular, my distinguished fellow panelists to assess the government's response to the financial crisis. And I do want to express my appreciation to Roberta and the other organizers of this conference.

Now, in attempting to assess the government's response, I begin with the premise that meaningful regulatory reform was compelled as a consequence of the greatest financial crisis in 75 years. I've heard it argued that our ability to survive the financial crisis negates the need for extensive reform. I would counter that we came within a hairsbreadth of a truly catastrophic financial collapse, and we were only able to avoid that collapse with massive *ad hoc* government interventions, which have proven wildly unpopular politically, and a very large measure of luck.

Likewise, there have been those who would diminish the role of regulatory failures in contributing to the financial crisis. Here I would answer that the failures and deficiencies were legion at both the regulated institutions and within the regulatory system. Too many individual financial institutions took on far too much risk, and there were serious gaps – perhaps the more accurate term is chasms — in the regulatory system. In large part, I'm making the same point as Michael just made.

I have just emphasized that meaningful regulatory reform is necessary, and I recognize the many positive contributions of Dodd-Frank to that effort. But this does not mean that we should abdicate the responsibility to be critical of those aspects of Dodd-Frank that are excessive or even counter-productive. And this is not railing against the wind; as I will conclude, there are regulatory opportunities to deal with these issues. What happened was a series of late-in-the-process amendments to Dodd-Frank, many of which occurred without serious debate or consideration, which created the risk that our banking system could be harmed, and the broader economy could be harmed.

Now, let me begin with some background. We have a number of academics, thought leaders, and some members of Congress who believe there can be no real regulatory reform unless the country's leading banks are broken up. An example of this "big is bad" argument appeared as recently as this week on the *New York Times* Op-Ed page. It is perhaps noteworthy that during the crisis, many of the same proponents of the "big is bad" philosophy advocated the nationalization of our major banks. So, what is the underpinning of this position? To some extent, it reflects an unproven view that the largest banks are likely to incur greater risk. To some extent it reflects a view that the repercussions of the failure of a large bank are so severe that the only way to deal with the problem is not to have large banks. And to some extent, it

reflects a political philosophy about the undue power of large banks, a political debate that has waxed and waned throughout much of this country's history.

When the "big is bad" proponents were unable to achieve their goal of breaking up the large banks by legislative fiat, they attempted a somewhat different legislative approach. The largest banks would be regulated so strictly as to eliminate virtually any risk of failure. This, in turn, would encourage large banks to shrink and discourage other banks from becoming large. The proponents of this approach visualize a utility model for the banking industry. And the proponents of "big is bad" achieved some success in Dodd-Frank. They added numerous provisions that were clearly designed to discriminate directly or indirectly against larger banks. It is noteworthy that virtually none of these was in the original Administration proposal or in the original Senate bill, and, as I mentioned, many were adopted without meaningful debate. Let me list six.

The Volcker Rule ban on proprietary trading and on investments in private equity funds and hedge funds; the Lincoln Amendment prohibition on many derivative activities conducted in the bank; the Tester Amendment, which added about $3.5 billion annually to the largest banks' insurance premiums; the Durbin Amendment restriction on debit card interchange fees, which transfers about $10 billion annually from the largest banks to the big box retailers; the Collins Amendment, which eliminated certain elements of Tier 1 capital for the largest banks well ahead of the phase-out required by Basel III; and a new cap on acquisitions based on size, 10 percent of liabilities.

What I'd like to do is spend a few moments expressing my general concerns with the "big is bad" approach and then turn to some specific examples. The fundamental assertion that larger banks are more risky is simply not consistent with the empirical record. If size truly correlated to

risk, how do you explain the hundreds and hundreds of smaller U.S. financial institutions that failed? How do you explain the fact that three of the five largest U.S. banks came through the financial crisis largely unscathed? How do you explain the experiences in Canada and Australia where the banking systems are highly concentrated, but the banks were able to withstand the international financial crisis far better than their counterparts throughout the world.

There are advantages of size. Only larger institutions have the resources to acquire large troubled institutions. Many customers benefit from increased geographic and product scope. And diversification can lead to risk reduction.

The idea that the government can enhance safety and soundness if it encourages multiple small banks to flourish at the expense of larger banks is not merely unsupported, but may, in fact, have contributed to the financial crisis. There have been multiple periods where such a government approach has framed the U.S. banking industry. The 1830's, the 1880's, the 1920's, the early 1980's, and the first part of this century. In each case, this policy has been followed by a banking crisis in which scores of newly chartered banks have failed.

Moreover, it must be recognized that banks are inherently in the risk-taking business, and the elimination of all risk-taking would make it unfeasible for banks to perform their role in the economy. Let me state it differently. If every loan were repaid, a lot of good loans would never be made. The inherent function of banks is to take two basic types of risk, credit risk with respect to borrowers and counterparties and interest rate risk because borrowers need longer-term loans than banks can match funds. Accordingly, I would suggest that the real policy objective should be to control and manage risk rather than try and eliminate it.

Let me now return to the specifics and begin with Volcker and Lincoln. These two provisions were adopted notwithstanding the absence of any showing that the prohibited

activities were responsible for the collapse or near collapse of any regulated bank and without any visible deliberation regarding the impact on bank profitability or market liquidity. And I would cite as my witness Chairman Volcker himself. He was asked during his February 2010 testimony before the Senate Banking Committee to name a banking entity that had collapsed because of losses on the proscribed securities activities. The Chairman acknowledged that he couldn't name any. He explained that his proposal was instead designed to deal with concerns that he had about the future rather than the actual problems of the past.

Now, this may be a legitimate objective. We should think about the future. But it would seem that an expansive reading of a prohibition is less justified when it is directed to speculation about the future rather than being necessary to respond to demonstrated problems. In attempting to respond to risks that are speculative rather than demonstrable, the regulators must take care that the statutory provisions are not implemented to cause the very damage they were designed to prevent. Perhaps an even greater threat – and this is going to be a constant theme – is that these bank prohibited activities aren't going to vanish. Rather, they will migrate to the shadow banking system where they would continue without regulation, oversight, control or transparency unless Dodd-Frank really does the job that Michael outlined.

So, we should worry about risk for the banking system, but we've also got to think about the financial system as a whole. The financial crisis started in the shadow banking system in large part because of the absence of regulation. The origin of the subprime mortgage problem can be traced to a group of mortgage bankers and brokers that operated almost totally free from regulation, and they created a virus that spread throughout the entire system.

The Tester Amendment. It departed from the basic statutory principle that FDIC insurance assessment should be risk-based. And this undermined all three objectives of a risk-based system: reduction of moral hazard; fairness; and protection of the fund.

What about the new 10-percent-liability cap – it's one of the many provisions that are highly ambiguous. It would have blocked Bank of America's acquisition of Merrill, and possibly JPMorgan's acquisition of Bear Stearns. We barely survived Lehman. I seriously doubt that we could have survived the additional liquidations of Bear and Merrill.

The Durbin Amendment has nothing whatsoever to do with bank safety and soundness, except that it may potentially diminish it as both the FDIC and OCC have recently observed. Moreover, the impact on consumers who were supposed to be protected could be severe.

Just a couple of concluding comments. First, and again to repeat, my focus on potential problems with Dodd-Frank should by no means obscure the many positive contributions it is making and will make to true and meaningful regulatory reform. Second, the ultimate impact of the "big is bad," provisions of Dodd-Frank will be largely dependent upon regulatory implementation. I think Congress did the right thing by affording substantial implementation authority to the regulators and thereby providing them with the opportunity to avoid undue or unwanted impact. In particular, when you go to Volcker and Lincoln, they will be highly dependent on numerous regulatory determinations, not just in the areas where the regulators were told to act, but they must deal with ambiguities that exist throughout Volcker and Lincoln. Particularly with respect to Lincoln, it would be an understatement to describe it as poorly drafted. Within a day, Senator Lincoln herself said, "What a mistake was made," with respect to one key provision that discriminates against foreign banks. There's likewise substantial

regulatory work to be done in implementing Tester and Durbin, although I must say here the initial results have not been encouraging.

With that, I'd like to thank you for your attention. And I look forward to our dialogue and questions. Thank you.

SUNDER: Our next panelist is Eugene Ludwig, former Comptroller of the Currency under President Clinton, and the Founder and CEO of Promontory Financial Group.

EUGENE A. LUDWIG: Shyam, thank you very much. First, let me say it's a terrific honor to be here today. Roberta deserves great credit for all the work she's done to do what Yale does best, which is to bring light, instead of heat, to debates; to bring real dialogue and examination of important issues. Second, let me say, I'm honored to be on this panel with the likes of Michael Barr, Rodge Cohen, and Jonathan Macey. These are truly gifted scholars and practitioners in this area. There are a number of friends from Yale and otherwise in the audience that I can't say enough good things about. It's certainly very humbling. I'll miss some because of my nearsightedness, but Melanie and Randy and Steve. And to have my former moot court judge standing up there judging this is really daunting. He judged me then. I won't tell you whether I lost the debate or not.

Before I dive into my analysis of reforms following the global financial crisis, I'd like to give you some numbers. 17 trillion, 700 billion, and 8.3 million. First, the global financial crisis wiped out $17 trillion of household wealth from 2007 to 2009. Now, to put that in context, in 2010, the GDP of the entire United States was $14.6 trillion, smaller than what was wiped out. Second, during the height of the crisis in 2008, Congress approved $700 billion in taxpayer dollars to stabilize the financial system. For some perspective again on the size of that number, the entire GDP of the country of the Netherlands was around $770 billion last year. So these are

very big numbers; this is a big deal. And 8.3 million, that's the total number of jobs the U.S. economy shed between 2008 and 2009. During the last census, the whole City of New York was only 8.2 million people. So this is a gigantic crisis.

Evident from these numbers, the global financial crisis shook the U.S. economy, indeed the world economy, to its core, and also caused serious worldwide damage that is still being felt in much of the world. Accordingly, it's not surprising that Congress felt compelled to take action--of course it had to take action. And the 2010 Dodd-Frank bill is that action.

Now, the Dodd-Frank Act produced in crisis certainly has some pluses, and some flaws, and it missed some key areas that need reform. But lest we be overly critical of Dodd-Frank, we have to recognize that anything produced in crisis, and in the crucible of the political process, is unlikely to be perfect in a real financial world.

I want to say a word about some of the strengths that I see in Dodd-Frank. I've been a bank regulator so I have a regulatory perspective. Next, I want to say something about its flaws. And then third, if there's time, I want to say a word about several things I would do and I think ought to be done in the future.

First, in terms of strengths. The creation of the U.S. Office of Financial Research, which will be based in the Treasury, is really one of the very significant accomplishments of Dodd-Frank. Here you have an office that is going to be looking for bubbles. It's an office outside of the Federal Reserve. The Federal Reserve is a wonderful American instrumentality and invention. But everything can't reside at the Federal Reserve. And the Federal Reserve will be a better Federal Reserve if there is some balance. Our Founding Fathers were right about checks and balances in government, in my view. And the Office of Financial Research helps to make one of those checks and balances. Now, noting some imperfection – putting it inside the

Treasury, in my view, is a structural mistake. Why? The Treasury itself also is a wonderful organization. But it is a political organization in part. And I feel that in a Presidential election year—whoever is running for office, this is a bipartisan comment—there will be a tendency to put the reins or the muzzle on the Office of Financial Research in a way that will be unfortunate.

Number two, an increased emphasis on stress-testing. The Obama Administration has a right to take great pride in its focus on stress testing. We do risk management work all over the world, and to me it's shocking the degree to which banks have not historically stress tested. So, it's a real achievement. However, stress tests, if performed the same way all the time, can be (a) wooden; and (b), by nature, just like models, backward-looking. And the regulators that employ the mechanism of stress testing going forward are going to have to be mindful of being forward looking, flexible, and creative.

Number three, bringing large non-bank financial institutions into a serious supervisory framework and creating a more level playing field is an enormous achievement. I couldn't agree more with what Rodge and Michael said. If you look at the financial crisis, everyone calls it a banking crisis, but if you looked at who failed, not a single major one is a bank. It's Lehman Brothers, Bear Stearns, AIG, Fannie Mae, Freddie Mac, and Merrill Lynch. So, bringing in the large non-banks, I think, is positive. I'll say in a second, I think it's unfortunate that a number of the smaller enterprises, which clearly were problematic throughout this, were not actually brought into any supervisory net at all.

Number four, encouraging more transparency around off-balance sheet items, such as SIVs (structured investment vehicles) was a very big deal. I, myself, am not a huge fan of the holding company model. If people want to choose holding companies, that's fine, but forcing entities into this holding company structure is unwise. While I was at Banker's Trust -- I was

vice chairman for a time -- I had 949 different separate enterprises I inherited under that holding company. No one could possibly remember what all of them were. Having entities forced into this kind of separation is not a good thing, and getting transparency in this area is essential. I'll bet some of the CEOs of some of these companies did not know what was in their own SIVs prior to the crisis.

Number five – the focus on consumer concerns is a very big deal. Focusing on the consumer is obviously important. It is deeply sad to realize the degree to which, we have - as a nation - turned our back on low and moderate income people who are victimized by this crisis, and who have had to bear great personal losses as a result. And the focus of the legislation on consumers, I think, is a good thing. I might have structured things differently, but the focus on consumers, I think, is a very good thing.

Now, the challenges. Let me name a few quickly. Excessive capital, particularly combined with the Basel rules, is potentially a big mistake. It's easy to say we'll solve everything with capital, capital, capital. But let me ask you. Has anybody done a serious study of what capital number is the right number? Is there any science behind this or is it simply prejudice that somehow capital will solve all of our problems? I won't go into it, but it can actually be counterproductive. Leverage capital to a higher level can actually be counterproductive. I'll answer any questions on that later, if you'd like.

Number two. Greatly increased compliance burden is a definite concern. Having to be responsible for your actions and to comply with rules is fundamentally a good thing—but there is such a thing as too much. As one layers on burden after burden after burden, at some point, bankers can't actually run the business.

Number three. We are faced with an overly simplistic and largely dysfunctional approach to control of trading-risk. The Volcker Rule and the, Lincoln Amendment, as Rodge Cohen pointed out, it seems to me are really headed in a direction that could be very dangerous, depending on how they're implemented. Trading is part of the modern financial institution. All this will mean that by overly limiting banks in this area, we'll go to non-bank shadow institutions and/or outside the United States, and the growth and innovation that could have been part of the American financial system will be limited.

Fourth, having too many prudential regulators is a serious problem. We continue to have an alphabet soup of regulators in a financial services space that makes no sense. Some of these financial institutions are regulated by dozens of different regulators, and that burden doesn't produce anything better. When it comes to regulation, bigger is not better. More is not better. Better is better.

And finally, the FSOC itself is a fine mechanism, and is essentially an enhanced version of the President's Working Group on Financial Institutions. Again, with all due respect to my friends from the Treasury, its placement within Treasury puts FSOC at risk of becoming overly politicized. At the end of the day, a President wants to get reelected, and that will influence the degree to which the mechanism actually functions.

Now, I'm concerned that because of these challenges, the financial service industry's ability to fulfill its basic role of under-girding a vibrant economy could be hobbled. How much it's hobbled will depend on the regulatory mechanism. One thing that is odd about Dodd-Frank is that it is only a framework. Yes, even though it is the longest bill in the financial sector in the history of the United States at 2,300 pages. Though counting up all the regulations it requires is a subjective exercise, however you count it, there's arguably over 500 rules that have to be written,

and 75 studies to complete. What Dodd-Frank means will ultimately depend on what regulators put in place.

Now, I'll make quick comments on what I think could be improved in the future. In the regulatory system's three-lines-of-defense model, the law has put considerable focus on the second line of defense – capable supervision. But the first line of defense -- management and governance—has received scant attention, even though the quality of management and governance is the only thing that really correlates well with what's gone wrong with the financial system worldwide. And the third line of defense—the role of auditors, internal and external—has been virtually ignored. How many people here have seen audit reports that say, "By God, there's going to be a crisis, and you better watch out." No one. Instead, we saw financial statements, days and weeks before institutions collapsed, that raised no red flags.

Secondly, we could use an exploration of the largely successful financial regulatory models in Australia, Canada, Japan, and France. Each has a focused, prudential regulator – and a superior track record. And again, getting through the alphabet soup in the United States makes a big difference. Third, good supervision starts with a good supervisor. We're lucky in this country to have a fabulous set of regulators. They come to work, do an honest job, and are talented and decent. But worldwide, there's no degree you can get, certainly at Yale, in regulation and supervision. There is no degree program in this important area in the entire world. You get practically get a skateboarding degree at some universities. We've got to really create more educational opportunity to build up the professionalism of our regulators and supervisors.

Fourth, we must bring the shadow banking system out of the shadows. To Rodge's point, the mortgage brokers were part of the crisis, and yet we still have a state-licensed and under-

regulated sector. I think we need to institute effective ombudsmen programs at all financial regulatory agencies, as a way to hear complaints by the financial institutions when they're over-regulated and the public when they think they're under-regulated. And finally, legislate a programmatic office to study regulatory effectiveness and regulatory efficiency. Kudos to both Presidents Clinton and Obama. Both have focused on the importance of a sensible regulatory mechanism with much more focus. I know it's unattractive. It's the nerdy area. Who wants to go through all these regulations? But it's important, because that's where the rubber meets the road.

In conclusion, the regulatory framework emerging from the financial crisis is going to be enormously important. It's going to change the face of financial services regulation. It could be more bad than good when it's finished. But the one thing that is certain is there's a great deal more that needs to be done to have a safe and sound, financial, regulatory, legislative structure than we have. Thanks.

SUNDER: Jon Macey, Yale Law School.

JONATHAN R. MACEY: Well, it's great to be here. As the last speaker, I think what I should do is spend a second or two assessing the day, and then a minute or two assessing Dodd-Frank.

With respect to the day, certainly Roberta's done an incredible job of putting together a fabulous group of people from the private sector, and from firms such as Sullivan and Cromwell, and Davis Polk & Wardwell, and Weil Gotshal & Manges, who are truly leaders in the field, and Michael from government and academia, and others from academia. A lot of systemic risk here, of course. I'll be glad when the conference is over, because if something should happen to this group, I don't think there would be anyone left who knew anything about banking regulation.

Maybe we should have done this in a videoconference or something. But it's been a really edifying day for me.

In terms of assessing Dodd-Frank, the first thing to do in assessing the statute has got to be to come up with our criteria. That is to say, on what basis, or using what characteristics, are we going to evaluate Dodd-Frank. Because once we set up our criteria, it actually becomes pretty easy to evaluate Dodd-Frank. And I'll just throw out two or three.

BARR: Your key criterion is going to be length, right?

MACEY: Length is good. And your participation in it. They may be correlated, Michael! Picking up on something Rodgin and others have said, one way of thinking about the statute is to think about this like social scientists. And all of my fellow panelists have done this. And by this I mean let's not waste time arguing about whether a statute should have been enacted or not. Putting ourselves back in that time and place, we were going to get a statute. And the only question is how the statute we got, versus what we might have gotten under the circumstances, measures up. I think it is very useful just pointing out that that's the starting point that my fellow panelists have taken. Of course, this means the statute is a total success, from Chris and Barney, Dodd's and Frank's perspective. They get to join the rock band of history, with Carter Glass, Henry Steagall and Paul Sarbanes, and Michael Oxley as the names behind some truly iconic legislation.

For the rest of us, there are two things I think we should focus on in considering whether the regulation works. Two simple criteria, which, of course, leaves out a lot in this statute, but includes, I think, the most important things – what did people care about on the eve of the statute's passing? They cared about two things: One is systemic risk. Can we lower the amount of systemic risk that we face? And the second is the people who are taking out mortgages. And

we were thinking maybe we should protect some of these people who are making the biggest investment they'll ever make in their lives, from making it the worst investment and biggest mistake they'll ever make in their lives. So, what sort of protections do we have?

So, with respect to systemic risk, two points: one, ask yourself the question, do you feel that the U.S. financial system is safer today than it was prior to the passage of the statute? Reasonable people can disagree. I don't. But, I don't have a monopoly on truth, just an oligopoly. Let me point to a couple of specific provisions of Dodd-Frank that give me cause for great concern. Let me just mention for a second the Financial Stability Oversight Council. Title I has what's called a Hotel California provision that says that entities that are currently large bank holding companies are subject to heightened prudential requirements that are contained in the statute, regardless of whether they change their corporate governance such that they are no longer subject to the provisions of the Bank Holding Company Act. Well, maybe it's just me, but it seems to me that we should be encouraging, rather than prohibiting, firms from removing themselves from the regulatory umbrella. If we're really serious about "Too Big to Fail," then the more firms that move out of the regulatory umbrella, the better. Similarly, just in terms of signaling, and maybe I'm being overly sensitive, the deposit insurance assessment provisions which say, we're no longer going to assess deposit insurance fees on insured deposits only; we're going to assess them on all liabilities, total liabilities of the firm. That seems to say, "If you're paying insurance on all these liabilities, we're insuring all the liabilities." And we'll have to wait and see.

Okay, what about the Orderly Liquidation Authority? There, the only permitted outcome under the Orderly Liquidation Authority is liquidation. Well, if you think about the portion of Lehman Brothers that was liquidated to Barclays, what we see is liquidation can take a very large

variety of forms. And liquidating a financial institution, as we all know, does not necessarily mean that the creditors of the financial institution will not be made whole. One could in theory liquidate a financial institution and still pay up all the fixed claimants. This depends, of course, on what the architecture and engineering is of the liquidation. So, I'm firmly in the camp of those who do not believe the –notion that Dodd-Frank gets rid of "Too Big to Fail." I'm a cynic on that, so I'll just put that right out there.

One other point on systemic risk which brings me squarely to confront Rodge's very important and interesting comments about the idea of breaking up the large banks. I want to say Jim Holdcroft, who I see is in the audience here, and I have an article coming out in this month's Yale Law Journal. Not only do we argue in favor of "Too Big to Fail," but we also articulate the formula by which we think the biggest banks should be broken up. So, I would be remiss if I didn't make a few comments about this.

Rodge mentioned three very important rationales, or flawed assumptions, behind the notion that we should break up the biggest banks. And I want to say I agree with him. The first idea is that, it's not true that the largest banks are likely to incur the biggest risks. Okay. He says it is a misleading assumption that the consequences of big bank failure are too severe. I'll accept that, too. And then the third I very much accept, the notion that particularly in the United States there's a populist tradition in which there's this kind of almost irrational fear and loathing of size and the biggest banks. And that seems kind of antediluvian. I share the view on that. But to my way of thinking, none of those is really the reason for the position that Jim and I have. Jim is the general counsel of a large financial institution, who uses Rodge as his most trusted attorney, so we are second to none in our love and affection for Rodge. But our thinking is simply that larger banks differ from small banks in that, unlike with small banks, the government

cannot make a credible commitment to refrain from bailing out these big banks. If it could, then I'd be in favor of no limits to size whatsoever. This brings me back to the basic assessment that I what to share with you, which, of course, also exposes my ideological bias here. The idea is, if Dodd-Frank doesn't reduce systemic risk, what can we do to reduce the systemic risk? And the answer, to my way of thinking, is the only way to reduce risk of any kind -- firm specific, market systemic – is to cause the people who are taking those risks to internalize or bear the costs associated with taking those risks. And my way of evaluating the systemic risk provisions of Dodd-Frank is simple: does it cause people to internalize risks or not? And I don't think it does, really. In fact, with respect to the deposit insurance assessments, with respect to some of these other issues, I think it does quite the opposite. So, I'm unhappy with that.

Let me just move to the second assessment criteria in my waning minutes – which exposes my own populist side. How well does Dodd-Frank do in protecting the little guy, the second aspect I was talking about? Is it successful in protecting people from taking out mortgages and really screwing up? Look at some of these Countrywide option ARM loans with 30-day teaser rates, and literally hundreds of thousands of mortgages that had negative amortization. Dodd-Frank doesn't do anything for these people.

Let's just compare the protection that the U.S. securities law system gives to a small investor who goes to a broker-dealer firm and wants to buy a hundred shares of Microsoft stock, with the protection that we give to the, on average, much less financially sophisticated person who goes to a mortgage broker to buy a house. The stock-buyer gets the "know your customer rules." Well, why not apply that to the poor guy getting the mortgage. What about the suitability rules? I like that in terms of flipping mortgages and constantly re-financing. What about the churning rules in the securities laws? These are not complicated; they are simple rules

that have been extremely effective in providing protection for the small investor. Instead, we have poor Elizabeth Warren trying to put together this massively funded new organization. We have new regulations being promulgated; maybe they'll do some of these things. But would it have been so hard to just kind of arbitrage a few of the well-working rules from securities law into the banking context?

In that way, I will say, self-servingly, in closing, that I don't think my assessment standard is too high: Measuring systemic risk and looking at how well Dodd-Frank does to protect the little guy. I think my bottom line is, yes, I agree we had to do something; we were going to do something; but what we did may not have been as great as what we might have done.

My last thing is a thought experiment with respect to Dodd-Frank. It is absolutely the case, as people pointed out today, that the TARP and its cousins and progeny, which were imposed upon the American people by the Department of the Treasury at the end of the Bush and the beginning of the Obama Administration, were incredibly unpopular at the time. On the other hand, imagine we hadn't passed Dodd-Frank, and all we had was the residue of the TARP and it's many, many cousins and siblings and progeny – what would public opinion look like today with respect to that? I think that people would maybe have a different view, which is that it hasn't worked out that badly. And the people, including myself, who were big critics at the time in the Wall Street Journal and other places, maybe we spoke a little bit too soon. Maybe it was luck. Maybe it was whatever. The dire consequences associated with that bailout may have been overstated, and maybe we've given up too quickly on *ad hocery*, as that response was called. Thank you very much.

SUNDER: Before we open the talk for discussion, are there any questions or exchange within the panel?

BARR: I just want to make a couple comments about the terrific comments from the panel. And I echo a general sentiment of being honored to be in this group. In reverse order, staring with Jon – there is, in the Dodd-Frank Act, a title called Title XIV, which is more than 300 pages long. So, apologies for that. Among the things, that it does – aside from the creation in Title X, by the way, of the Consumer Financial Protection Bureau, which has all the authority to regulate everything Jon mentioned-- is to provide direct authority under the statute for anti-churning provisions, provisions that are akin to the securities provisions, suitability provisions that have to do with ability to pay, anti-steering provisions, disclosure requirements. There are a whole set of forms designed precisely to address the questions that Jon posed. So, I think we've got that one covered.

MACEY: Do we have to wait and see what the regulations turn out to be?

BARR: Sure. But that's always the case. Do you want the Congress to write the rules? Let's get real. Gene pointed this out, and -- I just want to highlight this -- a really important, persistent problem in our regulatory structure, is we can't get rid of all the regulators we would like to get rid of. We started our process thinking it would be great to merge the SEC and CFTC. It would be hard not to have that view. And we went to see Barney Frank about that idea, and he said, "I can imagine lots of states of the world in which that would be just an absolutely fabulous idea. Unfortunately, none of them are states of the world that we live in." And I think that having multiple regulators is a major problem. But at the same time, I think that regulatory box question can be overstated. So, the FSA (the UK's Financial Services Authority), is one unified regulator, one unified not-so-great regulator. And I think you can overstate the extent to which regulatory structure is the most important part of the system.

BARR: On Rodge, I think you had a good list of areas that were not in our original proposal that are in the final bill. I think that most of those are in the category, though, of not core to the new system. So, I put in that category the Volcker Rule, the Lincoln Amendment, the Tester Amendment, the Collins Amendment. Of the two bigger things, one of them is highly debatable, and that's the Durbin Amendment – we don't have time to get into it now. On the 10-percent liability cap, I do think that that is an appropriate safety and soundness measure in the system. We had a 10-percent deposit cap under, Riegle-Neal and it caused some dislocations because of the incentive to wholesale fund. This corrects for those dislocations, and also, I think, provides some measure of assurance that the concentration of the system doesn't get such that we can't effectively manage our financial system anymore.

COHEN: That doesn't have the safety valve for failing institutions.

BARR: It has a safety valve for a failed bank.

COHEN: A single bank, but not for the whole industry.

LUDWIG: I would say, Michael, on the unified regulator point, that I think it is a very big deal. The Clinton Administration knew the regulatory mechanism was broken. And one of the first things we tried to do was have a unified regulator, and we could not get it through the Congress. The Republican opposition prevented it.

BARR: I'm not against it.

LUDWIG: But the point about the FSA – the FSA is not a real unified prudential supervisor. It's a hodge-podge of every conceivable supervisor. It has the consumer group in with the insurance regulator, and the securities and the market regulator – it's too much. The prudential regulator in Australia is a pure unified prudential regulator.

COHEN: Just one, maybe two very brief points. One, I actually would agree with Jon that there is a very close tie between the success of orderly liquidation and whether you can afford to have big banks. I'm just more optimistic. The other point on Hotel California: I think that's an appropriate name for that particular provision because of all the Eagle songs that are sort of narcotics related, that one may be the most clear!

Sunder: No comments on Jon's part? Okay. Let's go to the floor. Question.

James Fanto: I just have a few comments, not so much a question –

Macey: This is James Fanto, by the way –

Fanto: -- Brooklyn Law School. Don't you think in light of Dodd-Frank we have to be careful about the history that led up to it? It seems to me that big banks didn't fail, but they would have failed. So to say "it was an investment banking issue" or "it was a small bank issue" is not really correct history, it seems to me. And I think you hear that now in the revisionist history of Dodd-Frank. Certainly CitiGroup would have failed. Bank of America would have failed. Washington Mutual failed. Goldman would have failed. You could go down the list, even though that was an investment bank. So in one sense, it hit the investment banks, because they perhaps weren't as well regulated. But we can talk about that, so maybe some of you would want to comment on that. Secondly, I think we have to be careful about arguments. We hear a lot about, well, now things will go to shadow banking, or they'll go overseas. Are those just red herrings? We hear that all the time. We heard it at Gramm-Leech-Bliley. I think the response of Michael Barr is, "Well, we're going to regulate shadow banking." I don't know. Is it going overseas? Is that a pragmatic argument? Is that a normative argument? I mean, we're going to lose our banking industry over there. Is that really what's going to happen? Do we care if it does go over there? Isn't the response to push a Basel regulation, and if they go to the Cayman

Islands as certain industries do, well, let's try to shut it down? So, maybe we want to talk about just those two things.

BARR: Let me start out and we can send it down the row. I do think that we need to worry about what the effects of regulatory choices are, and if you don't think about consequences, you're going to screw up. And I think we had a system before that was too focused on the banking sector. And I think we have potential for a system now that understands that banking and shadow banking are the same, and I think that's good. I should say in the financial sector, every little input matters. The only thing that firms compete on is the cost of funds. So, if you change that little input, that's the only thing that's there, basically. So, it matters a lot, unlike, say, car manufacturing. In terms of the international point, yes we have to worry about that. It matters for U.S. competitiveness, and in terms of the safety and soundness of the financial system, if you create a system where this system just moves to the least-regulated jurisdiction – you haven't done anything. And so, one of the things we were focused on at Treasury when I was there was making sure that we were making progress on the Basel capital rules at the same time we were doing domestic reform. We were trying to get the Europeans in sync with us on derivatives, which still isn't done, but is closer to being done in a uniform way than it was two years ago, and the like. And I do think we have to keep pushing on that, both internationally and domestically. We're all exposed to global risks in the financial system, so we can't just say we don't care.

LUDWIG: It seems to me that there's a material difference between what happened with the banks and what happened with the non-banks in two respects. One fact is the banking system had a mechanism that resulted in the acquisition of troubled banks in a way that didn't cause them to be wards of the state for protracted periods of time. Indeed, to the extent TARP money

was used, virtually all of it has been paid back at a profit to the government. That's not true with entities that are wards of the state or ones that have gone out of business. The other thing I would say is that in a financial storm, everything converges. This is critically important to recognize. In other words, if the storm is big enough, everybody gets hit by the storm, irrespective of whether they caused the storm or not. Several things caused this financial storm. Number one, too much liquidity in the market, and for too long. Number two, an absence of regulation during the 2000s The regulatory mechanism was affirmatively degraded because there was a philosophy or an ideology at the time, which turned out to be wrong, that no regulation was a good thing, and that house prices would go up forever, and that your house was your best investment. An example of this convergence, which I think is very important, is community development banks in the United States. Virtually every community development bank has been in trouble at the end of this cycle. But it's like blaming the dolphins for being caught in the tuna nets. Or, blaming the sheep for the fact that there are wolves. In other words, these guys are little entities that are out there doing good, and in their communities, there's 20 and 30 percent unemployment. So, the fact that they're in trouble is no big surprise. And it is cynical and wrong to claim that the little banks are just as bad as Lehman Brothers, and they're doing the same thing.

As to the shadow banking system and where the trading goes, I think this is a big national issue. If you are a big non-U.S. entity, in the United States you may not trade, pursuant to the Volcker Rule. But outside the United States, you can do what you want. And I can assure you that governments outside the United States are preparing and advocating – they've come to see me themselves – for trading outside the United States and eating our lunch. By contrast, the U.S. entities cannot even trade outside the United States, let alone what they do within the United

States. So, they're at a huge competitive disadvantage. And when you think about the future of the country, I think that a real flexion point to think about is the New York Stock Exchange. The icon of American capitalism and pride is now in a bidding match as to whether or not it becomes the German Stock Exchange. I'm for a globalized world, but at the same time as an example of what a big hole we're in, I think that's not a bad example.

BARR: Are you thinking those things have something to do with each other?

COHEN: Just one comment on the largest banks. Look, I fully agree with you that there were a number of large banks that, if they didn't fail, they virtually failed. My point is somewhat different. They did not fail because they were large. They did not fail because of their derivatives activities. And they did not fail or nearly fail because of the activities barred by Volcker. They failed because they had very poor risk management systems, and that was the real cause. One of these many provisions in Dodd-Frank that I personally think is good, but which has been criticized, requires every large bank holding company to have a risk committee at the board of directors. Hopefully, that will make a difference along with many of the other provisions.

MACEY: Just two points. One with respect to the very largest banks, two pieces of data are relevant. One that James mentioned is would these banks have failed anyway. Another is we would expect the very largest banks to be much more prosperous and stable than other financial institutions, particularly pre-Dodd-Frank, on the theory that because the market viewed them as "Too Big to Fail," their funding was subsidized. The cost of capital was subsidized. And they were able, particularly from very large institutions, able to attract significant funds. Apparently, that's not stopped after Dodd-Frank, which, I think, reinforces the empirical point about "Too Big to Fail." So, we would expect that to happen. The second point is, in terms of this concern

about people moving to other jurisdictions, the way to think about that is sometimes regulations are passed in the hopes that some activity will either cease or move offshore. Some factory that's producing massive amounts of pollution and you pass environmental rules, it's considered a success when that activity stops domestically. Nobody, at least to my way of thinking, thinks that the Volcker rule is leading to the cessation of activity that's really socially harmful in that way. I think that is the most cogent criticism of the Volcker rule itself that suggests it was a mistake to pass the statute, because proprietary training by these large financial institutions is not like the pollution example.

JEFFREY GORDON: I just want to respond to the offshore point. I think the general point is not that Volcker proprietary trading led to failures, because, as Rodge Cohen suggested, it didn't. The issue is whether the social safety net should be used to lower the cost to funds so that banks can engage in prop training. I think that's the issue. Maybe it will lead to firms failing in the future. Maybe it will divert management from their jobs of being credit intermediaries. But the key issue is, that the cost of funds is less for banks that are "Too Big to Fail," except when things get really bad. And so, there's a subsidy for that and so why do it for prop training? Point two, in fact, what we're putting in place is laxer than what is occurring overseas. Swiss banks, the UK banks, are having to put more on reserve on their balance sheets. And the Barclays Bank is threatening to move to the U.S. It goes to a point that I made earlier in the day, a lot of places are worried about banks that are too big to save. And so, of course, they're going to crank up the safety and soundness needs there that, if anything, are going to push those banks to the U.S., because we're bigger, stronger, et cetera, and we, in fact, can live with less demands than some of those other places. So, I thought that might add to some of the concerns that folks might have about the Dodd-Frank bill in its current form.

COHEN: I'll make a very quick response. Since we apparently just found the original manuscript of *Gone With the Wind,* I'd like to see if we can find the original manuscript of Volcker –

BARR: I've got that.

COHEN: Okay. Good. I think we would really find as Chairman Volcker – as I heard and others heard him outline this – it was exactly to your point. It was we shouldn't extend the safety net. So, it was going to be pulled out of the bank, out of the institution that had the safety net. Somewhere between there and Dodd-Frank it got applied to the entire holding company system, which doesn't have any of the elements of the safety net, or far less elements. That, to me, is the real problem. Had the original Volcker idea been incorporated into the bill, I wouldn't have had a problem for the very reason you mention.

LUDWIG: I'll actually be more extreme than Rodge on this. I think at the end of the day if it's in the banking organization, it might as well be in the bank, because you can't play hide and seek among these entities. But having said that, why is it that we have decided that lending, in and of itself, is the only socially valuable financial activity? In other words, we have this odd, historic view that lending somehow is the only valuable financial activity. I'm in favor of lending, but I don't agree with that. I think this is a complex, market-driven world, where much has moved to the capital markets, and will, irrespective of how we try to restrain it. Given the tremendous benefits to the capital market developments, I don't agree with restraining our banking organizations from testing the capital markets. I have one banking organization that has got to shut down its prop trading. In something like 30 years, there hasn't been a single quarter in which they've lost money, not a single quarter, even through the crisis. So, why is it you would want to restrain them from a market-making activity that adds liquidity to the marketplace,

which has been shown demonstrably to be safe and sound, and basically rip it out of the banks? I don't get it,

MACEY: I just want to say I agree with these comments, first Rodge in total, but especially having tried to track down in connection with my scholarship the provenance and the various incarnations of the Volcker Rule, I and the editors of the Yale Law Journal share your pain. I completely agree. Second, I agree with Gene Ludwig's conclusions entirely. I do want to make the case, though, just for the sake of completeness, that lending is different. And while I agree certainly it's not the only socially valuable financial activity that financial institutions engage in, I'll make the following point, which is, any institution that has access to the larger capital markets in terms of securities had many, many more options. There are lots of firms that are borrowing money whose only access to outside finance is the lending channel. I certainly agree that the people who are doing proprietary trading, the people who are doing merchant banking, venture capital, hedge funds, contribute tremendously. But it's also the case that I'm in favoring of kind of coddling the little borrower because they don't have the incredible farrago of options in capital markets.

BARR: The only thing I'd say about this aspect of our conversation is it's just not that important in relation to the bigger changes that are going on in the financial world, what happened in Dodd-Frank, the basic shift to covering financial intermediation generally, and the focus on bigger buffers in the financial system. There are lots of things in the bill that I would certainly do differently. This may or may not be one of them. But even if it were, it's small in comparison to the sets of issues that face the financial sector or the set of changes that happened in Dodd-Frank.

SUNDER: One last comment.

WAGONER: I'm last. I'm Walter Wagoner, class of '70, Yale Law. And I was going to make that a bit of a comment about what you could do with the Bankruptcy Code to remedy some of the other issues that Dodd-Frank doesn't get to. But since it's late and I'm apparently the last one standing, I'll just say on behalf of all of us who have been sitting here how marvelous this day has been, and thanks to everybody who's put it together. Thank you.

SUNDER: Let's just make sure that if the shadow-banking system arose under the extended regulatory system, let's make sure that Dodd-Frank has sufficient features that a shadow-squared banking system will not arrive when it's under implementation. Thank you very much.