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INTRODUCTION AND PRESENTATION: THE ECONOMIC ROLE OF THE FINANCIAL INDUSTRY IN THE U.S.:

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PANEL ONE: THE CURRENT AND HISTORICAL ORGANIZATION OF FINANCE:

Moderator:

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Panelists:

SUJIT “BOB” CHAKRAVORTI
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Senior Fellow, Bruegel

JOHN LESTER
Partner
Oliver Wyman

Keynote Address:

DANIEL TARULLO
Member of Board of Governors
Federal Reserve Board

PANEL TWO: THE FUTURE

Panelists:

CHARLES CALOMIRIS
Henry Kaufman Professor of Financial Institutions
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Concluding Remarks:

DONALD KOHN
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P R O C E E D I N G S

MR. BAILY: Good morning. I'm Martin Baily as I said five minutes ago, and I'd like to welcome you all to this event on "Structuring the Financial Industry to Enhance Economic Growth and Stability." We're really delighted to have such a distinguished group of people, both on the panels and to have Dan Tarullo who's going to come and talk later this morning on this issue.

I just want to give a few sort of comments on my own perspective on some of these issues. Obviously, I don't need to remind anybody, we had a very serious financial crisis which triggered a very deep recession. And so it was sort of understandable that we would have a lot of urgency around coming up with legislation to address the problems that had emerged, so that we wouldn't have a repeat of what happened again. In the best of all possible worlds I think it would have been better to do it more slowly rather than trying to create a major piece of legislation so quickly. After all, I think we were still understanding and disagreeing about the sources of the crisis when the Dodd-Frank legislation was passed. Ideally, again, it would have been better if we had had a bipartisan bill rather than just a Democratic bill. And I think we were very close to getting that at certain points and just the general bipartisan, polarized nature of the politics we face now stopped that from being a reality.

So the question is given that we have Dodd-Frank, which is not going to go away, it's not going to be repealed, and the implementation is in full swing, so what should we be thinking about now? In my judgment it's really to take a kind of second look at financial regulation, both at Dodd-Frank and at what maybe some of the things that it missed and the implementation of Dodd-Frank, which I think is probably in many cases as important as the legislation itself. It's early days yet, but not so early that we can't take a look at what's working and what's not working, and ask are we really doing the best

possible job in creating a financial sector that is more stable, but that also promotes economic growth and allows the U.S. to sustain its global competitive position as a leading financial industry?

I think anyone taking on this task, it's not for the faint of heart. In our polarized policy community there are many who believe that Dodd-Frank is just evil and should be repealed. And there are others on the other side that argue that any attempt to modify it or to soften in any way or change in any way some of the proposed implementations, simply reveals the work of industry lobbyists and the weak morals of anybody who may be suggesting it. And I guess I've come up against both sides of that.

I think it's too bad. I think that's unfortunate that we're in that situation. As I said, Dodd-Frank's not going to be repealed. On the other hand, I do think it needs to be revisited and improved and a hard look taken at the way it's being implemented.

My Brookings colleagues that are part of this event today -- Doug Elliott and Don Kohn -- are very heavily involved. I don't want to put words in their mouth or what their mission is, but certainly in terms of looking at financial regulation, of course, Don is doing a lot of work in the UK helping them as they set up a new regulatory structure.

For my own part, I became the co-chair of a bipartisan policy center initiative on financial regulation. I think we have a pretty good panel of people on that initiative and we're going to look at financial regulation in five buckets: systemic risk, failure resolution, capital markets, consumer protection, and regulatory architecture. I've been around this movie before. I was the co-chair of a Pew task force along with Charlie Calomiris and a number of other excellent people. We made a lot of progress. We actually had a good report. But for reasons I won't go into now, it didn't get the impetus that it might have when it was done. We're hoping maybe to now move that process

forward.

I want to touch on, before I hand over to the main part of the events today, I want to touch on one particular topic that I have been involved in, and that's the regulation of derivatives. Let me say that understanding derivatives is very hard and I think there are many. Certainly if I took a tough exam, I might not get all the questions right. I think it's difficult to understand derivatives. But nevertheless, I think I'm going to go ahead and say a few things about them anyway.

I was in the Clinton administration during the period when it was decided that there should not be regulation of derivatives. I was not particularly a part of that decision, which fell to the Treasury, and the Federal Reserve obviously had quite an influence on that, too. I think that was a mistake. I think a decision not to regulate derivatives, to leave them sort of running free, was a mistake. Bill Clinton himself has said that, and I think others who were part of that decision maybe have looked back over their shoulders and said maybe that wasn't such a great idea.

As the crisis hit, we didn't know enough about the derivatives that were out there, who was holding them, what the implications would be. Whether you think it was right to let Lehman go down or not, I think the Fed now with the benefit of hindsight realizes they didn't know what was going to happen, what would be the consequences of Lehman going down. So there was a real lack of information and I think it was necessary to take a look at derivatives regulation. My concern now, though, is that the pendulum may have swung too far the other way. And I think derivatives have maybe been given -- overstated a bit in their influence on the crisis.

Like many historical financial crises, including the S&L crisis in the 1980s, the most recent crisis, the one we've been going through, I think was fundamentally caused because financial institutions bought and held bad assets. And

that's sort of the common way, that's sort of what happens. Something looks good, looks like it's giving you a good return in relation to risk, and then you find out that you were underestimating the risk that was involved in it. So the collapse in the United States -- this was not restricted to the United States. There were banks in Europe that bought bad assets, some of them real estate-related, some of them not, but here in the U.S. it was overwhelmingly associated with real estate assets. And so when the price of real estate dropped so sharply and unexpectedly to most of the people who had done evaluations, they and the synthetic assets that had been built on top of those mortgages really helped bring down the system or close to bringing down the whose system.

So derivatives were part of that story, there's no question. The CDS that had been issued by AIG -- sorry for all these, but I assume these are fairly familiar acronyms here -- those credit default swaps certainly were part of the story. They were issued by AIG because they thought they were going to make a ton of money. They were bought by institutions that were afraid their financial assets, their mortgage-backed assets were going to go down. They certainly were a part of the story and part of the reason obviously that AIG ended up getting bailed out.

But I don't think derivatives really were the main story and I think that all derivatives should not necessarily be viewed as toxic as Buffett said. I don't think they are necessarily the atom bomb or the toxic part of the system if we understand them better and use them better.

If we look at some of the specific rules that have been proposed -- notably the Volcker Rule, the single counterparty credit limit rules, the Lincoln amendment, and the Collins amendment -- I think it's hard to know how each of them is going to work individually. So if you just look at them in isolation, there's been quite a bit of literature, quite a bit of disagreement about how let's say the Volcker Rule would

actually work out in practice. I certainly don't know and I don't think actually anyone knows how, if we put them all in place and implement all of them, how they're going to work together and what the combined effects of this set of regulations is going to be. And I think that creates a dangerous situation for our financial sector and for the ability of that to provide financial services to the rest of the economy.

So, you know, in short, it was a bad thing not to leave derivatives completely unregulated. I don't think it's necessarily a good thing to whack them on the head so hard that it really undermines what derivatives can do.

And let me say again, I may be preaching to the choir or not here, but let me say a word about what kinds of positive things derivatives can do. They really are essential for the conduct of international trade, foreign exchange swaps, allowing companies to hedge their foreign exchange risk and increase trade. Interest rate swaps are very important because different participants in the market want either fixed rate or variable rate or want different kinds of interest rate securities.

The commodities futures derivatives actually have been quite important. As we know there's been a kind of revolution in energy supply in the United States, potentially very large -- well, not potentially; it's happening -- large increases in -- thank you for the water. I don't know if that's my problem, but I'll drink it anyway.

We've had, as you know, sort of a revolution in the supply of energy, the prospect of much increased oil supply and the actuality has sharply increased gas supply. Commodity futures played a role in that. They weren't the only things, by any means, but a lot of the technology was discovered by relatively small companies that use commodity futures to hedge themselves against the very large swings in prices particularly of natural gas, but also of oil, so it would have been difficult for them to do that stuff had they not had some guarantee of what price they would get for the gas they

were drilling.

I also think as we look forward and try to find a solution to Fannie and Freddie that involves privatizing the private mortgage market or re-privatizing it or whatever, that, too, is going to involve a lot more credit risk going into the private sector. That's going to have to be spread to the people that can stand that risk. So that, too, is probably going to demand more derivatives as we make that step.

So, if anything, I think we need more derivatives going forward. It's a risky world. There are a lot of risks out there. And the way that people are able to handle that risk or an important way they're able to handle that risk is through the use of derivatives. So I think it's very important that we, again, step back, move slowly perhaps in terms of implementing some of these regulations and check at each step to make sure that we're not destroying that market in the -- saying we're saving it, but ending up destroying it.

That ends my comments. I'm a little ahead of my time, so I'm going to now turn over to Doug. So thanks, everybody, for coming. I think it's going to be a great day today and look forward to hearing the rest of the event. (Applause)

MR. ELLIOTT: Thank you, Martin. And if my panels could just array themselves here. Nicolas, you can come up, as well, as we have everyone.

I would like to thank everyone for coming here today. I am really quite delighted that we are holding this conference, because I believe that we collectively need to focus more than we have been on why we have a financial system and what the appropriate size and structure is to accomplish those objectives. Too much of the

debate, I believe, makes critical assumptions that are without foundation and core economic principles.

We have a great group of panelists here with me today. Their focus will be on the current structure of the financial system here in the U.S. and abroad, and how and why we got to this structure. A later panel, which I will also be on, will look to recommendations for the future.

We will first hear from Bob Chakravorti. He is the Chief Economist of The Clearing House Association. He is immediately to my right. This is an industry sponsored analytical body that has made excellent contributions to public policy debates in this area, and I will say with considerably less spin and more facts that is normally seen from an industry group. So, thank you for that. You have his bio and you have the bios for the others in the packets, so I will not walk through is impressive career in more detail.

Next up, to his right is John Lester who is a partner at Oliver Wyman. Oliver Wyman is one of the leading consulting firms in the financial services area and he is well positioned to talk about where the industry stands now.

Finally, to my far right is Nicolas Veron. He is going to give us a non-U.S. perspective with particular emphasis on the structure of the European financial system. Nicolas is a cofounder of Bruegel, which is a leading Brussels-based think tank. And he is also here in Washington at the Peterson Institute for International Economics.

I have asked each panelist to speak for a bit more than 10 minutes, and they have been warned that I do intend to hold them to that. This is in order to ensure that you have a break before Governor Tarullo speaks immediately after the break. So with that, let me turn the podium over to Bob, and hopefully we can figure out which presentation is his.

MR. CHAKRAVORTI: Thanks, Doug, for that introduction. It is a pleasure to be here at Brookings today. At The Clearing House, we support these initiatives and these types of conferences to get the various market participants, regulators, academics and the public at large together to talk about these important issues.

As we are all aware, banks are vital to any well-functioning economy. We heard from Martin this morning about derivatives, but in general, and the role as credit union mediation and maturity transformation are very vital to the economy. And as such, banking is not risk-free. The goal of any regulatory framework is not to eliminate risk, but to manage it. And there are different sizes of banks, and there are different participants outside of banks that provide services in the financial services industry. So there is a role for all banks in the economy, from the very small to the large and the various products that they produce.

So let me tell you in the brief time I have what I am going to be doing. First, I am going to discuss a little bit about the structure and concentration of banking markets, comparing the other countries to the U.S. Then I am going to be talking about recent studies in the economies of scale, scope, and talk about innovation. And then I am going to be talking about too-big-to-fail systemic risk and the various regulatory framework that is being created and has been created.

So, structure and concentration markets: What is interesting is that banks play a role based on their assets to GDP that is quite large in various counties. As you can see by this chart, we see that the U.S. is relatively small compared to other developed countries at 117 percent total assets to GDP. There are other ways of financial services getting out to the economy in the U.S. So it is interesting to note that -- I was at a conference in Switzerland last year and the term too-big-to-fail, as you are

familiar with -- and in some European countries the term is developed too-big-to-save. Their abilities to save them is certainly a big question.

If you look at the top five banks by assets as a percentage of GDP, you see that, again, the U.S. is relatively small compared to certainly the Europeans, the G7 average and the G20 average. U.S. is about 56 percent of the top five banks, by assets. So in a relative measure, U.S. banks compared to a GDP benchmark is relatively smaller compared to European countries and other developed countries.

So the U.S. banking industry is also less concentrated than other U.S. industries. And this is based on the top four U.S. firm's concentration by revenue by industry. We see that, certainly at 32 percent, it is fair lower than other industries that you see here; computers, wireless, telecom, automobiles and such. So what then is the issue? The issue is that these institutions may be difficult to resolve, may be difficult to close, and what regulatory framework should we have that will enable the resolution of these firms if they were to get into trouble.

Now before going there, one might as the question, what are the benefits of having these very large institutions to begin with? Now to look at that, I am going to look at two studies that were produced recently, and then I am going to discuss a study that we at The Clearing House did last year to look at the benefits that large banks provide to the economy, the unique benefits that would be lost if these big banks reduced in size or did not exist at the size that they do currently.

So studies on economies of scale, the benefits of size from the '80s and '90s suggest that scales disappears relatively at low asset sizes. Let's say 100 million or a little bit more. Recent evidence suggest that there are scale economies that exist higher than a trillion dollars. Wheelock and Wilson of the St. Louis Fed, in a working paper that they recently revised in 2011 find that a size cap of a trillion dollars -- what that

means is, if you take banks that are above a trillion dollars and you shrink them down to a trillion -- you do this exercise -- would result in a loss of $79.1 billion, in terms of benefits.

Hughes and Mester from the Philly Fed, in a working paper in 2011 find that banking assets, if they are capped at $100 billion, there will be significant loss to these economies of scale benefits.

Now one might ask why the change from the previous studies? First, there are new, more robust econometric techniques. I don't really want to bore you with those techniques right here, but certainly they are on the paper and I suggest that you have a look at them if you are interested. The introduction of risk and cost of capital in the regressions, something that was not done before, and when more technology dependent banking products resulted in higher fixed investments. So not only is there a change in the technique used to capture these economies of scale, but there is also changes in the underlying technology.

Now with that, I would like to briefly go over a study that we did at The Clearing House. And what we try to do is we try to look at the benefits of large banks, and the first thing we looked at was scale. And this chart here shows that we looked at 50 billion. The reason we looked at 50 billion is Dodd-Frank defines systemically important financial institutions at 50 billion. Whether 50 billion is too big to fail or not is certainly debatable. But if you look at that, we looked at that there were certain areas. Not all non-interest expense is associated with the economies of scale or we could not exactly capture it, based on what we were doing. We were using proprietary bank data here from the largest banks in the country. And what we did is we looked at areas where we could gage economies of scale, and we plotted this out, and we didn't in fact find these economies of scale. And this is just to give you an idea of product, unit cost and the bank size. We did this on a product-by-product basis, unlike the studies that I cited

here which looked at total cost. So if it is a payment product, a capital markets product, we looked at it and that gave us a more in-depth view of how the scale would come about.

Then we looked at another area, which is the benefit of innovation when you have a large bank that has a platform, if you will, to spread that innovation. So for example, if an innovation like an ATM comes along, if you have a lot of small banks, the adoption of all those small banks trying to gain a critical mask would take longer than if you have a large bank that can get at its network. And this benefit, the additional benefit is sort of that green area on top of that gray. And the benefit comes from the speed at which the innovation is adopted. Okay? And we calculated what the benefits of these large banks have in terms of spread of innovation.

Now when we looked at all three aspects, we looked at four product areas. We looked at retail banking, payments and commercial banking, capital markets. And we looked at three benefit categories; the economies of scale, the scope of product and services. What this basically means is, if a large customer comes to a bank, are there benefits to having many products in that bank. And one can't think of this just in the U.S. context but also think of it in the global context. In other words, are there benefits to U.S. companies that are active outside the U.S. to having a large U.S. bank that can be involved in various aspects of banking that may be required? And then we looked at the spread of innovation, the pace at which innovation occurs when there are large banks.

So for economies of scale, we estimated that there are about $20 to $45 billion in benefit. This is far lower than the benefits that were found in the two papers I mentioned. We also found a benefit from the scope of products and services to the customer. We found this to be between 15 and 35 billion. And then we found a benefit to the spread of innovation between 15 and 30 billion.

Now one might say that this benefit is relatively low, compared to the cost of a financial crisis. But one has to remember that financial crisis, fortunately, do not happen every year. They happen probably not every decade. And if you take the net present value of that cost of the crisis compared to these numbers, one could start to get at a cost benefit analysis. Unfortunately that analysis has not been done yet. We look forward to that analysis being conducted and using the various papers out there that are coming out to look at how these costs and benefits actually come out.

Now let's move to too-big-to-fail systemic risk and regulation. Let me at the outset say that too-big-to-fail is something that needs to be addressed. The industry is very supportive of initiatives that will, we hope, end too-big-to-fail. One of the aspects of Dodd-Frank that looks at too-big-to-fail is Title 2, which is a resolution authority to close a large systemically important financial institution. We at The Clearing House had a symposium in which we looked at various points. We looked at a weekend where a large financial institution was closed. This financial institution had operations in a foreign country. And we were looking forward to sharing those results with the regular and the public soon. And we found that it was a very enlightening experience to see how the things unfold and what you can predict and what you can't predict. And I think these sorts of exercises are going on in other parts of the world. And I believe the regulators are also looking at conducting such experiments and simulations.

Then the question of systemic risk is something that has come up. What it means, how it is defined and how to measure it is not clearly understood. Let me give you a brief story. When I joined the Federal Reserve in the mid '90s, my dissertation was on systemic risk in the payment system. My boss at the time told me that there wasn't anything called systemic risk, so I should change any reference to systemic risk and call it something else. As we know now, although we still cannot define systemic risk, it is

one of those things like pornography. You know when you see it. So it is something that I think needs to be defined, and it needs to be defined in a forward-looking way. It is easy to say that was systemic after the point it happens. But when you are fighting in the trenches, it is difficult to see that as it is unfolding. And I think measurements, there are some advances happening there and we encourage those developments. The Clearing House is one of the members of the systemic risk consortium which is housed at MIT. And we look forward to getting better measurement, getting industry data and looking at those aspects.

And then of course is the regulation. Regulation, as it is nothing new to you in the audience here, there is a lot going on and it is going on very fast. We are very supportive of capital requirements, liquidity requirements and single counterparty credit limits. We think that the industry can offer data that is not easily accessible. And we have done that in various studies to show that where the calibration may be off, what the impact would be. If you are interested in such studies, certainly visit our website. We have these studies there.

And let me end with something that was asked of Chairman Bernanke, which I think is a relevant question. I believe Jamie Dimon asked him that. Which is, with all these regulations that are being implemented, whether it be capital, liquidity, resolution authority, has anybody really studied a) the cumulative cost of all these regulations? Because regulations do come with a cost. It may be the fact that the benefit is worth it, but we should not be blind in thinking that regulations have zero cost. And secondly, the regulations by themselves have some benefit, but has anybody looked at the overall cross benefits? Like, if you do something on capital and liquidity, would you have the same capital requirements if you did not have liquidity requirements or single counterparty credit limits and the like. So I think, going forward, we have to have a more

holistic look at the regulatory framework in terms of its costs and benefits. Thanks.

(Applause)

MR. ELLIOTT: Now we have John Lester.

MR. LESTER: Can everyone hear me? I am going to talk about just the U.S. financial system, so it will be complementary to Bob's remarks. I am going to give four views of the U.S. financial system. I will talk quickly, since that is a reasonably high number of views to do in 10 minutes.

First, I am going to give a business line view and take a look at how the roughly trillion dollars or so of annual revenue that the financial sector generates gets distributed among its big business lines. Second, I am going to take an asset liability view, both for today and for 30 years ago. This view indicates that gearing of the real economy has increased. And on top of that, essentially through securitization and other innovations in the financial system over the last 30 years, the number of claims within the financial system have also gone up for each dollar of real economy that credit its taken out.

Third, a comparative view. This will echo some of what Bob said. What is so special about the U.S. financial system? My answer is, it is big; it is unbundled; it is less bank-centric and it is complex. And finally, I am going to take an evolutionary pressure view to try and explain what I think has driven the modern history of the U.S. financial system.

So this is a -- I won't call it back of the envelop, since it took a few weeks, but this is a rough map of all of the revenue in the entire U.S. financial system. So this view is aligned with how the businesses are actually managed. So each of those boxes will tend to be its own kind of firm or, more commonly for most of the boxes, it will be its own business unit within a diversified financial firm.

Overall, this is mostly based on 2010 data. It is about 1.2 trillion in overall revenue. You will notice the biggest vertical is insurance, property and casualty and life we are estimating at about $430 billion annually. Now I was surprised that this was the biggest one. My partners at Oliver Wyman who specialize in insurance have told me repeatedly that revenue as a concept does not make sense when applied to insurers. I get deeply disturbed every time they say that. But we use the least bad way of estimating it, and for sure, it is big.

The next three verticals, retail, financial services, corporate banking, investment banking are all provided by banks and bank competitors. And then we have finally the various flavors of asset management, including alternatives, institutional business, private banking and retail asset management.

So, I just want to make a couple of observations. First, I think it is interesting that most of the revenue here comes from the final touch point with individuals. So much like the overall GDP where most of that comes from the final link in the economic chain when we get to people, the same thing is true about overall revenue in the financial system. And that final touch point actually takes place in all five of these verticals.

So I also make another comment about this kind of last mile of financial services in the context of reform. So it is most of, like, the daily activity of the financial services industry. It is certainly most of the employees. There are roughly five million or so people that work doing all of this. The vast majority of them, maybe 80 percent'ish are doing that last mile type work. They are the tellers, the insurance salesmen, people like that. And by nature, there are limited economies of scale for all of that. And so when you are thinking about changing how the financial system does something, if it is that last mile, it is very difficult to change because it really is four million people waking up and

doing something different, which is a slow process.

All right. Next, this is a kind of structural view. So each little rounded box is a sector of the U.S. economy. So we have got households, the rest of the world outside the U.S. All this is from the 2011 flow of funds data from the Fed, which is wonderful. In the middle, I have got the various parts of the financial system. So pensions, investment funds, money-market funds, banks, of course, the GSEs, insurers and then the rest of the financial system, plus the Fed. And then we have firms, non-financial firms, as well as state, local Federal Government.

Now the size of each box is proportional to how many financial assets they hold, so this is kind of an asset view. And for scale, the little gray box in the corner is 2011 GDP, so that is about 15 trillion. So overall, if you look at what I am calling the financial system here, the yellow bits in the middle, they are about 43 percent of all the financial assets. And when you look at all the financial assets in total across the entire system, it is about 10 times GDP.

Okay. Let's go back in time 30 years and see what it looks like. So again, same picture. The scale, the little gray box on the upper right is 1981's GDP, 3.1 trillion. And again, everything is based off that. Just by comparing the two, you can see essentially the financial deepening over the last 30 years. Right? Everything got bigger, relative to overall economic activity in the country. In particular though, you see the biggest increases for the GSEs, for money-market funds, for investment funds and for the rest of FS, which includes such things as ABS issuers, broker-dealers, things like that.

I think the basic point here is that the financial system and gross balance sheet terms has grown by a big multiple of GDP over the last few decades. So, why? This is not all financial assets but just credit assets. So this is in fact credit liabilities. So it is credit owed by essentially all the non-financial bits of the U.S. economy; so

households, businesses, governments, as a proportion of GDP over time. And you can see essentially the average indebtedness relative to economic activity is going up slowly over the last 30 years, but certainly there is a trend there. So the gearing on the over all economy has increased on top of that.

You can see the financial system multiplying the gross assets that get created for every dollar of claims that gets generated on the real economy. So this is just financial sector credit assets, so it is the flip side of what the real economy credit liabilities. As a percentage of that real economy credit liabilities. So this is essentially what I like to think of as the credit multiplier. If you think of all the claims that the financial system has on the real economy, this is essentially a multiple of that because of all the intra-financial system claims.

So you can see that not only is the gearing on the economy, it is the real economy increasing, but essentially the gross assets goes steadily up, up, up until about 2002, at which point, they begin to drop for a little bit. They resume a slower climb until the crisis and then things fall down.

The most interesting thing about this chart to me is, you can see the structural change in the U.S. financial system by looking at the different providers of credits, in this case, within the financial system. So you have banks essentially on a steady path of providing relatively less credit to the economy. You have GSEs and GSE issuances essentially taking their place over the course of the 30 years and then surpassing them where they were 30 years ago, where banks were. And then private-label securitization, which shows up in ABS and finance companies, much of it, in money-market mutual funds, which are a big source of the funding for the entire securitization chain, in broker-dealers, et cetera. All of that keeps on growing right through the crisis.

So securitization, I think, is the big story of the U.S. financial system over

the last 30 years. So that is one of the big things that I think makes the U.S. different. It is not just securitization. It is more relatively whole-hearted embrace of markets, to echo Bob, somewhat at the expense of banks. So we have more credit intermediation done by markets and by non-banks. That is the less dominant role for banks in the United States. We have lots of small banks, which is unusual. We had the GSEs. We have provided subsidized mortgage asset funding and have essentially centralized and taken on enormous amount of the nation's mortgage credit risk, as well as kind of prepayment convexity risk.

I think the other interesting feature coming out of the crisis is the reform agenda, as played out so far, is that we still lots and lots of different regulatory bodies. Most folks from other countries tend to mock us for our number of financial regulators in the United States, but despite the proliferation or the maintenance of a high number of actual regulatory agencies.

For the biggest most important players in the industry, the rules are actually getting relatively homogenized. So some part of that I think is unambiguously good. Orderly Liquidation Authority, I am a big fan. My bad pun, the universal insolvent. It can be applied to any type of financial institution under the right conditions. Other kinds of regulatory homogenization are, to me, more ambiguous in their effects. So you have essentially all big bank holding companies, non-bank SIFIs, potentially foreign intermediate holding companies, which I heard someone talk about recently. Maybe we will get lucky and hear some more about that today. All of that means that all of those firms are going to be subject to a lot of the same regulatory incentives, essentially.

In private conversations I will frequently hear relatively specialized firms figuring out that, because they are being held to the same capital and liquidity standards as others, that they end up looking like others. That is actually the economic best thing to

do is to adjust their specialized business to be more like a just generic diversified bank. I do not know if that is a good idea. I think monoculture is generally a bad thing.

And finally, again, to echo Bob, it is a big economy. I think the size of the U.S. economy is often overlooked as a structural feature. It is not just size, but a difference in kind. So one example, we have the most market mediated financial system on earth. But our regional banks, unlike all of the other rich country's regional banks, do not do capital markets, for the most part. I do not think that is just a legacy of Glass-Steagall. I think it is a kind of natural, a fact that their returns to scale in the asset management business, so anybody who acts as a middle man to investment managers. So if you are an underwriter or a broker or dealer, for example, those economies of scale and covering those clients get passed on to those businesses.

And so, you know, if a company in Atlanta is doing an IPO, they do not just market it to pensions in the state of Georgia. The fact is, globally, capital markets activities, those businesses tend to have kind of natural boundaries at the national level, at the currency and national level, and we just have a really big version of that. So this means that investment banking tends to have lots of economies of scale within our country, and so you end up with a relatively concentrated group of people providing those services.

Another example, this is a different view of the same point Bob was making. So the bars are each very large banks in the world. So each bar is a bank with at least a trillion dollars in assets, and they are color-coded by country. And the length of the bar is the proportion of that bank's assets relative to its home country's GDP. So at the top you can see why the Swiss have imposed such apparently draconian capital standards. They really cannot be saved by the Swiss economy. Netherlands, Spain, France has a good number of very large banks. The U.K., for sure. Germany has one

big one. Italy has one big one. China actually looks pretty good on this measure. I have no idea if you can believe the numbers. Japan, not as bad as most of Europe. But the U.S., these are our four biggest banks and they are all a very small fraction of the overall U.S. economy. Among other things, this makes us by far the most credible guarantor. So whether it is a too-big-to-fail or a hopefully more temporary backstop, we have a much better chance of actually doing that and being believed than folks in Europe, for example.

So, my last view. So my slightly gimmicky hypothesis I am going to close with is that, the burden of credit evaluation, just like how difficult it is, how much time it takes, is the driving force behind the last few decades of U.S. financial history. So in my view, simplified, it explains the appeal of the innovations that took off. It explains the structural changes in the financial system that resulted when they did. It explains the genesis of the crisis and the shortcomings in the way those innovations were used, and I think it explains the logic of most of the policy responses. So that is not bad for a little pet theory.

The idea coalesced for me recently when I did a bit of un-intermediated lending. I encourage everybody, if you have not, to go on one of the peer-to-peer lending sites and just do it as a personal experience. It is a deeply human experience to give some of your money to a stranger and hope that they are going to pay you back. It is a bit little gambling. It really is a commitment. You hit "yes" and that money is out the door, and then all you can do is hope. And at the same time, you get to know a little bit about why they want the money. You get to pick who you are lending to. And so there is a sense of you are helping the person. And so lending in its natural state I have now reduced down to gambling plus charity.

So I think so much of modern finances is a concerted effort to essentially get away from that slow evaluative deeply emotional process of giving your money to

someone else and just taking on faith they are going to give it back to you. Obviously, the benefits to cutting that process down to making it as localized, as fast, as efficient as non-emotional as possible. The benefits of doing that are huge. You know, if you greatly increase the universe of potential asset-holders when you reduce the kind of activation energy of credit evaluation they have to do to be comfortable to hold the asset allows assets to be moved to the most advantaged holder.

There is all kinds of funding, capital liquidity advantages, and ultimately reduced cost of credit and increased supply credit to the real economy. And so we have developed all these technologies to essentially get all those benefits. Collateral, credit ratings, tranching, credit guarantees of different sorts, liquidity enhancements. So, you know, basic securitization, ETFs are a great example. And they have very large, very real substantial advantages because they do all reduce the kind of aggregate burden of credit evaluation we, as a society, have to do. But there are potential issues, I think, with all of them. So a quick example, collateral. You are obviously subject to, now, new asset price and liquidity risk. There are operational risks and you have to actually manage the collateral in and out. It is a very messy process. And more subtly, you tend to, when you collateralize a credit transaction, rather than just doing it uncollateralized, you are exchanging a typically idiosyncratic credit relationship for a much more systematic market relationship. I have a suspicion that there are similar issues for all of the others. Thank you.

(Applause)

MR. VERON: Good morning. Well obviously the advantage and disadvantage of coming third is that there will be some overlap and echoes of what Bob and John have said. But at the same time, I would look at it from outside of the U.S. and look at how the world I look like outside of the U.S. is different from the U.S. financial

system.

And I will have a bias here. I work mostly on Europe, and then on a number of global issues. But the sort of issues we are talking about today are things I want to work much more next year. So a lot of the indications I will give on the rest of the world, especially outside of Europe, will be pretty sketchy. And I will have a strong European bias, which doesn't necessarily reflect Europe's place in the global financial system. And indeed, the global financial system is changing fast if you look at the market value. But actually if you looked at assets, it wouldn't be a very different picture. It would be somewhat different, but the trends would be the same.

Basically, 10 years ago we had a bipolar world which was mostly about Europe and the U.S. Well 15 years ago it would have been a bit different because of the Japanese bubble, or 20 years ago, but Japan was real easy on the outlier.

What we have now is a redline, which is Asian banks. And also there's a purple line which is the rest of the world, which is largely about Canada, Australia, Brazil and others. It is a very diversified rest of the world that is taking over the leadership from the U.S. and Europe, so it is not just one country bubble like in Japan. China is a big chunk of it, of course, but it is difficult to imagine that this will be reversible, at least anytime soon. So really we have this situation where the U.S. and European shares of global banking have been cut by more than two by some measures in the past decade, or even less than that. And as you can see, this is some things that is happened before the crisis, by the way.

So as has already been said multiple times today, the rest of the world is less bank-based. I liked John's pet theory. I think one way to put it is that in the U.S., banks have much less of a monopoly on credit evaluations than in the rest of the world, or to have more of a monopoly on it than the rest of the world. The typical numbers that

the ECB, in particular, always gives is that credit intermediation is 70, 75 percent bank-based in Europe versus 25, 30 percent in the U.S. Well I want to look more at those numbers because I think there are a number of interesting things to look at here, but let's take them at face value.

In many larger emerging economies, the dominance of banks is even bigger. And this corresponds to a number of nonbank credit channels which are comparatively under developed outside of the U.S. I will list a few here. There would be more to comment on each of them, but we have limited time. And it echoes John's last slide, to a large extent.

So this is also largely redundant with previous presentations. The right-hand side is perhaps a bit difficult to read from where you are. It is assets to GDP of the top three banks in a number of countries. And the U.S. is clearly the outlier.

So the left-hand side is a list of the largest banks in the world by assets. It is a tricky measure because there are accounting differences. So the size of the U.S. banks is probably underestimated compared to others, but this is not a factor big enough to account for the -- so the U.S. banks are the ones marked in blue. It is clear that the U.S. banks do not loom very large on that list.

Another feature is that big banks outside of the U.S. are often unlisted banks. Not the majority of them but many of them. If you look at the global top hundred banks by assets, you have a bunch of unlisted European banks. There are also a few Asian ones. (French term) in France, Rabobank in the Netherlands, Credit Mutual in France, (inaudible), (inaudible) in Germany and Nationwide in the U.K. None in the U.S. So basically all banks in the U.S. are publicly listed commercial banks. You have a much wider diversity of models in the rest of the world. So extreme cases, Germany, where commercial banks are actually a minority of the national banking system. So the bulk of

banking in Germany is savings banks, (inaudible) banks, which are regional publicly-owned banks linked to the savings banks. Corporative banks, (inaudible), some big public credit institutions, such as KFW. If you add all of them together, you have a vast majority of the German financial system. And as we know, Germany is not only a big country but an important one right now in Europe.

This leads to a number of variations in governance and also in terms of transparency that are important when you think of banking reform. And actually you see that, for example, in its application of Basel III, for accounting standards, of a number of different things in European financial reform discussion.

So the Landesbanken in Germany and the savings banks, also known as (inaudible) in Spain are examples of categories of non-listed banks, which collectively did not do too well in the crisis. But you also have some robust systems. I mean one good thing to be said about the German savings bank system is it has gone through two world wars basically without defaulting. So it is a very robust arrangement, even though it is very opaque, which means ultimately a too-big-to-fail institution, but we may come back to this. So basically big banks outside of the U.S., big bank dominated systems, and not all of them under the commercial listed model.

Now I want to speak a bit about some internal linkages outside of the U.S. And if you look -- this is a complicated slide, and you probably cannot read any of the captions.

I took the 50 largest banks in the world by assets and simply looked at what is the share of the revenue from zero to one hundred percent made outside of the home countries. So these are the vertical bars for each of those banks, and they are grouped by region. So you have, the first set of bars is Asia-specific. You can see that large Asian banks are very home country focused. Outliers are the three large Japanese

banks, which are the three first bars. And the bar at the right hand side of each region is weighted average.

So in average in Asian, 10 percent outside of the home countries. The next region is America's, which is actually only U.S. Well it is actually North America, sorry, so it is the biggest U.S. banks. So the first bar is cities. The second is Goldman Sachs. Average is a bit less than 30 percent. Then you have Europe, as unsurprisingly given what we have told before, a lot of banks in Europe in this list. And the weighted average of the revenue outside of the home country is more than 50 percent. And then the rest is Canada, Australia and World Bank in Brazil, which is the rest of the list. And the weighted average is like 25 percent.

So what this tells you is that the U.S. is not unique for having parochial banks. Actually it is sort of in a global average. Emerging market banks like in China or Brazil or actually in Russia or Indian, as well, tend to be very home country focused because there is so much growth still to be bound at home, so far. It will change in the next few years in some of those countries.

But if you look at European banks, basically the home country for the typical large European bank is only a minority part of their business. And this completely changes the ways they look at regulations, the ways they look at business development or the ways to look at a number of different things. So another way to look at this is to look at individual countries and look at the aggregate foreign assets of their home country headquartered banks as a proportion of GDP. And you can see that this is relatively small in the U.S. So basically what U.S. banks are doing outside of the U.S. is a growing proportion of GDP, but it remains relatively limited, 25 percent even. So it has grown a lot in the past 15 years, but it is huge in some of those countries. And you can see a bit of deleveraging outside of the home country in France, Germany, the Netherlands, also a

bit in Spain in the past few years, 2011 compared to 2006. But still, I mean you have big numbers.

Of course, in this slide, as in the previous ones, the right-hand graph here, you would have a completely different picture if you looked at Europe as one single economy entity, and this is what the banking union is all about. Actually, if we have a banking union in Europe or at least in the eurozone, for all countries which are part of this banking union, you will have a dramatic reduction of those bars, and they will look much more like the U.S. So basically, the whole discussion about too-big-to-fail, too-big-to-save, the effectiveness of the guarantee to use John's vocabulary, the bank union would be a total game changer if it is a genuine banking union, which we are very far from at this point, in terms of Europe.

One thing that is striking, if you look at it from a slightly different perspective, is that countries outside of the U.S. are much more used than the U.S. is to look at foreign market participants as big players in their domestic market. If you look at the leak tables of equity and underwriters, I take that as a proxy for investment banking activities. It is not a perfect proxy, I grant it. You see that the global leak table for the first half of this year, the top five were all U.S. banks. Same in the U.S., more or less. But even if you look at Europe, Middle East and Africa, or if you look at Asia Pacific, basically the U.S. banks dominated the landscape. And if you take any single country of those regions, basically almost all of the large investment banks active in their market is foreign. So basically, it is a completely different perspective than where you are in the U.S. and you say, "Okay, I have some big guys in my market, Credit Suisse, Barclays, (inaudible), UBS, et cetera, but the main actors remains the domestic ones.

And this is not only about investment banks. It applies to a number of key market participants. This is one example I work a lot on these days, which is a big

four, formerly big five audit networks. And you look at -- there are global entities. As you know, there are global networks of partnerships. It is difficult to pin down the nationality on them. So what I have looked at is just who is a leader, which is a very crude way of thinking about perceptions, "Who's the boss?" And well, guess what? The boss is American almost all the time. The exception is KPMG, which has a history which resulted in the deals that every other leader should be non-U.S. It was first a German, then it was Brit. Now he is an Australian. But that is the only outlier, except poor Aldo Cardoso who was French and was rote into Anderson but after Enron, so did not last very long. And he is now an independent director in a number of companies.

So if you look at rating agencies, if you look at a number of financial market infrastructures, you will see basically the same. So basically the U.S. has its mindset, same as with investment banks where when you regulate the U.S. entities, you regulate the bulk of the system. This is not true, at least in non-U.S. developed economies. And then emerging economies are still a different category. This, by the way, is also true to a large extent of commercial banks. But the picture varies a lot from one country to another, so I won't expand much on this.

The last point I want to make is about resolution regimes to highlight the differences between the U.S. and other jurisdictions.

MR. ELLIOTT: I think we will have to leave that for another time.

MR. VERON: Okay. I just wanted to say that my conclusion on resolution regime is that, in Europe, it is not really a too-big-to-fail problem. As you can see, I am bad at creating acronyms. It is NBATFNMHS problem, which is about no bank allowed to fail, no matter how small. And I won't enter into individual details, but basically the guarantees have a much more massive and sweeping than in the U.S., unless, of course, a sovereign gets a problem itself. And you have seen that in Iceland, and to a

lesser extent, in Ireland and Spain, so this is changing. But we have here a very different pattern from the U.S. in terms of the whole too-big-to-fail debate.

So policy implications in a nutshell -- and I will stop here Doug -- cross border aspects are much less central in the U.S. than in other jurisdictions, especially compared with Europe and smaller countries, of course, if you think of the Singapores and Hong Kongs of this world. The U.S. is far ahead in its experience of special resolution regimes. Banking union may introduce a change in this perspective. And the regulation of bank structures in this respect, I do not think it can be a one-size-fits-all at the global level, as long as we don't have a global system of supervision. We will have different responses to those challenges of structures in different jurisdictions. And I think the U.K. illustrates that we will see what happens in other jurisdictions, but this is basically -- well I will stop here. Thank you.

(Applause)

MR. ELLIOTT: So what we are going to do now is, I am going to ask a question or two, depending on how long they talk, to the panelists, and then we will turn it over for about 15 minutes of Q&A from the audience before we take our break.

So let me start with a basic one, which none of you I think explicitly addressed but you gave some background information for it, which is, I think if you ask most people on the street who have thought about this at all, there is a strong perception that over the last couple of decades, our U.S. financial sector just got too big. So I am curious whether each of you think the U.S. financial sector is too big. I think people are normally thinking of credit intermediaries, in that sense, banks and things that do bank-like activities. And if you have an opinion, how do you tell what the right size is? So Bob, you are unfortunate enough to be sitting to my right, so why don't we start with you?

MR. CHAKRAVORTI: So let's go back in time a bit. So the U.S. built our

banking system as one that did not allow branching in some states, did not allow interstate banking. So when those regulations fell, it is natural that these banks went across the country and became truly national banks. So part of it added to diversity, added to presence. And in some cases there is evidence to show that actually competition in the local markets increased as a result of allowing banks to come in. That is one.

Second, when you are in a crisis, anytime you have resolution, you have to find buyers of these assets. Interesting enough, the buyers of these assets happen to be peers and other things. So by organically and financial crisis, you see these banks getting bigger.

Not to your last question, what is the right size, I would like to think that once you remove too-big-to-fail, there is a market task for that. Banks have grown, but banks have also shrunk. So to have the notion that banks will always grow, I do not think is a correct one because banks do also shrink.

MR. ELLIOTT: So is your intuition that the financial sector is too big or not too big or you do not know?

MR. CHAKRAVORTI: You are talking about the financial sector as a whole now?

MR. ELLIOTT: Credit intermediation.

MR. CHAKRAVORTI: Credit intermediation, again, I think it is a market determined thing. The whole financial sector is there because there is a demand for financial products. So I do not think it is the case that the financial sector is too big. We can debate as to the size of certain institutions and the roles of those institutions, but I think the industry as a whole is going to be determined by the supply and demand of banking products.

MR. ELLIOTT: Yes. That is what I was looking for. John?

MR. LESTER: So I do not know the right answer, unsurprisingly. My guess is, at this point, no. But I would also say no, it is not too big. I would also say though that the kind of growth in credit intermediation and the associated revenue and good times, the kind of faster than GDP growth for relatively prolonged periods over the last couple of decades, I think that is gone. I would be very surprised if anything like that reoccurred. I think we, at this stage, should consider ourselves to have a very mature financial system that there's not a lot of reason to think most parts of it should grow any faster than GDP.

The I-don't-know bit, which is an asterisk on this, there is a lot of credit intermediation which we still do not have a good view on, frankly. And there was a great series of papers done in the last couple of years on problems with the flow of funds data and how it misses a lot of shadow banking activity. Some of the recent changes to flow of funds have gotten knacked at, but there is a lot we do not know.

MR. ELLIOTT: Nicolas, do you have an opinion you wish to venture?

MR. VERNON: I think the profits of the financial sector were too big in the run up to the crisis. It was not sustainable that you would have this sector representing 30 or 40 percent of total profits in any less large companies. So that was an elaboration. It was an asset bubble and we have seen that. And we are now down to I think more reasonable levels, even though I don't have an exact recent figure in mind. So it really depends on what your measure of the financial sector and value added, which would be the logical measure for this debate. It is notoriously difficult to measure when it comes to financial intermediation. So unfortunately, it is not an easy metric to handle.

If you think of it in a sort of holistic way, you know, the number of people they employ, how important they are in the country, et cetera, I do not think the U.S.

financial sector is too big because I think financial intermediation is increasingly high value added if you move to a service economy, a (inaudible) economy where it is more difficult to match the capital holders with the capital takers. And typically, it is been a continuous trend, almost continuous trend in the U.S. economies that are more service-based and innovation-based, it has been. So less investment has been financed by cash-flows and retained earnings, so you need external finance. And it is more complicated to allocate capital to technology stock than to industrial sort of tried and tested manufacturing sectors in a catch-up economy. So I think finance have to be big, but profits were too large in the recent past.

I think the financial sector from this perspective, if you accept this perspective, has a lot to grow in many countries, perhaps less so in the U.S. But the market capital is also a weak indicator because market cap can be enormously inflated by rents, and this is not a good thing to have.

MR. ELLIOTT: Okay. One quick one, specially for you John. You did a nice job of showing the evolution of the overall financial system. There are those who say, "Well that's interesting it evolved that way, but we don't see that the world is any better off for it having happened." Do you think that the evolution of the financial system in the U.S. over the last 20 or 30 years has provided benefits or did it just happen to evolve?

MR. LESTER: I think it almost certainly provided benefits. Also, it enabled some unfortunate consequences of German banks taking on paper they probably shouldn't have, things like that. But broadly, I think, there is a very large and very strong logic to securitization and to a lot of the other innovations that happened in the financial system, and I think that case is still there. It is actually difficult to find it in a clean way in the data, but I believe it is there.

MR. ELLIOTT: Okay. Thank you, and thank you for keeping it short, as well. So that gives us some time to take questions from the audience. So we will have a roving microphone if you want to stand up, those of you with mics, and let's see are there questions. Over there? By the way, I should say, please identify yourself and your institution. Please actually ask a question, not just make a statement, and keep it relatively short, if you can.

MR. SEIBERG: Absolutely. Jaret Seiberg with Guggenheim Washington Research Group. Just a quick question for the panel. I thought it was fascinating that, essentially, this has been a whole presentation about how perhaps the U.S. banking system isn't too big, or the U.S. banks aren't too big. That seems to run contrary to the political argument that we hear here in the United States. What do you attribute this disconnect to?

MR. ELLIOTT: That is a good question. Just for variety, shall we do it in reverse order?

MR. VERON: Yeah. I think it is all relative. I mean I think there are legitimate concerns in the U.S. about the ways the system has consolidated in the past two decades. There are legitimate concerns about the huge size. I mean the U.S. is a huge economy. So if banks are small compared to the U.S. economy, it can still be very big in absolute terms, and this has importance. So I do not think the U.S. debate was irrelevant or inadequate. And I think the fact that the U.S. had limits on the proportion of total deposits I think before the crisis, and some limits have been added by Dodd-Frank. They are fairly high sized caps but they exist. I think it makes sense.

In other countries, I think just -- well maybe it was a lack of choice. Maybe it was partly financial nationalism and the willingness to promote global champions from a small country base. I think we have gone way too far in terms of the

size of banks. But the problem is so huge, it does not even get debated because there is no way out that is (inaudible), right? So I think Switzerland is an outlier. They have had a very honest debate about what it meant to have those big banks. But I think, generally speaking, a number of countries, particularly in Europe, are still in denial of how large their problem of bank size and concentration is. So I would see the problem more outside of the U.S., from that perspective.

MR. ELLIOTT: John?

MR. LESTER: So I would just say that, I think a lot of the arguments for smaller banks, smaller banking system are either rooted in a very ancient distrust of people who lend you money, frankly. And somewhat more sophisticated than that, a real opened question, I think, about what are the economies of scale, which are difficult, and I think hasn't been a focus of attention until recently. But Bob and others are changing that.

I think it is like a lot of political debate. I perhaps cynically think people kind of vote with their instincts and then rationalize it. But I think we are at the beginning of a real objective investigation of that issue.

MR. ELLIOTT: Bob, anything you want to add?

MR. CHAKRAVORTI: Sure. So anytime you come out of a crisis, you are going to have to pendulum that swings in a certain direction, so I think you are seeing a bit of that. I think the key here is, you want to make the financial system more stable. And a key part of that is, you have to remove the notion out there in the marketplace that there are banks that can be closed in an orderly fashion. Once you achieve that, I think then you are able to allow market forces to come in and figure out what the size and discipline the participants. But that is a key aspect, I think, of the regulation, in addition to a stronger capital requirements, liquidity requirements and other things that are being

done at counterparty limits and the like.

So I think one has to also see how these things come together, because I think there is a push to, "Let's just regulate anything and everything we can without trying to figure out how those things play out with one another and what the system looks like once it is fully implemented."

MR. CHAKRAVORTI: Yeah. I would just throw in one other thing. To be perfectly blunt, and speaking as a former banker, when you blow the world up, a lot of people are going to be angry. And banks were not the only people responsible, by any means. There is a long list. But they certainly were responsible, and they have done very well in the run-up. And nobody likes bankers in the first place, even in good times. So certainly politically, it makes perfect sense that the big banks would be the focus of so much attention. But I do agree we are getting a little more, I think, of an objective debate as time goes on, and hopefully it will lead in the right direction.

MR. ELLIOTT: Yes. There is a fellow back there.

MR. PRICE: Lee Price from the FDIC. You know, we entered a recession with barely four percent unemployment five years ago. We have still got almost eight percent unemployment. And the title of this program was supposed to be Structuring to Enhance Growth and Stability, and we heard three presentations that did not really talk about how to structure for growth and stability. I would like a better presentation not just of what the facts are and what the lay of the land is, but how we structure it to get better growth and -- we have had not only five years of slow growth after recession, but we have a sense that things are not as stable as they ought to be.

MR. ELLIOTT: Yes. That is a function of the structure of today. The task of this session really was to try to lay out the basic facts. Governor Tarullo will be speaking next, and certainly he will be talking about recommendations in this regard.

And then the final panel, which I hope you can stay for and which I am one of the participants, is focused on the future and on recommendations going forward. So hopefully, over the course of the day, we will answer much of what you are asking about. But let me give the panelists here, who all have opinions on this, a chance to briefly make some comments on what they think would be good, in terms of reforms going forward to deal with those issues.

MR. CHAKRAVORTI: So I think at the outside, with all the regulations that are coming through, there is a lot of uncertainty out there as to what the regulations will look like. The banks just are coming out of a crisis lending standards and the like. So I think once you have some of this stuff looked at -- I mean, in the broader picture, reforming housing and housing finance and other things that are outside -- perhaps the discussion here need to occur in order to actually move forward, and this plays a role. A lot of regulations, as we are seeing in other parts of the world, when they are brought in, what happens is lending gets squeezed. So one has to balance both sides in order to get the lending going to get eventually the employment and the growth in the economy.

MALE SPEAKER: John, do you have ideas on structural reform?

MR. LESTER: I certainly think we need to figure out the GSEs. That is a big, huge open question, with the future of how we finance housing in the U.S. That has not been tackled. And going back to my monoculture point I made earlier, I do think a more ideal financial system would involve more diversity of different types of businesses. I think we have a fair amount of diversity, in terms of size of institutions. But at the top end of that scale, there is a series of pushes that are forcing a certain amount of homogeneity.

I will also just add that, obviously a disruption in the financial system can easily take down and injure the real economy's productivity. But just having a well-

functioning financial system does not, in and of itself, fix a real economy that has its own structural problems. So there is only so much you can do.

MR. ELLIOTT: Nicolas?

MR. VERON: Well I think that, obviously, the U.S. system is very diverse. Its level of concentration is much lower than in other places. And I think it has been all things equal a factor of resilience. I mean you are right to say that unemployment is very high in the U.S. But if you look beyond the few months after Lehman collapsed, I think the U.S. has overcome very quickly the phase when you could say the economy was suffering from a credit constraint. And generally, the credit allocation has not been, from what I can see -- but maybe, you know, there is scope for disagreement here -- has not been a big break on the economy in the past few years because the system has reacted quickly, has been repaired quickly. It is a mix of structure and of policy initiatives. And clearly, when you compare this to Europe, you have a huge contrast. Because the magnitude of the initial financial shock was similar, even though it originated in the U.S. And Europe has a huge credit allocation problem, and part of it is the domination of the system by banks. So I would say we need to develop the non-bank aspects of the credit systems that exist in the U.S. We would need to develop them more aggressively in Europe, even though it needs to be appropriately regulated, of course. In comparison to the U.S. system, it has been fairly resilient and not too bad, both in terms of growth and in terms of stability, if you look at the contribution of the financial system, specifically. And I know this might sound provocative to U.S. audience, but I am really speaking in comparative terms.

MR. ELLIOTT: Okay. We could probably get one quick question and answer. I think you were the last one here.

MR. YARKSTON: Nell Yarkston from Congressional Research Service.

I have a big overarching question on the role of the financial sector. Do you see the financial sector as a driver of a growth or do you see it more as a necessary facilitator of growth? And what are the implications around how tightly regulated its development should be?

MR. ELLIOTT: Okay. That is a great question. I am sure we won't be able to fully answer it, but does anyone want to try tackling it? John?

MR. LESTER: I will try very quickly. So I think it depends on which role you are talking about. So on my list, you need payments, the most basic thing, retail payments, wholesale payments, electronic and physical. If that breaks down, everything is done. So that is a necessary condition, but in and of itself, it does not do anything for growth.

You have got credit allocation, which is obviously a contributor to growth, although it is -- you know, you can have too much and you can have too little, and so we are not on the extremes, I think, on either side. But for particular sectors, there is probably -- we are not optimal.

The maturity transformation, just general savings and accumulation and decumulation. I think, there, again, you want that stuff, but in and of itself, I do not think it is going to -- just having those services available won't drive the economy nearly as much as the actual just demographic patterns that determine the shape of and the amount of financial assets that are accumulated and decumulated and when. So I think it depends on which function you are talking about.

ELLIOTT: Is there anything you would like to add, Bob?

MR. CHAKRAVORTI: I think John covered it.

ELLIOTT: Okay. Nicolas, anything?

MR. VERON: I would like to echo John's pet theory. I mean if you think

of financial innovation as basically a (inaudible) to break the oligopoly of banks and credit assessment and evaluation, I think it is a good way to think about financial innovation, really.

Well, the big breakthrough with credit ratings, it has loss some credibility in the crisis, perhaps too much, compared to the real facts, but you can debate that. Anyway, so credit rating agencies have (inaudible) failed the marketplace at least in one particular segment. And I think a lot still has to be done in terms of information, disclosure and analysis, and, you know, which information intermediary does what in this chain and how does it impact the structure of the system. So I think there is scope for a lot more innovation in finance, going forward. There are also plenty of technology aspects. I mean there is a hugely regressive, reluctance in developed economics, vis-à-vis, mobile payments and mobile banking.

I think there are huge changes in the way we pay that can come forward in that area. So I would say, you know, the financial sector has a growth potential. Of course it is there to serve the economy. But, you know, any business enterprise is there to serve its clients. But I think there is a scope for more development of the financial sector without more value added and things that provide better performance to the rest of the economy.

MR. CHAKRAVORTI: Yeah. I mean I would have to say, I think fundamentally, nobody does finance for the sake of finance. It is always there as a facilitator for the economy and for economic growth. And it is more a question of can we make it enough more efficient and more effective and safer to improve the economy as a whole. These are very important questions. But it is always still going to be, at best, the facilitator for the rest of the economy. I do not think anyone here would fundamentally disagree with that.

MR. ELLIOTT: Thank you all very much. We are going to take a 15-minute break. At 10:45, Governor Tarullo of the Federal Reserve Board will be here. I would urge you to be back then because we will start then. And I look forward to seeing you at that point.

(Applause)

MR. KOHN: It's a great pleasure for me to be able to introduce to you my former colleague, Dan Tarullo. You have his biography in the materials you have. I'll highlight, well, one important thing. Like the other person on this podium, he did his graduate work at the University of Michigan, so you know he's a man of good taste. He has combined distinguished careers in law and public service. He's been on the faculties of Georgetown and Harvard in law area. He served in several different positions in economic policy in the Clinton Administration. He joined the Board of Governors in January, 2009, just in time for the turnaround. Good work, Dan. I think the most important thing to note is he has led the Board's efforts in regulatory and supervisory area. It's a response to the crisis and the implementation of Dodd-Frank. In doing that, he's delivered a number of thoughtful and thought provoking speeches and testimonies on bank structure and regulation, explaining the issues, the responses of the government and the Federal Reserve, and defining the potential way forward. So, Dan, we are looking forward to today's address to add to that list of speeches. Thank you.

MR. TARULLO: Thanks, Don. Thank you, Don, and it is a pleasure to be here at Brookings this morning. I'm really glad that Don and Doug and Martin have set up this forum on the industrial organization of the financial industry, because as Don alluded to a moment ago, it's important not just to keep focusing on the policies we've got and the policy proposals that are currently being debated, but also to continue and I

would say, to some degree, reorient the stream of research that provides the foundation for evaluating those policies and also developing new ones.

As I've suggested previously, when one considers the significance of issues concerning industry structure for the design of an effective and efficient regulatory system to contain systemic risk, it is surprising that relatively little research has been undertaken in this area, even in the aftermath of the crisis. Now, of course, good empirical research does take time, and that's why I welcome the opportunity to contribute to a discussion of an agenda for research on industry structure. So what I'll do is to begin by explaining briefly why this agenda, from my perspective, is both important and somewhat challenging, and then I'm going to turn to one issue of particular significance, that of scale and scope economies, especially as they relate to policy proposals directed at the "too big to fail" problem in financial markets.

The value of an IO research agenda for shaping a regulatory system to protect financial stability lies both in ascertaining costs that may result from specific regulatory measures and in revealing industry dynamics that may suggest how regulatory measures can be more effective. The importance of understanding the costs of various regulatory measures is self-evident. As I will discuss shortly, IO can help determine the circumstances in which firm size or industry concentration is associated with economies of scope and scale that carry social benefits. Any reduction in such benefits would be an unintended cost of financial stability policies. Conversely though, if firm size or industry concentration is found to stem only from market power or from funding advantages associated with "too big to fail" policies or perceptions, then some policies aimed at diminishing systemic risk would have the added benefit of mitigating market failures.

Less obvious, perhaps, than the isolation of costs associated with

regulatory initiatives is the potential for IO research to inform financial stability regulation by illuminating industry dynamics that may not be intuitively apparent. For example, unlike firms in most other industries, large financial institutions transact with one another on a nearly continuous basis and regularly maintain contractual relationships carrying substantial future obligations. The daily operations of most firms in the financial industry depend to a much greater extent on the conditions of their competitors than do operations of firms in other industries.

By extending work on patterns of cooperation and competition among firms in other industries to the financial sector, IO might help shape regulatory structures that can reduce the potential for contagion during periods of financial stress. As important as IO research can be in developing financial regulation, the financial sector is, in key respects, sufficiently different from other industries as to limit the relevance of at least some existing research. In addition to the just noted contractual inter-connectedness of competing firms, the combination of correlated asset holding, maturity transformation, and mark-to-market accounting means that distress at one firm leading to asset fire sales can create problems at competing firms.

Finally, the presence of systemic risk in financial sector intermediation adds an important consideration not normally present in IO analysis of other industries, thus, as noted earlier, "too big to fail" problems can affect the analysis. In addition, prudential regulation can create opportunities for arbitrage, both among products and practices in the regulated sectors and between the regulated and unregulated sectors. Although the characteristics of the financial sector may thus limit the relevance of conclusions from IO research in other sectors, they do not limit the relevance of the questions about industry structure and relationships asked by IO economists. They

argue instead for combining the IO approach with the specialized learning of finance, a part of economics that has grown so important precisely because of the manifold ways in which the financial sector differs from other industries.

There are few topics within IO more familiar than that of scale and scope economists, and there are few reform proposals that have been put forward more regularly since the start of the financial crisis than those to limit in some manner the scale or scope of financial firms. Notwithstanding the coincidence of these two facts, though, there's relatively little academic research of scale and scope economies in financial sector and almost none pertinent to the operations of large financial conglomerates. The sources of scale and scope economies in the financial sector are generally similar to those found in other industries. Cost reducing scale economies are available in areas where fixed costs are reasonably high, such as in information technology and other infrastructure systems. Network effect economies are seeing the large distribution networks that allow security dealers to offer clients wider sources of funds for issues of debts and equity instruments. Broad geographic reach allows firms to offer integrated global payments, collection, or other services to internationally active clients. There may be scope economies for banks and their customers when a variety of services is provided, thereby reducing information and other transaction costs.

A range of relevant economies can be illustrated with a simple example. So a firm engaged in merger and acquisitions advisory work needs to assemble a team with many areas of expertise. A scale economy may be available, because the average of advising on a single transaction will be lower if the firm is involved in more transactions, thus fully employing the team and facilitating greater spillovers of sector specific information across transactions. By providing financing for the transaction, the

firm may also be able to achieve a scope economy, because its financing activities can leverage off the information developed by the merger and acquisition advisors, thereby reducing due diligence costs.

Moreover, a client's own transactions costs may be lowered when the firm is able to provide most or all of the financing, because its balance sheet is large enough to fund the acquisition without breaching applicable internal or regulatory lending limits. Similarly, a client may lower its transaction costs by using a single firm for both advising and financing. The paucity of empirical work means we can only hypothesize these scale and scope economies, though intuition and observation may make some hypotheses stronger than others. Even assuming as I think reasonable that most or all of the economies I have identified would hold up to empirical assessment, the crucial questions would remain as to how big or how integrated financial firms need to be in order to attain these economies.

The relative dearth of work that would help answer these questions can be attributed to a number of factors. First, the samples size of the very largest firms is so obviously small, limiting the ability of researchers to derive precise statistical relationships between cost on the one hand and firms' scale and scope on the other. This problem of sample size is exacerbated by the fact that there has been tremendous growth in the size, complexity, and concentration of the financial sector over the past 15 years or so. Second, there are serious limitations on the data available to researchers, and thus any useful discussion of an analytic agenda for research on financial industry structure must include an agenda for overcoming proprietary and other constrains on developing appropriate data sources. For example, data on the use of a variety of financial services by specific customers is generally unavailable to researchers. Third, even if appropriate

data becomes available it may be quite difficult to isolate costs for particular banking activities given the number of products and activities offered by even moderately complex financial institutions.

Two additional considerations bear mentioning in mapping out the issues associated with scale and scope economies in the financial sector. The first is a well known qualification to the proposition that scale and scope can be beneficial, the possibility that firms may grow so large as to face diseconomies of scope and scale. Although existing empirical work is again scant, one often hears the suggestion that complexity and agency problems may lead to diseconomies for financial firms under certain circumstances, a proposition that should be considered alongside the hypotheses for positive scale and scope effects. The second point is that the size and composition of a financial firm's balance sheet play a complicated role in producing economies of scope and scale. To be sure, a large trading book or custody business might produce social benefits by allowing a bank to match or clear both sides of transactions at lower cost. And large balance sheets would appear to enable banks to diversify or hedge their positions and to access a variety of funding sources, thereby reducing their costs of capital. But conventional IO type analysis which would tend to interpret lower funding costs as evidence of scale economies is potentially misleading in the financial sector.

Consider in this regard, my observation of a moment ago, that a large balance sheet may reduce a bank's cost of capital. if lower funding caused due result from the diversification of risks and funding sources made possible by a large balance sheet, they would indeed suggest the existences of scale economies. But they may also result from the belief of some counterparties that a firm with a very large balance sheet is "too big to fail," and thus at least some liabilities of that firm will be backed by the

government in a time of financial stress. In this instance, lower funding costs actually suggest a market failure induced by the distortion arising from the implicit government guarantee. In practice, both scale economies and market failure may play role.

Although the potential moral hazard associated with "too big to fail" funding is a significant issue, it is also reasonably discrete and susceptible to countervailing policy measures, such as capital requirements and creditable resolution mechanisms, but some strands of finance research suggest more profound implications for certain configurations of financial industry structure. For example, numerous papers suggest that the very large balance sheets of very large financial firms tend to be highly correlated, such that a shock to certain asset classes is likely to reverberate quickly on the balance sheets of most large firms, as fire sales and subsequent mark-to-market effects affect even stronger firms. If this conclusion is valid then the apparent economies associated with very large balance sheets may be transitory or, more precisely, contingent on the absence of serious shocks to certain asset classes. It is precisely at this intersection between questions of industry structure and of the behavior of financial markets that a joint venture between IO and finance is most important. As I noted earlier, such an effort could not only help fill out an assessment of the social benefits associated with the size and industry structure of financial firms, but it could also lend insight into the kinds of measures that may be most effective in containing systemic risk.

To illustrate more concretely how analysis of scope and scale economies is relevant to the development of a regulatory system designed to safeguard financial stability, I want to turn now to three proposals that are currently being debated fairly widely in policy circles. First, is to break up large financial institutions by reinstating Glass-Steagall restrictions or by imposing other prohibitions on affiliations of commercial

banks with certain business lines. Second, are the proposals to place a cap on the non-deposit liabilities of financial institutions. And third, proposals to require financial institutions above a specified size to hold minimum amounts of long-term debt that would be available for conversion to equity to avoid or facilitate an orderly resolution of a troubled firm.

So first, proposals to reimpose a Glass-Steagall prohibition on an affiliations between commercial and investment banks have been met with the rejoinder that the origins of the financial crisis do not trace back very clearly to these affiliations. Many firms at the center of the crisis would have been essentially unchanged had Glass-Steagall been in effect. Bear Stearns, Lehman Brothers, and Merrill Lynch did not have sizeable insured depository institutions, while Countrywide and Washington Mutual had few, if any, activities that could be termed investment banking. Wachovia did have a securities affiliate that was sizeable though hardly an industry leader, but its downfall seems pretty clearly connected to its exposure to sub-prime mortgages that it had written directly or acquired through mergers with other institutions.

Proponents of breaking up firms along business lines may reply that the next financial crisis will not likely have the same genesis as the last, and that separating commercial from investment banking could at least mitigate the risks of extending the safety net provided depository institutions to underwriting, trading, and other activities of very large firms. But an IO perspective suggests that the proposal could also entail substantial costs. The reinstatement of Glass-Steagall would mean that bank clients could no longer retain one financial firm that would have the capacity to offer the whole range of financing options from lines of credit all that way through to public equity offering, depending on a particular client's need and on market conditions. Moreover,

many banks that are far too small ever to be considered "too big to fail" to provide some capital market services to their clients, often smaller businesses, a convenience and possible cost savings that would be lost under Glass-Steagall prohibitions. With the present state of research, it is virtually impossible to quantify the social benefit of these economies, however, what seems the likelihood of non-trivial benefits from current affiliations is a good reason to be cautious about adopting this proposal.

Proposals to place a cap on a bank's non-deposit liabilities as a fraction of U.S. gross domestic product have been promoted as more directly responsive to the sources of systemic risk than are proposals to reinstate Glass-Steagall or to cap the total assets of a bank. Many studies of the financial crisis demonstrate that the reliance of large financial firms on non-deposit funding made them and the financial system as a whole, susceptible to the dramatic runs that peaked in the fall of 2008. For the largest U.S. financial firms, non-deposit liabilities today are highly correlated with the systemic risk measures used at the Federal Reserve Board to measure interconnectedness and complexity for purposes of evaluating the financial stability effects of mergers.

Another attraction of this form of proposal is that even as it places constraints on the potential size and composition of a firm's balance sheet, it allows relative flexibility to the firm in meeting that constraint, particularly when compared with proposals for prohibitions on commercial bank affiliations with other financial firms. A firm could shrink its balance sheet by shedding less profitable assets of its choosing. It could also shift its funding model more towards deposits, assuming of course it does not exceed applicable deposit caps. There are also ways to refine the proposal further, such as by weighting the non-deposit liabilities in the numerator of the ratio based on their duration.

In short, as I've previously noted, there is considerable conceptual appeal in these proposals. Nonetheless, there are several important questions raised by the non-deposit cap idea. Foremost among these is the decision about the appropriate percentage of GDP that would constitute the cap. The determination of this limit would presumably be based on a number of considerations, including an evaluation of the capacity of the U.S. economy and financial system to absorb the losses resulting from the failure of a large firm.

Several salient considerations are also suggested by a combined IO finance perspective. First, of course, is the key issue of how the functioning of funding markets is affected be the participation of very large counterparties using very large amounts of short-term wholesale funding, particularly under conditions of financial stress. This issue falls more on the finance rather than the IO side of the merge perspective. But it may be that aspects of industry structure including some of the competition cooperation issues mentioned earlier affect this analysis. Also, an IO finance perspective might identify possible alternatives to a non-deposit liability cap that achieved much the same financial stability goals at lower potential cost.

Second is the question of scale and scope economies associated with non-deposit funding, the answer to which would help determine the limit at which significant social benefits might be lost to be balanced against the avoidance of social costs arising from systemic events. Even with the flexibility noted earlier, a firm might have to sacrifice certain economies of scope or scale to meet a cap. If analysis finds scale and scope economies unlikely to be realized beyond a certain level of activity, then policy makers would have a point of reference for setting the cap.

A third question is how second and third tier institutions might respond as

the largest firms reposition and perhaps shed parts of their balance sheets. These institutions may well be purchasers of assets sold by the largest firms. They may also choose to take advantage of the lower demand and correspondingly lower prices for short-term funding by increasing their own short-term borrowing. Research might cast light on the extent to which various forms of a liability cap would affect market structure, the degree to which reduced activities by some firms would be taken up by others, and how such changes might affect the stability of the financial system. In some, the IO finance perspective could contribute significantly to an elaboration and evaluations of this policy proposal. In the process, it could advance what I regard as the most important remaining task of financial regulatory reform: determining the most effective and efficient ways to deal with short-term funding markets, often characterized as the shadow banking system that are inherently subject to runs.

Proposals to require large financial firms to hold minimum levels of long-term debt are offered as a way to facilitate the orderly resolution of such firms. Variations on this general theme have gathered momentum as the Financial Stability Board, the Basel Committee on Banking Supervision, and other groups have explored ways to make large financial firms more readily resolvable, thereby giving national authorities a third choice between the unattractive options of bail-out and disorderly failure. The basic idea is that the maintenance of minimum levels of long-term debt at the top holding company level will allow a resolving authority to transfer operating subsidiaries of the failed firm to a functioning bridge entity, while leaving behind in a receivership, the equity and sufficient long-term debt to absorb the original firm's losses. Eventually, the resolving authority could recapitalize the bridge entity by exchanging claims of the long-term unsecured creditors of the parent for equity, for long-term debt of the bridge, or for both.

In the United States this approach is consonant with the FDIC's stated preference for a single entry strategy in dealing with the resolution of systemically important firms under the orderly liquidation authority of the Dodd-Frank As compared to. But it is also consistent with variance on resolution mechanisms being implemented in other jurisdictions around the world. A minimum long-term debt requirement could lend greater confidence that the combination of equity owners and long-term debt holders would be sufficient to bear all losses at the firm, thereby counteracting the moral hazard associated with tax payer bailouts while avoiding disorderly failures to the degree the orderly resolution mechanisms established in the United States and elsewhere, thus command greater credibility, the result should be enhanced market discipline which in turn could enhance financial stability.

As with the other two policy ideas, the details of a minimal long-term debt proposal matter when it comes to assessing costs and benefits. There will surely be some cost associated with such requirements, though it is notable that at present, large U.S. firms have substantial amounts of long-term debt on their balance sheets. Like a capital surcharge for the largest, most complex institutions, these costs will fall only on the largest institutions, but this is by design in accordance with the principal reflected in the Dodd-Frank Act that the largest, most complex institution should be subject to stricter regulation, precisely because they are more complex and because their failure would have greater negative externalities for the financial system and the economy more generally. Thus, if there is a modest effect on industry structure, it would be an intended, rather than unintended or undesirable consequence of the regulation. In general, then, at least at the levels of minimum long-term debt that are being discussed in various international fora, the proposal would not seem to carry significant hurdles '02 realizing

available economies of scope and scale.

My very brief review of these three proposals has tried to show a combined IO financial perspective can contribute to the policy making process and help identify what priorities for research might be. For the proposal to reenact Glass-Steagall, that perspective suggested the potential for considerable social costs. Application of the perspective to the proposal for a non-deposit liability cap revealed a number of important questions, and analysis of which could help determine the elements of such a proposal that would be most effective, identify costs, and possibly suggest alternative means to the same policy goals. In the case of the third proposal, fro minimum long-term debt requirements, the perspective did not immediately suggest any unfavorable unintended consequences, thereby perhaps strengthening its appeal as a near-term policy measure.

I've only grazed the surface of useful work that may spring from this hybrid subdiscipline, and as with the policy relevant areas in which considerable work has already been done, we will never have all the analysis we might like before deciding whether to act and, if so, how. That is the condition that usually prevails in policy making, but I am encouraged that Brookings has assembled this forum which I hope will be the catalyst for much more academic activity in this area. Thank you very much.

MR. KOHN: You're going to come over here and sit down.

MR. TARULLO: I can sit down? Okay.

MR. KOHN: Thank you, Dan. As I predicted, that was a thoughtful, thought-provoking speech with some hints of a way forward. So thank you for living up to my billing. Dan's agreed to answer some questions. One very important caveat is that he is in the blackout period for the open market committee meeting next week, so the questions cannot bear on monetary policy and the macro economy. They'll have to stay

focused on the subject at hand, strangely enough. So let me begin Dan.

There's an awful lot going on in the regulatory sphere that is aimed at "too big to fail" and also would have consequences for the industrial structure of the banking industry. You think about the capital requirements, liquidity requirements, Volcker Rule, Collins, all kinds of things happening. And it's causing banks to reconsider what their business model should be, so there are big changes already underway. So I think I have two questions coming out of your speech. One is by raising the possibility of the non-deposit cap, I inferred that maybe you didn't think the developments underway on "too big to fail" would be adequate to deal with the situation to reduce the "too big to fail" subsidy and deal with that. And secondly, any thoughts you might have separately about what's going on in the changing structure of the banking industry and how that might affect the competitive environment going forward.

MR. TARULLO: Okay, fair enough. So let me start with the second and then move back to the first. So I think, Don, there are probably three sets of factors that are affecting the evolution of industry structure, and it's probably more than a little hard to separate them right now. So one has surely got to be the evaluation by financial firms themselves of what they could have done better to avoid making themselves vulnerable to reverses in the market. And obviously, one hears an enormous amount about changes in risk management and information systems and the like in financial firms, but that has obviously also affected how, for example, some firms fund themselves. And so I think we're going to continue to see an adaptation and part of what we're probably already seeing is the realized responses.

Secondly, and this veers a little bit up to the line on blackout, but I'll just say it and then move beyond it, because it is a fact for industry structure. In an economy

that's still not performing robustly, I think it's still a little unclear to people in the financial sector as indeed to other sectors, what the new normal is going to be in terms of economic activity and the nature of markets and the like. And that's probably placing some constraints upon their ability to do medium term strategic planning, and they're just having to wait to see what transpires.

And third, of course, is the set of regulatory measures already in place or under consideration. And I would say that I keep asking people in the industry and outside the industry what they think the financial sectors is going to look like in five or ten years. And there are two kinds of responses that I tend to get. One is a confessed response of we're not really that sure, a couple of things we're pretty sure are going to happen, not really sure within a broader range, so we're trying to be adaptive. And that suggests to me not committing enormous amounts of intellectual and actual capital to major changes. A second response is, from some, no we think we have a pretty good idea of a niche that will exist. But I am struck by the niche notion, and that doesn't mean a niche, nice meaning small, it means a place for a particular firm in what's thought to be the larger financial firmament. Those two kinds of responses I think are actually consistent with one another, because if you think that you're the only guy anticipating that you're going to go into one niche, and it turns out that three other guys are going to conclude, hey that's actually a pretty good niche, things may not turn out quite the way you had expected.

So I think there's still a lot of understandable uncertainty which is going to take a while to play out. We've got to be mindful of all of that in refocusing the regulatory system, but I think we both want to help shape certain features of it through the regulatory requirements, and this is where my short-term funding policy aim would

come in. But also to recognize that you can't just keep waiting, because if you don't put your system in place now, you're going to create ongoing uncertainty for these people in financial firms who are trying to figure out what the environment, both economic and regulatory, is going to look like.

On the "too big to fail" point, the way that I have phrased it to myself for quite a while and more recently I guess publicly, is I don't think "too big to fail" is a binary condition. That is, I don't think firms are either clearly "too big to fail" and perceived as such or clearly not. I mean, I think it's, insofar as perception is important which it surely is, people's perceptions differ and there surely a continuum. I think there's no question but that since 2009, the temporary equilibrium point has been pushed further along that continuum so as to mitigate the "too big to fail" problem, but I would certainly not say that it's been eliminated. And I don't know as a conceptual matter that one would ever want to say the problem has been eliminated. I think the policy aim has got to be to confine the problem substantially more than it obviously was in the years running up to the crisis. And that seems to me almost inevitably then or inexorably to call for a set of somewhat complimentary policy measures which try to come at it in slightly different, and as I say, complimentary ways. So that is how, for example, capital and resolution mechanisms I think are entirely consistent with one another.

And as you can tell from what I said today, and I think what I've said in the past, the third leg of this which I think still needs a lot of attention is the funding question. The proposals for non-deposit liability caps, I think, are attractive vehicles for discussing the issues that remain both "too big to fail" and funding, precisely because they combine both. And I think, you know, that the intuition behind the proposal is, is there in the financial system a capacity beyond which we don't really think we can absorb

the disruption at a major firm and, if so, what is it? That's an unanswered I think, but I think it's an important one. And for me the most important thing in the Penn speech, whenever it was, in early October, and reiterating it now is to try to promote this that the conversation which, I think, still needs to be prevailing which is how comfortable are we with how much we've pushed along the "too big to fail" continuum? And, and I think what I'm about to say is right, don't we need to do more on short-term wholesale funding?

MR. KOHN: Right. Thank you. That tempts me to a follow up, which is on the short-term wholesale funding. You've spoken out, I believe, on money market funds and the need for further reform there. Are there other aspects of the funding markets that you would focus on?

MR. TARULLO: Yeah, we at the Fed are already focused on tri-party repo, and I think have been moving forward with a reform program for the major dealer participants there. A good bit has been accomplished, and I think we've picked up the pace a little bit recently. So we'll probably want to step back and say is this adequate? But you know, Don, in this area, perhaps more than others, I think one can fairly anticipate that new sources will arise, new sources of funding, once you make one source a little bit less runnable through targeted regulation, what you should do if you've got a big area that's out there and vulnerable. But I think the debate that needs to take place is sort of at a macro prudential level. You know, how do we think about funding short-term wholesale funding in the financial system as a whole, not regardless of its source, but at least ask that broader question and then focus a little bit on the particular sources.

MR. KOHN: Okay, great. Thank you. All right, let's open up for some questions from the floor. In the back, yes.

SPEAKER: Thank you. I'm Pavo with LaRouchePAC. I wanted to challenge what you said about Glass-Steagall since I happen to be someone who's, you probably know, campaigning for it, because one of the arguments for Glass-Steagall is that it would have prevented the mortgage market that collapsed, because selling a mortgage to an individual is a commercial activity. Selling a financial paper based on the income stream from a mortgage is an investment activity, or some might be able to argue it's an insurance activity. And that whole market under Glass-Steagall would not be allowed to exist as used to be the case when you used to have savings and loans banks. Another aspect of that is Glass-Steagall was actually important in reorganizing the financial system under Franklin Roosevelt during the Great Depression when the banks which were actually bankrupt, like all the banks that took bailouts are essentially bankrupt, Glass-Steagall was a rule of how to reorganize them, what parts of them get priority when they are going to be repaid, what parts of them don't get protected. And that's the importance of Glass-Steagall that has been brought up. That other aspect of it is some of these institutions that you listed as having small involvement in commercial banking which were investment banks that were failing, it seemed like that the reason why they had any commercial banking activity is to be able to get a bailout which under Glass-Steagall they wouldn't have been able to do.

MR. KOHN: Let's let Governor Tarullo respond.

MR. TARULLO: So I tried not to take my own ultimate position on any of those three proposals. And with respect to Glass-Steagall what I suggested was that the things that could be lost, the social benefits that could be lost through Glass-Steagall are non-trivial and, thus, are on the other side of the balance sheet. But I will say, though, I have to confess, it's not clear to me how Glass-Steagall would have prevented the

subprime crisis insofar as, unless you were going to outlaw securitization, because you could easily have originators who sell mortgages to entities that have no commercial banks which then package the mortgages through SIVs or other vehicles, so I'm not sure that Glass-Steagall reimposition is responsive to that question. I do understand, as I noted, I do understand the sort of extension of the safety net argument, and that's a very real argument and, you know, it's one that's always had something on the policy side to respond to it, whether the Bank Holding Company Act structure 23A, obviously limitations on bank activities within the commercial bank. But I actually don't think the mortgage piece of the subprime mortgage is one part that would be solved by it.

MR. KOHN: Another question, please. Yes.

MS. KERSLAKE: Hi. Jennifer Kerslake with Davis Polk. Following up on your recent discussion about regulation of foreign banks, just was curious if you could say a little bit more about what you have in mind for U.S. branches of foreign banks. You mentioned liquidity requirements, just wondering if it would end with that or if there would be other requirements such as capital or asset pledge requirements.

MR. TARULLO: Well, as I said, this is now the Yale speech. I've been doing the academic rounds this fall, capped off with Brookings, right?

MR. KOHN: Right. Dot edu, yes.

MR. TARULLO: Dot edu, that's right. It's like knowledge just to tell me.

MR. KOHN: Right.

MR. TARULLO: As I said in the speech, there will not be a requirement that the branches, in what I anticipate will be the approach that we'll take, would be under the intermediate holding companies, so they would remain an integrated part of the global bank itself. And I think you could fairly infer from the fact that I said existing

regulations and requirements and examinations would continue to apply, and we would also have a liquidity requirement, albeit one less stringent than for the IHC that we're not contemplating a de facto subsidiarization and capitalization requirement for the branches themselves. That's sort of part and parcel of the idea that you've got an integrated operation. It's not simply a corporate affiliation, but it's actually a part of the entity.

MR. KOHN: Along the back. Red tie.

MR. CADELL: Hi. My name is Aaron Cadell. I work for Frinkel Capstone here in Washington. And my question is about Basel III and the fed and other banking regulators recently announced that the implementation deadlines for Basel III will be pushed back, and I think European regulators have said similar things recently. There's been criticism of the existing roles that the capital requirements for large banks aren't high enough. That seems to be consistent with some comparable things that you have said. As you go into the debate over finalizing Basel III, what are, you think, the key priorities for your perspective? And do you worry that if the rule implementation gets delayed too long, either here or in Europe that you could kind of lose a window of time and then you could have nothing implemented and basically just have the kind of existing structure with no Basel III that would come about. Thank you.

MR. TARULLO: So I think one premise of your question is don't let the perfect be the enemy of the good, and I think that clearly has something that a log of regulators and central bankers around the world would subscribe to. Let me say first that the delay here in the U.S. as announced by the three bank regulatory firm agencies is a function of the many comments that we've got. We do seem to elicit on a lot of rule makings these days, and I suspect a lot of people in this audience are doing a lot of work generating these comments for us. We take quite seriously the concept that's embedded

in administrative law that notice and comment is not a formality, that you actually read and think about the stuff that comes in. And I can tell you that any number of rule makings, it occasions within the Fed and in the OCC and the FDIC, and among the three agencies a lot of discussion. So there was an awful lot that came in, a lot of it on the implications for smaller banks of the changes in the standardize capital requirements, which strictly speaking are not part of Basel III. But because of Collins, because of the fact that we're revamping capital requirements more generally, because of the fact, to be honest, that there was a period in which not a lot of changes were made to the Basel I requirements despite some view that that might be useful.

For all of those reasons, these were packaged together because it helped everybody see, here's what the shape of capital requirements for all banks will be. I do think that we need to and have been already doing a good bit of cogitation on the implications of this particularly for the smaller banks. But I don't think there's any question of the continued commitment to the Basel III package. The Basel III package, you know, which essentially has the features of higher capital requirements in numeric terms and higher quality of capital with their focus on common equity in a way that had never been the case before. At that, we led a financial stability steering committee meeting last week, and actually this was one of the topics. It was sort of on the agenda, although I'll tell you it was a pretty long agenda. But this was one of the topics, and I said pretty much in there what I just said to you now, and I think what we got from our colleagues in the European Union was a full commitment to move forward expeditiously. But the EU, there's a democracy, right, and a democratic quality you need to let the Parliament do due consideration, you have other people. Just as here in the U.S., we need to have a democratic process around legislating that means. It has to go through

our congressional process. So I don't detect any diminution of commitment to the Basel III package. Here in the U.S. it's complicated by the standardized revision particularly as they affect the smaller banks, and I think in the EU it just complicated by what is always a somewhat complex machinery for things that affect both nations and the EU as a whole.

MR. KOHN: Yes.

MR. WALLACH: Thanks. I'm Phil Wallach here at Brookings. I'm just curious what you make of arguments made by folks like Jamie Dimon who say --

MR. TARULLO: I'll tell him who said that.

MR. WALLACH: Who say that the size of their institutions provided a sort of safe harbor during the crisis, and sort of how that your industrial organization research agenda that you've discussed could sort of address that role of large institutions?

MR. TAURLLO: Well, I mean, I think, so here and in other parts of the world we had some very large institutions that were relatively more stable and then some very large institutions that were relatively troubled. So I don't think size was very well correlated with how vulnerable the particular firm was relative to others in the industry. I do think, though, getting back to the agenda, which I hope people here and elsewhere will pursue, but I think this question of whether there is a tendency towards correlation of asset holdings in institutions above a certain size is a very important one, because if that suggestion in a number of papers holds up to further scrutiny, it does tell us that even if a firm is relatively less affected, it is likely to be affected because of the fire sale phenomenon and because of the mark-to-market phenomenon.

So you know, you can make points about relative strength, and it was surely the case that some firms weather it relatively well, but we all know that the system

as a whole weathered the crisis only because of extraordinary measures taken by governments in this country and around the world, which whether or not they were directed at particular firms at particular moments just change an environment in which there was perceived liquidity and, in many instances, capital support for important firms, thereby placing a floor underneath what was for a while, and this was the case when I came in January, 2009, to join Don, a very scary downward spiral.

MR. KOHN: All right. Yes.

MR. TARULLO: Jo Marie, I think he means you.

MS. GRIESGRABER: I'm president of the Dan Tarullo Fan Club. Jo Marie Griesgraber with New Rules.

MR. TARULLO: It's a very small organization.

MS. GRIESGRABER: I'm also the newest and last member. Anyway, Dan, I wanted to direct your attention more globally with the issue of bank resolutions, and the FSB did some great work over about a year ago on bank resolutions as they affected the emerging market and developing economies. And yet in the summer of this year, the FSB gave itself basically an F for failure to implement anything related to those resolution commitments. And I'm wondering if you could put this situation of international banks and their overflowing to developing economies into your research agenda proposed here.

MR. TARULLO: So yeah, absolutely. I mean, I would think, Jo Marie, that the resolution questions more broadly do pertain to the IO agenda, because obviously structure matters and that web of relationships as they evolve matter in thinking about feasible resolution of firms. You know, on the international resolution agenda, I think you've fairly characterized some initial work that was done that sort of took, if I could

put it this way, some of the low-hanging fruit. But we really do confront some fairly significant hurdles to having a resolution regime that would give fair and consistent assurance to everyone around the world, every counterparty of a bank around the world, that there would be a coordinated, coherent, consistent, and predictable way in which a very large institution would be resolved.

Now why is that? Well, it really springs from the basic fact that we have national systems, and even in the EU at present, national systems for bankruptcy generally but even for the special insolvency provisions that exist here and in many other countries for bank or financial institution insolvency. That means that the whole package of debtor and creditor rights and priorities that are embedded here and abroad in statutory provisions vesting, again, here and abroad, an independent judiciary with authority, although we have the FDIC obviously with our Dodd-Frank Title II authority. All of those structures which are not simply an artifact of banking law mean that one cannot say with 100 percent assurance how a given obligation in a given country will be treated at a given moment.

And part of what I think is animated are thinking about the international regulation, as I talked about at Yale last week, has been this notion that banks may operate globally but they can die locally. And we need to have some assurance that we can handle that should it happen. I think that probably applies as much to developing countries as to developed, although we tend to have much more of the broker dealer capital market stuff in the United States than a developing country would tend to have, where the run risk is particularly high.

So I think it's an area in which we've got every reason to continue to try to make progress, formally and informally, and I think we'll all commit ourselves to

continuing to do so. But I think we also have to be honest with ourselves that a seamless global resolution mechanism is not around the corner which means that we have an obligation to ask ourselves, given institution X and its potential for getting into serious difficulty, do we have a set of policy tools that could at least make that manageable, which could include resolution plans, national resolution schemes. It obviously includes capital and liquidity requirements and the like. So as with almost every other policy, you know, there's one neat policy response that solves all problems. We're going to have to a complementary set of response, I think, for the foreseeable future.

MR. KOHN: Although I would add that in the glass one-eighth full kind of category here, I think you pointed out, I know you pointed out, at the end of your talk, there's been a lot of work on the single point of entry, which at least approaches solutions for some of these issues, so I think conceptually and then would have to be backed up perhaps by what you said about the debt at the holding company level. So I do think progress has been made and at least thinking through how to do this in a way that I wouldn't have guessed two years ago right after Dodd-Frank was passed and Title II, and everyone was saying how are we ever going to use this. I think there's been progress there.

MR. TARULLO: I'll accept the compliment that we've actually done something, and I think we have. I just don't want to over promise, that's all. And I think it is the case that the FDIC is moving forward with a very well thought through, extremely well thought through, impressively well thought through, approach to this. But there are still issues, you know, the issues of financial contracts in other countries and the issue of even if a firm has adequate capital at the consolidated level, will that capital find its way into an important national sub? Those sorts of issues are the ones that remain, and

they're going to be little harder to resolve.

MR. KOHN: We'll give Martin the last question.

SPEAKER: Well, I'm a fan of Dan Tarullo, and hopefully a friend of Dan Tarullo, but I'm going to ask a little bit of an argumentative question. The way that some of the new financial regulations being implemented around derivatives, around other aspects are, I think, going to cause some fairly drastic changes in the industrial structure of the financial sector that some institutions, large and small, will have to scale back some of the things they do, maybe get out of certain lines of business. And that has raised the question that I think has been raised to you, well, who's going to provide those services, and isn't that going to be disruptive to the economy? And I think the answer back from the Fed or other regulators, well, don't worry about it, other people will come in and provide those services.

So my sense is there's a hypothesis here that the industrial structure of this industry is pretty fluid, and that if one firm can't provide the services that the expertise will find a place elsewhere. Fairly quickly, you'll be able to continue to have the same flow of services to the indu's customers. So I wonder could you agree or disagree with that? Could you comment on to what extent you guy have thought about how over what pace, what time period you think the industry can adjust to some of the rules that are coming down the pipe?

MR. TARULLO: So can I ask you first, Martin? Don't give the mike away yet. So when you said some of the regulations that are being implemented, it sounded as though you had, you know, margining in mind and --

SPEAKER: Well, credit pipe, credit limits, the Volcker Rule, so the stuff around derivatives.

MR. TARULLO: So I think to some degree there's several answers to the question. One is what's the starting point for the analysis? Are we saying, gee, there is some regulation going in which would prevent the structure and nature of activities circa 2006? I think that's absolutely right. And to the degree that there was some economic activity in that period which was associated with highly runnable funding and with poorly underwritten mortgages and other lending products. You know, I would say I think that that kind of economic activity is a little bit illusory, right, because the apparent benefits of it in the short term turn out to carry costs. So I mean that first point is the obvious one that the fact that a particular regulatory approach would inhibit a particular kind of activity doesn't mean it's the wrong thing to do. That's number one.

Number two, for the reasons I stated in my response Don's opening question, I think it's a little hard to pull apart what's motivating in these different areas. Here's an example, I don't think there's any question but that levels of lending, traditional bank lending in a lot of areas, are lower than they would otherwise be because of a economy which is still not recovered from the Great Recession and the like. Is regulation playing some role there? yeah, I mean, I think, certainly on mortgages, for example, mortgage servicing requirements and the like, there would be some role, but again, sort of it's intended to be directed towards problems that existed beforehand.

The question, I guess, I think in a way you're asking a question about cumulative costs. So if you're going to have margining requirements and derivative push-out and Volker Rule, all of which by the way are required by statute, so this is something we're under legal obligation do to, but if you're going to have all these things, how do they interact with one another. And you know, that is a harder question to answer, because you don't have obvious precedence to go back and look at. It's for that reason that we've

suggested that the industry itself is best positioned to give comments on just that question. And to say here are the particular ways in which the combination of these requirements will affect what we do and, of course, the implication. But then they sort of have to draw the next point which is not that it will simply affect our profitability, but they have to kind of make the point about social benefit. And I think that there hasn't been as much of that, certainly not as much useful of that kind of commentary as I think some people anticipated that there would be.

So if you're looking at things from our vantage point, we think about particular regulations. We try to think about them and particularly things like liquidity, we definitely try to think about in a broader context. We do an assessment of cost and benefits, but particularly on the cost and negative side, I think we're necessarily going to be expecting that those who think they would be most affected would provide convincing analyses along those lines. On the other hand, it may be that some of this stuff needs to be done at a more elevated or higher level and maybe that's another part of the Brookings agenda. I think it's going to be hard to quantify a lot of that. I don't know if you disagree, but I think it's going to be hard to quantify a lot of that.

MR. KOHN: All right. Thank you very much, Dan.

(Applause)

SPEAKER: At this point, we're taking a half hour break. We have a box lunch provided for you're welcome to eat here or wherever you want.

MR. KOHN: But we hope you'll be back at 12:15, or make it 12:20, and then we'll have the next panel.

(Recess)

MR. BAILY: Well, thank you for rejoining us. I recognize that there was a bit of a wait on getting the sandwiches, so I hope everybody's managed to get something to eat.

So, next session is a panel. We're going to hear from Charlie Calomiris and Marcus Stanley.

Charlie Calomiris is the Henry Kaufman Professor of Financial Institutions at the Columbia University Graduate School of Business, and a professor at Columbia School of International and Public Affairs. His biography is there, and I'm sure many of you know him, personally or by reputation. I got to know Charlie because he was -- as I see he says on his resume -- a member of the Pew Task Force on Financial Reform, and was a tremendous member of that task force that, I think, contributed a lot to what we managed to come out with. So I'm looking forward to Charlie's remarks today.

Our second speaker will be Marcus Stanley. Marcus Stanley is the Policy Director of Americans for Financial Reform, which is the major public interest coalition supported stronger financial reform. I had not Marcus Stanley until last night at dinner, but then I did, and I think we will certainly have a lively and spirited debate in this session.

So, I decided to -- oh, I'm sorry -- and, oh, yeah, my colleague -- apologies -- who needs no introduction (laughs). And, Doug Elliott, who've you've met already here, and has been writing extensively on financial architecture issues, financial reform issues, and is a former investment banker.

So, now I've gotten myself rattled -- but what I thought we would do, since it's a little hard for people to see the TV screens up there, I thought we'd go back to the big screen. So we're going to have the participants stay down here. Charlie's going

to talk, and then Marcus, and then Doug. And then we will convene for questions after that. Thank you.

So -- Charlie.

MR. CALOMIRIS: Thank you very much, Martin. And it's a pleasure to be here. So far, this has been a great conference. I hope I don't dilute the heady atmosphere that we already have.

As you can tell from the title, my idea of talking about the future begins by talking about restructuring financial regulation. And you might thing we just did that, but I'm going to take a very jaundiced view of what we just did, and argue that the things that really need to be done, the most important things, we haven't done. And, in fact, you could even argue -- although I won't spend my time on that topic today -- that we've made things worse.

Let me start with a prediction. My prediction is that we're either going to have, over the future, let's say the next two or thee decades, sooner or later, we're either going to have real reform or we're going to have financial repression. By "financial repression," I mean regulations that throw out the baby with the bath water -- that we heard about from Bob earlier today, and others -- because we can't afford to have the current status quo continue.

What I mean by that is we're living right now through what would call a global pandemic of banking instability. The U.S. financial crisis was just one example of it. We've had, over the last 30 years, over 100 major banking crises as defined by events that lead to more than 1 percent of GDP negative net worth of failed banks. The average of that figure for the 100-some crises is 16 percent of GDP in negative net worth. By the way, the Great Depression in the U.S. was 2 percent of GDP, in case you want to have a little comparative there.

And how much GDP was foregone as a result of the crisis, meaning, as a result of the credit collapse and the recessions, the increased severity of the recession, on average the World Bank's figure for that is also in the area of about 15 percent of GDP, on average.

In other words, we cannot keep doing this. We can't keep doing it in the U.S. and Europe or in the developing countries, and so we're either going to fix it, or we're going to have to go back to a pre-liberalized banking system that's basically doing plain vanilla stuff, that we don't have to have a successful and complicated regulatory apparatus to deal with.

So what I want to emphasize is, that that is not the best way. We don't want to go in the direction of financial repression. But that means we have to do real reform.

I'm not going to spend my time talking about how we know that we have a problem. I just mentioned the hundred crises. But I am going to spend at least 30 seconds plugging my new book with Steve Haber. It's just called *Fragile by Design*, which is a history, for the last 400 years, of banking and politics in five countries, and explaining, sort of, how deep these challenges for reform are. The decision of instability is a political decision. It reflects the unprecedented protection of banks around the world that's happened just over the past 30 years, and that unprecedented protection has led to unprecedented risk-taking and losses. But it isn't just a simple problem of figuring this out technically and fixing it, because this decision -- this political decision -- is actually very deep.

And so this book is all about -- which I won't talk about today -- how deep the political bargains go that result in banking instability. And I just want to emphasis, if

you think I'm naive enough to think that politicians are waiting for smart economists to tell them how to fix the financial system, I'm not that naive.

But what I do want to tell you is that if they were willing to listen, that we do have a lot to say. But before I tell you what that is, I have to tell you what I think the problem is.

The problem is, we're not credibly measuring things, and that that's not just an accident, that's a political equilibrium. What is it that we're not measuring? We're not measuring risk, and we're not measuring capital. Other than that, Mrs. Lincoln, how was the play?

We have a risk-based capital system that we rely on for prudential regulation, but we are fundamentally not measuring the two components: the risk or the capital.

And I want to emphasize, the problem was not that we need to increase capital ratios a little bit from where they were before. Let me point out to you that the Basel III capital requirements would envision capital requirements that Citibank was well satisfying in December 2008. So when Citibank was intervened, it had a risk-based capital ratio of 11.8 percent, and a tier-1 of about 7 percent.

So, as you can see, fixing the system by just increasing by a few percentage points the equity requirement, and going on the with the same system, doesn't work.

What reforms have we heard about in the way of measuring risk? I would say virtually none. I'll talk a little bit about ratings reform, that's one of them. And what reforms have we heard about in terms of measuring capital? Again, I would say none.

The key problems I'm going to point to are the inadequacy of measuring risk, and the inadequacy of measuring capital -- especially after a crisis starts and capital is really lost, but not recognized as lost on an accounting basis.

That's the problem. The problem is those two measurement problems, completely unaddressed.

So, I'm going to skip through my slides, but they're available, and I hope they'll be posted so you'll be able to see in more detail. And I've written all this up as a paper that's already published, called "A Program for Incentive Robust Financial Reform."

So what I want to emphasize is that these two problems, underneath them is a deeper problem, which is that we have a system, a regulatory system, that has devised rules -- and I would say on purpose -- that are highly discretionary, and that they give great discretion both to bankers and to regulators, and that they do that on purpose because that means that the rules won't be enforced in a way that's politically inconvenient. By "politically inconvenient," I mean causing credit supply to be contracted more than politicians would like it to be.

So it we set up rules that allow discretion to decide what capital is and what risk is, and we depend on bankers and regulators to be the discretionary agents to decide what risk and what capital is, the world over, what we've learned in the past 30 years is, they're going to get it wrong, and it's not an accident. They do it on purpose. They do it because of their incentives.

What about bankers' incentives? Well, this is nothing new. If you haven't seen this cartoon -- these new regulations will fundamentally change the way we get around them. This is the bankers' perspective, right? So, think Basel II which, by the way is pretty much the same as Basel III where any -- if you told your 10-year-old child, "We're going to measure how much sugar you have taken in on a daily basis to control

it," and then your 10-year-old child says, "Who's going to measure the sugar, Daddy?" and you say, "Well, you are," they won't believe it, right? And yet that's exactly what we do. We rely on internal models of banks to decide things.

But there's another agency problem which is just as important, and that is the regulators themselves. And, of course, regulators, as I'll be showing some evidence about in just a minute, regulators systematically understated the losses in banks, especially in 2007 and 2008. And if that hadn't been the cases, I will argue, we could have avoided this whole financial crisis.

So we have these two key measurement problems, and they rely on the fact that we're having two agents measuring risk and capital who specifically can be relied upon not to measure them accurately because of the political incentives, and their own economic incentives not to do so.

And so then the question is: Can we solve this problem? And my answer is yes.

The way that you solve it is by creating measures of risk that are immune to discretionary judgments of bankers and regulators. And, secondly, to create -- and this is a little more complicated -- to create new kinds of capital regulation that provides strong incentives for banker to, in their behavior, to raise capital when they suffer losses. I'm want to say that again. What we want to do is not just increase the capital ratio, but create incentives for bankers to voluntarily choose that they want to raise capital when they suffer losses. If they had done that in 2007 and 2008, we wouldn't have had a crisis.

So those are my objectives. That's what I want to do. I want to measure risk, an I want to create incentives for bankers to replace lost capital on a timely basis.

Let's talk about -- I'm not going to talk about all dozen of these ideas, but if you missed everything else, the key point, because I know I have limited time, the key

point I want to make is: There are a lot of good ideas here. These aren't really very hard. None of them is perfect, but together, they work together, I have argued, in a way that's very effective in solving those two key problems I started with, about measuring capital and measuring risk.

First idea, use loan interest rates to measure loan risk. I admit, loans are only one piece of the riskiness of banks, but they are a piece. Suppose that we had used the interest rates on sub-prime loans -- that is, not the teaser rate, but once they are fully engaged -- suppose we'd used those interest rates to measure the risk of those loans, we would have required huge amounts of capital to be budgeted against them. Instead what we did was we allowed internal bank models to decide the risk which, of course, they decided was very, very low.

So has this ever been done before? Yes, it was done in the 1990s. I was a participant in some of the regulatory reforms in Argentina in the 1990s, which were quite successful, which used loan interest rates for capital charges. The capital ratio in Argentine banks was a minimum of 11.5 percent, but it could be, against a loan, as high as 55 percent if the loan spread was extremely high.

Is it true in the U.S. that loan spreads are good predictors of default risk? Yes. There's a paper by Ashcroft and Morgan that points this out.

So why don't we use loan spreads as measures of loan risk? I guess we don't want to measure risk. That would be my answer.

Second idea -- and this was actually embodied, to show you how bipartisan I can be -- in an amendment that Barbara Boxer introduced to Dodd-Frank which was defeated. The idea of this amendment was to reform credit ratings. And notice what we did in Dodd-Frank was we got rid of the mechanical implementation of credit ratings, but we didn't get rid of credit ratings. They're part of Basel III and they're

still being used. But they don't mean anything, because there's still triple-B, single-A. So, let me remind you, triple-B CDOs, in December 2005, at that point, had a five-year default rate from date of origination of 20 percent. And all the institutional investors knew that because it was public information. CDOs doubled in the year 2006, of course.

It wasn't that people didn't understand that these were very risky, it's that they wanted to have an understatement of the risk. Why? Because they're own capital requirements were geared to the rating. And if the rating wasn't exaggerating the quality of the instrument, they didn't have to maintain as much capital against it.

The rating agencies -- and this is too long a topic for us to go into in too much detail -- the rating agencies in rating-shopping behavior for one reason, and that is that the buy-side of the market is regulated in such a way that the buy-side wants them to debase ratings. The buy-side includes insurance companies and banks, who benefit from debasement of ratings in terms of capital charges, and also other institutional investors who, for suitability regulation reason, also benefit from debasements of ratings.

What could we do to fix this problem? Very simple: For each class of securities being rated by an NRSRO, when they say single-A, what we hear is that over the five years from date of origination, we think that is a prediction of a 1 percent default risk. And when they say triple-B, we say that's a 2 percent default risk over the five years from origination.

And if it turns out -- we do a five-year moving average for each of these classes of securities, if it turns out that for any class, what's called single-A as a group by that ratings agency has an experienced default history of greater than 2 percent, then that ratings agency gets a six-month sit-out as an NRSRO. And if what it calls triple-B, over any year period moving average has worse than a 4 percent default experience on that moving-average five-year basis, then it has a sit-out for six months. In other words,

we create an incentive for the rating agencies to objectify the meaning of default risk in their ratings, and now we will have reliable ratings because the ratings agencies, if they have sit-outs -- remember, it's not a guillotine, it's a sit-out for several months -- they'll lose a lot of fees.

This will also allow us, because we now have accountability, this will also allow us to be much more open to allowing entry into the ratings business, because we have ways of measuring performance by ratings agencies. So, for example, I might start a ratings agency -- in fact, I would, and I think many other people would, too.

So, we solve both the industrial organization problem of too much concentration in the industry, and we make it credible and useful.

Well, as I said, this isn't a new idea. We wrote this up, Barbara Boxer's staff and I, and it was defeated. And then when I inquired into its defeat, I was told the buy-side hated it. I said, "Gee, must have been a good idea."

So those are two ideas. I know I don't have a -- how much time have I got left, Martin?

MR. BAILY: Not much.

MR. CALOMIRIS: Okay. Already? Okay.

So, I'm going to refer you to the other three ideas I was going to summarize here, to just say, similarly, what they have in common is, if you notice, this is a particular version of how to set up contingent capital, where the motivation of this is not to do bail-ins -- quite different from what Governor Tarullo was talking about -- the motivation of this is to create an electric fence that really worries CEOs of banks and makes them, when they start to experience losses, want to avoid conversion of CoCos at very high market-value ratio-of-equity triggers. So when the market value of equity gets his 9 percent on a 90-day moving average basis, 9 percent of assets, you're going to

have a massive and dilutive conversion. That means that they will be targeting, like using a barometer, keeping their market value of equity way above 9 percent. That's how you get them to replace lost capital.

And I can tell you all about how much dilution was part of the calculation that led large banks not to replace their lost capital, especially after they saw the $10-a-share bailout of Bear Stearns in March of 2008.

You can read all about that in a book that's right behind this wall, called *Rocky Times* that Brookings just published, by the way. Dick Herring and I have a chapter in that book.

I do want to spend just 30 seconds on this graph. If you look over here, here's Citibank. Citibank, in April 2006, had a 13 percent market-value and equity ratio. And you can see, this is a 90-day moving average, you can see the crisis didn't happen overnight. Citibank's equity ratio declined. And this is all, every day, an opportunity for regulators to say, "Replace your capital." But they didn't.

It's only when you get down to here, in September of 2008 -- two years into that long-term decline -- it's only at that point that we have a liquidity crisis. If Lehman had gone bust, with all these counterparties' having 10 percent or higher equity, there would not have been a financial crisis. There wouldn't have been a shutdown of the LIBOR market or the repo market. This was a match in a tinderbox. And the tinderbox is what all those graphs are illustrating.

The markets were open. $450 billion of capital was raised between September 2007 and September 2008. The problem was banks didn't want to issue because they didn't like the price.

That is a problem that can be solved by creating the kinds of incentives. So that's what our proposal is designed to do.

I'm also going to point out -- and I won't be able to talk about it -- another idea is, instead of the very convoluted and, I would say, wrong-headed liquidity requirements in Basel III, impose a large an remunerative interest-bearing reserve requirement of at least 20 percent of risk-weighted assets on banks that have to be held in reserves at the Fed. No window-dressing on reserves at the Fed, unlike, let's say, MF Global, for example. They held cash four days out of the year.

Okay, I'm sort of down to the end here. I also have something to say about macroprudential, but I'm going to slip that.

I just want to show you, I think that this is the conversation to have. Even if you don't like my ideas, you might have complaints about them, that's not really the point of my little discussion here today. My point is, anybody who wants to be a regulatory reformer should right down, right next to his idea, why market participants won't be able to get around it, and why regulators will enforce it predictably. That's not the discussion we've been having.

And it's a discussion all about the measurement of risk and the measurement of capital. That is the discussion we have not had and we must have.

Because, as I said at the beginning, what we really need to do is choose between a future of financial repression and real reform. And that is still the choice that we're presented with today. And what this means, of course, is throw the Basel requirements as they currently stand, and the whole convoluted mish-mash of risk-weighting and banks' internal model into the waste bin.

Thank you very much. (Applause.)

MR. STANLEY: I have to say -- my name is Marcus Stanley. I'm the Policy Director for Americans for Financial Reform. And Americans for Financial Reform is the major public interest coalition working for stronger financial reform. And our

membership includes most of the major unions, Public Citizen, Consumer Federation of America, a lot of public interest groups. And occasionally, when we lobby, we're sort of pointed to as the "union-financed" Americans for Financial Reform, who are supposedly radical. We actually get our financing from foundations.

But, setting that aside, I agreed with about 90 or 95 percent of what Professor Calomiris just said. And I think that is a very important fact for understanding where the state of play is on financial reform right now. Because I don't think, if you had gone back three or four years and looked at Professor Calomiris -- obviously, he's a very respected academic even outside of Washington -- but at his participation in Washington policy circles, and you had looked at, say, organizations like Public Citizen, or the major unions, you wouldn't necessarily have put them on the same side. But I think in many, many areas of financial reform, based on the things he said, we really are on the same side.

And you could see this same kind of process with, for example, Tom Hoenig, who's the Republican appointee to the FDIC, and is the supporter of many strong financial reforms that are also being pushed by people on the more liberal side, that the division here is not so much between the conventional right and left, but between people who are serious about reform and people who aren't. So I thought that was interesting.

Now, I was warned my second slide did not come through, or it just came through as a complete blank. But what this slide shows -- showed -- was actually, I meant the slide to show what a transitional period of uncertainty we're in. And, clearly, it does that. (Laughter.) That we have a blank slate that faces us.

But what this slide was intended to show was that the share of finance in the U.S. economy has not declined since the crisis; that if you look from 2011 and on, the share of the financial sector, the share of value-added, financial sector value-added as a

share of GDP has essentially not declined. It's flat at the level that it was prior to the crisis. The share of financial sector profits as a proportion of GDP has not declined. It's flat at the level it was prior to the crisis.

So, we clearly, there's clear agreement that we saw a major crisis that was driven by the massive expansion of the financial sector. That sector, the financial sector has not been right-sized, and it's being supported by very, very significant government intervention. Over 90 percent of the mortgages issued in this country get government backing. The FDIC is still guaranteeing, through the Temporary Liquidity Guarantee Program, still guaranteeing a wide share of the liabilities of ordinary commercial banks. We still have a very low interest rate policy. There's just policy after policy, implicit guarantees for money market funds, that are continuing to support the financial sector.

And it's really -- we're really sort of in a transitional point. What are we going to see? Are we going to see a shrinking of the financial sector, based on a return to more traditional activities? Are we going to see continued growth? Are we going to see some form of stabilization?

So that's make it -- it's always hard to predict the future, but this is a particularly difficult time to do so.

And we come into this period of transition off a period of really radical changes in finance, which were marked by huge increases in gross funding flows, huge increases in short-term funding. Bear Stearns and Lehman have average maturities of three to seven days for their funding liabilities, huge increases in international capital flows, international banking positions -- over three-and-a-half times greater in 2008 than 2000.

The OTC derivatives market grows from 3 times global GDP to 10 times global GDP over this period. Growth in equity and for example trading volumes, that's a complement to all this.

And we really haven't seen -- with the one really strategic initiative exception of gross international financial flows -- we haven't seen these things shrink down to size. So, reinforcing -- or shrink down to what they were previous to that 2000 to 2008 period.

Now, this radical transformation in finance didn't brink benefits to the real economy. That period, 2000 to 2008, even before the crisis, was a period of extraordinarily poor performance in GDP growth and in family income growth. There's a really superb paper by Thomas Philippon of NYU that I recommend to everybody, where he finds that even the efficiency of credit intermediation declined over the last couple decades of expansion of the financial sector. In other words, the toll you have to pay to the financial sector, per dollar of capital raised, is apparently higher, was apparently higher in the 2000s than it was a hundred years before, in the early 20th century -- which is astounding when you think about the improvement of computer technology and information technology, that should make intermediation easier.

There's recent work showing that rapid growth in financial intermediation is correlated with slower productivity growth. There are manifestly enormous costs of financial crises. Professor Calomiris talked some about those.

And even before, and without financial crises, you get these distortionary effects on real economy investment of asset price bubbles and asset price manipulation which, I would argue, has been enabled by these enormous growths in gross financial flows, in trading volumes, in access to short-term funding.

And you could see a tremendous amount of mal-investment and mis-investment in housing over the past decade, even before the crisis. That was an economic distortion of the financial sector, even regardless, even before it collapsed.

Now, without question, we've seen extraordinary events over the last decade. I mean, first we saw an extraordinary growth in the financial sector, and then we saw an extraordinary collapse, of Great Depression magnitude.

So, how have we responded? You would expect to see a radical or extraordinary response. Well, Dodd-Frank is radical only in its length. And it's length truly is radical. So I'll give that the credit.

And I'm going to go through and talk through this in a little more detail, but essentially what Dodd-Frank does is it goes through, and it has a section addressing everything you would want to address. But then, each time it addresses something, it does so through a vague half-measure that leaves enormous discretion to regulators. It's kind of a Chinese-menu approach. You know, we're going to take a little bit of everything, and we're going to let the regulators figure out exactly how it's done.

And the note here on market signals is, this problem of regulatory direction, of deciding exactly how we're going to do and implement these things, it's not going to be solved by waiting for direction from the market, for the market to tell us exactly what the right or natural kind of financial intermediation is, because the market is so distorted by the presence of these implicit guarantees, first of all. And these implicit guarantees create enormous externalities.

And those externalities really aren't measured when people are responding to profit signals or -- you know, Governor Tarullo said today we have to look to industrial organization research to tell us the optimal size of banks. Well, industrial organization research draws on profit data from banks that, you know, doesn't, it doesn't

include implicit subsidies from the public, it doesn't include externalities, and it doesn't include potential abuse of market power. So, you know, this is not going to tell us what to do.

And, of course, the other factor is we're in an extraordinarily low-interest rate environment that is shaping and determining all the market signals we're getting. So unless we want to stay in that incredibly low-interest rate environment forever, we can't be looking to the behavior of the financial markets right now to tell us what to do.

Actually, this is -- I wanted to go back to the -- or wait a minute. I want to take a slight detour into the retail consumer space for a minute, before I get back to the systemic discussion, where people really have focused with Dodd-Frank.

But Dodd-Frank is stronger in the retail consumer space than it is in the systemic space, I think. And one of the main reasons for that is creates a new regulator which has, I think, different incentives than the prudential regulators.

And the set of changes -- and I'm not going to express a view on interchange fees right here -- but the set of changes on interchange fees, on credit card protections, on mortgage origination rules, and on the creation of the CFPB is a considerable hit to old retail banking models, but it still allows space for competition there. There's no direct setting of interest rates, and it's very questionable whether the CFPB could even directly set fees.

And the CFPB regulation of non-banks in these areas could actually assist bank competition with some very high-cost non-bank financial services we've seen. And some of these things, particularly the mortgage origination rules, have the potential to really contribute to systemic reform.

So, retail reforms are on -- I'm not saying they're perfect, and there's still enormous regulatory discretion and complexity there, but they're on somewhat of a

different track, and offer some possibilities for intervening right at the origination of bad loans.

But in terms of systemic reform, this is the sort of Chinese-menu approach I was talking about, where you say yes to everything, but not really. And it was exactly a perfect example when Professor Calomiris was talking about credit rating agencies. He put up there that you have to require credit rating agencies to predict probability of default, and then hold them accountable for when their predictions are wrong.

Well, you know, just as you would expect, if you look into Dodd-Frank, you find your way to -- I think it's buried there in Title IX -- you will find the half-measure that credit rating agencies now have a lot of paperwork requirements to predict probability of default -- but no accountability. You know. And that is entirely typical of the Dodd-Frank approach. And I actually was the Boxer staffer who wrote that amendment on credit rating agencies he was talking about. And you could very clearly sort of see the line where, all right, you know, if it's a reporting requirement we can do it. If it's something that is really going to cost people money, let's think again. You know, that's where the resistance comes in.

So we see Dodd-Frank has many, many directives to tighten leverage and improve leverage. It even has mention of studying contingent capital in there. But it leaves it entirely to the regulators. And, guess what, the regulators have gone out and they've written Basel III, which is just a marginal tinkering with Basel II. It makes some stronger definitions, stronger changes in the trading book but, of course, you know, the line between the trading book and the rest of the bank's books are, you know, are highly unclear.

And it makes those changes by taking the same inadequate internal measures and doubling or tripling them. It's really pretty funny to read. It's like "We don't believe in value-at-risk models, so let's triple the output of this model that we don't believe in, and this will be your capital requirement." You know? I mean, kind of like taking your son's guess on how much sugar he ate, and then doubling it because, you know, because you know he's going to lie. He just might learn to adjust to that. It seems possible.

Then there's a yes to some activity limitations. And I think this might be an area of disagreement with Professor Calomiris, but I think activity limitations are important, because certain kinds of activity make it very hard to measure effective leverage, or even, you know, what potential liquidity are going to day. So you have a yes to activity limitations, but the Volcker rule puts in a whole set of exemptions for things like market-making, which are really sort of an open field for regulators to define. They have, you know, complete discretion to define that. And it's very difficult for regulators to be tough, which I'm going to talk about in a minute.

"Yes" to removing implicit guarantees. We have resolution authority. But we haven't restructured the banks in a way that makes people really believe that resolution authority is going to work. And there's enormous discretion at the FDIC on the guarantees for specific kinds of liabilities. You know, it's still very difficult to say, well, what kind of liability is actually going to be guaranteed here? If I get involved in this kind of funding to a bank, is it within the government safety net? Isn't it? You know, some of that uncertainty is important, but some of it is very counterproductive.

There's a much clearer "yes" to derivatives reform. I mean, there you do see some specificity. But, essentially all derivatives reform does is take two things, two directions the market was already going, exchange-trading and clearinghouses, and

mandate that it go in that direction faster, and at much broader level. And I think that's a very valuable reform, actually, but it doesn't go to -- there were no steps to ban specific types of derivatives instruments. It works, really, within the framework of that incredible expansion of the derivatives market that we saw, and permits that expansion to be maintained.

"Yes" to oversight of shadow banking. It was very obvious that wholesale banking was going on through non-banks. But we have this slow and cumbersome discretionary process, where you have to designate institution by institution, and you can't necessarily designate entire sectors. And we're seeing with money market funds right now, you know, when it's a sector, what do we do? You know, it's extraordinarily complex.

"Yes" to compensation restrictions. "Yes" to risk-management. Again, a lack of clarity and a lack of follow-through. And you can add on to this --

MR. BAILY: (off mic

MR. STANLEY: I'm sorry -- accelerate?

MR. BAILY: Is there a way to summarize that?

MR. STANLEY: Yes. Okay.

So, I think this regulatory is clear to people. And there's also ambivalence about trying to keep some of the benefits of the so-called "complete credit markets" and securitization markets that we had, that did produce a tidal wave of liquidity earlier in the decade. And we also have this regulation happening in the shadow of crisis; that these relationships with these mega-banks have been built up. And these mega-banks became co-crisis managers with the regulators.

And what all this has led to, the combination of the difficulty of regulating through this fragmentation, and this regulatory ambivalence in a lot of areas, has led to a

central role for stress-testing, which is working, institution by institution, behind the scenes to try to get them to raise capital on an institution-by-institution level. And it responds to that graph that Professor Calomiris put out, we're going to spot it now a year in advance when you're running low on capital, and we're going to call your CEO. But it doesn't do systemic change, and it cements in place the oligopoly.

And so I think we face, really -- and this is the final statement here -- we face an important choice: Are we going to really do a serious reform, that I call "Back to the Future" here, some kind of updated version of real, functional control of the financial markets? Or are we going to do a set of incremental limitations on the new financial model of the last decade? That's the direction Dodd-Frank goes in, and that's really a direction, I think, that, unless regulators get more serious about using the statutory authority they have under Dodd-Frank, it's a direction that's doomed to failure in a lot of ways. (Applause.)

MR. ELLIOTT: Okay, thank you. And I don't have slides, so we can put the lights up -- or you can just keep staring at the blank screen, if you want.

Again, I'm actually impressed how many of you stayed here after Governor Tarullo's speech, and after the lunch. So, thank you for that.

What I'd like to do is I'd like to devote my 10 or 15 minutes here to pushing back against what I think are some misconceptions that I find all too prevalent in the debate on systemic reforms. Unfortunately, many in the media, political, and policy communities appear to have the impression that disinterested analysts have already firmly established that massive structural changes are needed, and that only entrenched interests have stopped such reforms.

In fact, though, I believe that much more analysis is needed, and that much of what we already know argues against such radical changes.

Now, especially after the last two speakers, I risk sounding like a mouthpiece of the industry for the remaining 15 minutes. So, for those of you who don't know me, let me just briefly explain my background. First of all, I was an investment banker for about 20 years, so I am guilty of that -- mostly at J.P. Morgan. And my clients were financial institutions. I provided strategic advice, M&A, helped them raise capital.

Despite that, however, I've been a strong supporter of financial reform, and remain so -- Dodd-Frank, Basel III, and many of the other comprehensive reforms. I've done a considerable amount of work as an author or co-author on cost-benefit analyses that look at the economic benefits and costs of these global financial reforms, and have always concluded that, done properly, these reforms have many more benefits than costs.

So, let me be clear: I'm definitely in favor of financial reform. I have a number of concerns, though, about the structural reforms that are being proposed.

And so what I'd like to do is organize my talk around as many of the 10 misconceptions that I'm planning to talk about as I end up having time for.

So, the first one -- and all of these, or many of these, have been addressed to some extent by previous speakers -- but an important misconception is that economies of scale in banking stop at fairly low levels. As was mentioned in the first panel, for a time, the relatively few studies that were out there suggested that above $100 billion in assets, there really weren't many economies of scale and, in fact, you'd switch to dis-economies of scale. And $100 billion, compared to the size of our system, is pretty low.

More recent studies, at the Fed of St. Louis and Fed of Philadelphia, have found results that I believe are more accurate, and, again, as was addressed

somewhat earlier, show economies of scale that are much larger and go much higher, in terms of the size of organizations.

There's also an interesting stream of work by Ron Anderson and some other people at the London School of Economics. What they've done is to say if you're trying to figure out what the economic benefits are of scale and scope, you need to look at all the places that the benefits stick. Many of the studies have looked at profit differences -- that is one of it. Shareholders get to keep extra profits. Some of it is pricing -- that is, what the customers keep, and that's very, very hard to measure, is the truth. So there isn't much on that.

But the other one, where there's some hope of at least getting a crude measure, is how much do the bank employees keep? And it's a substantial amount, as near as we can tell. Again, it's very early days, crude research. But when you add together those three places where the economies of scale and scope end up residing, where the benefits reside, it confirms my own intuition that these are actually quite large.

And, here, I also go on my own experience as an investment banker to the financial industry. I worked with very smart clients, and saw others who weren't my own particular clients, who understood the industries well, who bet their own money and their careers on mergers that were predicated on very considerable economies of scale and scope. And, generally, that's what happened afterwards. They actually found those positive benefits.

Now, some portion of that, presumably, is too-big-to-fail subsidies that got bigger. But I'm confident, from what I saw, it was much more than just that. So, whatever the economists have shown to this point, I am quite confident there are large economies of scale.

Similarly, a misconception that's sometimes felt is that economies of scope -- the benefits of having a wide variety of related products -- are either trivial or illusory. And I agree with Governor Tarullo that there is considerable evidence that these do exist. Again, it's something I saw working as an investment banker to the industry.

And the Treasury white paper from January of last year, which I wouldn't position as generally that positive towards large banks, or the desirability of large, diversified banks, itself concluded that there were some forms of economies of scope that clearly existed, some where they weren't so sure, and some where they were pretty sure they didn't exist, but that there were important ones that do exist. And I believe it to be true.

A third misconception, to my mind, is this kind of an implicit assumption that the structure of the industry is really best explained by what makes bankers a lot of money. And, of course, there is some of that. But it ignores what I think is an even more important aspect, which is customer demand.

And I'll give you, well, first of all, a broad point on that. A lot of what's happened is that the large corporations that create a lot of the financial business out there, and increasingly medium-sized corporations do the same thing, they've been moving to the securities markets. And that has caused a change in the role of the traditional banks.

And so I wanted to give you two points from my own experience. One, when I first started at J.P. Morgan many years ago, it really didn't consist of that much more than the Morgan Guaranty Trust Company of New York. That was a very highly respected commercial bank, among the large ones, the most respected in the U.S. It was profitable, fairly profitable, I would say. And management would have loved to just keep doing what they were doing. But they discovered they couldn't. The problem was,

they mostly had a customer base of large corporations. Large corporations were moving their business to the securities market and away from traditional credit products.

So, management was faced with the choice of either staying with the customers and expanding their product range, or finding a new customer base. And they concluded, I think correctly, that it was better for all concerned if they could expand -- to continue to provide credit products, but provide them by helping with the securities market, as well as direct intermediation.

Another thing that was very clear to me, because I'd certainly directly experienced it, large corporations basically demanded that the firms they used for investment banking also lend them money. This is a big reason why the big commercial banks have ended up dominating, or at least their affiliates have ended up dominating so much of the investment banking realm. This was virtually entirely customer driven. And we could have a longer discussion as to why they wanted it, but it was something they wanted.

So the idea that the customers would be perfectly happy if we went back to the old model seems to me demonstrably false.

A fourth misconception is that diversification at the big banks is effectively useless, in terms of financial stability. And Governor Tarullo addressed this, as well.

Certainly, the crisis didn't definitively prove anything, and we could have a different type of crisis in the future, but it's interesting to note that the institutions that got in the most trouble tended to be the ones that were more specialized. They were either straight investment banks, pretty much, like Bear Stearns, Lehman, Merrill Lynch, or they were doing were doing traditional credit products -- Wachovia, Countrywide, WaMu. I certainly don't mean to say that the larger diversified institutions didn't have

their own troubles, but I think there's a good argument that they actually had some benefit from stability, over and above whatever too-big-to-fail subsidies might have existed -- or, I should say, did. I don't mean to say they don't exist. They clearly existed -- separate from whatever the level of them were.

A fifth misconception, I believe, is that there are people who believe the crisis would have been either much better, or wouldn't have happened, if you had simply cut the banks down. So, if J.P. Morgan had been cut into 20 pieces, and Bank of America into 17, and whatever.

What I think that misses is the fundamental underlying reasons why these institutions made the choices that they made. My contention would be, if you had broken them all up beforehand, you would have had a crisis that looked pretty much like the one we actually had. You would have had too little capital and liquidity at these institutions. You would have found them investing way too much in mortgage products, both commercial real estate and residential real estate. You would have found them taking trading risks they shouldn't have taken. They would have been doing things based on bad ratings.

All the things that Dodd-Frank, Basel III, et cetera, are trying to fix would still have been in existence. And there would have been the downside that it might actually have been harder to deal with a herd of 200 troubled banks of significant size, than to deal with a smaller subset, where you could at least get them in one conference room.

A sixth misconception is that large corporations will always be able to borrow. The Vickers Commission in the U.K. pretty much explicitly says this, that lending to the large corporations can be outside ring-fence depository-taking institution, because big companies will always find the money.

I am baffled by that one, because we just went through a crisis in which it wasn't true. There was a period of time in which large, stable corporations had serious trouble borrowing. That's why we did the commercial-paper rescue that we did. It's part of why the money market funds were rescued.

We should be careful with any systemic reforms to make sure we don't assume that large corporations won't matter, or can get the money on their own. We need to consider the fact that under, at least, the more severe crises, they may need -- the financial intermediation for them may need to be assisted.

A seventh misconception is that securities markets can be disconnected from banking. It's clear that the banking groups that are centered around large commercial banks are at the core of the market-making activity these days. I think, though, that there are good reasons for this. One are the kind of the synergies I've already discussed: economies of scope and scale. But I also -- and, here, I haven't given as much thought to this, but it has struck me more and more, as I have started to think about it, given how important the securities markets are in the U.S., we probably actually want them to have access to the stable sources of funding that come from deposit-taking institutions.

How exactly we structure it I haven't given enough thought to. But, to go to the opposite extreme, and to make the ring-fencing so that the thing that provides stable source of funds isn't available to the market in tougher times, I think is asking for trouble. I think it could put us with more fragile and less liquid markets, which is the definition of increasing financial instability.

I won't go into the next one or any of the next ones in much length, since I know I'm running out of time. But one I would mention is what Martin started talking

about at the beginning of our conference, which is I do think there's not enough attention paid to the benefits of risk-management products.

There seem to be two sets of arguments here. One set of arguments is that a lot of derivatives allegedly had no social purpose whatsoever. And I'm sure that's true of some of them. But since they didn't have a social purpose, we don't need to do anything to encourage them to continue. And if we take actions that will make them not happen, who cares?

My concern more is that there also seems to be an implicit belief that many of the other risk-management activities that take place using derivatives also don't have much of an economic role. And I would agree with Martin in what he said earlier, I think they do.

Now, this turns out to be really hard to prove in an academic way, but I am convinced that the reality of it is that many corporations would not be taking on the types of projects that they do if they couldn't hedge financial and commodity risks. And that if we were to make mistakes that made it difficult to offer those products, I do believe it would lead to less economic activity, and that most of what went away would actually have been good activity.

A ninth point -- again, here I'll reference Martin -- there's a misconception that problems of interconnectivity have to be solved by reducing connectivity. Martin, again I'll credit, he used this great analogy with the electric grid, where you know, a few years back, we had serious blackout problems, problems with the grid, with the connections. Well, it turns out, the way they've solved it isn't to decrease the connections, it's to increase the connections -- but to increase the intelligence with which the connectivity is handled. And I'm not sure what the exact implications are, carrying the analogy over, but I think it's very much worth bearing in mind.

And the final misconception -- I seem to be on a roll here. Now, by the way, I work for Martin, so maybe that's why I'm bringing his name up so much --

MR. BAILY: Keep rolling, keep rolling. Take as much time as you want.

MR. ELLIOTT: Yes, exactly. There is that. He's the moderator, too.

But what I was going to say, he already raised this in a question to Governor Tarullo. But I think there's a misconception that the transition wouldn't be very painful to whatever new systemic approach we have.

We may conclude, after more research, we need to make some of these major systemic changes. I'm skeptical, but maybe we will. But we do have to accept that there are going to be a lot of -- there's going to be a lot of pain and a lot of risk with that.

So, my overall conclusions are: We need to be careful here. I'm skeptical of many of the proposals. And, at a minimum, we need to give this considerably more thought and analysis, in my view.

Thank you. (Applause.)

MR. BAILY: Thank you. I'm going to throw out a couple of questions to the panelists. And mostly, I'm going to encourage them, if they want to comment on each others' comments.

I said I thought this would be a lively debate. I didn't quite realize it was going to be the center -- in the sense of Doug -- and the embrace between the left and the right. But maybe if we probe that embrace, it might split apart a little bit.

Charlie, let me ask you: You mentioned that you had sort of proposed an amendment to Dodd-Frank, and you talked about using CoCos, and improving credit rating agencies. So, is your sense that Dodd-Frank basically is worthless, that we should throw it out? Or are there a set of -- if we were thinking incrementally, what would be the most important things to do to improve where we stand, given that Dodd-Frank exists?

MR. CALOMIRIS: Gosh, that's a big question, Martin.

So, I would say, recalling back to our days together on the Pew taskforce, we came up with some very specific recommendations.

MR. BAILY: Right.

MR. CALOMIRIS: And some of those are related to the ones I've been calling for. But they haven't come, and all of the ones are simple. They're very easily observable by outsiders. They're regulatory rules that have real effect and that can't be gotten around.

And I think that's the real issue here with most of the problems in the current regulatory structure, that they're just not credible.

But I also want, I will point to one that I didn't mention, that I'd like to get some discussion on. Because the way I would characterize myself is sort of like the Rabbi in the joke, "You're both right." You know.

The point I would make is, there's reasonable disagreement about structural reform. I happen to be on Doug's side of that issue. I'm not in favor of changing the structure of bank holding companies in the United States. I think they're very efficient structured the way they are.

But the problem is, I also respect the point of view that says, "How do we know?" And how do we know it isn't all driven by free-riding?

And so I want to tell you about, very briefly, about a conversation -- by the way, is this off the record?

MR. BAILY: No. No. I don't think you can assume it's off the record.

MR. CALOMIRIS: Okay. So I can't give the names, because I'm pretty sure that the conversation was subject to Chatham House rules, so I'll just mention the conversation.

So, two very prominent advocates of reform, who had a great deal of influence on the Dodd-Frank legislation, were debating three other people, of whom I was one, in a closed setting, about the Volcker rule. And I said, and the other advocates agreed with me, I said, well, look, if you think that the real problem is risk transference, having to do with affiliates to banks, how would you feel, advocate of the Volcker Rule, if we set up margin requirements for the affiliates so that they had to meet the same margin requirements that a stand-alone would have to meet, so that there was no presumption of any free-riding on the holding company or the bank?

And these two extremely vocal and influential advocates of the Volcker Rule both said, "Well, that would be fine. Don't need a Volcker Rule if we did that."

So we have not explored the ways in which -- and I've talked to John Vickers about this, and many others -- there is a group of people that I think may not agree about what the outcome is, but can agree about how we can get to the answer. That is, if we can establish those kinds of mechanisms, so that if there really is a synergy, those businesses will stay together. And if there really isn't a synergy, if it's just driven by free-riding, then those businesses won't stay together.

So that's the kind of simply rule I have in mind, finding ways to not just have to sit here and sort of say we disagree, but to say, well, how do we come up with a simple, enforceable rule that will move us forward, and preserve those benefits if we think that they're real, while getting rid of the potential risks.

I think that margins, used for proprietary trading, would solve the whole Volcker Rule problem. We would not need a Volcker Rule if we used margin requirements on proprietary trading.

That's an example.

MR. BAILY: Let me turn to you, Marcus.

You argued that, really, that Dodd-Frank hasn't done the trick, we haven't "right-sized" the financial sector, to put it in your terms. And you probably said this explicitly, that a lot of what the financial sector does doesn't really have any social value, and so we need to get rid of it. And the economy worked fine before with a much smaller sector, so we should go forward for a smaller sector.

But, first of all, let me press you a little bit on that. I mean, one does make the argument sometimes that the sector's gotten too big. Many people, including me, say, good heavens, we're spending 20 percent of GDP on health care, is that too much? So, you know, you're making that argument about the financial sector.

But if we sort of downsize the financial sector, as we've done to some extent, aren't we going to cut off the folks that you don't necessarily want to cut off? Aren't we going to make it much harder for low-income folks to get mortgages, to get credit cards, to be able to participate in -- to have bank accounts, be able to afford bank accounts? Aren't the people we're going to cut out some of the people that I suspect you would like to see being served by financial services?

MR. STANLEY: Well, I think there are sort of two discussions, two big issues that I raised, and one, you correctly point out, is do we need to shrink the financial sector? Do we need to right-size the financial sector? And the other is the adequacy of Dodd-Frank. And those are two separate issues, and you could have separate discussions about them.

I don't know the right size of the financial sector, but I do think that in the kind of alarmism that gets raised within D.C. about "Oh, my God, we're putting in margin requirements," which is a very radical step when you actually impose them. There is enormous lobbying against them. And this is going to, you know, cause some shrinkage in some existing business.

Perhaps we shouldn't be -- you know, perhaps looking at the history of the size of the financial sector in the U.S. should lead us to be willing to take some risks on that when we're returning to the size of the financial sector, you know, a decade ago, or 15 years ago, when it was quite large, quite healthy, quite profitable, but significantly smaller than it is now.

And I was struck by what Doug said about the risk-management benefits of derivatives, which I think are real. I mean, financial derivatives, broadly speaking, you know, go back thousands of years, and have been used for risk management.

But you look at the increase in the derivatives market from, as I said, 3 times global GDP to 10 times global GDP in less than a decade, and you say, well, you know, were corporations not taking risks in the year 2000? I was there back then. I seem to recall some risk-taking.

So, you look at the scope. So it's not just the fact that it's large, but it's the magnitude of some of these increases and growths we've seen.

And in terms of credit access, you know, it's interesting that low-income people pay enormous margins for credit in the United States, especially in retail products, payday lending and so on, which bring, you know, really quite significant returns. And if some low-return activities were driven out, I don't think the provision of basic banking services to low-income people needs to be -- or would be, or should be -- one of those, just based on the returns it generates.

In terms of mortgage, you know, this is something -- I'm speaking only for myself here, not AFR -- you know, there was the argument that mortgage credit was given on the wrong kinds of terms prior to the crisis. I don't know anybody who disagrees with that. And if we want to subsidize that kind of credit for people, let's make that subsidy more explicitly by, you know, budgeting it in -- I mean, this gets into areas that

AFR has not taken a position on. But there are lots of ways to make that subsidy more explicit, and budget it within government budgets.

So I think those questions are going to arise in the debate on GSE reform, and so on, in the future.

MR. BAILY: Well, let me press you a little bit on that, because, you know, the GSEs did start buying it, with the securities that were backed by sub-prime mortgages. I know that they knew that they were going to lose money on some of those. And so the reason that they were buying that stuff, and providing mortgages to people who wouldn't otherwise have gotten them, was because Congress was pressing them pretty hard.

And I kind of thought that organizations like yours were kind of leading the charge to do that. And that Barney Frank and his colleagues were telling GSEs, no, you've got to keep making that lending.

So, isn't it a little strange to turn around now and say blame the financial sector for that?

MR. STANLEY: Well, I really don't want to -- because, first of all, AFR did not exist at the time that this was happening. We were created in 2009. We have not taken a position on GSE reform, in general, or on what the GSEs should do. So I just don't really want to go down that path.

But the GSEs were followers, not leaders, of the private mortgage securitization market. And I think that's very clear from the data. And there were some very deep problems in GSE regulation, in terms of you give an implicit guarantee, but then at the same time, you set them up as sort of this weird public-private hybrid, where they have a profit motivation.

And they reached a point -- you know, the GSEs were the ones who created, for many decades, a more stable securitization market. Then when you see these massive profits being made in the private securitization markets, you know, the GSEs, because of that profit motivation, followed in, just before that market was about to fall off a cliff. And I think there were some real incentive problems with, you know, how the GSEs were set up that helped lead to that. But they were the follower, not the leader, I think.

But this is not, you know, an AFR position -- as I've said for the 14th time. But --

MR. BAILY: No, I probably shouldn't have led you down that road. But --

MR. STANLEY: That's the risk I take here.

MR. BAILY: And I'm not Peter Wallison, I don't blame the GSEs for everything that happened.

MR. CALOMIRIS: Well, but I mean, just as long as we're arguing about it --

MR. BAILY: You want to get in on it.

MR. CALOMIRIS: It's simply not true that they were followers. And that's based on flawed data that GSEs produced. And, of course, they were sued by the SEC for those fraudulent data. And then in the SEC settlement with the GSEs just recently, the GSEs were -- the SEC concluded that they had 2 trillion-plus of high-risk mortgages, which was a several-times factor relative to what they had ever admitted.

When you look at the turning point, the key was that the things that were being called "Alt-A," that weren't being called "sub-prime," actually which were of very, very poor credit quality, really accelerated in 2003 and 2004, and that GSEs were leading that charge. So, some of this is a little bit in the weeds of data. But I think it's absolutely

clear, having read and reported, publicly, the e-mails from the risk managers of the GSES -- and you can find them publicly. I put them into a Congressional report -- it's absolutely clear that political pressures on the GSES in 2003 and 2004 led them to make a dramatic change in their willingness to do non-documented lending. Absolutely clear. And they were fired. The one that wouldn't get out of the way was fired.

MR. STANLEY: And the one thing I'd say about the following rather than leading, if you just set aside the Alt-A-sub-prime distinction, if you just look at mortgage originations in the U.S., from flow-of-funds data, from lots of data, and what's special about the 2000 to 2008 period, it's the proportion of mortgage origination that comes from private mortgage securitization, as opposed to, you know, bank origination or the GSES. And that's kind of what I'm saying, that this is -- you know, but anyway, let's not --

MR. BAILY: Yes, let's do a timeout on the GSES.

MR. CALOMIRIS: It does hit the point, though, that we need to reform the politics of mortgage subsidization.

MR. BAILY: Yes.

MR. CALOMIRIS: And that's a key part that no one's mentioned before.

MR. BAILY: No -- that's right. But let's move along to a slightly different issue.

Doug, you're making the case that there are very substantial economies of scale, and yet they're sort of hard to measure, which I agree with.

But one of the things that you mentioned is that, you know, you sort of say, okay, if there are economies of scale, where would we observe them? Maybe in higher profits, maybe in prices lower to customers, and maybe in higher returns to employees.

MR. ELLIOTT: Mm-hmm.

MR. BAILY: I think if you are going to identify economies of scale that are basically designed to make the employees rich, that's going to be a tougher case to make against those folks that want to break up the banks, or want to limit the size of the banks.

MR. ELLIOTT: No, no -- I understand that. And were I to analyze this in great detail, I'd certainly want to discuss at length the answer to the question you're asking which, effective, I think, is: Why should we care about those parts of the economies of scale?

My point is, economies of scale are economies of scale, no matter how you then divide up the benefits. So, if we can establish that, economically, there are benefits to the size and scope, then we have a separate question of what we do on that basis. Do we think that the dangers that come with it are so high that we just let those go? Do we say we want to somehow retain those, but we want to make sure they're directed in a different way? So, I don't know -- I mean, there are any number of things you could do.

And I will say there is some self-correction that's been occurring. Bankers are being paid a whole lot less than they were before. There's a clear trend there, and I think they'll continue to be squeezed.

So, to the extent that there are economies of scale there, I'd suspect more of it will be directed towards customers and shareholders going forward. But we'll see.

MR. BAILY: Can I see if we've got some questions from the audience?

Yes -- a question on the aisle, there.

SPEAKER: I have a lot of questions, actually, and maybe I'll just bring a couple of things.

MR. BAILY: Okay. Two short ones, questions, please.

SPEAKER: One of them is I think that it's important -- and this is -- which seemed to be implied in the argument that you had on -- it seemed like you were implying that the crisis was caused because of financial regulations, you know, that maybe because functions were merged in banks, that's why you had a crisis.

MR. BAILY: Who are you talking to?

MR. ELLIOTT: No, that was not at all what I was saying. I'm sorry if I somehow led to believe that.

MR. CALOMIRIS: Next question.

MR. BAILY: Okay, next question.

SPEAKER: Well, and it's related to this question of an economy of scale because, you know, people might argue, if you don't have an executive and a judicial branch and a legislative branches that are separate, that you can have economies of scale. But then, like if you had a dictatorship, you'd have a lot of economies of scale, that doesn't mean it's a good idea.

The problem with merging these different interests is because there are a lot of conflicts of interest. This something that was exemplified in the Pecora Commission, which occurred before the Glass-Steagall Act was passed, that may of the holding companies which used to have, you know, commercial banking, they would transfer the losses from their investment and insurance onto people's depositions, or the companies that held people's deposits. So that's what the problem was there.

MR. CALOMIRIS: Well, let's -- can we get into that?

So, the Pecora hearings' accusations of conflict of interest, of course, have been completely discredited by all academic research that's been done on the topic. So, George Benston wrote a whole book about the Pecora hearings and showed,

systematically, that there was no evidentiary basis for the belief. And then we had a whole series of articles published in the top economics journals, by people like Ragu Rajan, Randy Kroszner, Maju Puri, looking, statistically, for evidence of conflict of interest in very creative and scholarly good ways, and found very strong evidence against the argument.

So I think that what we know, really, from the Pecora hearings is the political abuse of a crisis, which is what we saw in the '30s and we've just seen again, which is people will make up, based on their own hobbyhorses -- and I can tell you, because I'm a financial historian, that Carter Glass, the reason that he wanted to go in this direction was he was an advocate of something called the "Real Bills Doctrine." He had been advocating it since 1913. And, to make a long story short, there isn't any macroeconomist alive today who believes the Real Bills Doctrine.

But the reason for the Glass-Steagall separation of investment and commercial banking was entirely based on Carter Glass's views about a doctrine that nobody believes anymore, buttressed by politicized nonsense from the Pecora hearings.

MR. STANLEY: If you want to --

MR. CALOMIRIS: Now, wait, wait -- I'm sorry. One sentence.

But, that said, I don't think that means that there's no conflicts of interest today.

MR. STANLEY: Right.

MR. CALOMIRIS: The issue is not about what the Pecora hearings said, the issue is, is there a conflict of interest today?

So, I was talking to one of my colleagues recently and saying, well, I really believe in these scale and scope economies. And he said, well, you know, I was involved in a hedge fund, and I believe it's all front-running, which is conflict of interest.

So, I don't dismiss the argument. We don't know. And part of the reason we don't know is because we don't have data on things that would allow us to know.

MR. STANLEY: You don't have to look to the Pecora hearings, you can look to, you know, Senator Levin's Subcommittee on Investigations hearings right before Dodd-Frank, on some of the, you know, on some of the Goldman Sachs securitizations, to see some conflicts of interest.

I do think that this assessment of the 1930s reforms which Professor Calomiris is giving does help, you know, highlight some of the differences in opinion, that I think that that's a very common view on things in, like, Glass-Steagall among a lot of academic, especially mainstream academic economists, that Glass-Steagall was a mistake for a lot of reasons.

When you look back at the history and legacy of Glass-Steagall, though -- and Glass-Steagall was something that was a very powerful and radical step taken, you know, I won't say on a flyer. I think that there were a lot of ideological justifications and reasons for it, and I think the Real Bills Doctrine, while it's discredited in some ways, points to some really important questions about how you back up speculation in finance that continue to exist.

But Glass-Steagall was not the -- you know, whether you think it was optimally efficient or not, it was not the disaster that, you know, that certain academic economists would have you believe it is, based on pure theory. I mean, the U.S. economy grew for many years, with higher GDP growth, than we did under the period of, you know, when we were moving toward consolidation and universal banking. Under Glass-Steagall we grew. We created the most competitive investment banking sector in the world under Glass-Steagall -- in part, I think, because of pressures toward specialization that were created in Glass-Steagall.

So, the resultant impact of Glass-Steagall is, you know, not something, I think, that can be dismissed at all, in terms of the benefits that occurred from it.

MR. ELLIOTT: But what about the costs? So, for example, you know, as late as the 1950s, Congress established a task force to try to figure out how in the world can we get equity finance to happen for small companies in the U.S., because it had dried up, actually, in the 1920s under the leadership of Lehman and Goldman Sachs. We had started to see some major development of IPO financing in the U.S. I would say Glass-Steagall pretty much stopped it. And we didn't get back to it until the institutional investor revolution in the 1960s and '70s, which created roadshows and a whole different mechanism for doing IPOs and seasoned equity offerings.

The U.S. has been a backward corporate financing platform, especially for securities offerings and equity, really, throughout its entire history, owing to some of the regulatory problems. And, you know, the consolidation movement, the 1930s stopped the consolidation movement of banking, stopped the economies of scope. And financial historians looking back on that say it cost us decades, in terms of the efficiency for customers of certain banking products.

I think that's what we're in the middle of doing right now.

Again, I don't want to prejudge it. I want to establish what we can agree on are safeguards against risk transference, and then let the banks structure themselves in a way that we can agree will be based on a true market test. We don't have to agree, right?

MR. BAILY: This is just the debate I expected, but I do want to bring the audience into it a little more.

So, Jamil?

SPEAKER: Thank you.

Professor Calomiris, I wanted -- something that you mentioned regarding the role of NRSROs in regards to the crisis. And I wanted to know your thoughts on the accusation that what some of the creators and sellers of the collateralized debt obligations, that what they had done was hired out of the NRSROs, and in putting them together, in essence said, "As an expert what are you going to be looking for to make this a double-A, or single-A, or A-rated obligation, so when we go back and show them, you'll know what it is -- we'll be able to know what it is they're looking for so it will get the proper rating?"

MR. CALOMIRIS: Well, I think it was even easier than that. Rating-shopping happens in the following way. You didn't have to hire someone to do that. What you do, is if you're the originator of a securitization, you go to the three ratings agencies, knowing you're going to drop one of them, and you say, "What proportion of this pool are you going to rate triple-A?" And one says 70, one says 72, one says 75. Then you only ask the two that said 72 and 75 to do the rating.

So, it wasn't hard, given the way rating-shopping worked. You didn't have to hire someone to advise you, you just had to have a simple algorithm, which is pick the ones that are going to give me the best ratings, and I can drop one.

And what we see is a lot of evidence -- I've done some work in looking at these -- a lot of evidence that this wasn't a random process, either. So, for example, Fitch was pretty much the bottom-feeder in this process. Moody's tended to be the one that was left out the most, Standard & Poor's came in second, Fitch, hardly ever.

MR. ELLIOTT: And can I jump in and also say, what you just described, I don't see anything wrong with. The rating agencies should have been clear enough that you didn't need to hire an expert to decode how they thought. But it's a little bit like with

lawyers, you hire lawyers because our laws are so complex you need somebody who actually understands them to figure out what to do.

MR. BAILY: I can take one more question, at the back there, and then I'm going to turn this over to Don Kohn, who's going to conclude the proceedings.

MR. FRIEDMAN: Thanks. Justin Friedman, with the American Financial Services Association. We represent consumer creditors.

My question is, if there is this concern about deposit-taking subsidizing risky activities, then could you assess the usefulness and effectiveness of Dodd-Frank's reforms to deposit insurance? And is that part of the solution? Is that much of the solution? And what else needs to be done, if that's a persistent concern -- without expressing any bias about whether that is a valid concern?

MR. BAILY: You've been very critical of mortgage insurance, right? So do you think it's gotten worse, or --

MR. ELLIOTT: Deposit insurance.

MR. BAILY: Deposit insurance -- excuse me. I didn't mean --

MR. CALOMIRIS: I think that -- I will only answer the question very briefly to point out one thing: Virtually all deposits in the United States are insured. If you had a $15 million deposit that you wanted to get insured, no problem. You just go to one bank, even, and one account. You no longer need to have a bunch of different accounts in a bunch different banks, because Alan Blinder invented something called CDARs. So, I have personally set up these accounts myself, and I can have a virtually unlimited amount swapped out through a CDARS account, and have the convenience of all one account. So this is one of the things that, I guess, serving on the Federal Reserve Board gets you to understand how to arbitrage the system even better than the bankers do.

So, we have 100 percent deposit insurance in the United States -- except if you're not smart or clever enough, or knowledgeable enough, to have done it. In other words, it's basically regressive in its impact.

In terms of reform of deposit insurance, I would say what reform of deposit insurance comes down to is internalizing risk in the banks, making banks have to act as if their risk is measured, and their capital is measured adequately. And if that's not happening, then deposit insurance is still a free ride.

I'm afraid that that's where I think we are. So, I don't think there's any credible reform of the risks associated with deposit insurance, or the broader safety net, so long as we don't have credible prudential regulation.

MR. BAILY: Any final comments? Doug, Marcus? Would you like to get rid of deposit insurance? I would not.

MR. ELLIOTT: Well, it's a red herring.

MR. STANLEY: One final comment on what Doug said, that one thing, that one point I sort of tried to get at in my slides, but didn't in my discussion as much, is that there can be sort of a moderate argument for Dodd-Frank which says that Dodd-

Frank doesn't require fundamental structural change, but it goes through and puts moderating safeguards, in sort of an incremental sense, on each different activity. And from that standpoint, Doug sounded to me like a defender of Dodd-Frank, and I think there is sort of a moderate claim for Dodd-Frank that can be made to work that way.

MR. BAILY: Thank you. Thank you to everybody on the panel.

(Applause.)

We'll turn it over to Don Kohn.

MR. KOHN: Greetings, everyone. And the fact that there are this many people here is a testament, I think, to the very, very nice program that Doug and Martin put together. They've given us a very rich array of presentations, plenty of arguments and discussions, and a long list of -- a long to-do list for Brookings to follow up on, and I think it's been a very productive day here at Brookings.

My role is to conclude the conference. I am not going to try to do the impossible and summarize what we all heard today. I have a few comments of my own as a little bit different perspective, pointing out one or two things. It'll overlap with some of what we've heard, but I hope from a little bit different angle. So let me try that for just a few minutes.

I start by noticing and bringing to your attention the two objectives for the financial system that are embodied in the title of the conference, "Structuring the Financial Industry to Enhance Growth and Stability." We want a financial system that rewards savers, channels savings to creditworthy borrowers in ways that enhance efficiency and promote economic growth, that supports innovation in the financial sector, but even more importantly innovation in the private sector that will increase productivity and growth. But we also want a financial system and need a financial system that promotes and supports economic stability, a financial system that's robust to shocks

without taxpayer support, firms that can fail without endangering the real economy, a financial system that limits the inherent cyclicality that it embodies both on the way up and the way down, promoting much stronger growth, and then weaker recessions than otherwise would be, and doesn't make business cycles worse.

We certainly did not have that financial system in the years leading up to and in the financial crisis. As several people have pointed out, we had a financial system that encouraged the oversupply of housing and household debt, and, in particular, located a lot of that household debt in households that couldn't afford that debt; a financial system that itself became quite vulnerable and unstable with increased leverage, greater maturity transformation, borrowing short. Several people, including Governor Tarullo, have highlighted the increased importance of the wholesale funding markets, supporting and funding longer term, less liquid assets. And the financial system had become increasingly procyclical. The vulnerabilities in the financial system exacerbated the cycle that resulted from the destruction of household wealth and the overhang of debt when the housing bubble collapsed.

Now, the response to the crisis has naturally, in my view, concentrated on building stability of those two objectives. And we just had a discussion about whether it's been successful or is likely to be successful at that, but I think that's been the concentration. But I think there's some potential tensions between the two objectives. We need to be careful about defining them. So a completely stable system, one that didn't have much, if any, maturity transformation or leverage; wouldn't be able to meet public demands for lending and borrowing or fund the many projects that would foster economic growth.

Now, in the long run there's no trade-off between sort of a sensibly stable financial system and economic growth. We're just finding out right now over the last four

or five years that an unstable financial system is bad for growth and bad for the economy. So the two need to go together, but building that sensibly stable system can involve short- to intermediate-term trade-offs. Building stability has costs that can impede escaping from the recession. And the conference in my mind, particularly the title of the conference, "Structuring the Financial Industry," raises the question about what can be done on the structure side to achieve both goals to reduce the tensions.

And the prism I want to come at it through is a prism of competition. So how can we increase competition in the financial sector? The effect of these regulations on competition should be part of the cost-benefit analysis that we engage in as we think about these regulations. Cost-benefit has come up in several of our discussions, but I haven't heard any real focus on what's this going to do to competition in the financial sector.

The banking system has become much more concentrated over the last few years leading up to the crisis and it became even more concentrated in the crisis as strong institutions bought up weak and weak ones went out of business. In my remarks I'll concentrate on the U.S., but we certainly saw in the first set of slides from Nicolas and others that concentration in the U.S. might have increased, but it's nothing like concentration in other countries. So I think all these issues come up in even more intense and important form for other countries.

Greater competition potentially would reduce dependence on a few large, important institutions, that is reduce the too-big-to-fail problem; would reduce the oligopoly profits that these institutions may earn as well as their too-big-to-fail profits; increase options for funding growth; and increase the efficiency of the system and make it more resilient by having many more options for both savers and borrowers. But all this is potential, so increased competition could potentially do this. It needs to be guided and

developed in the right way.

And I want to concentrate three or mention three different types of competition or three sources of additional competition: competition in the banking industry; competition in the U.S., competition with foreign, competition between foreign competitors and the U.S.; and then competition with non-bank or market intermediation functions, encouraging them.

So within the banking industry, in promoting competition there, I agree with so many people that have spoken today that the most important thing we can do is to deal with too big to fail, to eliminate the subsidy. Now, there are a number of efforts underway which I think are beginning to bear fruit, but haven't been fully realized, as Governor Tarullo said. Trying to make these institutions much less likely to fail with greater capital and liquidity, therefore, the subsidy is much less. And then also to create a way of resolving then of having them fail with risks to the creditors, and he mentioned a single point of entry and at least putting the creditors, the holding company, at risk, so that no institution in the end should be too big to fail.

There are a lot of challenges here and he highlighted a number of them. They're great, very difficult, international coordination challenges, but we've made some progress.

So we also heard from him some ideas on some further steps that might be taken to deal with too big to fail. We just heard a long debate about breaking up the banks, reinstituting Glass-Steagall. My personal view is that that's probably not a good idea, that there are some -- first of all, a lot of the problems that we experienced in the crisis occurred in pieces that wouldn't have been affected by Glass-Steagall: Bear Stearns, Lehman, AIG, et cetera. Secondly, there are some advantages of scope for customers of having these different functions in the same place. So there are some

synergies here that would be difficult and I think we should try and keep, if we possibly can.

Now, it's true that I supported the Vickers Commission suggestions in the United Kingdom in my position on the Financial Policy Committee there, but I think they're somewhat different. First of all, the Vickers Commission would keep both pieces in the same holding company, so you get the diversification and some of the economies of scope. The UK banking system, as we saw in the charts, is much more highly concentrated than the U.S. banking system. And breaking these things, putting the holding company structure in places, and putting some pieces under the holding company would very much help with this resolution problem. We already have holding companies in the U.S. we can work on like this, but they don't so much in the United Kingdom. And it also would enable the authorities in the United Kingdom to impose higher capital requirements, especially on the domestic ring-fence piece that wasn't in competition with other international service providers. So I think Vickers was a good idea for the United Kingdom, but it's not the same as reinstituting Glass-Steagall, and I don't think reinstituting Glass-Steagall would be in the public interest in the United States.

The second point that Dan Tarullo mentioned was size limitations. And there's a little more appeal to me on this one, that is put size limitations on, let the bankers decide how to cope with them. I would say two points that make me hesitant here.

One is we're already getting changes in banking business lines and business models from the liquidity capital and other regulations we're putting into place. It's not clear that we need to do this yet.

And the second point is I wonder about what the effect, the cost would be on the competitive incentives for large banks. So if you knew you were getting close

to the ceiling, you wouldn't be competing for new business so hard. So through my prism of competition have some concern that a cost of these size limitations would be reduced competition, at least in the intermediate and short run, until those smaller institutions got larger in the United States. I think we need to recognize that cost in the further study that Governor Tarullo was talking about.

Second angle is allowing foreign competition in the U.S. to the extent consistent with U.S. financial stability. The key issue here is subsidiarization of host country activities. Do we make the foreign activities put them in a separate subsidiary? There's a lot of appeal here. It helps with resolution. It helps with stability. We can make sure that foreign companies here don't threaten -- we'd be better sure they don't threaten U.S. domestic financial stability.

But, once again, I think there are some costs here. It will reduce the ability of banks to distribute savings efficiently around the globe. And I think there is a risk of impinging on competition here from foreign banks for domestic banks unless we're very, very careful about what's required, where it's required, and that we don't make this an excuse for disadvantaging foreign banks relative to domestic banks.

My third point on competition is promoting non-bank or market -- really market intermediation functions in competition with banks. Securities markets and securitization markets can provide important alternatives to banks and competition for even largest banks. Having both bank and market intermediation had been considered a strength of the U.S. financial system, but in the crisis, of course, the so-called spare tire was also flat in addition to the four major tires.

I think a couple things happened that undermined the ability of the securities securitization process to provide that spare tire. There was the growth of bank-like maturity transformation, this borrowing short, lending long in the non-bank, in the

securities market, in the so-called shadow banking sector, without a bank safety net or without oversight for the banking system. The money market funds, tri-party repo, securities lending, these were all ways of borrowing very short with so-called "safe" obligations financing less liquid assets.

And secondly, there were greater and more opaque interconnections between the securities markets, securitization markets, the shadow banking system, and the commercial banking system. Think about those asset-backed commercial paper conduits and about the SIVs that looked like independent, but they weren't really. They were backed up by the liquidity and sometimes capital insurance of the commercial banking system, explicit or implied. So problems in the shadow banking system quickly migrated to the commercial banking system.

What do we need to do? I think we need to strengthen shadow banking, reduce the vulnerabilities while preserving some of the less risky functions for financing securities activities in banks. And there have been suggestions made on money market funds and overnight and tri-party RP, as we already heard.

We need to restart securitization markets, especially, I would say, for the private-label mortgages to diversify away from the GSEs, make sure there are more alternatives for people to borrow mortgages. So we need to complete the rule-making in this area so the private sector knows what the rules of the road are and can start operating there.

We need to recognize the importance of support from banks and others for securities activities, the market-making efforts that Doug referenced in his comments. And we need to simplify and make more transparent some of these interconnections between banks and non-banks so that people aren't fooled the next time, so both the regulators and the public and the people who deal in the counterparties know where

these interconnections are. And there's a number of efforts under Dodd-Frank underway in that regard: the use of central counterparties clearing organizations and greater -- for derivatives so that everybody has the same counterparty; much more transparency in the derivative and other areas as well. So I think we're trying to address this issue as well.

So as I said, most of the focus of regulatory efforts has been on reining in risky activities. That's critical, but we need to think about the interaction with competition, how we can promote more competition in markets to have both growth and stability.

I think this conference has helped to clarify a number of aspects of financial reform that affect the ability of the financial sector to foster growth and stability, a huge agenda for further work. And I think we owe a great deal of thanks to Doug and Martin for the program they've put together. So thank you, guys. (Applause)

And that's it. They're free to go, right, Doug?

MR. ELLIOTT: Yeah.

MR. KOHN: Okay.

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CERTIFICATE OF NOTARY PUBLIC

I, Carleton J. Anderson, III do hereby certify that the forgoing electronic file when originally transmitted was reduced to text at my direction; that said transcript is a true record of the proceedings therein referenced; that I am neither counsel for, related to, nor employed by any of the parties to the action in which these proceedings were taken; and, furthermore, that I am neither a relative or employee of any attorney or counsel employed by the parties hereto, nor financially or otherwise interested in the outcome of this action.

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