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REGULATING NON-BANK SYSTEMICALLY IMPORTANT FINANCIAL INSTITUTIONS

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Presentation on Regulation and Non-Bank SIFIs:

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P R O C E E D I N G S

MR. ELLIOTT: Okay, everybody, we're going to start probably in about two minutes, so if you could get yourselves comfy in here, that would be appreciated. Thank you.

Okay, good morning, everyone. I'm Doug Elliott. I'm a Fellow in economic studies here at the Brookings Institution. So, again, if everyone -- if you'd just come in and get settled.

Thank you for joining us today for the discussion of the designation and subsequent regulation of systemically important financial institutions other than banks. As most of you know, banks are effectively already designated as SIFIs by Dodd-Frank.

We have an excellent group of panelists here today, and they'll each make some opening remarks followed by a conversation that I'll moderate among those of us up front, and then we'll turn to you, the audience, for questions. After that, we'll end the morning. I will give about a 20-minute summary of a paper that Brookings is releasing today, which you've seen out front about the regulation of non-bank SIFIs once they've been designated. And then I'll have a little time for you to ask me questions after I finish that.

Please note that my paper and the full slide presentations from each of the presenters that are using slides will be available afterward on the Brookings website.

I will only briefly introduce our distinguished panel members since you have their biographies in the handout. Each of them, you will see, is a noted

expert on financial regulation and systemic risk.

Our first presenter will be Viral Acharya. He's C.V. Starr professor of economics at the Stern School of Business at NYU.

Next we'll have Scott Harrington. He's professor of insurance and risk management at the Wharton School of Business.

He'll be followed by David Cummins, the Joseph E. Boettner professor of risk management and financial institutions at the Fox School of Business at Temple University.

Then wrapping up our panel will be Martin Baily, a senior fellow in economic studies here at Brookings, and I can't say enough good about Martin. He is my boss, by the way. (Laughter)

So, let me briefly summarize our topic today. The Dodd-Frank mandates that the Financial Stability Oversight Council, or the FSOC, which is the committee of senior regulators in the U.S. -- Dodd-Frank allows them and nudges them to designate certain non-bank financial institutions as systemically important, in addition to all banks with at least $50 billion of assets, which are effectively already designated as SIFIs.

The Federal Reserve Board is charged with providing the analysis to make that decision. Institutions that are so designated by the FSOC will then have the Fed as an additional regulator, and the Fed and the FSOC will have very considerable regulatory powers over those institutions that they would not otherwise have. The panel will address the question as to how that designation process should work, with particular emphasis on the difficult question of whether

financial groups built around life insurers should be designated.

I apologize in advice to you and the presenters that I will be limiting the opening remarks to 12 minutes each, which hardly does justice to the topic and certainly doesn't allow them to get through all their slides. But we want to keep to the two-hour schedule and to allow plenty of time for you to ask questions from the audience.

So, let me start with Viral -- Viral Acharya.

MR. ACHARYA: Thank you, Doug. Good morning to everyone. Thanks for being here.

So, it's a big open question as to what people mean by "systemic risk." Until we had the crisis of '07/'08 and everything that's been happening since then in different parts of the world. Some people use to say systemic risk is what regulators used to justify regulation. And then, of course, we've seen systemic risk actual arise. And yet different people have very different conceptions of what systemic risk is.

So, I wanted to spend a little bit of time in the initial part of my remarks on offering you one view of systemic risk that I think spans a lot of different views that are out there. And I think that helps understand why non-banks, at least certain kinds of non-banks, should be considered as possibly systemically important institutions, sometimes if not individually at least in a herd or in a group.

And, second, I wanted to touch a little bit upon the insurance sector in particular, because I would say that's probably one sector that's been

on the radar screen for being considered as SIFIs, or systemically important financial institutions, but there isn't too much agreement, and I wanted to really raise some questions based on some data that we have looked at seeing how robust or how fragile the insurance sector was in the fall of 2008.

So, there's one view of systemic risk that I would call very macroprudential. It's a very institution-by-institution view that if the failure of an institution leads to distress or contagion onto other entities, then that's a systemically important financial institution. This sort of approach is, I think, in the undertones of Dodd-Frank for the most part, and it sort of leads to the view that what you need to do is regulate too-big-to-fail institutions, and that becomes sort of like the focus of regulation and this view of systemic risk.

But if you look at a century of crisis or even longer, there had been crises when institutions were not very large. There were many banking crises when banks were very small, and what used to happen in such times was very simple. There would be a common shock, some asset price revision that would be significant. The institutions were funded with relatively short-term debt or even long-term debt, but a lot of it would start experiencing difficulties to roll over this debt. They would collapse, and if they were important in the payment system for some significant part of the economy, you would start seeing effects of this sort of a combination of a common shock and leverage.

Now, this view of the world is slightly different than that of Dodd-Frank or a macroprudential view, because in this view it doesn't necessarily have to be one large entity or a set of large entities whose failure leads to the sort of

spread of the crisis. It could actually be breaking up all these large entities into very tiny ones. Maybe they all look very similar. They are all doing real estate. They are funded with leverage. Think of savings and loans if you want a concrete example. And that would be sufficient to cause a systemic crisis, because when this part of the financial sector collapses as a whole -- and they're likely to collapse as a whole, because they are exposed to a common shock -- then it will be very hard to re-intermediate them, because collectively they are systemically important.

Now, this view leads to a slightly different view of systemic risk and its regulation. It doesn't say the too-big-to-fail institutions are not systemically important, but it says that just because someone is not individually too big to fail, we should not necessarily rule them out from being a SIFI.

Second, it says that systemic risk need not be about interconnectedness. It says that it doesn't have to be the case that you literally have to be connected through sets of derivatives claims or some other kinds of interbank claims for there to be systemic risk. It would suffice if there was a large aggregate shock and you joined the herd and started falling as a pack of cards at that point of time, because every new institution that fails in this pack of cards is just making the problem progressively worse. If you had survived at that point, you could have actually picked up some of the assets or some of the failing firms, but instead you're actually joining the deck of cards that is failing, and in that sense you're actually contributing to systemic risk.

And so it says that you don't really have to be interconnected in

order to be systemically important and cause systemic crisis to spread. You just have to be exposed to the same asset class that everyone else is exposed to and with a term of leverage and maybe even short-term leverage if you want to make it particularly worse.

So, I want to sort of use this view to first just show that there were runs in this crisis, which had nothing to do with primarily too-big-to-fail institutions. They had to at some deeper level, but take the asset-backed commercial paper run in August of 2007 and then for several months after that. This is that run in a simple diagram from a peak of $1.2 trillion. This market of short-term paper collapsed to about $400 billion within an 18-month period. It's a slow run. Of course it starts off very steep, and then it's still continuing to permeate this part of shadow banking.

Now, individually one would not have classified any of these asset-backed commercial paper conduits or a special-purpose vehicle as being systemically important. But they're exactly the same business model. They had very similar assets, and they had very similar rollover risk on their funding side. And so when the problems arose about questions about the underlying assets, questions about the underlying sponsoring institutions, essentially there was a run on them like a herd, the kind of runs that we had seen in the Great Depression or in the 1907 crisis.

So, this really suggests that we ought to look at such collections of institutions. Maybe money-market funds are a prime candidate that fits this category very well. No one is probably individually very important, but they all

have exactly the same business model. And if the financial sector to whom they are lending gets into trouble, they are all likely to experience runs at the same time as they did with the failure of Lehman and as they might have had had they not reduced their exposure to European banks in good time in 2011.

Now, where does contagion fit into all of this? Clearly, contagion is important; interconnectedness is important. But think about the following scenario. Suppose J.P. Morgan was to fail because of the London rail problem in a time when Citibank, Morgan Stanley, et cetera, Goldman Sachs are all actually well capitalized. This would be a bonanza for all these banks. This is going to be a great outcome. One of the best franchises since the fall of 2008 collapses because of a truly firm-specific problem. This is not going to be a systemic risk concern at all. It's actually going to be great for the other banks, and we would actually be happy that there was capital in the system to pick up the pieces when J.P. Morgan failed.

In contrast, if J.P. Morgan had failed in the fall of 2008, this would have been a complete disaster for the U.S. economy. And this shows that what really matters is not whether you are too big to fail or are interconnected but whether you are likely to fail in a time when others are not around to pick up the pieces. And I think it's that systemic risk that I want to use now to understand next the insurance firms in a little bit.

So, one thing we've been doing at NYU Stern is we publish other rankings of systemically important financial institutions on a weekly basis. We can only do this for firms that are publicly traded. And what do we try to do in this

measure? We try to estimate how much you will be undercapitalized related to an 8-person threshold capitalization -- this is based on market value terms -- if there was a 40 percent connection to the aggregate market. This would be asking whether you would be undercapitalized in a futures stress scenario. So, we are running a stress test, so to speak, but using market data out there.

Why is this important? Because we believe what really matters is then there is aggregate stress. Will you have spare capital so that you can actually reduce the systemic risk in the system? Or are you the type of entity that's also going to become undercapitalized at that time and probably start selling assets, get into trouble, experience runs, and so on?

Now, one thing that's been striking for us -- we've been looking at our list since a long time, at least since summer of 2009 -- is that four out of five insurance firms routinely go in and out of this list, and a few of them are always there: MetLife, Pru, Hartford, Lincoln. They've all been there. And it's been our view that they are potentially systemically important. Of course there's disagreement on this view of insurance firms being systemically important.

Let me show you a few graphs as to why I think at least they deserve to be under the radar screen of FSOC for potential trouble.

So, I'm going to show you a few graphs of the top five banks and bank holding companies. These are the usual suspects. And then the top five insurance firms, which are MetLife, Pru, Hartford, Lincoln, and PRG -- Principal Financial Group. All of this can be found at our website which is *vlab.stern.nyu.edu*. "Vlab" is for Volatility Lab. We do other things besides

systemic risk or debt.

Okay, so one thing you'll find here is that if you look at the undercapitalization risk, which we call ES risk, which is how much capital shortfall will you have in case of a 40 percent market correction? Three of these five insurance firms have been relatively steady, whereas the other two, which are MetLife and Pru, have had a very steady increase in their expected undercapitalization in an aggregate stress.

Now, what does this mean? This is saying that in whatever market data from which we estimate, what's the downside exposure of MetLife and Pru to an aggregate crisis? They are moving quite a lot on bad days of the market. They lose a lot of the market capitalization when there's a decline in aggregate market downturn.

How about this downside exposure, which we call MES. It's a statistical term, but if you want you can just think of it as "mess" -- how much "mess" do they have when the market goes down. And what you see here is that in the fall of 2008 at the peak of the crisis the market was seeing that these five insurance firms -- if there was a 2 percent market correction, they are losing basically about 20 percent of the market cap on that day. Okay, this equivalent to saying that it will basically take only about -- so, 2 percent goes to 20, so if you wanted to go to a hundred, it basically means you need just about a 10 percent correction to the market for these firms to lose all their market value.

Now, these numbers look sort of on a similar ballpark as the numbers for the bank and bank holding companies in the fall of 2008. So, these

are the banks that we thought were all falling under exetra (?), which is that when they were at the peak they were also losing about 20 percent of the market capitalization.

So, this sort of begs a few questions for the insurance sector, which I'm going to quickly run through -- of course I have posed these more as rhetorical questions, and I think the answers will be sort of obvious, given what I've said so far -- which are:

Why did the market values of insurance firms collapse so much in the fall of 2008? Because it was a very large aggregate shock and there were huge exposures to corporate bond market among other things.

Why is it that the downside risk estimates of insurance firms were as high as those of banks and bank holding companies in the fall of 2008? Because they are also exposed significantly to the aggregate economy.

Why were insurance firms owning banks, such as MetLife, which had a Met bank at that point making a lot of guaranteed financial products in which they take policies but guarantee that a certain performance will be provided on the policy as a function of whether the stock market is going up or down so in spite of the market going down, we'll continue to provide you a certain performance. This is just a lot of embedded leverage in their policies.

Why were they selling CDAs, AIG in particular, and all of these suggest that they do take similar vets as banks and bank holding companies do.

Now, of course, the usual counterargument is that insurance firm liabilities are more stable. Now, of course the guaranteed financial products

were not actually classified as being very stable. They are very exposed to the financial sector. But even if you took that as given, what we see is that insurance firms do recognize this, and therefore their leverage rations tend to be somewhat higher than other comparable firms right now.

And the last question. Let's suppose a scenario in which the market value of insurance firms collapses and they stop providing liquidity to the corporate bond market, which is where their imprint as a part of the financial sector is perhaps the largest. What would happen in this scenario? Suppose GE is not able to issue a triple A or double A-related corporate bond at a good price? They would draw down on their line of credit from banks. And the fact that the insurance firms are pulling out liquidity from the corporate bond market is actually now going to trigger a run on the lines of credit of banks

And this is the scenario under which I believe insurance firms would look systemically important even though they are not directly interconnected in the true sense of the word.

Thank you, Doug.

MR. ELLIOTT: Thank you Viral.

Scott Harrington?

Yeah, I gave him a couple extra minutes.

MR. HARRINGTON: Yeah, I noticed that.

MR. ELLIOTT: It's apparently because he has a view a little different than the rest of the group. So, you're still at 12. (Laughter)

MR. HARRINGTON: Is that right?

MR. ELLIOTT: That's right. (Laughter)

MR. HARRINGTON: And this doesn't count against me, right?

MR. ELLIOTT: No.

MR. HARRINGTON: What are you going to do if I run over 12? Are you going to grab me?

MR. ELLIOTT: I'm going to tackle you, Scott.

MR. HARRINGTON: All right. So, we're going to start my 12 now.

Hey, good morning everybody. I don't want to waste any time. I'm going to go through a lot of this pretty quickly, because Viral has touched on some of it. My focus is going to be on a very narrow question with major implications, and that is should one or more life insurance entities be designated as systemically important and subject to enhanced regulation by the Federal Reserve.

I come at this from a perspective that was laid out I great detail by Supreme Court Justice Stephen Breyer in his 1982 book, *Regulation and its Reform*. We know that at best economic regulation involves enforcement and compliance costs. It's inherently imperfect and it risks significant unintended consequences. So, the way I view the world is regulation should only be employed when there's substantial evidence of significant market failure and, second, we have substantial reason to be that the benefits will exceed the cost. I'm going to basically tell you a story where I think if you apply this sort of framework, you would not designate one or more major life insurance companies as systemically significant.

What does the law say? What does Dodd-Frank say? It says that FSOC -- the Financial Stability Oversight Council -- can name a company as systemically important if, among other things, it could pose a threat to the financial stability of the United States. So, that's the bottom line question. FSCO is using a three-stage process involving quantitative and qualitative evaluation to make this determination. There is no bright line for designation, and prudent policy should consider the risks and unintended consequences of designating a non-bank as systemically important.

A couple of quick comments on AIG. AIG, to a great extent, was a one-off phenomenon. Its crisis was not caused by its co-insurance activities. Its CDS problems were unique. Its securities lending problems, which were severe, were unique. My main point here is that AIG by itself does not imply that we have to something to expand an environment where we designate entities as being systemically important and therefore subject to enhanced regulation. I regard it as somewhat mute as to whether or not AIG is designated as systemically important.

Viral did a nice job of talking about the different aspects of systemic risk, the risk that can arise from common shocks and the ultimate responses to those shocks as well as interconnectedness, so I won't elaborate on that. What I will do is just highlight "Is insurance systemically risky," and first I'll do this in sort of a qualitative way based on a variety of studies, and then I'll turn to some systemic risk measures and, in particular, some of the ones that Viral showed you.

There have been quite a few assessments, some qualitative and some quantitative, that have looked at the activities of insurance companies and concluded that the core activities by themselves pose little or no systemic risk. And compared with banks, financial distress of life insurers does not threaten the payment system.

Banking crises have much greater potential to produce rapid and widespread harm to economic activity. That's not say that there aren't scenarios where insurance companies could give rise to spillovers with negative effects on the economy. There's always some possibility, but there is a major distinction between banks and insurance companies. Life insurance companies in particular have longer-term liabilities. Their liabilities are less liquid. They have substantial time to resolve financial distress. They engage in extensive duration of maturity matching on their investment and liability side.

About a third of major life insurance company assets are in separate accounts. The bulk of those accounts -- by and large, all of the risk is borne by the account holder as opposed to being an obligation of the insurance company. And I'm going to touch on this toward the end of my remarks -- the life insurance market is characterized by substantial market discipline. We don't have, at least anywhere near the extent to which we have it in banking, a strong guarantee of life insurers' obligations backed by the federal government, nor is there an implicit guarantee, AIG notwithstanding.

We've learned some things over the years about the susceptibility of the life insurance industry to runs, and I'd say the results are really pretty good

from the standpoint of concluding that it is not a major issue. I was around and in my prime, so to speak, in the early 1990s when Executive Life, First Capital Corporation, and Mutual Benefit Life got into trouble. The research on those events suggested that withdrawals of funds from policy holders -- the movement of money was focused on problem institutions. There wasn't a spillover on healthy institutions that the withdrawals of funds were really targeted at financially weak companies, which is a good thing. And then more recently a lot of research is suggested to the extent that you did have distress or at least financial difficulties related to interconnections, that the flow has been more from banks to insurance companies than vice versa.

And then just one other fact not on the slide. Many life insurance companies have raised external capital the last few years following the crisis, again indicating the ability to withstand pretty significant shocks in the overall capital market.

Now, a little bit about quantitative systemic risk measures. Viral talked a little bit about these. They're based in part on the relationships between insurers, stock returns, and overall market stock returns and down markets. Some measures rank life companies highly. Viral noted on his list -- he had, I think, four of the top of the top ten were insurance companies based on this measure ES risk or ES risk percent.

There has been a lot of really fine, high-quality academic research, both theoretical and empirical, that it tries to come up with systemic risk measures and then very sophistical econometric modeling to paramatize these

types of measures.

I don't want to come across as negative on those sorts of research efforts. However, I have to say that the outcome of some of these measures seemingly is precise. You have to a couple of decimal points, but they're not necessarily very accurate. For example, if you take the ES risk measure, which plays a major role in Stern's rankings, ES risk is very, very highly correlated with total liabilities. As an example, I just ran a simple regression of ES risk or ES risk percent on total liabilities for the 35 entities on the Stern website that has positive values of ES risk. The total liabilities explained 98 percent of the variation in that ES risk. The way that measure is conducted, if you have an exposure, an equity market exposure, so that if the stock market goes down 40 percent, you're going to have a significant reduction of equity. If you've got bit liabilities, you're in, all right? So, it's really any company that is big, that has some equity exposure, it's going to get highly ranked under that arrangement.

Another thing about these types of measures, different measures yield different rankings. Met might be high, Pru might be high in some measure; they're not as high in other measures. These measures don't measure causation. There's little attention or linkage to the underlying drivers of potential contagion. The assumptions aren't tailored to specific factors that we might want to consider. The ES risk measure assumes a common prudent capital standard without regard to the nature of the company's liabilities or assets. There's no consideration of the duration of liabilities. There's no distinction of these separate account liabilities where the bulk of the risk is borne by the contract

holders, and one could argue that you would even include or would only include part of those liabilities in a leverage measure, which is used to come up with ES risk.

At the end of analysis, and my last comment on this will be: Even if a company ranks high on ES risk, if you have a life company that ranks relatively highly, it does not imply that it would need to raise money in the event we had a 40 percent or more decline in the stock market. It does not imply that it would be in financial distress. It might imply that it would invest less in bond markets. But you can't make tight connections between this equity market exposure for a company with large liabilities and spillovers on other institutions

All right, got a couple of minutes left. What are the consequences? So, I've expressed some doubts about whether there's convincing evidence that large life companies post systemic risk. What are the consequences?

There are two real dangers from naming one or more large life insurance companies as SIFIs. One is, and at least in the short run, they're going to get hit with an extra layer of regulation, which will drive their costs up relative to competitors. It'll lead to some disruption in the marketplace and, at least in the short run, lead to some harm to consumers, especially if bank asset-centric models apply to a liability-centric business such as life insurance.

The second problem that will start to arise pretty quickly in the long run that I think could be very problematic is the increased risk of a too-big-to-fail environment for big life insurance companies. We can argue all that we

want that we won't expand too-big-to-fail, that we won't bail out companies, but if you name a large life insurance company systemically significant and subject to enhanced regulation by the Federal Reserve, three, four, five, six years from now, it's hard to imagine that there wouldn't be some impact on their ability to raise funds in the capital market, and it would help them to attract customers.

All right, also other things for regulation supervision -- there are fixed costs and lags in developing appropriate expertise and new rules for a very few entities if the Fed expands their scope to big life insurance companies. I think there also could be potential diseconomies of scope in supervision by undertaking that type of expansion.

Now, I won't go through all the slides. I just want to emphasize, though, that many people have written on this. The life insurance market and property casualty markets as well have a great degree of market discipline. Customers often care about financial strength. They are risk sensitive; state guarantees are meaningful, but they're nowhere near as comprehensive, as explicit, or as implicit; promises to back companies at the Federal level that have taken place in banking. I think a potential weakening of market discipline should play a major role in determining whether or not we wasn't to draw a line that would rope in big life insurance companies for SIFI designation.

In conclusion, I'll just say and I'll summarize: I don't think there's compelling evidence that any life insurer poses a threat to the financial stability of the United States. If one or more such insurers did pose a threat to stability, there's considerable uncertainty concerning the best approach to regulation, and

Doug's going to talk about some of that later. If we did designate one or more life insurers as systemically important and subject to enhanced supervision the Fed, there are really significant potential, unintended consequences, and overall I think these considerations militate against designating any life insurers as SIFIs.

Pretty good, eh? Thanks.

MR. ELLIOTT: That was very good in terms of the timing. Thank you.

David? See if you can manage that as well.

MR. CUMMINS: Okay, I'm going to try.

Okay, so this is my systemic presentation. I'm timing myself here. So, 12:45.

Okay, I've been writing with various co-authors a number of papers on system risk. Here's a list. It's in my presentation. Send me an e-mail at *cummins@temple.edu*, and I'll send you any of the papers you'd like to see.

We start out with the definition of "systemic risk," and we say this is an event that will trigger a loss of economic value or confidence in a substantial segment of the financial system serious enough to have significant adverse effects on the real economy. So, it has to be substantial, it has to be contagious, and it has to affect real economic activity. So, the failure of MetLife is not likely to have such effect. So, we distinguish between being a cause or an instigator of systemic risk and being susceptible or being a victim of systemic risk. And we believe most insurance companies are victims and not instigators.

So, we identify which institutions are likely to be systemically risky

and how vulnerable they are by looking at primary indicators and contributing factors. So, the primary indicators are used to identify systemic markets and institutions, and the contributing factors measure vulnerability.

Okay, so one primary factor is size: How big are you? The second one is interconnectedness: How interconnected are you with other financial firms?

Lack of substitutability is also important and one of the reasons the banks are systemically risky. They do lots of things that no other institutions actually can do.

Okay, contributing factors. We have the usual suspects: leverage, liquidity risk, complexity, and government policy and regulation, which can have positive and also negative effects.

How big are insurers? Well, they look big. They have about 7 trillion in assets. This is about half as big as commercial banks. They hold only about 8 percent of total U.S. financial assets. They do not have a large share of any asset market. They do have, yeah, a reasonably large share of the corporate bond market, but because insurer insolvencies are resolved gradually, if an insurer gets into trouble, it's not going to dump its whole bond portfolio tomorrow; it's going to be played out over a period of years. So, the effects on the bond market would be minimal.

Insurers are not a very important source of GDP -- less than 3 percent. Therefore, as a sector they do not systemic risk due to their size alone.

How about interconnectedness? Well, they are basically really interconnected in a major way to reinsurance, but this is intra-sector risks. So, if the reinsurance system crashed, it would affect the insurance companies, but it's not going to cause an economy-wide collapse. We've seen reinsurance spirals, and they don't do that.

However, insurance non-core or banking activities can create interconnectedness and systemic risk. So, to the degree that insurers get involved in credit derivatives, asset lending, financial guarantees, reliance on short-term financing, and subsidiaries with high exposures relative to capital, we may have a potential for a systemic problem. But these are not their core insurance activities.

Life insurance. We had a look at substitutes. Most life insurance products are asset accumulation products. There are many, many substitutes for asset accumulation products. If life insurance disappeared, we would still have people investing their money. So, in that sense lack of substitution is not a problem in life insurance.

For property casualty insurance, large corporations have many substitutes for buying property casualty insurance. Small corporations and individuals do not, but the insurance industry is so big -- there are so many companies out there -- that there would have to be massive failures of the type we've never observed during any financial crisis, including the Great Depression and the more recent financial crisis. There would have to be massive failures in order for the supply of insurance to be disrupted in a major way. We've never

seen that happen.

So, is insurance critical to the functioning of the economy like banking is? Well, not really. It enables the economy to function more smoothly by enabling businesses and consumers to take more risk. However, it's difficult to argue that it's as important as banking, the payment system, or the settlement system.

Various insurance markets regularly experience availability crises, some of them quite severe, without significantly affecting real activity. Therefore, the unavailability of insurance is unlikely to create a systemic crisis.

So, I'll kind of skip over this.

Insurers in the U.S. Life insurers are highly levered. Property casualty insurers are not highly levered.

I'll skip over that.

Okay, complexity. Well, we saw AIG, which Scott says is a one-off, and I tend to agree with him, although there are other companies out there in the world that are doing similar things. Complexity is a problem. They're an example of that. Large multinationals are common in the insurance industry, headquartered in Europe, here, elsewhere.

Life insurance is more complex than property casualty. So, in conclusion, complexity is a problem, and to the extent insurers could cause systemic risk, this may be a source.

Why property casualty may not cause systemic risk. First of all, runs are not possible. You have to have a claim. It has to be settled in an

orderly manner. You can't demand your money back from the property casualty insurer. Insurance is not involved in liquidity creation.

Payment system or business or consumer lending. Insurers hold only a small proportion of total invested assets in the economy. Insurance claim payments are not a major financial asset for any economic sector. However, intra-sector reinsurance exposures could cause the so-called reinsurance spiral, but this would not be a true systemic event since it would not spread beyond the insurance industry.

Okay, while life insurance may -- and I emphasize the word "may" -- pose a systemic risk, life insurance investment products are susceptible to runs. So, you can demand your money back or stop contributing. Life insurers are thinly capitalized. Life insurers hold huge amounts of mortgage-backed securities and privately placed bonds relative to their net worth. The insurance guaranty fund system is probably not adequate to cover a MetLife-type failure. And life insurers owned by banks and vice versa could add to the fragility of the banking system.

On the other hand, why life insurance may not pose a systemic risk: The life insurance sector is not involved in the payment system, liquidity creation, credit creation. Life insurers own only a small proportion of stocks and bonds in the economy. Life insurance is a small proportion of household financial assets. There are many substitutes for life insurance policies. Life insurers are not major employers: Less than 2 percent of the non-farm labor force. Insurance companies don't like me to say this, but the disappearance of

the entire sector probably would be sustainable. (Laughter) And it's not likely to happen.

Okay, so systemic risk in insurance is more likely to arise from non-core activities. As AIG shows, the main systemic risk posed by the insurance industry comes when insurers get involved in banking activities rather than core insurance activities.

So, I'll skip over that.

Then I would like to talk a little bit about one of the papers we wrote. What we were doing here is we were trying to develop a robust, systemic risk measure for insurance and to investigate the interconnectedness between banking and insurance during the financial crisis. So, we used CDS quotes in the intra-day equity returns to estimate the systemic risk of the insurance in banking industries. So, we wanted to find out whether insurers are a source or a victim of systemic risk. I think if they're a source, they should be a SIFI; if they're just a victim, probably not.

Okay, so summing a very long and complicated paper into one sentence, what we found was banks create significant systemic risk for insurers but not the other way around. And for the technical people here, based on linear and nonlinear granger causality tests correcting for heteroskedasticity. So, banks have a big impact on insurers; insurers have a measurable but economically insignificant effect on banks. Therefore, insurers seem to be the victims of systemic risk rather than the instigators.

So, what does this imply? The regulators should focus on banks

to prevent or ameliorate system shocks. Regulators should focus on the non-core rather than insurance activities of large insurers, and they should focus on mitigating the effect of shocks from banks.

And then, finally, we need better group supervision. This goes to the AIG problem of having really fairly conservative regulation of insurance here in the states, and then AIG has this financial products operation that falls between the regulatory cracks and brings on or contributed to causing the financial crisis.

In addition, we need better international coordination, because there are many really big multinational insurance companies out there that are sort of sporadic regulated by local regulators all over the place. We need to coordinate that better.

Thank you.

MR. ELLIOTT: Thank you, David.

Next we have Martin Baily.

And, David, thank you for using one of my favorite technical words, “heteroskedasticity.”

MR. BAILY: Thank you. It’s a pleasure to be here. I don’t have any slides, so should I just close this down or -- that seems to work pretty well.

One of the things that I’m doing at the moment is working with a group at the Bipartisan Policy Center on taking a look at Dodd-Frank and what we think may be working and what’s not working. This group is not going to look specifically at the insurance sector, but I think one of the lessons we’ve learned

does have some application to the discussion today.

I think a key aspect of whether we need to designate institutions to be SIFIs or what we do once we've designated them is to understand what we would do with them if they get into trouble. And that's been the too-big-to-fail problem of course in the banks and other financial institutions, and we think there are actually the beginnings of a solution. I think the ideas come from what the FDIC and the Federal Reserve have done in terms of talking about the single-point-of-entry approach, which is that you ensure that there's a bank holding company over these large institutions and that the bank holding company has an adequate shield not only of equity but also of long-term subordinated debt. That means, then, that if the institution gets into trouble, then the trouble then the trouble is probably going to occur in one of the subsidiaries of the holding company.

You can actually lift off the bank holding company itself, and then you pass the subsidiaries to a bridge company, and that bridge company no longer has the obligation of the equity or the long-term debt. And, therefore, if you've created an adequate shield, that new organization is solvent. It may have faced liquidity issues, but it comes solvent and you can continue to let the subsidiaries operate.

We took a look at the insurance side, trying to think about whether we should include that in our purview, and I think shock -- and some of the other experts on this panel can correct me if I'm wrong -- we did not find any real understanding of how insurance companies are going to be resolved. So, you

can ask, well, how have they been resolved historically? And the answer is that the regulators, which are state regulators concentrated in New York, Connecticut, California, and a few others, will take over the insurance company and basically have it absorbed or break it up and have it absorbed into one of the other existing insurance companies. That's the way it's done. Now, that's not surprising. That's what's been the general approach of the FDIC to banks, which is to move them into another bank, and that was what was done extensively in the financial crisis, which created a lot of these too-big-to-fail banks that we're now so worried about.

So, I think part of the answer to how we need to treat large insurance companies is to have a better understanding of how they would be resolved if they get into trouble if they are really large enough to create problems. Can we do something similar to what's being proposed with other financial institutions and create a holding company structure with a debt equity shield, because a number of insurance companies are mutual insurance companies so they don't have, naturally, that same structure. That could keep the system -- in other words, the subsidiary is the insurance, the life insurance part or the property part -- operating, even if the overall institution has suffered losses, which are then felt by the equity and long-term debt holders

Okay, now let me turn specifically to insurance, and a lot of the things that obviously come to mind have been already said. Let me give a couple of comments on these.

I think as a practical matter, it's really a hard sell for the life

insurance companies to say they're not SIFIs because of what happened to AIG, so I think as a political matter or a practical matter, it's going to be a tough row to go down if you want to argue they are not. But we here, as we should, are looking at the sort of pros and cons that underlie that, not necessarily at what's going to happen for a political or whatever reason.

So, one question that was raised is: Do life insurance assets run? That came up in another context in a discussion of money market mutual funds. Money market mutual funds, as you know, became systemically risky, and the Treasury and the Federal Reserve had to guarantee the assets to prevent a run on money market mutual funds. Interestingly, though, it was not really the retail part of the money market mutual funds that ran; it was the wholesale really the corporate treasurers that really move money around very quickly trying to make sure they get every basis point on their corporate holdings. They move very quickly. The retail holders did not move that much. And I think that goes even more for life insurance. You are not going to see life insurance leaving very quickly. It's quite costly for people to move a life insurance policy. They're probably going to have another medical exam. There's a lot of inertia in that kind of retail market.

Now, there are some, obviously, policies held by businesses that might move that might be more sensitive. But on the whole, I think the life insurance policies are not subject to very short-term runs.

Now, having said that, they could certainly run over a period of a few years. If a company gets into trouble, its ratings go down and there's going

to be a lot of pressure on that company. But I don't think this is quite the same as the concern about runs on banks, which is of course addressed through deposit insurance. But, still, in the financial crisis it was really the repo holders or the short-term asset holders that ran from the banks that got into trouble. So, I don't think that's going to be the same in terms of the principal liability to the insurance company, which is the policies.

Now, having said that, someone pointed out to me that maybe the money market -- the retail end of the money market funds would have run if the Fed and the Treasury had not stepped in. So, it's not quite a good empirical test case to say, well, they didn't run. Yes, they didn't run, but they might have had steps not been taken along the way.

Okay, the next point I want to make is just on the general notion that life insurance is a very tough business to be in right now. So, I think one danger of the life insurance business -- and that's because interest rates are so low. So they are institutions that make money by investing. They are able to earn somewhat higher returns than their policyholders -- the whole life policyholders -- would earn individually, and there are certain tax advantages that go with life insurance also, and that's sort of been the basis of the business model of the life insurance industry. But with interest rates so low, it's a very difficult place to make money, and we don't know how long that's going to last, but certainly the monetary policy that has been used to sort of revive the economy after the great recession has been very tough on certain parts of the financial industry and life insurance in particular.

So, that does raise the question of whether this industry has been sort of reaching for yield. And my sense -- and I would say, by the way, truth in advertising, I am affiliated with a small life insurance and annuity company -- my sense of the industry, it does not by and large reach for yield. It is quite closely regulated by state regulators, and it's not, I think, something that they've done. But there may be some rogue companies that have done that. That may be at play. But I think that's not something that's been up until now.

The one thing, though, that seems to be happening in the industry to potentially pose as a risk is that because it is a tough business to be in, because insurance companies are facing increased regulation, increased by the state regulators who are responding to the conditions, and that they're facing increased capital requirements not only here in the United States but around the world, some of the traditional life insurance entities have actually decided to move out. So, you are seeing some out-migration of life insurance from Canada and from Europe.

So, what's happening when they sell out their life insurance holdings? They're selling them, I think -- or at least some of them are selling them -- to private equity companies, and what does a private equity company do? It looks for -- it doesn't necessarily want to -- no, it depends on the entity and the assets, that it may not want to be in that business in the long run. It may go into a runoff mode. Or what it also does is to do a lot of reinsurance, and the reinsurance often occurs through a subsidiary that may be based in the Bahamas or something like that, that is not subject to the same capital requirements that

the U.S.-based or European- or Canadian-based entity would be subject to. And the U.S. regulators -- New York or Connecticut or California -- seem to be willing, or at least have been willing, to let that happen, in other words, to let this reinsurance go to a much less capitalized entity when the firm is taken over, which they probably wouldn't have let the original insurance company do.

Why are they doing that? Well, because they don't know what else to do with the insurance company. So, I think that goes back to my question. We need to have a better mechanism in place whether it's at the federal level or whether it's through some coordination of states for what you do with these companies, whether it's a company that's getting into trouble or whether it's a company whose parent want to get out.

The final point I'll make is what does it mean to be designated a SIFI? And Doug is going to talk about this and other things in a minute. But I think there's a notion that if you're designated a SIFI, that means that you've got the Federal Reserve all over you, and I think that may in fact be the case but wouldn't necessarily have to be the case. In other words, I think it would be a big mistake if we now have a lot of parallel regulation. I mean, we already have a certain amount of parallel regulation, so the company that I know has got Connecticut regulators and it's got New York regulators. Okay, if we also have an examination and regulatory team coming from the Federal Reserve, I don't think that makes the thing safer. I think it creates a duplication and a potential burden on the regulation -- oh, on the company itself.

So, I think to the extent that we are going down the road of

designating these companies SIFIs rather than seeing the Federal Reserve hire, you know, hundreds of people, probably bringing them in from the state regulatory offices and making them regulators and having a separate team, I think that would be a mistake. What would need to happen, I think, is that the Fed would have to obviously have some greater familiarity with the industry and then working with the existing regulators so that they understand what's going on so they can avoid an AIG-kind of situation where the insurance company goes off and does this extraneous activity that gets it into trouble but does not start coming in with the green eyeshades and doing all over again what the state regulators have done.

So, I think that would be the road of saying, okay, yes, you're a SIFI and you don't really like being a SIFI, but the burden wouldn't necessarily be so great. Maybe it us a reason to think that we should have some kind federal regulation in insurance, but that's a separate issue in itself.

I will say that the one example that we've looked at in the work on other financial institutions about multiple regulation -- it can become pretty crazy so that we now have institutions that have examiners from the Federal Reserve that have examiners from the OCC, or supervisors I should say, from the OCC and then also have another set of people that are coming in from the Consumer Financial Protection Board. And I think all of those three entities that have a legitimate role to be there -- but the trouble is, having all three of them may be saying different things to the institution? Just it's creating a lot of chaos. And, unfortunately, the Consumer Financial Protection Board actually has not yet been

able to finish an examination. So, that creates even more concern. So, I think we need to avoid this multiple regulation or multiple supervision and create much more coordination among those people who are going to do this job.

Thank you.

MR. ELLIOTT: Thank you.

All right, if can have the panelists come up front now, we'll get everyone mic'ed up. We'll just sit in the order that we spoke.

I think Scott will be back here in a minute, so. And, Viral, just so you don't feel too lonely, by my count it's two and a half or three to one.

MR. ACHARYA: Yes.

MR. ELLIOTT: Guess who. I will say while I don't have a strong opinion about this, I do tend to think there's a reasonable argument per designated few life insurers and SIFIs, so you're not completely alone up here. But it is interesting. There's something of a divergence of opinion, just as you predicted there would be in terms of that.

Okay, guy, thank you very much.

So, let me start with you, Viral. There seems to be a feeling, from some of the presenters anyway, that the quantitative measures you're using don't take account of the characteristics of the life insurance industry that differ quite considerably from the banking industry. Could you talk a little bit about that?

MR. ACHARYA: Yeah. I think this is a good point, and I think most of the issues that (inaudible) with the quantitative measures I assured you are sort of probably relevant. I think liabilities will always be important when you

think about measuring someone's systemic risk. So, I would say sort of just to paraphrase my concern, and I think -- so let me say two things. One, I think what seems to me is that we should probably them as SIFIs. I think whether they are regulated in exactly the same way as banks I think is a slightly different question. I think it is the same question as saying that because the sector has not had any experience in the past, we shouldn't necessarily regulate them.

And I think I'd worry about leaving them out for two reasons. One reason is that inevitably when we have designated a set of entities for regulation but left scope for other entities to do some of their activities, the activities have migrated to that second class of institutions. So, I don't see any reason why we should anticipate that if we leave the insurance sector out altogether from the SIFIs' list, they are not going to alter the business model to pick up some of the activities that become too costly for the regulator entities to do. So, that worries me a little bit sort of, just the very efficient regulator arbitrage that happens in the financial sector, which is that risk just flows to that balance sheet which has the lowest capital requirement to undertake that risk on its balance sheet.

The second point I would make is that while it's true that the liabilities are stable, I just think of the scenario then the equity of an insurance company's going to zero. Suppose the market value of equity of a life insurance company is going to zero. Can they really say, we don't have a run? Can they really say, okay, it's just the market value of equity that zeroed; doesn't mean we are not insolvent. Why did Hartford and Lincoln go to town for funds if they were really in such great shape and the collapse of market value had absolutely no

bearing on any sort of effect on their business activity whatsoever?

So, I think this sort of worries me, this argument that we can sort of ignore collapses of market value altogether. And it doesn't matter how you got caught up in it, I think, because it's sort of like saying that if fire comes to me from the neighbor, for that particular fire I don't need to have a fire hydrant; but if it's fire that I create on my own, I think I need to have a fire hydrant. And I think it misses the point, which is that the reason why you have a fire hydrant or sprinklers is because regardless of where the fire comes from, if it hits you, you want to contain the damage. You don't want it to spill over to someone else.

And I do worry that with the extent of reliance on the bond market that's happening in the U.S. economy right now, and I think the important presence that the insurance sector has as a whole has there, that if their equity values were to collapse with a major market downturn, I think they're not going to provide as much intermediation. They are not going to have any intermediation capacity, because they all have the same investment model, even if they may look somewhat different from banks. And I think there is the potential risk that in the next time when the bond market crashes and the insurance firms actually lose market value, the victim will actually be the banks, because they're going to get massive drawdowns on lines of credit from corporations that have become excessively reliant on bond markets because of the low (inaudible) environment we are in. And the whole situation that we had in the fall of 2008 could entirely reverse itself and things could actually spread backward.

Now, this is a (inaudible) experiment. We have not had this sort of

contingent backward from the insurance firms not providing liquidity to the bond market, and therefore it could result in a run on bank lines of credit. But I see it entirely within the realm of possibility that this could happen, because when banks don't provide funding, funds go to the corporate bond markets, and I don't see why the reverse would not happen if there was actually a significant problem in the corporate bond markets.

So, I have just taken the two and a half minutes that I was hoping you would give me. (Laughter)

MR. ELLIOTT: Thank you for that, Viral. And by the way, I think that's a good summary for many of the reasons I'm sympathetic to the designation of the large life insurance.

So, let me give the remainder of the panelists --- we might as well go in order --- a chance to respond to that. And in general, to the concern that maybe the future for life insurers may be different from the past as you look at what the risks might be.

Scott?

MR. HARRINGTON: Well, I'll touch on risk migration. I think we need to keep in mind if you have certain types of risks migrating from one sector to another, that doesn't necessarily indicate any kind of mischievous regulatory arbitrage. If you have a banking sector that, for good or for ill, is largely backed by a government guarantee --- whether or not implicitly or explicitly --- it may actually be a good thing to raise capital requirements on those institutions, and it may be good to have some risks migrate off the balance sheets or off the off-

balance sheet vehicles of those institutions onto the balance sheets of institutions that are not protected by the Too Big To Fail safety net, that are not as exposed to systematic runs of any type, and that are characterized by a lot more market discipline, where you have a variety of players that really care about the risk that those institutions are bearing.

A quick comment on runs and to clarify what I said. We've had runs in the life insurance industry in modern times. My point is that they have been localized. When Executive Life got in trouble circa 1990, they lost a lot of business very quickly. Mutual Benefit lost a lot of business very quickly. But what happened was, there was a flight to quality, where depositors, policyholders with the institutions that had gotten into trouble because of high-yield bond investments and commercial real estate investments, to the extent they moved money, they moved it within the sector to institutions that were financially strong. That's indicative of an environment with market discipline.

Now, it doesn't get at Viral's issue that you could have this overall systemic, everybody gets hit at once issue, but it does suggest that there is a desire by creditors and policyholders to deal with safe institutions which makes it different to a great extent from banking.

My last sort of quick comment would just be, I can imagine all sorts of scenarios where the world could come to an end, and I can imagine all sorts of scenarios where the worst could happen and you would have big life insurance companies that would simultaneously be hurt with other companies and the entire economy would be in a mess. The issue is to start thinking about

how likely is that to occur and to weigh that against the consequences --- without regard to some highly-speculative low probability event --- to weight that against the real consequences of moving in a direction where we basically say, we now have identified a couple big insurance companies as special. How are they special? They're so special that they have to be regulated as systemically important financial institutions by the Federal Reserve. I don't think it takes any type of real thoughtful analysis to come up with the conclusion that over time, that being special can have adverse consequences for the performance of these markets.

Admittedly in the short-run, we're all gung-ho to have higher capital requirements, but it's not clear how effective that's going to be. It's not clear as we go over time and come out of these economic slumps whether the vigor for having tight capital requirements for systemically important institutions will remain. So, I worry a lot about that rare event 5 to 10 years down the road where we're in a world where we now have labelled a couple of institutions from an area that historically has had a lot of market discipline --- AIG, I'm putting it over there, obviously. I worry about creating an environment where we now have expanded the implicit Too Big To Fail government guarantee, ostensibly because of the remote possibility of systemic risk, but we have real consequences of undermining the safety and soundness of the financial sector.

MR. ELLIOTT: David?

MR. CUMMINS: Okay. Yeah, I would just like to re-emphasize that we need to make a major distinction between being the victim of systemic

risk and being the propagator of systemic risk. So, I could see a large life insurance company going down --- Met Life, for example. This would cause economic disruption, but it would unlikely --- be unlikely to spread to other sectors of the economy, or to affect really economic activity. It would be that Met Life was a victim of a systemic event, rather than causing a systemic event. I think we need to treat that very differently. The companies that are regulated as SIFIs should be those who could create systemic events, not just be victims of systemic events.

Because everybody throughout the economy, including me, was to some degree a victim of the financial crisis. Various insurance companies were victims. But what we need to go after with regulation are those who are causing it, and that means for the insurance industry we need to regulate those insurance companies who are engaging in non-insurance activities. So, they're actually engaging in what are traditionally considered to be banking activities which can give rise to systemic risk.

I don't know enough about Met Life to tell you whether they're doing that. I know that a lot of the studies that have been done, including Viral's and my own study, do show that Met Life is susceptible to systemic risk. So, they may be doing some things which might be able to cause systemic spillovers to other firms in the economy, and so maybe we should take a look at them with that in mind.

But we need to keep in mind, we're not just regulating you because you might get in trouble and fail. It's because you might cause other

firms to get in trouble and fail. And then I would turn to address that point by saying, how important are life insurers in the bond market? Well, they may be hold --- I'm going to get the numbers slightly wrong here. It's in the low-teens of the --- my co-author says 16 percent of the corporate bond market. But remember how insurance companies work.

If Met Life got into trouble, they would not dump their entire bond portfolio on, you know, tomorrow. It would take --- if they had to dump bonds it would take place over a long period of time, and if the whole sector holds 16 percent --- I don't know, maybe Met has 2 percent? So this is not going to cause problems in the bond market. It's just not going to be a layman branch type of situation where their overnight funding disappears and they just crash. That just isn't the way insurance works. Insurance works very --- sort of a long-term that takes a long time to unwind insurance positions, so you are just not going to see Met Life dumping all of their bonds, you know, over a2-month period or even a 10-year period.

So, I just don't believe that as long as they stick to their core insurance activities, that they are propagators of systemic risk. Victims, yes, but I do think it's worth taking a look at Met and saying, are you doing banking activities? If so, maybe you're a SIFI.

MR. ELLIOTT: Martin, any last comments?

MR. BAILY: Well, I'm Harry Truman's on the one hand, on the other hand economist, which is why I guess you put me in the half category.

I think Scott identifies one of the big downsides for the SIFI

designation, and it's true whether it's a bank or an insurance company, but it's clearly a cost of having that designation, which is that you then or the market then decides, okay, that means the government is going to guarantee that institution and it cannot fail.

That's why I emphasized in my remarks the need to have a viable and believable resolution strategy so that if you are going to designate --- this is sort of on the one hand. If you are going to designate large insurance companies as being SIFIs, there has to be a well-established procedure that would be followed if one of those institutions got into trouble, which put the costs on the equity and long-term debt holders and not on taxpayers, so that you get away from the capital funding advantage that you would otherwise have as being a SIFI.

The other cost, I think, of being designated a SIFI is if you then get this --- and Scott also mentioned that, as I did --- is that you then get too much regulation. And let me be clear. I think we had a regulatory failure in this crisis and we needed to improve both the quality of regulation and maybe extend the boundaries of regulation, and particularly the boundaries of the institutions that we had information about.

I mean, one of the things that was a problem in the financial crisis was, I think, the folks at the Treasury and the Fed really didn't know what was going on at AIG, and that's one reason they had to step in and rescue them. They felt they were flying blind, so some degree of information sharing so that at least at the level of the treasury and the Fed, they know what's going on in the

large and maybe even some of the --- many of the smaller institutions. That's important.

But creating a duplicative regulatory structure that doesn't really add to total safety, I think that's a significant cost and would not be something that I would want to support. I think it'd be helpful to have some level of overall supervision at the federal level to make sure the state regulators are not sanctioning behavior that might get the system into trouble.

MR. ELLIOTT: Okay, thank you all. So now we'll turn to questions from the audience. So let me just put a few ground rules. First of all, please identify yourself by name and institutional affiliation, and please wait for the microphone, and please have a statement that ends in a question mark and can reasonably be answered as a question.

Thank you very much. And I also want to mention that Mary Weiss, who is one of the co-authors to David Cummins, is here as well. And if there's anything you want to say, Mary, you're welcome to. Otherwise I will move on to other questioners.

MS. WEISS: I hate being last because everything has been said.

MR. ELLIOTT: Okay, fair enough. So you agree with all the things that were right and disagree with all the things that are wrong? (Laughter)

MS. WEISS: I would emphasize the causation issue and, again, insurers just don't hold as many financial assets and they would not go for the actual assets if there's insolvency. It just doesn't work like that.

MR. ELLIOTT: Okay, fair enough. So, sorry, there's a question

here.

MS. KRAMER: Hi. My name is Grace Kramer, and I'm with the Pension Benefit Guarantee Corporation, which is a government corporation that insures pensions.

MR. BAILY: Can you speak up a bit?

MS. KRAMER: Sure. My question is, you alluded to the fact that although for the most part this panel does not support the idea of insurance companies being regulated as SIFIs, but there --- Met Life has been mentioned a couple times as a potential problem. Could you distinguish Met Life's potential issues from those of other large insurers? Thank you.

MR. CUMMINS: I think it's a fair question. In doing so, though, please let's be very clear about what we actually know and what we don't. I'm always very leery about picking out any one firm in terms of that.

MR. HARRINGTON: I'll just say, Met came up because --- for example, because it's on the rankings that assess risk measures. Pru is on the rankings, there are other companies that are relatively high. In my case, if I mentioned Met it was an example of a handful of very large companies. And of course, all the discussion about potential SIFIs on the life side has tended to focus on Met and Pru. They're big, they're the two biggest life entities.

MS. KRAMER: And, David, can you just tell me the types of investments? I mean, what activities do they engage in that potentially could raise issues?

MR. ELLIOTT: Maybe we ought to make it slightly more general.

As you look at large life insurers that might conceivably be SIFIs, what are the traditional types of activities or investment categories that would worry you?

MR. CUMMINS: Well, I think some of the things that we have observed is that some of the major life insurers have very large holdings of mortgage-backed securities and privately-placed bonds. And of course, privately-placed bonds are highly illiquid and, in many cases, if you take the ratio of their mortgage-backed and privately-placed bond holdings to their equity capital, for some companies --- and I'm not saying Met, because I don't have them in mind right now --- those ratios can be astronomical. They can be many times their equity capital.

So if they were to get into a mortgage-backed security crisis or a liquidity crisis where privately-placed bonds had to be sold, they could get in some significant --- some of them could, not all of them. There are some who could get into significant trouble there.

In addition ---

MR. BAILY: The proportion of the asset base is pretty small, though, isn't it?

MR. CUMMINS: No, those can be significant holdings of mortgage backs and private placements for some of these firms, right.

MR. ACHARAYA: Yeah, I just had two quick things. One, they're a merit bank and, you know, it was one of the largest dealers with Fannie May and Freddie Mac. If you looked at the lead, there was Fannie May and Freddie Mac. And I think they got rid of the bank only because they were worried about

the SIFI designation.

These are the kinds of things that worry me, which is if they really didn't want to be a bank, why did they do Met Bank? Why does a life insurer get into the banking business? I think that that must be something that they are reaching out for, to see some sort of cherry picking of some parts of the business.

The second thing ---

MR. CUMMINS: If I could just step in, I will say --- because I know Met's thinking on this. They felt there actually was and is a very good business reason to be in banking. They felt, however, that as one of the 17 entities subject to the stress test, that what the Fed did in the stress test was totally inappropriate to insurers and caused them damage. That's why they sold it, so they would no longer be under the stress test. But, please.

MR. ACHARYA: Yeah, but there is this sort of --- I don't fundamentally buy the premise that because life insurance has been doing X for the last several years, they will continue to do X in the future. I think that is just not how anyone running a financial firm thinks about.

AIG was a very traditional insurance business 10 years back, even though we always say now we are to leave AIG on the side. The reason AIG was born was because the U.S. investment banks were given a go-ahead with their internal risk models on holdings of triple-amount gauge-backed securities on how to capitalize them. The European insurers were not --- the European banks were not yet ahead with the internal assessments of risk. So

what did the European regulators do? They said, you go and purchase credit default protection from a highly-rated insurer, and if you do that you are off the capital requirements. And this is how AIG blew up into the giant it was. I'm not saying there was nothing in AIG's own business model that made this happen, but it was to start with a very specific “regulatory arbitrage”.

To start with, everyone must have said that these capital requirements are too high. Maybe it makes sense for a more stable liability-based insurer to actually take on this risk. They are rated very high. But you know, it did blow up into a much more significant problem.

But I think I would stress one thing that Martin has raised, which I think is a very good point. Which is that one could potentially ask the question of designating some of these as SIFIs, but limiting their regulation to the point of saying, do we have a good handle on resolution? Let's not worry about, maybe, the capital requirements, et cetera, to start with. Maybe there were separate regulators, a straight --- the solvency too, et cetera, might be taking care of that. But let's ask ourselves the question whether the state guarantees funds. Are they really going to be adequate for the failure of one of these large entities? I think the answer is a resounding “No” as of now.

And then I think begs the question of, what will happen? Will they try to spin off their entire non-core entities as separate entities in the market? Is that how the resolution is going to take place? If yes, that doesn't look too different from how a large bank holding company tries to sort of manage its risks when they get into trouble.

MR. ELLIOTT: Okay, this has been a great discussion, but let's see if we can get another question out here. Sorry, sir. Midway down.

MR. WAYBLE: Yes, hello. My name is Barrod Wayble, I'm with the Congressional Research Service.

MR. BAILY: Can you speak up?

MR. WAYBLE: Yes. Barrod Wayble with the Congressional Research Service. Mainly directed at Mr. Harrington. When you had your AIG discussion, you mentioned the OTS oversight, which of course is gone at this point. And if you're not designating such large-ish companies SIFIs and they're not banks, i.e. not underneath the Fed, where do you see the sort of holding company oversight coming for these entities?

MR. HARRINGTON: That's a question that I don't have a very precise answer for, but I will say that traditionally state regulations tried to wall off the assets of the underlying subsidiaries. And the changes that are taking place in state regulation are designed to enhance and improve that process of trying to make sure that --- a little bit like what Martin was talking about. That the assets and the underlying insurance subsidiaries are big enough to cover the liabilities, even if the overall entity gets into some distress.

And there's a lot of action at the National Association of Insurance Commissioners and with the state regulators, developing information methods to make sure that there are many regulators that are being fully informed about the activities at the holding company level with some ability to take actions and influence the underlying subsidiaries if the risk at the holding company level is

deemed to be threatening in any way.

We're also working towards --- and it's not resolved yet --- some sort of mechanism where there can be groups of provision, perhaps in conjunction with international developments where there'll be supervisory colleges or some sort of collective mechanism that will oversee these entities.

I think you're right, the short answer would be, oh, you can handle that if you appoint a new federal regulator. But there are actions that are being taken to try to improve the situation without going all the way in that direction.

MR. ELLIOTT: Okay, I think there's a question all the way in the back?

MR. ROLAND: Neil Roland with *MLex News*. You have been talking about non-bank SIFIs and life insurance. What about non-insurers, potentially? Such as GE Financial or Black Rock or Sallie Mae? What analytical framework would you apply to them? Or would that have to be on a case-by-case basis?

MR. ELLIOTT: Okay, I think that's a very good question. It was really more just in the interest of time that we've focused on the life insurers. I think many of the comments that have been made intellectually as to how you'd think about it would still apply. Does anyone want to?

MR. ACHARYA: Yeah, no. So I think one limitation of using a quantitative approach is of course that you have to start treating everyone as the same. But that's also its advantage at one level, which is at least within a set of principles you can actually analyze all of them all at once.

Now, a point about asset managers would be that many of them simply have basically no leverage. They are sort of really just, you know, investors sort of all these assets. There may be a little bit of redemption risk that they may have if there's, like, a huge wave of redemptions in a short period of time on them, but I think these are interesting questions. There are a lot of questions being asked about what kind of assets they're holding. I think the way you asked about the insurance sector.

One thing I discovered recently which was very interesting is that there's a lot of structured finance taking place right now in the corporate bond space. A lot of CLO tranches are being created --- the whole thing about getting to the AAA rating and the super senior tranches Most of the super senior tranches are being held by firms in the insurance sector and asset managers and so on, and the way I think about these kinds of assets is that they are basically taking levered bets on a big downturn to the economy as a whole. Because what's a AAA rated tranche? It's going to get hit by a shock, only if you have a huge collapse in the economy. That's the time a AAA tranche is going to get hit.

Why is it leveraged? Because it basically has pretty much no capital requirement for most parts of the financial sector when you take it on. It gives you a nice carry along the way, because generally you go for AAA or AA super senor tranches because they are getting you more yield than sort of just government bonds. That's the reason why these kinds of asset managers and investors want these assets. But the risk is sort of all collective risk. It's sort of an aggregate risk, because this tranche can only be hit if a wave of corporation

downgrades happen all at once.

So, there are these issues about changing asset mix, et cetera, that one would like to get a handle on. I just don't know if we have richness of data to really understand these embedded leverage in the kind of structured finance that some of these asset managers and investors are in. But I think your question is a great one, we just don't know enough.

MR. ELLIOTT: And you know, Fed governor Jeremy Stein has pointed, for example, to exchange-traded funds, and he among others. It's something where there's a concern because the buyers who exchange traded funds seem to feel that they have liquidity on an hourly basis, whereas the underlying assets, of course, could never provide that level of liquidity in a crisis, and you might hit a situation where there's a divergence between the perceived liquidity and the actual liquidity.

So, there certainly are quite a number of ways in which systemic risk exists outside of banks and outside of life insurers, but I guess we'll have to do a follow-on event at some point. Not now, however.

So, before I let the panel go, let me stress there's been considerable written work by all of them, including some very good full-slide presentations of which you've seen excerpts. We'll have the slide presentations available on our website, and so, let's thank everyone and then I'll move on to my paper.

Thank you all. You did a great job. (Applause)

(Pause)

MR. ELLIOTT: All right. Well, good morning again, and thank you all for remaining. The excellent panel you just heard focused on the question of designation of non-bank SIFIs. What I'll be focusing on is the question of, once you've designated them, what do you do after that?

And in an ideal world, we'd actually know more about that answer before we decided who to designate, but it's --- the authorities have a huge set of challenges all simultaneously. They've chosen to go at it in this direction.

So, in the next 20 minutes I'm going to focus on these questions. What are the regulatory powers that the Fed and sometimes the broader FSOC would have over non-bank SIFIs --- so, what is the toolbox available to them? I, then, am going to propose a set of principles for how to think about regulating non-bank SIFIs. The rest of the presentation will then be an attempt to try to apply those principles to the life insurance area, partly because it's such an important area and partly because it's analytically very interesting, since there are so many differences between life insurance and banking, and most of the thought on systemic risk has been coming out of the banking side.

So, I'll start by looking at a comparison between the life industry and the banking industry, as background. I'll go through a set of key regulatory issues, and I'll give some particular emphasis to the very important question of how you set the capital requirements for these financial institutions, and then I'll go through conclusions.

And let me just say, again, for those who are interested, my paper is being released today and copies are available outside. Take them home for

your friends. I'm sure everyone wants to see this.

All right. So, what is the regulatory tool box here? The most basic is information requirements. And I think there's the strongest case for wanting that. We figured out in the financial crisis that a lot was going on throughout the system where we just didn't have good information. We didn't know what was happening or we didn't know it well enough. And so, certainly part of this SIFI designation is to give the authorities the ability to get whatever information that they feel they need.

Now, that sort of segues into another layer, which is supervisory dialogue. Now there's a whole range here. Supervisory dialogue could be as simple as the supervisors show up once a year, they look at the canned information they've been provided, they ask a few questions, and they move on. But given the existence of the other tools I'm going to describe, which have discretionary elements.

The supervisory dialogue can go all the way to the other end of the spectrum, where in a crisis the dialogue may be much more of a monologue. It may be the regulators saying there are three things we could do to make it all safer. You're not going to like any of those. Here's what you would need to do to persuade us not to do those things. Do you have any questions? And of course, it could be anywhere in between, depending on the extent to which the Fed is focusing on this, the resources they put, and the degree of concern they might have.

Capital requirements are very important. I'll come to a separate

slide on that in a moment. There's also liquidity requirements. Another clear lesson from the financial crisis was that because liquidity had been so readily available in the markets for a couple decades prior to this, there wasn't sufficient attention paid by the financial institutions or their regulators to what would happen if times got tough. Could they come up with the cash to meet the needs that might happen, especially considering there may be some level of run?

So, certainly banks experience this, investment banks experience this, where the people who provided the short-term funding got scared and pulled their money out or wouldn't roll it over. So, there will clearly be liquidity requirements on at least an informal basis for the non-bank SIFIs.

Another area where there might be actions is on counter-party exposure limits. Which is to say --- and this is in there on Dodd-Frank for the banks, but a similar concept could be applied to the non-bank SIFIs. The idea is, if you have a lot of exposure to a small number of other institutions, that adds to the fears of contagion. If you use the card deck analogy, that means if that card falls over, maybe it will knock you over, too, and the thing just goes. Or dominoes, if you prefer dominoes.

So, there may well be counter-party exposure limits, as part of this. And there could be activity limits. It could be that the Fed or the FSOC would look at what's being done by the non-bank SIFIs and say certain activities that you're doing are just too risky. And Dodd-Frank provides the authority if an activity is seen as bringing excessive systemic risk, there is a great deal of power, including the regulators can go so far as to demand cessation or

divestiture of those activities. Or, they could, of course, require them to be re-formatted or to be cut back in scale. The Volcker rule, of course, also provides activity limits as regards proprietary trading. So, that's another example.

And then, while I won't go through them in the interest of time, banks have a great deal of ways in which regulators interact with them and require them to do certain things. It's theoretically possibly many of those same things could be applied to at least some of the non-bank SIFIs as well.

All right. So as you can see, that's a fairly powerful arsenal of tools. So, how should they be used? And let me start with one that's dear to my heart and on which I've spent a lot of my research time, which is --- and this would be true for all regulation and certainly all financial regulation --- it's very important to balance the costs and the benefits. It would be possible, for example, to make extremely safe cars that couldn't go more than 10 miles an hour. I think we all understand that wouldn't be the right answer. You're looking for a balance here, and non-bank SIFIs and banks even, probably, more so play an economic role where if you make them excessively safe by encumbering them with regulations which only prevent extreme cases that are quite unlikely, especially if you do it in an inefficient way, it's going to be bad for the economy. So, you try to strike the balance here.

Almost no one would argue with that general principle. The next proposal I have, there will be some who would argue. And this is, I believe that the Fed in this context ought to focus primarily on systemic risk.

Now, if you haven't focused on this, this may sound obvious.

You're talking about systemically important financial institutions. If you're regulating them for that, why wouldn't you focus on systemic risk? But there is a counter-argument. The counter-argument would be that if you've named someone as a SIFI, you may have done it because you think if they fall over they will knock a lot of other dominoes over. And so, even if the reason they fall over is idiosyncratic and not systemic, they could have systemic ramifications.

And look, there are arguments for that, but I tend to believe that you want a division of responsibility here. And the things that are more idiosyncratic, like making sure the accounting is right, for example, or that the operations are done sensibly. Things that may be a problem of one institution but shouldn't be widespread are better left with the primary regulators, as long as there are primary regulators for these non-bank SIFIs, as there certainly are for insurers.

Which rolls into my third point here, which is my own belief is that whenever appropriate, the benefit of the doubt ought to be that you defer to the primary regulators. However, that said the Fed has a different set of responsibilities. The Fed in regard to the SIFIs is supposed to look at systemic risk. Primary regulators often don't have that as part of their responsibility. So, the Fed has a unique set of information, and a different set of responsibilities. So, it shouldn't just automatically say if the primary regulators are fine, we're fine. But, in most cases and most aspects, deferring to the primary regulators will make sense.

Another caution I would say is that it's important that the Fed not

use excessively bank-like regulation, a point that some of the others on the panel have mentioned. Look, this is fairly simple. If you're walking around with a hammer, they say everything looks like a nail. The Fed has a hammer. It's bank regulation. They've been doing it for decades, they have coordinated internationally with others who do it. The part of the Fed that deals with this lives and breathes banking regulation. So, it's important to make sure that they don't unconsciously apply those principles in ways that are inappropriate to the actual industry they're looking at.

Now, there are two reasons why I'd be concerned about that. The first is simply, it might be, for example, that you can't effectively perform the social role that we want the insurers to fill if you try to make them be like banks. And if you apply the same regulation, you're going to push them towards being like banks. So, you want to watch out to avoid that.

But then, there's also the next point I've got here. You want to avoid the dangers of what people have been calling a “business monoculture”. The analogy is with, say, parts of the Midwest where the only plant you see is wheat. If you get something, a bug that attacks wheat, you've got a really serious problem. Whereas if in this analogy you have different business models and different parts of the financial sector, if one of those business models blows up, you're protected to some extent by the existence of the others.

One reason that we in the U.S. had a somewhat less-severe financial crisis than, say, Europe --- and this may sound funny to say, bad as it was for us, but we weren't hit as badly. One reason is, we had financial markets

in addition to the lending that was providing through the banks. So, that's one example of having diversity.

It's also important that the regulation be done in a way that doesn't eliminate useful innovation that might occur. You'd also want to try to minimize uncertainty about the regulation because uncertainty holds down economic activity.

Now, there's going to be uncertainty here. You're talking about regulators who have never regulated in this sector. They're going to have to figure things out. The regulateds are going to start learning how these guys are operating. There will be uncertainty, but whatever can be done to minimize it would be good.

Now having said all that, you might come away thinking I'm saying, for God's sake, don't regulate. You know? Because how are you going to meet all these principles I just put up here? I'm not saying that. The Fed has an important responsibility here and the FSOC does. There will be times when it's appropriate to step in, just --- I want to think carefully about when those are and when those aren't and exactly how they do it.

So, taking the example of life insurers, we need to start by thinking about what the differences are in the industries and what are the similarities. Again, with the banking industry it's kind of the base mode that we're thinking about when we think about systemic risk.

Well, insurance traditionally is a pooling of risk. It's getting a bunch of homeowners together so that they share the risk of the fires that occur

so it's not an excessive burden on any one homeowner. Banks, on the other hand, have at least two primary economic roles that are quite different. One of them is to allocate funds to worthy projects in the economy. The other is to provide liquidity to depositors and, to some extent, to borrowers. These roles are important, but quite different from pooling of risk.

But, there are also ways in which life insurers have real similarities with banks. There are many ways in which they operate as financial intermediaries. Most obvious ones are things like the annuity business. It's true that if you hold an annuity until you retire and then turn it into a life annuity where it pays you every year as long as you live, that last part provides you with mortality insurance. But most people aren't owning annuities for that reason. They turn them in before they get to that point. They're using them for savings vehicles, analogous in some ways to certificates of deposit that banks offer. Parts of the traditional life business actually have significant savings and investment elements as well. And the big insurers that might be SIFIs also do considerable asset management where they're not so much taking risk directly but they are acting as managers like mutual funds do --- mutual fund managers or like banks do, to some extent.

But let me hone in on two big differences. One we've already talked about a lot. The maturity of life insurance obligations tend to be a lot longer than the maturity of deposits, which tend to be very short, and the maturity of bank debt, which is also mostly short. So, you've got quite a disparity there.

That changes how you think about liquidity, but it also changes ---

it creates a push in the opposite direction. In the banking world, we tend to want them to own shorter-term assets so they can convert it to cash readily if there's the beginning of a run of some kind. But with a life insurer, you want them to also own long-term assets. If they're going to make a promise that's, say, a 20-year promise to --- just for illustration, they promised to provide a 5 percent return for 20 years and maybe initially they can invest and earn 7 percent a year, so they have something to handle expenses and profitability. If they were to invest in 1-year assets, at the end of the year it might turn out that interest rates are down to 3 percent. And now, they're losing money and maybe they lose money the next 19 years. Conservative management of life insurers requires owning a lot of long-term assets. So, we wouldn't want a set of rules that stop that from happening.

Also, many insurance promises are variable cost. We don't actually know what they'll cost. So, think about life insurance. We don't know how long people will live. The cost to the insurer varies depending on the mortality. Health insurance has the same issue. Annuities that are life annuities have the same issue as life insurance in reverse. If people live too long, you lose money. And certainly if you look at property casually, claims are very uncertain there. Bank liabilities, by contrast --- you basically know how much it is. You know what the deposit is, you know what the principal amount of the debt is.

So what this means is, we have a set of key regulatory issues, and I'm not actually going to be able to answer any of these, but it's easier to make questions than answers, so I'll stick with questions.

What are the sources of systemic risk? And the panel's talked a lot about that, so I won't even talk about that further. The right capital requirements I'll come to in a minute.

Liquidity requirements. It touches on the issues I was just raising. On the one hand, you want them to have enough cash to deal with short-term problems that might occur, but you mostly want them to be appropriately invested long-term so that they don't hit a systemic problem later that would create issues. And so, this ties into the maturity structure of the insurance liabilities.

There's a question I realize now I don't have time to go into now, but it's in the paper. There are two sets of accounting standards; GAAP accounting and insurance regulators using a generally more conservative set of principles called statutory accounting. And there's the issues I've touched on already about the coordination of state insurance regulators.

Capital requirements. Capital is an extremely complex topic when you really get into it, but in simple form what it means is you want the common shareholders to have put up enough money, including the retained earnings that they've built up that they're entitled to, that if there are losses they bear those losses and, therefore, protect everyone else; policyholders, the taxpayer, et cetera.

The Fed is very familiar with capital requirements. They've applied them to banks for years and they coordinate through the Basel committee on banking supervision to try to have some worldwide consistency. Insurers have a different set of capital requirements that are coordinated through

the National Association of Insurance Commissioners. There are some big differences between the two, in particular bank capital requirements focus almost solely on assets. Because when a bank goes under, it's almost always because it screwed up on the asset side.

Insurers, though, are at risk on their liability side. They could get the costs wrong, and also they have more of an issue of balancing what they earn on their assets versus what they've promised over the long-run, since their liabilities are so long-term.

So, the NAIC has a whole set of capital requirements in addition to the asset part. So, the presumption is the Fed will try to find a balance. They're probably going to try to have the asset part look a lot like what they already do that's consistent with what will be Basel III, but they'll probably either pick up what the NAIC has for the other parts of insurance risk or they'll at least try to have something broadly consistent with that.

I do want to say, a key question is going to be, how does the difference in maturity structure, the different liquidity change how much capital you want? And Fed governor Dan Truillo, just in the last few days, has been suggesting that --- he was talking about banks here, but he was suggesting that if you have more liquidity, if your liquidity situation is better, you might not need as much capital, and vice-versa. That suggests that as they look at insurance for non-bank SIFIs, they might give some significant credit to the insurers for having a less-risky maturity structure.

So, going quickly through the conclusions of the paper. The most

basic is probably, I believe it's critical that the Fed regulate the insurers, taking account of the difference between insurance and banks, and not just treat them as funny looking banks. And this would be true for other non-bank SIFIs as well.

That said, though, some types of non-bank SIFIs, like finance companies, really are very much like banks. And so, you'd expect pretty similar regulation. Life insurers, though, are at the other end of the spectrum, so I hope there will be considerable difference.

I think coordination with primary regulators is important, as I know I've stressed. And again, I would like to end by saying, balancing the costs and the benefits are very important. Even if you can't quantify them, at least it needs to be done at a common-sense level.

So, let me take one or two questions, and then I will let you all go. And again, same as before. Please identify yourself. Nicolas Veron, I'll identify you for you.

MR. VERON: Thank you. Nicolas Veron at the Peterson Institute for International Economics here and in Brussels.

One thing --- I'm sorry, because I arrived late in this event. But one thing that I haven't heard about in the part that I attended is comments about the Solvency II legislation in Europe. And this has been an European initiative, but obviously with some global implications, including in the United States. So could you tell us more on your assessment on Solvency II? Again, the criteria that you are applying to the U.S. debate. Thank you.

MR. ELLIOTT: Okay. Nicolas, I thought you were a friend. How

could you ask me a tough question? (Laughter)

What Nicolas is talking about is Solvency II, which is a set of proposals in Europe that would be applied to insurers within the European Union. And it has many of the characteristics and is modeled, to some extent, on the Basel requirements for bank capital, as well as liquidity issues that are coming up.

It's a hugely complex topic, but let me just say, my concern with Solvency II, from what I understand of it, is it may be too closely based on the Basel rules which are, of course, designed originally for banks. And I do worry, for example --- again, my understanding of it is there would be a lot of pressure not to have such long-term assets and not to invest so much in things like infrastructure projects or other long-term things.

I worry that it may be an inappropriate set of restrictions for an industry that has very long-term liabilities, and might have an unfortunate knock-on effect in the larger economy. And we could see the same thing here if the Fed takes too much of that approach, where it becomes hard for the insurers to own longer-term assets. At a time when we in this country need people to stet up and own long-term assets that can help support long-term projects --- infrastructure is one obvious example, but not just that.

Other questions? Sorry, up here in the front?

MR. CODY: Blaze Cody with *Washington Analysis.* We're a policy research provider for institutional investors.

You mentioned that the FSOC has power to regulate systemically

risky activities, and we heard from the panel the problems associated with regulating --- picking and choosing only a certain handful of systemically risky firms. So, why can't the Fed choose to regulate only a certain systemically risky activities that are across all ensurers or all firms?

MR. ELLIOTT: NO, it's a good question, and certainly there are many in the insurance industry who are arguing exactly on those lines. They're basically saying what we mostly do shouldn't be scaring you, so you must be telling us there's some things we do that are scary. Let's try to focus on those. And I think in those terms it makes some considerable sense.

The counter-argument is, if you just focus on those things but if it is the case that some of these institutions are so large or important in other ways, that if they fail for whatever reason they'll have ramifications for the economy, then just looking at those activities may not be enough. Because it is possible to fail based on even those traditional less-scary activities.

So, it's separating the two out is difficult. But this goes back to what Viral was talking about. Are you taking an approach where you're thinking about a single institution and the domino effect of it? Or, are you trying to look at wider systemic issues? In which case, maybe the activity approach would be more useful.

Other questions? Yes, there.

MR. IMPAVIDO: Hi, Gregorio. I am --- it's not really a question, it's a follow up to what Nicolas was saying and what you rightly said. I think that the Solvency II --- I have a paper exactly on the consequences of Solvency II.

And one of the things that you --- I wanted to add to what you say is that it could increase interconnectedness with the banking sector and the sovereign, because of --- for the credit risk charges that will be applied to the asset side.

So, more covered bonds from the banking sector and, therefore, fewer assets in place of liquidations of the banking --- of banks to pay for depositors, and more government debt on the balance sheet of the insurers, which of course could increase systemic risk. So, that's another couple of points.

But, thank you.

MR. ELLIOTT: Okay, thank you. In general, I want you to ask questions but if you're going to agree with me, I might make an exception. (Laughter)

A question back there.

MR. HILL: Jack Reed Hill. I work at the FDIC. Is there any reason that life insurers are so big in size? I know why banks like to be big, why do life insurers like to be big?

MR. ELLIOTT: You know, it's a great question. And frankly, no one has ever asked me that before.

I don't know. In terms of the panelists. Some of you have dived into insurance even more than I have. Is there an obvious answer? I mean, I do think there are economies of scale and scope. They're are unquestionably there. Question would be, at what scale do they stop existing? But, David, do you want to?

MR. CUMMINS: I think in part because there's this global market

in insurance and they're competing with these huge insurance-based conglomerates mostly in Europe, and they need to be big in order to compete effectively with the Alliances and the Axis' of the world. That would be my answer, to really be a global player.

MR. ELLIOTT: Yeah, and I think it's not a bad answer, but it still does beg the question of, what size do you need to be in order to be able to effectively compete? It's at least theoretically possible that the economies of scale top out much below that.

MR. CUMMINS: Right. In fact, I've done with my co-author a number of studies where we show the economies of scale top out at a very small scale. So it's not economies of scale in the traditional sense. So, it may be economies of scope in operating internationally that's driving it.

MR. ELLIOTT: Okay. It's interesting. It's a good question, and I feel stupid for not having a top-of-the-head answer to it, but it is an interesting point.

Other questions? Yeah, the woman there.

MS. KODAS: Hi, Carolyn Kodas with SARI. We touched a lot about coordination between primary regulators and we kind of kept it to the U.S., so the way we'd coordinate between the Fed and state regulators. I wanted to see if you had any thoughts about this summer the FSB will finally come out with their G-SIFI list, so what you think the relationship will be between the FSOC's list and the FSB's list and how they plan on coordinating?

MR. ELLIOTT: First, my guess would be that the overlap will be

essentially coincidental in the sense that --- it's not quite coincidental. They're looking at similar types of concepts as to what creates systemic risk. My guess is, the Fed is probably --- and the FSOC is probably not going to be all that much influenced by what's being done internationally and which ones to name here.

And I will say, going back to a point Martin was making about the politics of it. I frankly think there's a serious possibility that if AIG hadn't blown up there wouldn't be any designation of life insurer SIFIs, even though I think it probably makes sense that some be designated. I don't think the political will would have been there, except that AIG having blown up means that they have to name at least AIG, and that brings in others.

In terms of international coordination. You know, I don't think anybody knows yet how it's going to work. I mean, it's a terrific question, it's just everyone still is figuring this out. And even in terms in the U.S., it's pretty clear to me that the Fed has been so busy with other things, including the designation question, there haven't been a lot of resources they could place on the question that I was trying to address, which is how should they regulate? They've given some thought to it, but they're nowhere near answers.

And I think they're going to first think in the near U.S. terms and then they'll start to think about internationally. So, ask me again in a year or two. I might be able to answer the question.

So, unless there's a burning question, I think I should probably let you go, because we've run out of time. Thank you all very much. (Applause)

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