Transcript

Panel Discussion[1]
"Revisiting the 2008 Financial Crisis: The Causes, the Panic, the Recession and the Lessons."

John B. Taylor, George P. Shultz, Niall Ferguson, Caroline M. Hoxby, Darrell Duffie, John H. Cochrane
including questions from the audience

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John Taylor: Welcome to this session on the 2008 financial crisis, ten years after the fact, which we've been discussing quite a bit here over the last few weeks, as everybody else in the country has been doing. We thought this would be a great opportunity to tell you a little bit about our conclusions and to get your feedback and questions and comments and criticisms. We're going to go for about an hour here, on the stage, and then break up and go next door to have pizza and just talk more generally. So, you're welcome to do that as well.

I'm John Taylor. And you'll also hear from George Shultz, Niall Ferguson, Caroline Hoxby, Darrell Duffie and John Cochrane. We're each going to make a few short remarks about the causes, panic, recession and lessons. I'm going to start off summarizing my area of responsibility during the discussions, which is more on the causes side.

And so, I have focused a lot in my research, and the presentation in the discussions, on the role that monetary policy in causing, in bringing about, the financial crisis. I examined what happened in 2003, 2004, and 2005, in particular, when, by many calculations, the interest rate of the Fed was held very low by historical comparisons. I studied that carefully over the years, and saw that that it led to excesses, sometimes called "searching for yield," because that rate was so low, with excess risk taking to get a higher rate, excesses that spread to the housing market. And one of our colleagues, Monika Piazzesi, explored in great detail the excesses in the housing market, that brought a housing boom on a scale that had never been seen before, and an ultimate

[1] This panel discussion is an overview of a series of workshops on the 2008 financial crisis held during the fall of 2018. The six panelists, as well as Monika Piazzesi, all presented and discussed their research at these workshops. The complete transcripts of these workshops along with the papers, presentations, comments and related research can be found at https://www.hoover.org/revisiting-2008-financial-crisis

collapse. And as that was happening, loans were being issued at very favorable terms, but turned out to be very risky themselves. So, in a way, that was the beginning.

And it also spread very quickly, for, I think, obvious reasons. It also spread internationally. We can trace the impacts of the Fed on other central banks around the world, and even at that time in Europe, so some of the European problems were related to that as well.

And what Monika Piazzesi did in her research and presentations is trace those low rates of that particular period into the excesses in the housing market and particular sectors, and that was a real problem.

Of course, that explanation is not stressed by the Fed very much. I've had debates about that with Greenspan and Bernanke and others, although I think to some extent the current Fed is moving in a different direction.

One more thing I'd say of my contribution to this discussion is what happened on fiscal policy as the recession got going. And we've studied this a lot, and it seems that the specific stimulus packages, first the '08 one, when George W. Bush was president and later when Barack Obama was president, really didn't do much good. Money just went in people's pockets, and there really wasn't much effect on the economy. And we have a lot of data on that to show you, though there's debate about it.

One thing I'll conclude with: I've noted in the ten years during which we've all been working on this, at least since then, is that the passage of time shapes people's views. Originally it was financial reporters or early researchers; then you had people writing stories who were in charge at the time, and they have a different view. And now we're just beginning to sift through all this and hopefully get to an explanation or several explanations which are helpful for creating or learning lessons for the future.

So, I'll stop there and turn it over to George Shultz, who has had so much experience in the cabinet, and in research, and at universities. I'm anxious to hear what you have to say.

George Shultz: I think John has given part of the reason why we had the crisis. But in a sense, a deep reason is the, I think pretty well justified notion in all societies, that homeownership is a good thing. So, in this period, there was an effort to encourage it very strongly by Fannie Mae and Freddie Mac. And they encouraged loans to spread homeownership. These loans were very risky, because if there was any dip in the house prices, the people didn't have the ability to pay back the loans. So, they started and spread very widely, and then the big banks got in on the act. I might say, as you said, not only Freddie and Fannie, but the Federal Reserve kept interest rates very low. So it encouraged this process.

Then the big banks got into this by securitizing these loans, thinking mortgages are safe. But then it turned out they weren't. So, they were now holding large amounts of debt that wasn't good. And this was a big problem. Then what happened? Then it became clear, first of all in the case of a bank called Bear Stearns, that banks couldn't handle its situation. And so, through an odd process, Bear Stearns was bailed out, in the sense their bad assets were taken over by the Fed, and JP Morgan acquired the balance of it.

And then a bigger company called Lehman Brothers also was under pressure, and there was a big effort to bail out Lehman Brothers. But at the last minute, regulatory glitches prevented that from happening. And so, Lehman Brothers failed almost sort of suddenly. A sudden bankruptcy like that is very different from an orderly bankruptcy. So, that was very disruptive. And so, a sense of panic emerged.

And the Federal Reserve Chairman and the Secretary of Treasury went to the Congress, and they said the sky is falling. We have to have a huge amount of money to deal with these bad loans.

And they acquired the money, although everybody knew there was no way to purchase the bad loans, because no one knew how to put a price on them. The nominal price was obviously not the real price. So, what should be the price? They didn't know.

So, they wound up with the money going to the big banks that were thought to be a lousy position. And other bailouts took place. So, I think the result of all this is, you violate three fundamental principles that need to be kept in mind. One is accountability. From the ground up, there was no accountability. Number two is the sense of competence. Are the people competent running things? That was violated. Number three: trust. You have to have trust that the people doing things know what they're doing, and that was violated. So, I think the net of all this was a very bad episode, and we still pay the price for it, because the bailout mentality is in people's minds, and it encourages people to take risks that they otherwise wouldn't take. So, we've got to get back to a day when the bailouts are not in the picture, where competence is rewarded, and trust returns.

My own thinking is affected by a personal experience I had. Back in 1970, when I became the first director of the Office of Management and Budget, I found that a large financial company called the Penn Central had mismanaged its affairs and was about to go bankrupt. And the head of the Federal Reserve, a giant of a man named Arthur Burns, thought that if that happened, it would ruin the financial system. I didn't think so. So, I'm arguing with Arthur, and half of me is thinking, "What am I doing arguing with Arthur Burns about the financial system? He knows everything?" But anyway, along comes a man named Bryce Harlow, who was the savviest political counselor in Washington. And he said, "Mr. President, in its infinite wisdom, the Penn Central has just hired your old law firm to represent them in this matter. Under these circumstances, you can't touch them with a ten-foot pole." There was no bailout. And what happened? The financial system was strengthened, because everybody had to look at their hole card and say, "Hey, we'd better get ready, because we're not going to get bailed out."

But Arthur did the thing that was very important, and which the Fed could do. Namely, he flooded the market with liquidity, so there was no liquidity crisis. He saw to it that there wasn't. And the result of letting people fail, keeping them accountable, made a big difference.

John Taylor: Thank you, George. Niall?

Niall Ferguson: Well, as the non-economist on the stage, I'm going to begin with the Queen's question. Her majesty the Queen in December, 2008, visited the London School of Economics and asked, "Why did no one see it coming?" And I was very offended by that question, because I had seen it coming. I had spent most of 2006 writing op-eds about subprime mortgages. I'd spent the summer of 2007 thinking about what a liquidity crisis might look like. In January, 2007, I wrote, "It's perfectly possible to imagine a liquidity crisis too big for the monetary authorities to handle alone. Governments would need to step in. Federal bailouts the likes of Goldman Sachs may seem unimaginable to us now, but financial history reminds us that such events do happen, and liquidity can ebb much more quickly than it previously flowed." That was a long time before Lehman Brothers went bankrupt. And I'd published *The Ascent of Money* several months before the Queen asked that question. As you can't write a book overnight, and the whole point of the book was to explain a major financial crisis to the lay reader, I think I can claim to have done a not-bad job as a financial historian of seeing it coming.

The Ascent of Money offers six explanations for the biggest financial crisis to hit the world since 1929. One that I think we would all agree on, that undercapitalization of banks – and we'll hear more about that, so I won't dwell on it.

Another point that hasn't been mentioned was the way that structured financial products like collateralized debt obligations proliferated, and rating agencies insisted that they were AAA rated when they really were nothing of the kind, since they were based in part on subprime mortgages in many cases.

Monetary policy – here, I'm channeling John Taylor – had been loose for most of 2002 to 2004 in a way that really wasn't defensible.

There was funny stuff, as George Shultz has mentioned, going on in the US real estate market.

The derivatives market, point five, had created a whole bunch of rather opaque contingent liabilities that hadn't been there before.

And finally, I think you have to include in the explanation China, and what we used to call global imbalances, particularly the great flow of Chinese capital into the US economy in the form of a kind of vendor finance.

So, my own view is you can't explain the financial crisis without reference to those six things, though you can certainly argue about their order of importance, and I didn't put undercapitalized banks first by accident. The catalyst was the Lehman Brothers bankruptcy, but the crisis had already begun. It was obvious in early 2007 that there was a problem if you were paying attention, because the resetting of adjustable-rate mortgages fed straight into a series of minor financial crises. So, I think it's sometimes the case that people exaggerate the importance of the Lehman bankruptcy, which can't be seen separately from the other institutional crises of 2008.

What's fascinating to me, and I focused in my presentation in this series on the panic, was the way that the Fed tried very hard to recover from the Lehman bankruptcy but failed, because a chain reaction had begun that was actually really impossible to stop. And that chain reaction included, for example, the freezing of the commercial paper market, the blowing up of the credit-default swap market, and then of course the revelation that in fact the fiscal authority might not step in when the first TARP vote in September the 29th went against the TARP bill.

Let me add a couple more points, and then I'm going to handover to Caroline Hoxby. The second big question about the crisis is, why it didn't become a Great Depression. Paul Krugman and others kept insisting that it was going to be a Great Depression. And it looked like it was turning into one for certainly the first six months after September, 2008. If you were following Barry Eichengreen's work with Kevin O'Rourke, who were comparing the events of 2007-08 with the events of 1929-30, was absolutely terrifying. But it wasn't a depression. And I think there are three reasons for that.

One, we can debate this in a moment, was monetary policy. The second to a lesser extent was fiscal policy. By these policies, I'm referring to the United States. But there was a third reason why the world did not go into depression which has received less attention, which was China's stimulus, which was the successful stimulus, much more successful than the US stimulus, and had massive spillover effects, bailing out any economy in the world that was heavily reliant on commodity exports, for example. It was a global financial crisis. I like the fact that the Australians call it the GFC. It very quickly, as John mentioned, became global. And the reason it didn't become a depression, I think, was also global.

There's a third question, which is why was the recovery not faster? That's a very different question from why wasn't there a Great Depression. But Caroline can answer that third question much better than me.

Caroline Hoxby: Thank you. I'm Caroline Hoxby. I'm a labor and public economist. When we think back to the Great Depression, it started with a financial crisis as well in 1929. And a lot of labor economists believe that one of the reasons it lasted so long was that it had follow-on effects in the labor market, which failed to readjust and reallocate people to new jobs. People adjust much more slowly than does the stock market or other capital markets. And it's often difficult for them to give up one job where they thought they were productive, move – maybe move to a different place, in fact – and move into a new job where they're going to be more productive. People just don't like to move that much.

The Great Recession is in many ways as great as it was because, although it started with a financial crisis that is not that dissimilar to financial crises we've had otherwise, labor markets really did not adjust quickly as a result of the financial crisis, leading to a much longer recovery, a much slower recovery, and in many ways a recovery that has never completely occurred. Despite the fact that we have low unemployment rates, I'm going to tell you about a few statistics that suggest that the labor market is still not fully adjusted.

So, one of the things that happens at the beginning of a financial crisis or of a recession is that employers who have had workers who are not as productive in their jobs as their wages would indicate, often use that as an opportunity to kind of clean house, get out, get some of their workers off their rolls, decide not to hire new workers, change the work arrangement. So it is very important for workers who are let go at that time to readjust and find themselves new job. How do we know whether that readjustment has occurred? Well, there are several indicators that we can look at, and all of them look quite bad from the point of view of the Great Recession.

The first one is the labor force participation rate. The labor force participation rate is when someone says to the government when asked, “Yes, I am trying to find a job, I am interested in having a job.” That means you are participating in the labor force. The labor force participation rate fell very sharply during the Great Recession, immediately following the financial crisis, and it has never really recovered. It fell, it has recovered just a little bit, but it is still much lower than it ever has been in recent years in the United States. That’s a suggestion there’s a lot of people out there who do not feel that it is worthwhile to look for a job or participate in the labor market. And disturbingly, the labor force participation rate has not only fallen for people who are very close to retirement – that’s kind of a normal thing during recessions, that if I’m 62 say, or I’m 60, and I become unemployed during a recession, I might think it’s not worthwhile looking for a job again because I’m pretty close to retirement. The labor force participation rate has also fallen for really prime-age workers, like 35-year-olds, and that’s a significant problem.

In addition, even if you look at people who are participating in the labor market, you will see that – So, they’re saying they’re looking for a job. Not only are they less likely to have a job, but conditional on having a job, they’re working fewer hours a year, and that also fell very sharply during the Great Recession and really has not come back. Again, that’s another indication that people have not found their most productive use in the labor market. And it’s a real drag on GDP growth, which is essentially a function of how many work hours there are in the United States times what the productivity of each work hour is. So, if you have work hours fall in total, it’s very difficult to have high GDP growth.

Another indication that the labor market has not reallocated well, and I think the single-most disturbing one, is that some of the flow out of people working has been into the disability program. And again, this is disturbingly among prime-age people, where it’s really not believable that the cause of the increase in disability is that suddenly lots and lots of 35-year-olds and 40-year-olds have become much more disabled than they were before. The disability program has been somewhat on a long-term trajectory of growth. But it grew quite rapidly during the Great Recession, and it really has maintained it’s higher level.

The reason I say this is very disturbing is that for all intents and purposes, when someone becomes classified as disabled in the United States, they usually stay that way for the rest of their lifetimes and go straight into retirement from the disability program. But even small changes in the disability rate among prime-age people, the 35-year-old, that will mean 30 years of being in the disability program and not working. And there is actually quite a bit of evidence that people who are disabled parents are more likely to have children who don’t have very much experience with the labor market and may themselves have more difficulty holding a job. So, even small changes in that program can be quite disturbing.

Another indication that the labor market didn’t adjust very well is that although the federal government did try to help a lot of people go back to school during the Great Recession – that definitely happens during every recession is that people go back to school – we did not see that all of this going back to school seems to have produced people moving into sectors that were higher employment sectors, or moving into jobs where they were likely to find higher wagers, or moving into jobs that were more likely to be in the tech sector or in the information sector, or in other sectors that were relatively fast growing. In fact, what we saw is that many people did go back to school, many went back to for-profit online schools. The modal person who went back to one of these schools is actually around 35-36 years old. So we're not talking about 18 to 25-year-olds going back to school. We're talking about people in their mid-thirties and early forties going back to school. And the evidence suggests that most of them left without getting any degree or any certificate or credential of any type, but also that their earnings really did not grow after having gone to these schools, and they were not successfully moving into jobs in more high-growth sectors. So, lots of going back to school financed by the federal government. But it looks like it was more of a holding tank for people who were underemployed than it was something about trying to reallocate the labor market.

And despite all indication that the labor market has really not adjusted very well, is that although people are not always fully aware of it, not every labor market in the United States suffered very much from the Great Recession. There were some metropolitan areas that had unemployment rates that remained very low throughout the entire recession. There were other labor markets that had unemployment rates that were as high as 15%. But we really want people to leave the places with the unemployment rates of 15% and go to the places with unemployment rates of three or four percent, we really didn't see a lot of that migration during the Great Recession. And that's disturbing, because it's part of the way in which people moved themselves from less-productive activities to more-productive activities that you'd like to see.

I guess I just want to say one thing about this, and that is I think I'm less optimistic than most of my fellow economists here, because I am very concentrated very much on the labor market, where I see a lot of indications that the Great Recession to some extent still continues. I think things have improved. We all know that the unemployment rate is low. But part of the reason it's low is that a lot of people have dropped out of the labor market. And I think we ought to think about the consequences of that for the long term, having such a large share of Americans not participating.

Darrell Duffie: Thanks, Caroline. My name's Darrell Duffie. I'm a financial economist, and I first want to say I'm just amazed to see so many of you here on a Friday afternoon, the last day of classes of the quarter, the last Stanford day of the year. And I guess that means that the financial crisis must have been a pretty formative event, affecting a lot of lives, and that there's still curiosity to try to understand what happened, what went wrong. And I want to bring your attention – after we've talked about monetary economics and we've talked about housing markets and labor markets – I want to refocus attention back to the core of the financial system, where the giant banks are, the famous – as Niall mentioned -- Lehman and that big shock. How did we get to that point where those giant banks were in such bad shape, and then they toppled over to cause such damage, that we're all still interested ten years later?

While there are many lessons to be learned, the one I want to focus on is, "Too Big to Fail." I'm sure you've all heard about that. Before the financial crisis, and I've reviewed a lot of primary-source documents, letters, internal investigations, Congressional testimony, and so on, and to the best that I can figure, the regulators in this country assumed that these large banks would look after themselves. This was called market discipline, the idea being that if you didn't have enough capital, then no one would lend you the money. And if they didn't lend you the money, it wouldn't matter if you wanted to get a big, risky balance sheet. They wouldn't let you. Well, that didn't work. The reason was too-big-to-fail. These banks correctly assumed at the time, that if one of these banks were to fail, that it would cause a crater on the economy, and Niall's already described the impact – not just of Lehman but that the threat that these big, giant banks would collapse and crater the economy. And creditors before the financial crisis said to themselves, "They'd never let that happen. The government wouldn't let that happen. The government, if necessary, will bail out these banks, because surely they wouldn't cause a crater on the economy." That was proven to be false. But while that presumption existed, creditors were happy to lend money to these giant banks at rock-bottom interest rates – very cheap sources of funding. They were able to borrow money almost at risk-free interest rates, almost as if they had no risk at all, because the creditors believed that if the banks got into trouble, the government would bail them out.

Well, that cheap sources of funding, the ability to borrow money at almost no higher interest rates than the Treasury, let's say, that was like jet fuel to their business plans. They now had the ability to grow enormous balance sheets with very cheap sources of funding, and they did. Assets in the largest nine US banks tripled in size between the turn of the century and the doorstep of the financial crisis.

Since then, things have changed. The idea that the government will bail out a large bank has been disposed of, or at least in the minds of the creditors; they no longer give credit to the idea that they will get bailed out if the bank gets in trouble. So now, when sophisticated institutional lenders consider the interest rate at which they're willing to lend money to a giant bank, they know, or at least they presume, that if the bank gets into trouble, they'll be forced to take a loss. And because of that, they're charging much higher interest rates. And because of that, the banks are not growing their balance sheets by leaps and bounds every year. It's been pretty much flat since the financial crisis. There's not a big boost of leverage or asset growth in the banking sector.

One of the contributing reasons for that return, or partial return, of market discipline, is legislation in the Dodd-Frank Act that at least in theory gives the government the ability to force the creditors to take those losses without necessarily causing a crater on the economy. By just telling the creditors, "Sorry, you no longer have any debt claims on this bank, we'll give you some equity instead."

The same idea, thankfully, is wending its way through legislation to change the bankruptcy code for big banks. John Taylor and our former law school colleague Ken Scott led a group of economists and private-sector legal experts, which designed a new chapter of the bankruptcy code, which did just that. It essentially forced the large creditors to take losses rather than the government. And the presumption of too-big-to-fail, well, it's not gone away entirely, but it's been pushed down. The banks are much better capitalized.

And even so, their costs of borrowing relative to risk-free borrowing rates have gone way up. How can that possibly be reconciled by anything else than the decline of too-big-to-fail, the decline of the view that the government will always step in and save the creditors. That's a very important lesson, and there are many more. But in the interests of time, I'm going to pass the baton to John Cochrane.

John Cochrane: Thanks. I'll start with in some way a little introduction. This is the capstone of several sessions we've had organized mostly by John Taylor, to think about on the ten-year anniversary the lessons of the financial crisis and the subsequent Great Recession. We've had a great series of discussions. You can find slides and other materials on the Hoover website somewhere. You have to be fairly good at sleuthing websites, but under Events at the Hoover website, I think you'll find us. And there you'll see lots more than – each of us got to talk for like an hour over the last five weeks, and now we're down to five minutes, which for academics is torture.

And the kinds of things we've talked about chronologically are the things in the lead up: housing, China, Fed policy and so forth, that set the system up to be fragile. What were the events of the panic itself? What were the roles of government policy? Of perhaps some unwise speeches made by our leaders and so forth? What were the mechanics of the panic? Why was there such a recession? You may say it's obvious, but as a matter of economics it's not so obvious why banks having a little bit of trouble – the banks all stayed in operation – but why did financial trouble with banks lead to people in Nebraska losing their jobs? Why did that recession not turn into a Great Depression as Niall brought out? My view on this largely is because the Fed did not screw up, which it did in the Great Depression. And they learned their lessons and didn't repeat the same mistakes, which is a good thing. Wisdom comes slowly in public policy.

Why then was the recession so unbelievably long lasting? Here, there's kind of a debate between supply and demand, if you will. Endless secular stagnation versus the kind of sand in the gears that stops the economy from healing. Caroline showed you some of – which I agree with as well – the sand in the gears version of there's a lot of problems with well-intentioned government policies that give people incentives to keep them from working, getting better jobs, moving, and so forth.

And then, which I'll close with after my second set of comments, where's the next crisis coming from? Are things better now? Have we learned all our lessons? Sadly, no.

One thing I'd like to highlight from my own thoughts on this, is what is the central lesson of the crisis? And to that end, I think, what was different about this and 1991, when the tech boom turned into a bust? The nation lost about the same amount of value as was lost in subprime mortgages up until the Lehman crisis. So the size of the shock was about the same. Yet in 2000, when the stock market crashed, we had a little bit of a recession, and a lot of people here who thought their startup was worth $100 million, found out that no, they're going to have to work like the rest of us for a while. But it was by and large a minor event.

Contrast that to 2008, where we had a similar underlying losses, but then that just turned into a financial conflagration and a recession from which we have not recovered in many ways. Our GDP went down relative to trend, and we're finally growing a bit, but we haven't gained back the ten percent we lost.

Well, there's a big difference. The tech stocks were stocks. If you had invested your money in a tech stock or an institution that bought tech stocks, and the tech stock loses a lot of money, what happens? The price of your investment goes down. You lose a lot on the statement, and what can you do about it? You go home. Drink some whiskey. Kick the dog if you're really mean about it. But that's all you can do about it. Bemoan your sad fate, that you didn't sell yesterday while someone else did.

What happens when a bank gets into trouble? Ha, ha. Well, banks borrow short-term. As Darrell showed us, on the eve of its failure, Lehman Brothers was invested in mortgage-backed securities. Now, mortgage-backed securities, even the worst ones are very safe assets. They're far, far safer than some… whatever your friend is doing with a startup in Palo Alto has invested. They're an extremely safe asset. They're a diversified portfolio of loans, you can lose five percent, two percent, maybe. It's not this big thing. Why was this a big source of risk? Well, Lehman Brothers was financing its portfolio of mortgage-backed securities with 30 to 1 leverage, overnight debt. Every morning, for every one dollar of their invested money put in, they had to find \$29 of new money to pay off the people they borrowed \$29 from last night. It literally like running your house with gasoline in the basement. No wonder one morning those borrowers said, "We're done." And then they couldn't pay off. At ten o'clock in the morning, they couldn't find new guys to pay off the old guys, and they went under.

So, there was a run. It was a run not in the classic sense, you know, Jimmy Stewart and the people coming to get their money, or little Michael Banks and so forth at the bank. But the mechanics were exactly the same. And if you want to find the mechanics, read Darrell's *Failure Mechanics at Dealer Banks*, in exquisite clarity will tell you exactly how the fancy dealer banks acted just like what you saw in Jimmy Stewart.

So, what's the answer to that? The regulatory answer after ten years of sturm and drang, I think we're finally figuring out the one central answer is not: send in a bunch of regulators to make sure the assets are even safer, so you can finance them 30 to 1 with overnight debt. The answer is, risky investments need to be financed like the tech stocks, with investors' money, where if it's a risky adventure that loses value, if your statement goes down in price and you can't run and say, "Give me back my money now," and you can't do it instantly, you're out of business. That's the mechanics that caused the crisis. So, capital is the salve of all wounds, and I think we're figuring that out.

So, where are we now? Capital's a good deal higher. It's, rough numbers, from five percent, it's now ten percent. In my view, ten percent is nowhere near enough. Ten percent is good enough for a while. And capital is under attack, because bankers don't like it. They like to goose up their returns. So, looking forward, where are we? We have more capital in the banks, but as the pain of the event fades, the inevitable erosion is underway. I hope it doesn't go too far.

Where we'll the next crisis come from is I think something we need to talk about. I don't know. I'm not near as good as Niall is at reading the tea leaves of history. But I'll tell you my own worries, when I get up at two o'clock in the morning. Where do you look for a crisis? Where is there a lot of debt, not equity, loans that can't be paid back, really shady accounting, off-balance sheet credit guarantees – someone is going to… Go ahead and borrow it; I'll pick up the deal – and a lot of short-term debt being rolled over and over? And where is nobody asking any questions? I would say that describes sovereign debt. We all – partly as a result of the crisis, we're now… The developed world's at 100% debt to GDP ratios. State governments have pensions that they have no idea how they're going to pay off. The US government has no idea how they're going to pay off the debts. Europe is also… China strikes me as a place where there's all sorts of debts, phony accounting, and who knows what's going to happen if they run into a serious downturn.

And once again, the banks are stuffed with it. To this day, European regulators cannot bring themselves to say that Italian and Greek bonds might be dangerous assets for us to hold. But the banks are stuffed with the sovereign bonds. If the sovereign bonds go under, the banks go under as well. So, that's what keeps me up at two o'clock in the morning. More capital, we've solved that problem. But that at least gives you something to worry about.

So from there, maybe we should go on to questions?

John Taylor: Thank you all. I think we'd welcome some questions. People with mics are coming around, I see in the middle of the back there… Raise your hand if you have a question.

Question from the audience: *The Ascent of Money* was pretty solid, so thanks for that. I was slogging through Adam Tooze's new book called *Crashed*, at Columbia, I guess. I graduated. I just started college during the 2008 crash, so it's a little bit of a personal obsession. I'm always wondering what's going on. And he crafts this story that there was sort of like this behind closed doors, the Federal Reserve innovated to become the global lender of last resort in a way that most people still don't really understand. And I'm still trying to wrap my head around that. Was it a planned, strategic master stroke or a nefarious thing? Or what's the deal with that, and how should we think about that.

Niall Ferguson: Well, first let me say that Adam Tooze's book is an admirable attempt to write a history of the financial crisis, but it's quite early days to do that. He relies quite heavily, if you review the footnotes, on what I'll call the New York Times/Financial Times version of events. So there are some parts of his argument that I have big issues with, particularly his treatment of the European crisis, where he takes the kind of poor, poor Greeks/wicked Germans approach.

But on the issue of the Fed's swap lines, I think he's right, and he's not the first person to make this point. In the very early phase of the crisis, international cooperation was extremely important, because the contagion spread fantastically quickly from the United States. It was a crisis made in America, but already by the end of 2008 that its impact would actually be greater in other countries. The impact on output in a whole slew of economies in Asia and Central Europe was much greater than it was, and later on, as Tooze shows, the impact in southern Europe would be much greater than anything experienced in the United States. The fact that the Fed was able to provide dollar liquidity, dollar money to the other major central banks and even some of the minor ones, I think was quite important in preventing the 1929–31 scenario. Because, part of what happened then was not only did loads of banks fail in the United States, but they started to fail everywhere in the world, but not least in 1931 Europe. So, it's an important point. It's not nefarious.

The reason it was somewhat, shall we say, lowkey and not widely publicized was that with good reason, I think, the Fed feared there would be Congressmen complaining that the Fed was playing this international lender of last resort role. So, it got very little coverage at the time, but the scale of the operation was large, and I think it was extremely important in preventing the crisis intensifying even more than it did. Others may disagree?

Darrell Duffie: I remember watching the vice chairman of the Fed, Don Kohn, testifying in Congress and getting raked over the coals over the central bank swap lines. Congressmen interrogating him very aggressively about why the Fed would ever be lending dollars to a foreign country when the United States was in difficulty. I completely agree with the point that you made. It was very important to provide that liquidity.

And to just broaden the point a bit to the distinction between bailout, which was the nationalization of banks with the provision of government capital to increase the capitalization of banks when they fail, on the one hand, versus the proper role of the central bank, which is not to provide capital, but to provide liquidity, something that Niall emphasized. So that when a bank couldn't sell assets at a fair price in order to rebalance itself, the Fed would take those assets as collateral and lend the bank money, which is a different thing than a bailout. Now, during the depth of the financial crisis, there was a gray area, and the Fed had to go right to the limits and perhaps even beyond in a few places of that gray area between liquidity support and a bailout. But I would say it was very important for the Fed to provide liberal amounts of liquidity to the US and foreign banking system with dollars at a time such as the failure of Lehman, just as it failed to do after the 1929 crash, causing an enormous depression.

John Cochrane: I don't understand. So, these swap lines were to foreign governments, which in some sense were safer than foreign banks, because you kind of know they're good for it. And you can debate whether they should have a lender of last resort function of the Federal Reserve. But if you're going to do it, don't debate that during the crisis. It's like saying, "We can either have a fire house, or we can have fire extinguishers in our houses." But if we've told you there's a fire house, then when the fire comes, you'd better call the fire department. You don't say, where's your fire extinguisher.

John Taylor: Any more questions?

Question from the audience: Hi. So, I also grew up in the financial crisis, and it definitely impacts how I think about the economy. And my question goes towards the institutional incentives and how those underlie the financial crisis, specifically around ratings agencies. And also, institutions regarding investigating fraud, which was a big part of a lot of settlements afterwards. How do we look at changing that to make sure the incentives are lined up correctly so these kinds of risky behavior that sometimes verges on fraud don't happen again?

Darrell Duffie: I can try rating agencies, because I was on the board of Moody's, which was one of the world's largest rating agencies from the month after Lehman failed until earlier this year.

And you're right, there's an incentive problem, because as most of the people here know, if someone wants to borrow money and they ask the rating agency to give them a grade, just like most of us up here on the stage do for students in the audience, they get paid by the same person they're grading. And that is a conflict of interest. And the rating agencies… It's actually not easy to tell whether that conflict was responsible for the bad ratings that they gave to those mortgage-backed securities that failed. If you look at their ratings they gave to corporations before the crisis, they performed exactly as one would expect, and they definitely got it wrong in the housing market and can be blamed for not understanding the big risks in the housing market. I'm not sure that they succumbed to that conflict of interest, but as I just mentioned, at least up until recently, I was myself conflicted on that. After the crisis, Congress tried to find another way, so that the rating agencies wouldn't have to get paid by the people that they were rating. And they tried many options. None of them would work. In Europe, the option that was tried was, we're going to have a government rating agency, and we're going to have the government rate everything. And that obviously presents a conflict when the European government as a whole is going to be rating Italian government bonds, for example. So, so far, no one has found – even knowing how bad the conflict of interest is—no one has found yet a better model for it.

John Cochrane: Let me suggest one. This is a problem of regulation. So, if banks were funded by issuing equity or other… if there wasn't this debt and regulation issue, then there wouldn't be a problem. The problem is the banks want to take risk, because they're, as Darrell said, they're taking risks with government-guaranteed funds. The people that they're investing in want to issue risky securities. They want to get together and make this risky bet. But the government's saying, "Oh, no, no, no. You have to have AAA securities." Well, the obvious – Okay, government says we need AAA. I want to buy something risky. You want to sell me something risky. We have to make it look AAA so the government gives its stamp of approval. You can see what's going to happen here. If the incentives are aligned where the rating is just like a Yelp star or a consumer report thing, and not to help you satisfy some regulatory requirement that is annoying to both parties, there's a problem.

Niall Ferguson: Can I add one thing? A very bad explanation of the financial crisis which has become quite popular. I would say that the popular narratives about the crisis, as they currently appear in, say, the broadsheet newspapers, are generally wrong. And one of the popular ones is that the crisis came about because of deregulation, and can somehow be traced all the way back to the 1980s and 1990s. It's terrible financial history, because the really striking feature of the crisis is it emanated from the most regulated institutions. The problem was, there was lots of regulation. It was super-complicated regulation. It wasn't very effective. There were many agencies who were supposedly responsible for the banks and the mortgage market. And a recurrent theme of, I think, our conversations has been that excessively complex regulation is actually the disease of which it pretends to be the cure. And one of the big problems with the post-crisis response has been, if the crisis was the result of deregulation, let's have lots of regulation. And hugely complex statues, not least Dodd-Frank, resulted. The Basel Accords on banking regulation are vastly longer and more detailed than they were in their first iteration. This, I think, is a really good example of how learning the wrong lessons from the crisis could in fact lay the foundations for the next crisis.

John Taylor: More Questions?

Question from the audience: Hi. Just wondering how much of the root cause of the crisis is just that when something hasn't happened in the last 50-75 years, people start to assume that it won't happen, and then lend against it. Whether it be real estate or sovereign debt or stocks, when there's lending against something, because it hasn't had a massive crash in the last 50-75 years, does that then become a root cause for regulators to make certain assumptions and for two parties who are trying to get together and do risky things make some assumptions?

John Taylor: I think there's a view that stability breeds complacency. Hyman Minsky has written a lot about that. What's curious to me, is that I don't think that was as much of an issue as some people think. But the people who write the most about how complacency created instability are the central bankers. It's very interesting to me to read what people are writing about this crisis after the fact. The history is changing; it's already been ten years. But many of the people who are writing about what happened are the people who were in charge. And I gave an example about my view that the instability was caused to some extent by the central banks. The former governor of the Bank of England and the former governor of the Bank of Canada, who is now governor of the Bank of England, both wrote pieces exactly opposite. They said, "No, it occurred because of all this complacency out there." I just think there's very little evidence for that, but it's part of the debate. It's going on.

George Shultz: Part of the complacency came from the feeling that homeownership is a good thing. So you wound up with homeownership and people who had debt that was underwater. Suppose you had gone about handling the crisis, by the President explaining what happened, and saying, "We still think homeownership is a good thing. So, we're going to bail out not the banks, we're going to bail out the people who own the homes, so they don't get foreclosed on and they can hold onto their homes." That would have done a good job.

Caroline Hoxby: On the subject of an area where I do think there was real complacency, I think in the housing market or in the lending, the mortgage market. If you look at the ratio of home values to rents going into the financial crisis, the Great Recession, they were really only consistent with the idea that home prices would keep going up forever and ever. And so, I do think there was complacency. I think people said, "Well, look. They've been going up for a long time. So why should they not go up next year, and the year after, and so forth and so on?" And that you had to sort of believe that to justify those house prices. And then as soon as those house prices started to fall, those expectations couldn't be maintained, and since those expectations had been built into house prices, it was a cycle that was hard to break. And because people had the expectation that their house prices would keep going up, people were willing to lend to subprime borrowers, who put very, very little down, because it really doesn't matter if your house price is going to keep going up and up and up; you'll end up with home equity even if you start off with almost no equity. So once your house price falls, you're underwater right away. So, I think in the housing market or in the house lending market, there was a lot of complacency, or at least the belief that what has gone up for the past 20 years won't go down.

Niall Ferguson: This is why financial history is really, really important. Because most people in the markets were just basing their observations on their own lived experience. The people running the investment banks had on balance got into finance around 1982. They had absolutely no personal experience of anything resembling 1929. Practically nobody did. The only way you really knew what was going on was if you'd actually studied the Great Depression. And I used to routinely ask audiences this size of financial professionals, "How many people have read Milton Friedman and Anna Schwartz's *A Monetary History of the United States?"* And it would be two on average. And these were the people running the financial institutions.

John Taylor: A question right up here. One more question.

John Cochrane: Suppose it is complacency. Then what do we do about that going forward? And our regulators are telling us, "We've learned our lesson. We'll be tough. We're going to take that five-times bigger rule back and every *i* and *t* is going to be crossed." Well, if it was complacency last time, you can count on complacency next time. So that sounds like a very bad way to think of things going forward. That's why changing the system so it isn't so fragile seems like a much better and more durable approach to it than just counting on, "We won't be complacent next time," because they're still not reading their history.

Question from the audience: Just curious – do you see any relationship or similarity between the Fed pressuring the lenders to lend to people who weren't qualified really to get into a house, and then having them fail. And the current issue with student loans and those perhaps not being paid back either. Do you find that it's a similar situation? I'd like to hear your answer.

Caroline Hoxby: Maybe I can take this, since I work on student loans. Yeah, there's a lot of similarity. In fact, if you think that the US government was encouraging poor lending in the mortgage market, you should actually be a lot more worried about student loans. Because in the home lending market, there was some amount of underwriting. In other words, when you went out to borrow, the lender did look at your credit score and did look at what home you were borrowing, and there was an appraisal, and the loan that you were given was a function to some extent of your in-common expectations about your future income and so on. With student loans, there is no underwriting whatsoever. A student can be the best qualified student in the United States who very clearly is going to get a wonderful college education, and will be easily able to pay back his or her student loan, and that student will get exactly the same loan terms as a student failing all of his classes in high school and barely managed to get a high school degree or a GED. So, there's no difference in the loan terms given to those two types of students. One of those types of students is predictably not going to be able to pay back the loan, the other type of student is going to be able to pay back the loan. We, in fact, are very good at predicting whether a student can pay back a loan just by looking at what they're like going into college, and they get exactly the same loan.

The student loan crisis is entirely concentrated on a certain set of students, who we can predict have a high probability of not being able to pay back. And we… more or less, no one would lend to them if the federal government weren't insisting that they will get paid back. So, it's a very, very concentrated problem. Essentially students at institutions like this always pay back their student loans. There are other institutions where almost no one pays back their student loans. So, if the mortgage market were as messed up as the student loan market, it would have been even worse.

John Taylor: We have to stop here, but you're welcome to join us in the next room for some pizza and more questions and more discussion. Thank you so much for coming.