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THE QUEST FOR FINANCIAL STABILITY
A DECADE AFTER THE ONSET OF THE GLOBAL FINANCIAL CRISIS

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P R O C E E D I N G S

MR. WESSEL: Good morning. I'm David Wessel. I'm director of the Hutchins Center on Fiscal and Monetary Policy here at Brookings, and with my colleagues in the Global Economy and Development program.

We are very happy to welcome Tobias Adrian, now of the International Monetary Fund, to talk about financial stability. I think before the financial crisis, financial stability seemed like something that was really important, but not something that people worried enough about.

We learned our lesson, and even though it's been almost a decade since the onset of the financial crisis, and perhaps some people, and probably in the United States, are ready to roll back regulations so that we don't have to worry about financial stability anymore. We are not convinced here.

So, the order of business this morning is that Tobias is going to give a short presentation, and then I'm going to be joined by a panel of people who have very different perspectives on these issues. I'll introduce them later, and then we'll have time for questions.

Everybody should know that we are webcasting this, so if you fall asleep or use your phone you might see it on CSPAN tomorrow at 3:00 a.m. So be careful.

Tobias Adrian came to the IMF recently after a distinguished career at Federal Reserve Bank of New York, where he was the senior vice president. He's been worrying about these issues before I realized they were important, so with that, I turn it over to you, Tobias.

MR. ADRIAN: Good morning. Thanks very much for having me at Brookings. I'm going to talk about the Global Financial Stability Report which was released last week, and the title of the report this time is: “Getting the Policy Mix Right.” As we feel that financial stability is very tightly linked to the policy process.

So, I brought a couple of slides just to illustrate the main themes of the report. The good news is that global financial stability has improved in our view. The underlying economic growth momentum is stronger, the World Economic Outlook is explaining that in great depth, so growth is growing and the outlook for growth is positive. Furthermore, risk appetite has improved in financial markets, so financing conditions or broader financial conditions are favorable. And that’s not just in advanced economies but also in emerging markets.

However, there is downside risk, and the downside risk that we see is primarily related to policy uncertainty. So, there's a very big wedge at the moment in between the evolution of policy uncertainty, and the evolution of market uncertainty. When you look, for example, at measures like the VIX, the Equity Implied Volatility Index; that is at very low levels by historical standards, it has come up a little bit recently, but it's still, you know, way below its average value.

On the other hand, when you look at policy uncertainty that has really spiked over the past 6 to 12 months, so there's a big disconnect in between the volatility that is priced into markets, and policy uncertainty measures.

Now why is policy uncertainty so high? We see two particular downside risks. So, one downside risk is the risk of global fragmentation, or resurgence, or resurgents of inward-looking policies. As you know, you know, the policy debate has shifted around the globe, and the kind of values that the IMF is standing for, including global trade and multilateralism, have been questioned recently in the political process. And so, there is a risk of global fragmentation and protectionism.

Secondly, we worry about financial conditions, so we worry that there might be a sharp tightening of financial conditions. We have seen very much risk appetite that has increased, credit spreads have tightened, valuation in equity markets are very high, equity volatility is very compressed. And when you see these kinds of very benign conditions in financial markets there's always a risk of a sharp reversal. And that could be triggered, for example, by expansionary fiscal policies, fiscal deficits that are increasing, or it could be triggered by other policy developments.

So, let me talk about three regions in particular, I'm going to start with the U.S., then talk about emerging markets, and finally about Europe.

So, in the U.S. the key question that we are asking is, whether policies that are priced into markets at the moment, are going to translate into what we call economic risk taking. I.e. Are economic policies such as the corporate tax reform, or the repatriation of foreign earnings, are those kinds of reforms going to translate into more investment, into more corporate investment?

What you can see on the left-hand side is that in the U.S., the share of capital expenditures in total assets of the corporate sector, has plummeted from roughly 6 percent to a level of only 4 percent at the moment. So the 6 percent really lasted from the early 1980s until the early 2000s, and then in the 2001 recession, investment plummeted, and really hasn't recovered since.

So, if the market is pricing in sustained economic growth going forward, so like a much higher growth rate, then that would have to be based on much higher corporate investment, and the question that we are asking, is it possible for policies to translate into this kind of sustained higher investment level?

And the kind of fragility here is that the corporate sector is already highly levered, so on the right-hand chart, here you can see that by historical standards, corporate leverage in the U.S. is high, so of course the corporate sector is healthy at the moment, but there are two kinds of issues here. One issue is that the corporate tax cuts and other structural policies that are aimed at the supply side of the economy, those might not necessarily translate into higher investment expenditure. They could translate into higher payouts, into higher equity payouts.

And this is what we've seen since the global financial crisis when corporate investment really has not rebounded, and instead the payouts to shareholders have increased very strongly. So, in fact this run up in leverage, much of that has been paid out to shareholders.

And then of course a second risk is that if financial conditions do deteriorate, if credit spreads were to widen, equity market valuations were to fall, then this high leverage could generate fragilities in the corporate sector.

Let me turn to emerging markets. So, if these risks that materialize in advanced economies, the potential risks of global fragmentation, or the potential risks of tighter financial conditions; that would spill over into emerging markets. The left-hand chart shows you sensitivities of the corporate sector in a number of emerging markets to these two types of scenarios: a rise protectionism and a rise in global risk premium.

And you can see that different countries have different degrees of sensitivities to these risk commands. So, for example, China is particularly exposed to the risk of a rise in protectionism, while Brazil is particularly exposed to the risks of a rise in the global risk premium. These external vulnerabilities then interact with domestic vulnerabilities in those sectors.

For example, in the banking sector in emerging markets, the share of problem loans as a fraction of total loans, has been increasing in recent years, so they've gone from 4.5 percent to over 6 percent since 2013, and as a result the problem loan coverage ratio, or either a degree to which the capital in the bank system would be covering those problem loans, has declined from 100 percent on average across emerging markets to less than 70 percent most recently.

Of course, you know, the biggest emerging market country is China. China has contributed enormously to growth of the global economy, but a lot of the growth, since the financial crisis, has been fueled by expanding credit. So, the ratio of credit to GDP, the ratio of total credit in the Chinese economy to the size of the economy in terms of income, has increased from roughly 100 percent in the financial crisis in 2008, to over 200 percent more recently. Okay?

Credit to GDP went from 100 to over 200 percent in less than 10 years in China. And historically, when you look across countries, this type of very fast rise and credit to GDP to a very high level is dangerous, so these kinds of developments typically proceed some sort of adjustment; credit to GDP is a ratio that cannot grow forever, it has to slow down at some point. And the question is, at what point is this going to slow down?

So, let me move finally to the Euro area. In the Euro area, we look at the banking sector. Of course, capitalization in the banking sector has improved dramatically in the Euro Area since the global financial crisis. Regulatory reforms such as Basel III have been implemented in Europe, to a large extent. And a lot of the hangover from the financial crisis has been cleaned up in many of the countries, but Europe is exposed to the very low yield environment, and that's very bad for bank profitability. And the low yields are exposing structural weaknesses in the banking system.

The left chart is pointing out one of these weaknesses. The left bar on the left chart shows you return of equity, ROE, for the total banking sector in Europe, broken down into buckets: below 8 percent, between 8 and 10 percent, and above 10 percent, and roughly half of the banks in Europe have fairly low return of equity.

But then when you look at domestically-focused banks, so that's the second chart -- the second bar three-quarters of domestically focused banks have low return on equity, have a return on equity below 8 percent. So, it's really the domestically focused banking sector that has structural weaknesses. So what is leading to low return on equity? So, you can imagine that banks have a return on assets, and the difference between the return on assets and the return on equity is due to leverage.

So, part of the decline on the return of equity is very mechanical, due to the fact that the banking system is now better capitalized, for given the return on assets, you had lower return on equity, and that's in some sense the desired outcome of the regulations. However, return on assets is also determined by fundamentals of the banking sector, in particular the amount of revenue, the costs, and the amount of loan provisions.

And different European countries have challenges along different dimensions. So, you know, some countries are perfectly healthy, while other countries have a challenge along some dimensions, and some countries are challenged along all three of these dimensions. So, revenue pressure comes primarily from overbanking, cost pressures come primarily from inefficiencies in operations, and the high loan loss provisions in some countries are really at that overhang from the financial crisis. And so again, some countries have made tremendous progress, while others have some of these structural challenges to address.

So, let me conclude so that we have time for discussion. The key to financial stability at this time is to get the policy mix right. I've talked about three particular vulnerabilities, in the U.S. the key message is for policymakers to guard against financial stability risks from rising corporate leverage, so the tax reforms and other proposed structural reforms really have to aim at increasing corporate investment by taking the high leverage of the system into account.

For emerging markets, the key is to build resilience of banks and corporates, because external vulnerabilities interacting with domestic vulnerabilities. So, as global financial conditions and global trade is fluctuating around these emerging markets can become fragile due to their domestic fragilities. And then in Europe the key challenge is really to address structural weaknesses in the banking system.

Now, I haven't talked much yet about regulatory reforms, but of course underlying all of the global financial stability is the financial regulatory reform agenda, and the IMF is a strong proponent of the regulatory reform efforts that have been undertaken since the financial crisis, and of the multilateral corporation among countries and among agencies in the Basel process. So, thanks very much.

(Applause)

MR. WESSEL: I'm going to have the panel come up and sit wherever you like. Thank you very much, Tobias. I appreciate presenters who actually remember to look at their watch. I noticed you checked several times.

So, I'm very pleased that we have a panel of people who come at this from this important issue from a number of different places. I want to say that I'm standing here not in order to assert some sort of dominance over the panel, but as you can see, we are kind of limited on space. So, it was only for that.

Next to Tobias is Brahima Coulibaly, who is new to Brookings. He's a senior fellow in our Global Economy and Development program, a co-sponsor to this event, and director of the Africa Growth Initiative here. He comes to us, and we are very happy to have him after 13 years at the Federal Reserve, where the Board of Governors here at Washington where he was most recently chief of the Emerging Markets Branch.

Next to him is Diana Farrell. Diana is now head of the JPMorgan Chase Institute, which is doing interesting work taking advantage of all the data that JPMorgan has on how the consumers in businesses work. I should note, I'm asked to note, that JPMorgan itself is a donor to Brookings, but actually had nothing to do with this event, but we always like to disclose that when it happens, and we appreciate their support.

Diana has in the past worked at the McKinsey Global Institute, and was in the White House National Economic Council during that calm period immediately after President Obama's election when we really saw what financial instability was. I guess it's kind of a relieve that if -- I wonder, Diana, if in this day in 2008, whether you thought we'd be discussion whether there's too much optimism in the financial system, and that was a downside risk.

Next to her is Robert Kahn, who is at the Council on Foreign Relations, who has been, among other things, with Moore Capital Management, has worked at the Fund, and at the Federal Reserve.

And finally, I'm pleased to be joined by Daniel Heller, who is visiting at the Peterson Institute for International Economics, across the street. Before that he was the head of Financial Stability at the Swiss National Bank, and has been involved in these issues for a long time.

So, Diana, maybe I can start with you. So, if you read the Global Financial Stability Report, and you look at that nice spider chart they have. It looks like everybody is very optimistic, even though there seems to be a lot of downside risk, both in the narrow senses that Tobias outlined, but also in the rather unusual political environment we find ourselves. So, does this make sense, this market optimism in this context?

MS. FARRELL: Thank you, David, for the introduction; and everyone for being here. I'll start where you left off, which, if just under 10 years ago, when we were watching the system spin out of control, we could have envisioned me sitting here at Brookings, Hutchins event in the calm state that we find ourselves in today, I think we would have thought ourselves as very lucky. So I will say that.

And Tobias, thank you for work on this set up, this is a good report. I do worry a little bit about the optimism, if I can sort of tie a couple of dots together. There are many things that you pointed out, correctly, that have improved, but it seems to me that a significant amount of the optimism is linked to market perception, you know, the risk appetite is sort of the potential upswings in this, and one of the really impressive charts you have here too is what has happened to the U.S. equity markets since, particularly the election.

And I think we all have to ask ourselves a very important question. Has anything changed so dramatically in the six months that we could really justify the equity rally, we've seen, and kind of the underlying shift in risk appetite? And I think you correctly say, well, the thing that has changed is the premise of potentially different policy environment, one friendlier to business, but I think that it's premised on one very significant tax reform.

And I think, who would have thought tax would be so difficult, who would have thought health care would be so difficult. I'm not clear that we have a team in place that knows how to navigate big, complicated bills. And it's not as though as tax reform isn't one of the most difficult you could possibly try to tackle. Every administration that I've ever read about has tried, and only a few have succeeded doing that.

And the regulatory issues; and I do think that it's fair to say that we already see at the EPA, and many other agencies where executive action is more powerful, probably a business-friendlier environment for investment and action. But let us remember that it was that kind of lax regulatory oversight that might have given us a pretty healthy growth in parts of the pre-crisis period, but sowed the foundation for like a very profound instability to follow.

So, I do worry that we are relying -- the optimism that you report here is relying too much on either something that is unlikely to happen, or could happen in a nefarious way that would undermine stability in the long run. So, let me just start with that, and the question would be: is that fair and how would you respond to that?

MR. WESSEL: Tobias, I think I'll let you respond, because otherwise we'll end up -- Do you want to go through the whole panel first?

MR. ADRIAN: Yes.

MR. WESSEL: Okay. Brahima, one of the things that Diana mentioned was that the world changed after 2008, and I'm curious what you think has been the lasting effect of those changes on the emerging markets that, a part of which Tobias highlighted in his presentation?

MR. COULIBALY: Yes. First let me start out by congratulating Tobias on this report. I very much enjoy reading it, I thought the choice of the topic was really great, and the key messages were spot on.

MR. WESSEL: Pull the mic a little closer to you.

MR. COULIBALY: As I look at the emerging market landscape, say, since the global financial crisis, I'll tell you, what strike me the most is, in fact, how resilient they have been: starting first would be global financial crisis itself, and then you had the European crisis in late 2011, that was followed by the taper tantrum, and then commodity price shock in 2014, and then the China stock market crashed, and the exchange rate devaluation in 2015.

So those were a series of really major shocks that would have in other times, in the '90s, caused widespread systemic crisis in emerging markets. But what we've observed, by and large, is that they've been able to weather those shocks relatively well, to various degrees. Not to say that it came on unscathed, but at least we didn't see them lining up to get bailouts from the IMF. So they have done something right.

And what that thing is in my view is that they have moved to strengthen a lot of their fundamentals, they have reduced a lot of the vulnerabilities, and importantly, they have bolstered policy credibility, and it reached to flexible exchange rate regime which has given them some room to be able to use it a bit more effectively, the domestic policies.

That being said, obviously past resilience is no guarantee for future resilience, especially now that they are in an environment of what I believe would be relatively low growth, coupled with relatively limited policy space. So, in this kind of environment then I think a difference between the growth rate of 2 percent and 1 percent, may very well fill that 50 percent, as opposed to 1 percent.

And it would have been nice to be able to see some stress tests along those dimensions as to what will happen, say, if the growth, the forecast in the WEO sort of under-delivers. And in part because since 2011, the WEO has been -- the forecast has been -- has surprised consistently on the downside in varying percentages. And that is not a criticism of our Fund colleagues; I think it's a reflection of how we approach forecasts as macroeconomists.

And I do think that that is intimately sort of linked to corporate earnings, and as well as perhaps better risks, so it would have been good to be able to kind of provide some scenarios where you shock growth, and then we see then how many emerging market firms are able to survive, and whether this could indeed turn into a much bigger problem.

MR. WESSEL: Brahima, what happens if the dollar is very strong, and emerging market corporates have borrowed a lot in dollars? Is that a risk that I should worry about, or do you think that’s one that’s overplayed?

MR. COULIBALY: I think that is a risk, certainly to worry about. And if you go back to I think the '90s, and the earlier part of 2000, it was one of the perennial problems that emerging markets indeed had. So what the stronger dollar does is basically weakening the emerging markets currencies, and to the extent that they have some liability is not fully matched by the dollar assets, then it sort of boosts a little bit of debt servicing cost. And that in turn can indeed create problems for them.

And I think it is part of the issue that vulnerabilities have reduced, the ones I alluded to earlier, but since the global financial crisis, dollar debt has been again on the rise, and just last week, I read a report on the Q1 2017, that it was the highest issue, about $100 billion of issuance, which was the highest in any first quarter.

But that is not to say that they have exposures, we need to go back and then be able to see whether they are sufficiently hedged, either naturally or through the financial system. And unfortunately it's where I think, too, there are some data gaps that don't allow us to be able to assess the extent of the exposure. And those working on those financial stability issues, including the Fund and the BIS, that would be a good place to try to fill in those data gaps.

MR. WESSEL: I see. Daniel, do you share Tobias' anxieties about the perennial problems of the European banking system?

MR. HELLER: Thank you. Before I get into the substance, I have to say that I have read I think two dozen of GFSRs before the crisis, and it has always been very informative, including the last one. I think if there were no GFSRs, one had to invent them.

So now on European banks, I'd rather share the IMF's conclusions. European banks are a diverse group, you have banks that are in the Euro Area, you have banks that are in the European Union, you have banks that are not in the European Union and not in the Euro Area, you have small banks, big banks. So, it's very hard to come up with a generalized assessment.

But I would say, in general, the situation has improved, supervision of Euro Area, large Euro Area banks have improved through the single-supervisory mechanism, capital levels have also increased. I would share the assessment that there is overbanking, there are too banks with too many branches; they are operational efficiencies stemming from underinvestment in technology.

But I would also add, I think, that capital levels are still not where they should be. There is still not enough capital, and this is a problem because weak banks don't lend. Only banks with enough capital are able to take risk and lend to the private sector. And I think that’s one of the problems of the Euro Area, that there is not enough credit, and that’s the banks don't have enough capital.

Maybe an additional thought that I would like to offer is that if we want to understand the problems of the Euro area banks we also have to look at the governance structure. And there I think we see that many Euro area banks have governance issues that they have to address. And let me illustrate this with a comparison of Euro area banks, with Anglo-Saxon banks in the U.K., in the U.S., Canada and Australia.

And what we find, for instance, is that fewer Euro area, larger Euro area banks are listed on stock exchanges. Only about two-thirds in terms of assets are listed on stock exchanges, compared to basically 100 percent in Anglo-Saxon countries. This means there's less transparency in Euro area banks, there's less market discipline, and this ultimately is an explanation for the balance sheet problems, the NPL problems.

And if you look at the ownership structure, we also see that the large Euro area banks, they have much less disbursed ownership. Less than half of Euro area banks have disbursed ownership, compared to about 90 percent of Anglo-Saxon banks. And this implies that it's much more difficult for these banks to raise capital, because you will have a large shareholder that doesn't like to be diluted.

MR. WESSEL: Thank you. I should have noted. I meant too, that although Daniel was the head of Financial Stability at Swiss National Bank, his most recent job is as an executive director at the Fund, for Switzerland, a great collection of countries; Switzerland, Poland, Serbia, Azerbaijan -- and what were the four Central Asian? Do you remember them?

MR. HELLER: Yeah, sure. Kazakhstan, Kyrgyz Republic, Turkmenistan and Tajikistan.

MR. WESSEL: Very good. So, Rob. On one hand I'm taught everything is changed since the global financial crisis, on the other hand, there's this fascinating observation -- and the world is more global. I mean I read in the paper today that a Chinese conglomerate is now the largest shareholders in Deutsche Bank. Diana's outfit had forecast -- has talked a lot -- McKinsey Global has sort of talked a lot about the financial connections across countries. Yet the GFSR says that, well, you know, somewhere between 20 and 40 percent of the variation among countries can be explained by global financial conditions, but the bulk is still domestic, and even more interesting and surprising to me, the fraction that’s global has not increased in the last 20 years. Do you buy this?

MR. KAHN: Well, my basic presumption is to buy whatever is in the report.

MR. WESSEL: That’s no fun. Gosh!

MR. KAHN: It's a great report. I always rely on it, I learn from it, and it has become so important that it does set the starting point of international debates. But I think, David, you’ve hit on the thing I've struggled with the most as I read the report, because certainly my presumption coming in is exactly as you said it, and let's use the U.S. as an example.

Following the global financial crisis, we've lost confidence in a lot of the critical economic relationships that guided our understanding, both in terms of how the economy responded to shock, and the role of monetary and financial policies. It's the Phillips Curve, the Beverage Curve. The role of international factors and they did (inaudible), and we have struggled, right, and debated what it means for the U.S. economy, for what it means for where long-term interest rates are going to go, and where, indeed, the economy is headed.

And so really, my presumption was, indeed that things have changed in recent years, and that as we move forward we do probably need to be paying a lot more attention to international factors, and the role they play on the U.S. economy, in terms of how shocks transmit, and the like, that we need some different models.

Maybe that’s wrong. Maybe it's just that in some sense these relationships have been delayed by headwinds, by the natural repair that needed to happen, and we are going to be back to these, and they are going to start manifesting themselves in the coming weeks or months. But it hasn’t happened yet and as long s it doesn’t happen, we need to admit the uncertainty.

From that perspective, I think the report, and particularly chapter 3 of the report, which is excellent, presents a conundrum in this way. It does argue for globalization, and more attention to global factors, but the evidence they present on this long-term, limited change in the role of international factors, seems to me, cuts against this conventional wisdom. And it's very hard to know -- I think it does feed into the broader question we are discussing today, which is the role of extended policy uncertainty for markets and for financial stability more broadly.

MR. WESSEL: The world has enjoyed or suffered, depending on your perspective, very low interest rates in the United States for a very long time, with some degree of uncertainty about how fast they were going to rise, but I think that uncertainty has dissipated some. They are growing up. And the report mentions this. Do you the system is vulnerable to strains that will occur when the biggest central bank in the world starts to raise interest rates, it could another 50 basis points this year? If they could stop increase, they could start shrinking the balance sheet, it might be a few more basis points next year. How big a risk is that, do you think?

MR. KAHN: I think it's a pretty significant risk going forward. As you say a lot it is the monetary conditions point that we seem to be seeing a different Fed right now, in terms of its willingness to move aggressively in tightening financial conditions, both through rate hikes, and through, at some point an announcement change and how they are going to handle the assets on the balance sheet.

That's certainly part of it, and Brahima talked about our long history of that having potentially -- those types of cycles having profound effects on global markets. Where we go? Once again, another element of policy uncertainty; the Board, the Federal Reserve system will look very different in about a year, five potentially, maybe six changes.

And so we don't really -- We have this additional uncertainty that the policy views of the key players may be very different in a year. And so, yes, I do think that that is a significant continuing risk in terms of (inaudible). And if I can just broaden it out, and tie it back in some earlier comments. The broader question here is that, to my mind, is the market's resilience to this extraordinary range of monetary and geopolitical risks that we face.

Now, at one level, we shouldn't be shocked. (Inaudible), and Morgan Stanley and I went back and just looked at a long history of political shocks since World War II. And what was that actually in the majority cases markets, while they often fell quickly after a big shock, bounced back very quickly as well. And often within a period of a week we are back to where they started.

So, in some sense this resilience that we've seen in the face of these uncertainties, following things like the Brexit vote, or French elections, and the like, actually is more the norm than the exception. But when we pushed further and said: well, why is there this confidence, despite all of this economic and political uncertainty? We kept on coming back to the idea that markets had a strong -- in cases where they were resilient, had this strong confidence in the policy framework.

It goes back to Tobias' first slide. And this confidence that policymakers will do the right thing, now in some cases that can be a monetary and fiscal response. In some cases it's confidence that the key political leaders have the ideas, the wherewithal, the skills to respond in the right way. And of course if anything challenges that, whether it's the people in power, or this more broad wave of populist and nationalist sentiments, which I believe is going to continue to constrain policymakers going forward, then, you know, that may call into question this fundamental anchor and market response which comes from just basically saying policymakers can deal with whatever we face.

MR. WESSEL: So, Tobias, can we start with the point that was made a couple of times. The markets, emerging markets have been impressively resilient through a series of post-crisis shocks. I sense a little bit of anxiety on the part of the panel that that period may be coming to an end. Do you share that anxiety?

MR. ADRIAN: So, we have been through a very long expansion since the financial crisis. The economic expansion has been seven years already, which is much longer than the average expansion since World War II. During that expansion, growth has been very low, globally growth is low, and that is reflective in very low interest rates. So, central bank interest rates are low because we are in this low-growth environment where demographic factors are changing, where productivity is lower, and so we have been in a recovery, but it's a recovery with low growth.

The turning point that was identified in the WEO is one where it's totally correct what Brahima said. The IMF, along with, pretty much all other forecasters, whether they are in the public sector or the private sector, have consistently forecasted that we would get back to a higher growth equilibrium. So, post financial crisis people, every year, would forecast, well, we are at 1.8 percent right now, at 2 percent right now, but we'll get back to 3 percent next year.

And they were persistently disappointed. But it's a little bit different in the current environment than over the past 7 years, is they select evidence from around the world that we might be getting back a slightly higher growth path, and it's really evidenced that it's not just located in one country and one region, it's sort of like broadly around the world. Now is it dramatic? No. It's not really dramatic, but feels like a little bit of a turning point, and that is exactly how the World Economic Outlook is presenting the story.

Could we be disappointed? Yes, of course, we could be disappointed, and that’s where the policy uncertainty is coming in. You know, there are lots of risk factors, out there. In terms of market pricing, which is what both Diana and Robert has talked to, basically with the recovery, we have seen equity markets rally. The rally has started since the end of the financial crisis, since 2009, we have seen the equity markets rally and at the same time we've seen of course interest rates continue to go down globally.

And so when you look at the equity risk premium, so when you look at equity market that valuation is taking into account, that future cash flows are discounted with interest rates than they were historically; then, of course equity risk premium is starting to be somewhat compressed, but it's not extremely compressed by historical values, right?

So basically, say, the price earnings ratio is very elevated, the price earning is vey elevated, but that's not taking into account that interest rates are low, and interest rate are expected to be low for a long time in the future. So, this is why people often use the equity risk premium. And the equity risk premium is compressing but it's not extremely compressed by historical standards.

So this is one thing that is important, but of course we are in the late cycle, and there are risk factors out there, which is exactly what I was trying to get at in my presentation. Now, these risks are -- The risks that we are seeing are a lot of policy risks, so you know, Brahima was talking about emerging markets, and we fully agree that emerging markets are exposed to the swings in global financial conditions, so we actually document that when you look at domestic financial conditions in countries around the world, 40 percent of those domestic financial conditions are associated with global financial conditions.

So, the extent to which domestic financial conditions vary, 40 percent of that comes from global developments. In contrast, only around 12 percent of domestic fink conditions; is associated with domestic monetary policy shocks. So when something like global financial conditions vary around, you can offset them with domestic monetary policy, but on average, in the data, you know, countries are doing all that much with monetary policy in terms of financial conditions.

So the exposure of emerging markets to global financial conditions has improved since 2013, say, so the countries that were particularly exposed to the taper tantrum in 2013 are generally -- have increased their resilience, they've increased their foreign reserves. They have actually slightly reduced the U.S. dollar exposure, but vulnerabilities remain.

And so just coming to the European banks: So, again, the key takeaway for Europe is that there's a variety of problems in different countries. For example, Italy and Portugal are still struggling with the hangover of the financial crisis. They have a lot of nonperforming loans, and they are also struggling with overbanking and high costs.

Other countries, more on the north, you know, might not have the NPL problems, but some of them do have overbanking problems, some of them actually only have the overbanking problem, they are very low-cost but they have a lot of branches. So you really have to look at different countries have different problems in Europe.

MR. WESSEL: I have a different question, but if anybody has a response or want to follow up on anything that Tobias said? So, if I hadn't read the GFSR and I had to guess what they would say about the U.S. economy, I would not have expected to see U.S. corporate leverage as the one thing that's highlighted. I recognize, and that Tobias had that nice chart about leverage, and he nicely adjusted for energy.

As I understand it, there is a lot of leverage in energy which has obviously been a problem given low oil prices. There are issues that the Fed has pointed out in real estate, but my prior would have been that, compared to where we were like that's the last thing I'm worrying about, the stability of the industrial balance sheet. This is the journalistic thing of: if you don't have data use anecdotes. That Apple reported yesterday they have $250 billion of cash, and The Wall Street Journal calculated, that's enough to buy -- that exceeds the market cap of 26 of the 30 companies in the Dow Jones Industrial Average. So, did anybody share my surprise that U.S. corporates are on the list? Or do you agree or disagree with, that as a highlight? Diana?

MS. FARRELL: I would definitely agree that it surprised me. If anything I would have thought of that more as a strength that corroborate your more optimistic view of the U.S. economy. Not only because the level of cash sitting, not just at Apple, but many, many corporates right now are sort of record highs. But also because it's pretty clear that if we could -- if somehow corporates do expand their appetite to invest more, there's a lot of supply to feed them.

And so I think they could easily raise more capital, or equity, and therefore would not need to rely on increased leverage to do it. If anything I think there's frustration in the investor markets that there isn't opportunity to invest in equity like returns. So, I agree that that is not the biggest risk. I see the bigger risk as you correctly point out, kind of the policy uncertainty, but in the U.S. context, in particularly some of the detrimental ways in which otherwise good things could turn out.

MR. WESSEL: Daniel?

MR. HELLER: Yes. I have to admit I was a little surprised too. I found it an interesting read, this chapter, but it did not entirely convince me for the following reasons. So, if there is this corporate tax cut and incentives to repatriate money to the U.S., we don't really know how much of this tax cut, and repatriation will be invested. So, obviously there will be some investments but in order to have leverage to increase, they would have to invest the amount of the tax cut, and what they take back plus the increased leverage. And for this to happen across the nonfinancial sector, I think it's just, to me, not so likely.

MR. WESSEL: In other words, they might get a tax cut, they might bring back some money, but that wouldn't necessarily lead to more leverage unless they invested it all and borrowed some more on top of it.

MR. HELLER: Or they may buy back shares, they may increase wages, they may increase dividends, we don't know that.

MR. WESSEL: Right. Of course, at the rate we are going, if I were a corporation I wouldn't be spending my tax cut just yet. Rob?

MR. KAHN: And a lot of this gets to the view about where we are in the cycle, certainly, I think there are a lot of commentators out there that worry that particularly low-rated corporate credits are extraordinarily rich for this stage of the cycle. Of course then we debate where we are in the cycle. But I think it's a macro concern at the core, I kind of share the view, I think the legislative agenda that we get out of this administration is quite limited. I assume tax reform will not get through; we'll probably end up with a more narrow set of cuts.

But then at the end of the day what it is it's a simple fiscal expansion at near-full employment that the Fed will be forced to respond to, and will likely create imbalances, and spillover to probably bad investment decisions over time. And I think that has to be the fundamental concern.

Now if you are an optimist, and you think, you know, we are going to have 3 percent growth, and that in a sense we are going to crowd in this additional spending with great new investments, you can be pretty sanguine. But I think, you know, most mainstream economists, and certainly I, myself, with the view that there's just not the space there for that.

MS. FARRELL: Actually, Rob, if I could just add one thing to that. I think that's right, I think that where you could get slightly pessimistic here is to see this large fiscal stimulus that actually drives kind of more heat and problems. And your report I think correctly says, look, there is a risk that the regulatory reform agenda will weaken financial stability, but I would have -- I wonder if you could talk to how much of this -- I think the biggest risk is around capital, liquidity, solvency type of provisions that the Dodd-Frank put in place, that more of the G20 are sort of adopting.

We didn't get too much of that in this report. I would argue that that may be more important than what interest rates are doing or not, although the report spends a lot of time talking about the interest rate.

MR. WESSEL: Right, right. That was my next question.

MS. FARRELL: Oh. Sorry.

MR. WESSEL: Right? So, Tobias, let's divide this in two pieces. One is, the response on the corporate, and the second is, I'll get to financial regulation.

MR. ADRIAN: Yes. Thank you. So, when you think about the U.S. corporate sector, you really want to think about it not as one sector, but you want to cut it in different dimensions, looking at the cross-section of firms. And what you correctly point out is that there are some firms in the U.S. corporate sector that have a tremendous amount of cash, and have very low leverage.

So, Apple is a typical example, tech companies in general tend to have a lot of cash and very low leverage. However, that is not who are corporate sector in the U.S. There are other parts of the sector that have less cash and more leverage. And in particular when you look at the investments for the capital expenditures of U.S. corporates, what you will find is that roughly half of the corporates -- sorry -- half of the spending of capital expenditures of the U.S. corporate sector, is done by only three sectors that are extremely highly leveraged -- or that is highly leveraged, and where cash flow does not cover capital expenditures.

So those are, you know, utilities, energy and real estate. And so those sectors do produce half of capital expenditures, they do have high leverage, and have low cash flows relative to capital expenditures. So, if you want to -- you know, if you want to generate a higher growth rate going forward through capital expenditure the whole corporate sector has to expand, but this subsector of the corporate sector has to expand as well.

And so that subsector would either have to take on more leverage or issue equity. So, to the extent that the equity market valuations continue to be rich, probably that sector could issue equity, as Diana pointed out, but the risk is of course that there's a reversal to valuations. And at that point that 50 percent of the sector that is highly leveraged, you know, becomes fragile and this might not translate into the higher capital expenditures, the policy, as expected by some market participants. So that's the risk that we have seen.

MR. WESSEL: Can I just follow up on that?

MR. ADRIAN: Yes.

MR. WESSEL: I understand that most of the capital -- half the capital investment has been in energy, real estate and utilities, I get that that might be a bad thing. But why would I have to project that that will continue? Isn't there a possibility that that investment will not -- we've overbuilt shopping centers? We've done the fracking thing, so that the majority of capital spending, if we get a capital spending boom it will be on the other sectors of the economy, the industrial, and the high-tech, and all that.

MR. ADRIAN: That could be case -- Sure, I mean, the future of the economy could look very different than the past. But, you know, typically structural changes in the economy, you know, the compositional effects across sectors, are a very slow-moving kind of thing.

MR. WESSEL: I guess I thought the anomaly was that then other sectors aren't investing, rather than that these sectors were.

MR. ADRIAN: No. All of the sectors have cut back capital expenditures. So, the first chart that I showed where you see the sharp drop in capital expenditures around 2001 --

MR. WESSEL: It's the (crosstalk)?

MR. ADRIAN: -- that is fairly broad-based.

MR. WESSEL: Okay.

MR. ADRIAN: And so, you know, to really get to sustained, higher level of growth you would expect to see higher capital expenditures across the economy.

MR. WESSEL: Okay. Can I ask? Before I get you to financial stability, I want to get -- So, Diana raises a good question, and I don't think it's only a U.S. question. It's easy to make the case that we are at the high point of financial regulation, that the combination of Daniel leaving the BIS, Brexit, the rise of the deregulators and the Trump administration, a change in personnel at the Federal Reserve, it's easy to make the case. I'm not sure it's right, but this is the high watermark.

And what Diana is saying is, be careful, because once you start down this slope it tends to be pretty fast and that's how we got into this mess. So, do you share that concern, Rob?

MR. KAHN: I do. And I think in some ways that would be the most direct challenge to the report. Because the report, after laying out these concerns, the incomplete reform agenda sort of basically says we need more. We need more Europe, we need to move more aggressively on this global reform agenda in which we back like international agreements, and enforcement mechanisms, and the like.

But if you step back from that and say, you know, we are seeing a fundamental rewriting of our political debate. And these debates on open view of the world, and integrated view versus a more closed, nationalistic view is going to inform our politics and our economics probably for the next decade, nowhere more so than in the financial space. Where, I think a nationalist, whether in the U.S. or in Europe or elsewhere would come up -- may agree with the concerns and come up with a completely different policy agenda for it.

In the U.S. context, you know, where I don't think we'll get legislation, but over the next 3, 5, 7 years we could see a very significant change in the regulatory environment, to something that could be more nationalistic. What does that include? Does it mean ring-fencing? Does it mean barriers to inward investment; preferences for smaller national banks, and the like?

On the other hand, it could regulatory forbearance and laxity. We don't know, and that regulatory uncertainty hangs with us, but certainly at the core of it that nationalist approach involves rejection of large multilateral agreements backed by binding sacrifice of sovereignty in the name of a greater good. And I think that in some sense is the core of the arguments. How we can then inform a coalition for the kind of suggestions that are in this report?

MR. WESSEL: Brahima or Daniel, do you want to weigh in before I toss it back? Go ahead Daniel?

MR. HELLER: I think the spectrum of possible scenarios is just extremely big.

MS. FARRELL: But you do (inaudible) (Laughter).

MR. WESSEL: Yes. Oh, yeah, definitely --

MR. HELLER: And I think what is in the report, is in a way, one can see they try to come up with what we know are possible scenarios, like corporate tax cuts in the U.S., and repatriation of money, they say that regulation may be weaker, they make a point it should not happen, but of course I mean the world can fall apart; but I fully (crosstalk).

MR. WESSEL: I do think that all of these -- I always feel like these reports, if something happens, they've got it covered. Like if there's a sentence or foot note that said, oh, yeah, we mentioned that. So, Tobias, how serious a risk is it that we have a race to the bottom in financial regulation after this sustained race to the top?

MR. ADRIAN: Of course the International Monetary Fund is very much committed to global corporation among the regulatory bodies. We feel that it can serve the member countries of the BIS and the world more broadly, to coordinate globally on minimum standards.

One thing that is important to recognize is that, say the Basel III process is international cooperation, but of course every country can implement those standards in the say that it sees most useful for its own country. So those are not binding agreements. So, it's the regulators that are convinced by the process that are going back to the home countries, and then go through all of the processors that are, you know, particularly to their countries, in terms of writing rules to implement those standards or passing laws to implement those standards.

So, there's no sovereignty that is giving up to the international regulatory bodies. So, we are -- at the Fund we are fully committed to the high capital standards, and liquidity regulation as well as the resolution regime that has been developed since the financial crisis. We feel that this is really the core of the regulatory reforms. We are now in a system where banks are much more highly capitalized, the system is much more resilient as an effect, and the quality of capital has increased as well.

Similarly, liquidity standards have been introduced which makes the banking system a lot more resilient, and then the resolution regime really aims at dealing with too-big-to-fail issues. So that large financial institutions can be resolved in a manner that does not create systemic risks. So, those are the three main areas of the international regulatory reforms.

Of course, in every jurisdiction around the world, there have been additional rules that have been implemented, and those additional rules are not necessarily the Basel Agreement and, you know, they are not necessarily part of the global consensus, and some of the additional rules might be streamlined. So even in the implementation of the Basel regime, there are lots of degrees of freedom that regulators have, and with the benefit of seeing how those regulations work, you know, some of the regulations might be optimized without giving up of these core principles which is high capital, high liquidity and the resolution regime.

MR. WESSEL: I compliment you on the diplomacy of that answer. Brahima, we haven't talked about China. The report makes the obvious but rather frightening observation that the Chinese have a real tension between, on one hand they want to deleverage; on the other hand they want to keep growth going. So, I guess my -- It occurs to me that if I were stepping back and looking at what are the two or three things that could really upset this apple cart, that China blowing it would be one of them.

So, how do you think about China? Are we sufficiently concerned about China? But more importantly, is China sufficiently concerned about getting the balance right, do you think? And you don't work at the Fed anymore, so you don't have to be diplomatic like Tobias.

MR. COULIBALY: I think there could never be enough of a concern about conditions going on in China. And in fact I think since the aftermath of the financial crisis it's been one area basically on the radar, almost everybody looking at financial stability issues. And if any flare-up it seems like most expecting then the crisis to unravel, but they manage somehow to prove -- predict doomsayers wrong every single time.

How much longer that can go on, is quite uncertain. I think as you correctly point out, and the report touches on this, is indeed the main vulnerability has been leveraged, it's going up by a quite a bit, and I think the credit gap is somewhere around 25 percentage point of GDP. Which, in any normal circumstance would have resulted in a (crosstalk) --

MR. WESSEL: Okay. But define a credit gap?

MR. COULIBALY: The credit gap would basically be the run-up in credit, this is what you would consider a normal and healthy expansion of credit. And so then that’s really a major concern. But China being China, there are some unique features of the economy that may suggest that they have levers to mitigate the situation.

The first is that a lot of that debt is really owned by state-owned enterprises, who owe to state-owned banks. So it's the sovereign owing to itself in some sense. And once we take that into account you may say that in the end then they should be able to somewhat use some of the resources at their disposals to mitigate it. And indeed it's been growing because of that potential precisely, they are running a really delicate balancing act between the need to really preserve a minimum level of GDP growth, so they don't run into a lot of unemployment situation that could in turn result into social unrest. Right?

At the same time they recognize that the rising credit is a major issue, so what they've been able -- what they've been doing so far looks they take one step in addressing the vulnerability, but then they watch the growth outcome and if looks like growth is going to slow, they will take a step back and then switch the attention to growth.

So, what I'm most worried about is that I think they do have the resources to handle a downfall from -- because of the reasons I mentioned. What I'm perhaps most worried about is the complexity of the task, given how opaque and interconnected it is, sort of overwhelms the ability to react in a timely fashion.

MR. WESSEL: Hmm? Interesting! I'd like to take a few questions, and I think what I'd like to do is two or three. We'll start with you, Andres. And Peter, this question right next to you. Take two or three, and then we'll let the panel, and Tobias to respond.

SPEAKER: Thank you very much. Andres Oslim from the Atlantic Council. I would like to ask about an apparent contradiction here in the panel. On the one hand you want the regulation that we have now, or even more, on the other hand, you want more globalization. We are now seeing that the European banks are withdrawing from Eastern Europe, not only from Russia and Ukraine, but also from Poland, and Hungary. And this is very much because of a European bank regulation.

We are seeing that American banks are withdrawing from emerging markets because it's cost too much in terms of the compliance costs, and perhaps most pernicious of all, is FATCA, the Foreign Account Tax Compliance Act, which means that U.S. persons barely can open a bank account in Europe. What would you like to do about this? Thank you.

MR. WESSEL: Peter there's one on your right; that gentleman who has a card up, and then Bert. Say who you are, please?

SPEAKER: Yes. Pedro Lupski, (Inaudible) Foundation. Two very brief questions: In the quest to financial stability how much inefficiency in the credit allocation to the real economy can you take? And the second question is, on this re profits to be repatriated. I hear cash, cash, cash. What cash? Have these not been deployed by not this $2.2 trillion, already invested in Treasury bills, whatever? What cash are you talking about?

MR. WESSEL: Thank you. Bert Ely? Behind you, Peter, to the right.

MR. ELY: Thank you, David. Bert Ely, Banking Consultant. I have a two-part easy question about China. Number one --

MR. WESSEL: Easy question about China. All right.

MR. ELY: To what extent might there be an instance where the banking regulators will -- a lien on the banks, both state-owned and private, to start getting more realistic about reserving for the loan losses on their books? And to what extent might we see a demand shock in China if not only businesses, but households start to become concerned about being over-leveraged, and consequently cut back on their borrowing, and therefore on final demand?

MR. WESSEL: Okay. Anybody wants to volunteer? Andres' question was basically having undesired effects of bank regulation. You caught the ball.

SPEAKER: Do you want to go first?

MR. ADRIAN: Yes. I'm happy to start. So, we do see to some extent that global banking is becoming less global. And what you are pointing is that regulations play a role there, but of course there are other factors as well. Since the financial crisis, you know, bank business models have changed dramatically, not only due to regulations. Of course the regulations play a big role, but also due to the changing economic environment.

So, for example, the European banks had started large banking organizations, in particular trading organizations. In the U.S., in the run up to the crisis, you know, in order to increase returns, and once the financial crisis hit many of those operations registered very large losses, and that is one of the factors that is making those banks reevaluate their global presence.

Secondly, I mean, there are attempts to ring-fence and that is really a way of deglobalization. You know, Switzerland was one of the first countries to ring-fence, the U.S. has the intermediate holding company construct, which is a kind of ring-fencing construct. And so the way to think about ring-fencing is basically that the regulators say that it's no longer -- so global bank, right, has a home country, and traditionally, the main supervision was done in the home country and, say, capital and liquidity could be distributed across the world in whatever way the bank judged most efficient as long as, on a consolidated basis, it had enough capital and liquidity.

And so the movement of ring-fencing is a movement where domestic regulators say, well, you have to have enough capital and liquidity even in each of the countries in which you operate. So, say a European bank that has a subsidiary in the U.S. has to capitalize and, you know, the subsidiary in the U.S. on a stand-alone basis.

And that, of course, has cost and benefits. So, the benefit is in terms of financial stability for the host country, but the cost is that they might have restored capital and liquidity allocation across the larger banking organization. You know, and those are tradeoffs. I mean, there are many tradeoffs between financial stability and, say, credit growth.

Let me name another tradeoff like that. At the Fund there has been a lot of work done on corresponding banking. So, corresponding banking is basically allowing people around the world to wire money internationally and to have to do that through corresponding banks. But corresponding banks have been winding down their businesses in many foreign countries due to compliance concerns, or regulatory concerns.

MR. WESSEL: Rob?

MR. KAHN: Yes. I basically agree with that, and then just tying it into -- And so, I at one time worked at a bank that probably announced that it was in over 100 countries, and this was an important call. We never really had a quite a great answer to the question that was asked in an investor's (inaudible). Why are you in 100 countries? And so they are not in 100 countries now. But obviously at the time the argument was very much that there was a powerful economy from being everywhere your clients wanted to be.

That there were economies of scale and scope to being big, and global, even though a lot of economists have failed to find and econometric work these economies, you know, to being this big. But there was that perception. And certainly, as you say, I mean, if that’s been challenged there because of the legal risks of misstepping, and in these environments the compliance risk which Andres emphasized, as well as just the general economic reassessment that's gone on post the crisis.

I don't see that necessarily coming back, but I also, it seemed implied by my earlier remarks, see at least from that, kind of these nationalistic pressures that I think are mounting in terms of the debate. You know, a growing -- That to the extent we see, whether it's in Europe, regulatory reforms that may create incentives for home or bias. I think you could get the same over the next several years in the U.S., the part the way this debate resolves actually is maybe to reinforce a national bias in banking investment and the like. So I don't see that necessarily reversing.

MS. FARRELL: Yes. I would just pipe in with that. I think that there were elements of the reform agenda that Dodd-Frank and subsequent international efforts that made that tension harder that it was in the past. But, you know, nothing compared to what Brexit is doing to the U.K. financial system, and it's more that nationalist, populist type of thing that is likely to create that tension, because --

MR. WESSEL: But, there's a broader question here. And I think to the second question it is. So, we understand that there's a cost to ensuring financial stability, and we have to make a judgment about whether that cost is worth the benefit of heading off some future financial crisis. But in judging that cost, we are learning as we go, as to what the costs are. So, for instance, there are some anomalies in pricing covered interest parity, and complaints about liquidity, and stuff like that.

So, Daniel, you can answer whatever you want but, please. Do you think there's a chance that we underestimated the cost of this financial regulation, and now have to reevaluate? You can respond to that, or the other question, or say whatever you want.

MR. HELLER: I mean, in general, we have to expect adjustments in the business models to the regulatory environment, and that's not, per se, bad, right, there will be other new business decisions, and so forth. For corresponding banking I think the cost of corresponding banking has gone up, due to compliance costs and so on. So, it's natural that some of the providers will leave that market, and it's a low-margin business, costs go up.

So, if you will leave this market for some countries that's difficult because all of the providers have left. But for most countries it's not -- I don't think it's such a big issue, because as long as you still have one or two providers in a country that it's there, you don't need 10, right; two is enough.

MR. WESSEL: But Tobias, do you think --

MS. FARRELL: It's a really hard part of your question to answer, I would argue, David, is that I think on a -- you know, this is hard to do because so much of the cost-benefit analysis relies on a counterfactual of what happen. And so it's anybody's game. And, you know, we did spend, at the time that we were developing Dodd-Frank, a lot of work with the Fed to assess, you know, what is a point of capital requirement. You know, how do you trade that off in terms of GDP and in terms of future potential crises; and it's a guessing game if any of us are really honest about that?

But I would argue that the regulators, at least in the U.S., were very thoughtful about the cost benefit on most of the individual rules and regulations. What I do think is a fair question, which is even harder, as hard as that first one is: what's the cumulative effect of all of these? And we didn’t the luxury, some of us tried, believe me, kind of, if we were to start with a blank sheet of paper, what might we do, and what would we get rid of in order to add the things we wanted to?

And I think if you had that luxury, you would clean up a lot of things that, on a cumulative basis, would give you the same safety, if you like, with a lot less burden. That’s just not the way the world works. And we have jurisdictions in Congress that oversee different parts of the system. And you’ve got work with what you have, and many of these were incremental to the existing infrastructure, which I think, as with health care, it's just the way it is, and may be wiser and more enlightened people will move to a different mode in the future. I do think that’s a harder question but a valid question to say the cumulative effect of this may be overboard at the end of the day.

MR. WESSEL: Brahima, there were two questions about China. One is, are the banking regulators getting tougher on forcing them to accept that they had a lot of nonperforming loans? And secondly, is there a risk of a demand shock over-leveraged consumers pulling back? Do you have a view on either one of those?

MR. COULIBALY: In terms of the dynamics between the banks and the regulators, at what I will begin to really force them, I think the presumption is that they are not doing that already. But it's going to be hard to know when that occurs, because of the nature of the way policy has operated, if there are some problems, usually they would be handled before it actually comes to the surface.

So, it's hard for anybody to be able to know exactly what might be going on underneath the surface. By going also the other way, I think there's been some evidence that regulators, I reckon, have exercised some regulatory forbearance, and that perhaps even the nonperforming loan numbers that we are seeing, do not fully reflect the true nature of the problem in the banking system.

Now, when it comes to the Chinese household, and main shock, the area where there is cause for concern actually, is the real estate sector, because that’s where a lot of the debt is. And they’ve been struggling with it to sort of contain it. I think part of it was driven by demand, with increased urbanization, but there's also part of it that could have been basically developers sort of getting ahead.

And so where the households may actually get that kind of world shock, that may cause them to sort of pull back and the main contention would be, basically the real estate sector. So, the Chinese have also been fine-tuning policy to managing real estate prices. I think recently we've seen them go up quite a lot. But like around October of last year, they begun to deploy some prudential policies to try to gradually cause them to exercise a soft landing, and prevent precisely that outcome.

MR. WESSEL: Thank you. We'll take a few more? Peter, you have two gentlemen here in the front; and another guy at the back. Can you raise your hand again?

MR. HARIOT: The name is Judd Harriot. I'd like to draw you out a little bit more on the race to the bottom. What does mean for Dodd-Frank? Specifically what does it mean for the derivative trading component of Dodd-Frank?

MR. WESSEL: Okay. Thank you. Can you pass the mic behind you?

SPEAKER: Hi. I'm Henrick, I'm with National Journal. And I notice like throughout this conversation, we've been talking about regulations, you know, specifically Dodd-Frank, but one regulation that the administration has recently been doubling down on is Glass-Steagall, so I don't think is going to be like a really broad question. But what do you guys about, like the administration's desire to bring back Glass-Steagall? Do you think it can improve financial stability? Do you think it's just going to actually unstabilize it? Or do you think it's pointless, we should just move on from that conversation?

MR. STERLAND: I'm Barry Sterland from Brookings. Two things that the emerging countries really are concerned about generally, particularly in Asian region, Commodity exporters are tightening conditions from a combination to U.S. policies, high dollar, higher risks kind of premiums, and risk premiums. And the second is the demand shock from China. On one of the charts you put up, Tobias, had a very stark suggestion that there could be erection between those two that’s quite -- that in a combination would be harmful.

There would be sensitivity that China's situation to U.S. policies' fragmentation protection, and the like. So, I wouldn't mind some comments from the panel about looking out for those interactions between some of those large shocks, and how they could play through, and whether there's some work in the Fund to explore those interactions? And it will be interesting comments. Thanks.

MR. WESSEL: Diana, do you want to take the Dodd-Frank questions, derivatives and Glass-Steagall?

MS. FARRELL: Yes. Well, look, I think that this whole question, and your two couple of questions brings it precisely to light, speaks to the deep policy uncertainty that is, you know, the current situation both in Congress and in the Executive Branch. So, who knows what's going to happen? My sense, and I would agree with you, Rob, that it's unlikely that there is going to be radical legislative changes on this.

If you think about the energy that there was around replace and repeal of the Health Care Act, even that hasn't gotten anywhere so far. And there's just not that same kind of energy anywhere for a broad repeal of Dodd-Frank. But that's not to say that there aren't specific provisions that, you know, are going to be very, very attractive. To change, and maybe should be changed or not, but we get back to the balancing act.

So, I would just comment on this, that I think what the most likely scenario is, is there's going to be some changes in the direction of relief for the industry, some of which will probably be good, some of which may not be good, but I doubt that there's going to be a pretty radical, you know, rethinking Glass-Steagall, or these sorts of things, would be my best sense.

MR. WESSEL: Briefly, yes, Rob?

MR. KAHN: So, yes, the Glass-Steagall. I don't know what it means, and I think it means different things to different people, but at the risk of oversimplification, it does seem to me there are two strong strands in the Congress. One is a focus on, and we are going to call non-bailout criteria, right? Limiting the risk to taxpayer money from future crises, and that's very much a focus for them. And a lot of them fall behind these kinds of notions of Glass-Steagall, as a way to separate them and then we don't have to worry about, we are protected.

And then the other is this broader financial stability piece, and I think a lot of the rule-setting may really actually focus on that. So if they assure themselves that they are protecting taxpayer money we can give the forbearance. I don't know what it means for derivatives, I think the bigger risk in the near term is on capital and participation in these international agreements, or liquidation where we saw an Executive Order recently is another area, where I do think there's a lot of pressure to do something. And then the Volcker Rule. All of these, though, are kind of trying to compartmentalize the desire to allow additional risk-taking and forbearance.

MR. WESSEL: Right. But I would say that even without major legislative changes there will be different regulators enforcing each of these things, and that there's a substantial amount of discretion, the Fed, the Comptroller, and (inaudible).

MR. KAHN: And it could take five years before we really know where we are headed.

MR. WESSEL: Could definitely take five years.

MS. FARRELL: And I really underscore that the game is not a legislative game --

MR. WESSEL: Right. Tobias do you want to --

MS. FARRELL: -- it's a (crosstalk) game, and there could be pretty significant changes.

MR. WESSEL: Tobias, can you deal with the China question: the interaction between the commodity prices, and the demand shock from China, and the exposure of other emerging markets to China?

MR. ADRIAN: Yes. Of course there's a tremendous amount of work at the Fund on these broad questions of -- particularly the international transmission of shocks. Commodity prices are a key transition mechanism for shocks, and a mechanism that give rise to contagion. What we have seen in the latest commodity title, is that there was a boom and then a bust in commodities around 2014, 2015, and that was very much linked with the slow -- first the sharp growth in China, and then the slight slowdown of growth in China.

So, why is that? Well, China is a tremendous consumer of commodities, because it's producing -- manufactures goods for the whole world, and so the commodities are flowing into China, and then manufactured goods are flowing out of China into the world. And so the kind of growth rate that the Chinese economy has is very much a proxy for demand for commodities. But of course it's not the only area. You know, demand for commodities from the U.S., advanced economies, as well as the other emerging market countries, is also important.

So, yes, I broadly agree that the nexus between commodities, the business cycle and the pricing of risk is very much at the heart of considerations for financial stability that are happening at the Fund.

MR. WESSEL: Thank you. I just want to respond, with an unanswered question on the amount of U.S. cash abroad. I think the short answer as I understand is of course some of the foreign profits that are actually invested in U.S. banks, and in U.S. Treasury. So, it's a bit of a short hand to say the money is overseas. But what the companies want is more flexibility and what do with the money. And this repatriation would allow them, at a lower tax rate, to have full access to this money if they wanted to pay dividends, or whatever.

With that, please join me in thanking our panel, and thanking all of you. (Applause) A video of this will be online soon, if it's not already there. And if you take the papers at your feet and the coffee cups and put them in the back, we appreciate it. Thank you, all, very much.

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CERTIFICATE OF NOTARY PUBLIC

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

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