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THE FED AT A CROSSROADS: WHERE TO GO NEXT?
A CONVERSATION WITH NY FED PRESIDENT BILL DUDLEY AND ECONOMIST JOHN TAYLOR

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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. Welcome to all of you. The purpose of the Hutchins Center on Fiscal and Monetary Policy is to help improve the quality of fiscal and monetary policy and public understanding of it. And we come together today at a pretty interesting moment for the Federal Reserve. Interest rates have been at zero since 2008, now they may be about to rise, or may be not be about to rise. And I think that it's raised a big question about what's the framework that the Fed uses to make policy. And I think everybody agrees that they need something better than the economic equivalent of looking outside and deciding is today a day I should bring an umbrella or not. And so we thought this would be a particularly good time to talk about where the Fed finds itself right now and what framework it should use as it enters the next phase after what is by any definition an extraordinary period in monetary policy.

Bill Dudley, who joins us today, came to the New York Fed from Goldman Sachs in 2007 -- interesting timing, Bill -- to run the markets desk and he became President of the New York Fed in January 2009. And in that role he serves as Vice Chairman of the Federal Open Market Committee, the policy making committee of the Fed. John Taylor is the Marion Robert Raymond Professor of Economics at Stanford and many other things at Stanford. Among other things, he was a member of the Council of Economic Advisors in the first Bush administration, and Under Secretary of the Treasury for International Affairs in the second Bush administration. Now John of course is known as being the creator of the Taylor Rule, although I'm told he didn't actually put the name on it, somebody else did. It's a simple rule of thumb that recommends a short-term interest rate to the Fed based on where inflation is relative to its target, and how far the economy is from full employment. John unveiled the Taylor Rule in 1993 when Alan Greenspan was Chairman of the Fed. Now Alan Greenspan was either incapable or unwilling to describe his approach to the rest of the world, and what made John's Rule so amazing was he seemed to capture the Greenspan Fed with an equation in ways that were much clearer than Greenspan was ever able to explain to anybody else. (Laughter) And if you read the transcripts of the FOMC, Greenspan

talked the same inside the Fed as he did outside.

Now the Taylor Rule has since evolved and some people use it as a yard stick for gauging whether the Fed's interest rates are too high or too low. And there's even legislation pending in the House that would require the Fed to explain to Congress when it deviates from the Taylor Rule and, if so, why.

Bill Dudley takes a different approach. He said that simple policy rules are worth looking at, but aren't a good substitute for in depth analysis and judgment. And he has called the Taylor Rule incomplete because it doesn't incorporate financial conditions. After all he has said that the Fed influences the economy not directly but through financial conditions. And way back when he was an economist at Goldman Sachs he talked a lot about a financial condition index as a guide for monetary policy.

Now I am not a Ph.D. economist. I'm a student of economics, and most of the economist I know I learned as a reporter for the Wall Street Journal from wise and patient teachers like Bill Dudley and John Taylor. So I look forward to today's lesson. What we're going to do is Bill is going to start, speak for about 12 minutes. Then John Taylor will respond. Then they'll join me up here on the stage for a conversation, and then we'll turn to questions from those of you in the room, or for people watching on line you can send us questions via Twitter at #Fed.

So please join me in welcoming our first presentation, Bill Dudley. (Applause)

MR. DUDLEY: Thank you, David. It's a great pleasure to be here today to participate in this panel with John Taylor. I'm going to take today's topic, which is the broad where to go next, to address the issue of how should monetary policy be conducted.

This is an issue as you know that's getting considerable attention in Washington, D.C. To put it succinctly, the question I want to tackle is, is it better for policy makers to start with a formal rule as a default position or for policy makers to have a more flexible approach that considers a broader set of factors in setting monetary policy. As always, what I have to say reflects my own views and not necessarily those of the Federal Open Market Committee or the Federal Reserve System.

So to get right to the punch line, I favor a more flexible approach that incorporates a broader set of factors into the monetary policy decision making process. The world is complex and ever changing, there are many factors that can affect the economic outlook, and the attainment of the Federal Reserve's mandated objectives, and thereby the appropriate stance of monetary policy. At the same time, I do not favor total discretion in which monetary policy is determined in an ad hoc fashion as we go along, as David said, looking outside and deciding whether we need an umbrella today.

For monetary policy to be most effective, market participants, households, and businesses need to be able to anticipate how the Federal Reserve is likely to respond to evolving conditions. That's because the transmission of monetary policy to the real economy depends not only on what policy makers decide to do today, but also on what the public anticipates that the FOMC is likely to do in the future as the economic outlook changes and evolves.

Our experience at the zero or lower bound in recent years underscores how important expectations are in influencing the effectiveness of monetary policy. Policy makers thus need to act in a systematic and consistent matter so that expectations are formed accurately and economic behavior can respond consistent with those expectations. In my view this rules out a total discretionary monetary policy.

Now before I critique the use of prescriptive rules in monetary policy making I'd like to make it clear at the start that the Taylor Rule, which I mean the formulation based on John's 1993 and 1999 papers, has a number of positive attributes that make it a useful reference for policy makers. First, it has two parameters, the long-term inflation objective and the level of potential output that met directly to the Federal Reserve's dual mandate objectives. Second, the Rule has a desirable feature that when economic shocks pushed the economy away from the central bank's objectives, the Taylor Rule prescribes a policy response that can help push the economy back to where the central bank's goals are. And, third, a number of studies have shown that Taylor Rules are robust in the sense that they generally perform quite well across a range of different assumptions of how the economy is structured and operates.

Now despite these attractive features, I don't believe that any prescriptive rule, including the Taylor Rule, can take the place of a monetary policy framework that incorporates the FOMC's collective assessment of a large number of factors that impact the economic outlook. As I see it the Taylor Rule has several significant shortcomings that could be detrimental to attainment of the Federal Reserve's mandated objectives. These shortcomings are not just theoretical, they have been very relevant to monetary policy in recent years. First, the Taylor Rule is not forward looking. It's policy prescription is based on the current size of the output gap and the deviation of current inflation from the Fed's objection, not how these variables are likely to evolve in the future. So in a rapidly changing environment, the Taylor Rule and other similar prescriptive rules will wind up being behind the curve. For example, in the fall of 2008 Taylor Rule prescriptions were well above the level of interest rates that were appropriate at the time given the sharp and persistent deterioration in the economic outlook, and the sharp tightening in financial conditions that occurred during that period.

Now of course many economists at the time recognized that such prescriptions would have been inappropriate and they suggested various ad hoc modifications to those prescriptions. In fact, John himself suggested modifications to his rule were appropriate at that time. Nevertheless, there was no consensus about what the right modification to the rules were at the time, in part because the circumstances were so unprecedented and the outlook was so uncertain. If the FOMC had been required to justify to Congress deviations from a referenced rule at that time, I believe that would have slowed down how we responded to the crisis and would have resulted in a monetary policy that was no sufficiently accommodative. The consequence would have been a longer financial crisis and a deeper recession.

Second, the Taylor Rule as typically used assumes that a two percent real short-term interest rate is consistent with a neutral monetary policy. However, large literature concludes that the equilibrium in real short-term interest rate is very unlikely to be constant with its values affected by many factors, including the pace of technological change, fiscal policy, and the evolution of financial conditions. Sometimes it can be much higher than two percent. Presumably this was the case during the late 1990s

as rapid technological change lifted productivity growth. And sometimes it can be well below two percent. For example, when credit availability dried up during the financial crisis in late 2008, this drove the equilibrium real rate far below two percent.

More recently, the slow growth rate of the economy and the low rate of inflation that we've seen are evidence that the equilibrium real rate today is well below the two percent rate assumed by the Taylor Rule. If two percent really were consistent with a neutral monetary policy, then the very low rates of recent years, buttressed by our large scale asset purchases, should have been extraordinarily accommodative. As a result we should have seen much faster than the two percent growth rate that we've actually had over the past few years, and we should have seen an inflation rate much higher than what we actually experienced. This conclusion is supported by a number of more formal models. For example, the Williams model currently estimates that the equilibrium real short-term rate is around zero percent, not two percent.

Third, the Taylor Rule, and more broadly any prescriptive rule for the systematic quantitative adjustment of the policy rate to changes in intermediate variables such as real GDP or inflation, is incomplete because it doesn't fully account for the factors that are crucial to how monetary policy impulses are transmitted to the real economy. Monetary policy affects economic activity through its effect on financial conditions, including the level of the equity market, bond yields, the foreign exchange value of the dollar, and credit conditions. If the relationship between the Federal funds rate and other indicators of financial conditions were stable, then one could just focus on the level of short-term rates. But because financial conditions vary considerably relative to short-term rates, as we saw in the financial crisis and its aftermath, one needs to consider developments in financial conditions more broadly in setting monetary policy. In fact, at times when short-term rates have been pinned at the zero lower bound, the Federal Reserve has taken actions that ease financial conditions without actually changing short-term interest rates. Such actions have included fore guidance that the FOMC was likely to keep short-term rates low for a long time, and large scale assets purchases that resulted in lower bond term premium.

Now as they said at the start just because I don't want to favor a rule mechanically it does not mean that I favor the polar opposite, that is a fully discretionary monetary policy in which market participants, households, and businesses cannot anticipate how monetary policy is likely to evolve as economic and financial market conditions and the economic outlook change. If households and businesses do not have a good notion of how the Federal Reserve will respond to changing economic and financial market conditions, then this would loosen the linkage between short-term interest rates and financial conditions. This would also likely lead to greater uncertainty about the outlook and higher risk premium. And I think it would make it more difficult for policy makers to attain their objectives. Instead, what I favor is a careful elucidation of those factors that influence the economic outlook and how monetary policy is likely to respond to changes in the outlook. So this includes fiscal policy, productivity growth, the international outlook and financial conditions, as well as how much inflation and unemployment deviate from the Fed's objectives.

By conducting policy in a transparent way and communicating what is important in determining the central bank's reaction function, I think policy makers can strike the best balance between a monetary policy that fully incorporate the complexity of the world as it is while at the same time retaining considerable clarity about how the FOMC is likely to respond to changing circumstances. A formal policy rule such as the Taylor Rule misses this balance by going too far in one direction.

What is important for attaining the Fed's mandated objectives is not that monetary policy is described in terms of a formal prescriptive rule, but rather that the FOMC's intentions and strategy are well understood by the public. This argues for clear communications for the FOMC's meeting statements and minutes, the FOMC's statement concerning its longer-term goals and monetary policy strategy, the Chair's FOMC press conferences and testimonies before Congress, and speeches by the Chair and other FOMC participants. But it's also important that the strategy be the right reaction function. This means a policy approach that responds appropriately to important factors beyond the two parameters of the Taylor Rule, the output gap estimate and the rate of inflation.

Thank you for your kind attention. (Applause)

MR. TAYLOR: Well, thank you all for coming, and thanks for inviting me to be here. The last time I was speaking in this room -- not the last time, maybe the first time I should say, first time in 1982 -- and I gave a paper about how something called the Swedish Investment Fund was much like a policy rule. Stan Fischer, who was the discussant, and I looked up what he said just for this because it's interesting given that Stan is now at the Fed. He said, John reaches a surprising conclusion. Somewhere, sometime, a government policy worked in the way it was intended. (Laughter) Maybe that same day or another meeting the same year, Paul Volcker was here. We went over and had a few drinks and Jim Tobin came. And I remember -- just remember, 1982 is a difficult period -- and I remember very well Jim asking Paul, why don't you lower interest rates, Paul. And Paul Volcker said, I don't set interest rates, I set the money supply and the market reacts to the interest rates; sort of ended the conversation right then which is a whole interesting issue. But this was also a crossroads period if you like. A period where the Fed was turning I think, and Paul Volcker had a lot to do with that. It's somewhat related to where we are now. I think what Paul Volcker was able to do with his colleagues is turn the Fed from a very discretionary, stop -- go -- go -- stop policy, which was destructive, and both inflation and unemployment rose and the economy didn't do well. And basically it basically changed. It was tough, it was -- crossroads are always tough periods.

And I think this experience, plus all the research that people have done, has led me to the conclusion that we really need to strive to some kind of a focused rules based policy, because actually that's what Volcker did. He was very ad hoc in the '70s. That's late '60s and '70s when I started studying the subject, and it changed -- and the economy actually performed remarkably well. We call it the "great moderation", Mervyn King calls it NICE, for non-inflationary consistently expansionary. I kind of always liked the work "long boom", but it was related. I don't think there is any question the two are related. Unfortunately, it didn’t stay that way. And as I interpret the history, the Federal Reserve began to get off of that rule-like policy. I think originally it showed up in 2003, ’04, and ’05, so before the crisis. So there’s causality in my view and that deviation, along with other things, some regulatory lapses, at least made the Great Recession worse and led to a lot of the problems we’ve had in the last 10 years. I

think the Fed's actions during the panic -- and I'll come back to that as I discuss some of Bill's points -- were admirable; the lender-of-last-resort action in the panic of 2008. Then it seems to me it sort of continued to get off track and unconventional policies, quantitative easing, the way forward guidance was handled, was quite discretionary and unrule-like. I think that's one of the problems I've seen.

So one way to think about the crossroads is where the road should be, where you should be going, and to me it's really to get back. It is very important the way that Bill's articulated this. It's really not an all-or-nothing thing. It's a matter of direction and two more being more rule-like and more predictable. And I think that's what we need to be focusing. So to me, aside from the transition, aside from the crossroads, which is what we're focused on so much now, it's good to have a sense of where we're going. I think Bill's remarks are very constructive.

So to me we should be going in a sense back, but not completely because the world is different and you can see how emerging markets are so much integrated with the rest of the world. But go back to a situation where you can fairly well understand the reasons for the ups and downs and the federal funds rate of vested target. It's never going to be rocket science, it's never going to be perfect, but you can understand those.

In a sense that's what was going on in this rule-like period. You can refer to the Taylor rule as one way to describe that. Actually the Taylor rule was not originally a descriptive device, it was a recommendation device and we were always very surprised about how it describes much of the Greenspan Fed afterwards. So I think of this as more general and it's never meant to be mechanical. People always quote my original paper saying it shouldn't be mechanical, but it's certainly not ever meant to be mechanical.

So we're at this crossroads now. Actually I stayed at this wonderful DuPont Plaza -- not DuPont Plaza, the DuPont Circle Hotel last night and I'm looking at another crossroads. This one only has ten routes to take. You have Massachusetts Avenue. You have New Hampshire Avenue. You have Connecticut Avenue. You have P Street. You have 19th Avenue. And you can go either way, both ways on both streets, so it's ten options and the Fed's got to decide which option. It now seems to me it's

driving around that circle, driving around that circle, and we want it to go somewhere. I don't know. I think you want to go on a rules-based direction and it's not going to be easy. It never was. It wasn't for Volcker. And we learned something from the transition off of QE. Former Chairman Bernanke first talked about in a way that wasn't clear and caused the so-called taper tantrum. But then when things got clearer, it was quite smooth and strategic and I think it worked quite well. So clarifying where you're going and how you're getting there is important.

I would say one other thing, which Bill had mentioned. I think normalization or getting back to a rules-based policy also requires getting the balance sheet back to a normal level. It's a complicated issue under a lot of debate. Of course, when the Fed does raise rates, it will have to do it by paying interest on reserves and/or overnight reverse repos. But ultimately I'd like to see the situation where the interest rate, federal funds rate, is determined by the supply and demand for reserves. I think that puts an important sense of rules into the Fed. It actually makes it more difficult to do QE. I don't like QE, QE-infinity especially, but it seems to me that's another part of getting back to a rules-based policy.

Which of those streets is it? Maybe P Street for prosperity? Which way on P? Maybe west. I always like the western direction. It's also, by the way, I think the only downhill place you can go, so maybe a little easier to drift in that direction.

So, Bill, as I say, I really appreciate the care with which he's addressed these issues. He also gave a very important speech in 2012 to the Council on Foreign Relations, which talks about his views and how they relate to policy rules. In a sense it seems to me that by listening to this and reading these things, it's a way about to me how if legislation was passed, it might be used because it's really an attempt to describe what the Fed would be doing is different from a simple rule. Nobody wants to follow a simple mechanical rule, but it's useful to compare. People do it all the time. And so that kind of discussion might very well be how the Fed would constructively respond to the requirement that it report its strategy.

I like how Bill used the word "strategy" all the time as a strategy. It's not reporting a mechanical rule and indeed it may at some times require some modifications. I think the example Bill

gave of 2008, he mentioned I suggested modifying the rule. That's true. It is actually the period where we had this enormous movement between the Libor-OIS spread. There seemed to be some real credit issues in the market, so the simple idea was just adjust it by that spread. And Libor is not the best thing to use anymore, but adjust it by the Libor-OIS spread, kind of very disciplined -- it would have made a little bit of a difference. And the modifications are still within the context of a very rule-like, not discretionary thing.

Bill mentioned the Taylor rule is not forward looking and that's because it responds to the current state of the economy, the best we can measure it. It's always hard to measure where you are. By the way, we're getting better now in our forecasting, so where we are now is a little easier. But I think that's in a sense not the way I think about it because if you want to examine whether a policy rule works well, it's always going to be evaluated in the context of a model of the world or a view of the world, which is forward looking. So the Fed or any other central bank reacting to today's inflation rate is implicitly describing how it's going to react to tomorrow's inflation rate tomorrow. And any model or any view of the world that involves expectations is going to take that into account.

So even though you can't really see a forecast on inflation in the rule, you see the actual inflation rate. It really is forward looking. And, in fact, attempts to make or say to replace the current inflation rate by a forecast of inflation, thereby making it look explicitly forward looking, usually don't work that well. You kind of muck up the works. You also have to figure out how you're going to do a forecast of inflation. It's very hard.

I think the question of what the equilibrium real interest rate is very important. Originally the Taylor rule had a 2 percent target for the inflation rate. It also had a 4 percent equilibrium nominal funds rate, so 2 percent real. The dots indicate the Fed has slipped that down a little bit I think from 4 to 3.75, maybe 3.50 -- 3.50 is kind of the median at this point. I don't think that's in any way inconsistent with using a policy rule. You want to be able to describe why that's the case I think rigorously. It can't be willy-nilly. I've always worried about if you change your strategy or your rule too often, it becomes discretion in rules clothing, so you've got to be careful about that.

So finally just in the last minute, Bill recommends that you have a careful list of things you respond to and how you respond. The Taylor rule is too simple. But is that really so different? Isn't that really what we're striving for? The reason why the Taylor rule is simple is because we made it simple. If we did calculations -- I mean the struggle then was to find a rule for the central banks to use when inherently it would be so complicated. Everything would matter. Could you somehow boil it down to some key things? It was amazing we could. But I think the idea is you can boil it down to those couple of things, have trouble measuring them, but it doesn't mean your strategy doesn't sometimes consider other factors as long as it could be described as systematically and predictably as possible. I think that's what we're striving to do. Thank you.

MR. WESSEL: Well, thank you very much both of you for clear and succinct presentations. This is how I rate people who come to Brookings, whether they stick to time or not. Content is secondary. And I want to remind people who might be watching online that if you have a question, you can put it on Twitter at hashtag Fed and one of my colleagues will be your agent here.

Bill, I want to start with you with something. I think there's a Woody Allen movie -- I can't remember which one it is -- where he goes on a first date and he says to the girl, "Can we just kiss now at the beginning and get it over with?" So before we get into the deeper issues, so tell us, are you going to raise rates in December or not?

MR. DUDLEY: I wish I knew the answer to that, David. We said it depends on the data. There's a lot of data between now and the end of the year, so let's see what the data is. It's crazy to presume what the data's going to be when we can actually observe it.

MR. WESSEL: So if the economy performs as you forecast, then --

MR. DUDLEY: I said if the economy performed in line with my forecast, I would favor lifting off later this year. But it's a forecast. It's not a commitment. And people who have been in the forecasting business know that sometimes the forecasts are rights and sometimes the forecasts are wrong. So rather than relying on my forecast, I would look at the data and evaluate how the economy actually unfolds.

MR. WESSEL: Okay, thank you. So you said that it was important that the public well understand the intentions and strategy of the central bank. How well do you think the Fed has been doing that lately? What grade would you give yourself?

MR. DUDLEY: Well, in terms of what we're going do this year at the next couple of meetings, I think that we probably haven't been doing that well because there's different views on whether the economy is going to perform in a way consistent with lifting off later this year or not. I think that disagreement about will the economy be strong enough is a realistic one given that the economy's growing only slightly above trend, the unemployment rate is coming down very, very slowly, the recent economic news suggested the economy is slowing, and we have these developments in China and emerging market economies that could develop in a way that come back to hurt our economy and hold down U.S. inflation. And so it's reasonable that slight differences in the forecast are going to lead to differences in people's views of when is the appropriate time you lift off.

I think where we're very clear is in terms of what's driving our decision. We've been very clear that what we want to see is further improvement in the labor market so that we can become reasonably confident that inflation will return to 2 percent over the medium term. I think we've also provided a tremendous amount of information in terms of how we think the economy is going to evolve, how we're going to react to the economy. Compared to the 1970s and 1980s, the Federal Reserve has much, much more information now about what we're thinking, what our forecast is, how we think --

MR. WESSEL: You mean you give much more information.

MR. DUDLEY: Oh, absolutely. I mean in the Summary of Economic Projections, if you go back even 10 or 15 years ago, it didn't even provide an interest rate forecast. Now you can actually see all the different FOMC participants and what they think in terms of the timing of liftoff. And if you look at the last September FOMC meeting, you had 17 participants and 13 of them expected liftoff to take place sometime this year.

MR. WESSEL: John, how well do you think they're communicating their intentions and strategies now?

MR. TAYLOR: Well, I think it's a little confusing unfortunately right now. Leading up to the last meeting, it seemed to be more differences of opinion and more confusion than I've seen before. And then I think half the people were surprised by the decision and half thought it was about right of what they expected.

MR. DUDLEY: So the meeting got it right.

MR. TAYLOR: Right. It would be nice if there was a sense of 80 percent got it right or 90 percent got it right. But I think it is difficult now, and I think the reaction to that decision was to me instructive. I think one of the concerns -- we don't know all the reasons. You and your colleagues make the decisions. But one of the reasons to postpone was concern about turbulence in the markets, and the postponement itself seemed to cause more turbulence. We don't know for sure. So that in itself I think was a learning experience. I don't know Bill would agree, but I think that's very important because it is hard to change after so many years at zero. It is inherently difficult to do it, so I can understand that.

MR. DUDLEY: I don't think that our decision was based at all on the fact that there was turbulence in the financial markets. I think the issue was, are we making sufficient progress towards our objectives of full employment and price stability? And to the extent that there was uncertainty about the Chinese growth outlook, uncertainty about what was happening in China was feeding through to commodity prices and putting pressure on emerging market economies, that created uncertainty about what the impact would be potentially on the United States. Now some of that also showed up in terms of financial market turbulence, but to me the issue wasn't the financial market turbulence. The issue was really what was happening in China and the emerging market economies and the risk that that could come back to the U.S. and slow the U.S. down and make it more difficult for us to achieve our objectives.

MR. WESSEL: But, John, do you think that the problem is that they are not following a clear rule, or do you think that policy is too easy, or both?

MR. TAYLOR: I think that they go together. If you look at a lot of rules -- I mean Bill's tried to give some counter examples -- but many rules say the funds rate should already be above zero. It would still be lower than 3.50 percent than normal that the FOMC thinks it should be going back to, so it

would be easy in that sense. It would still be easy. But I think right now there's the sense out there that any increase can't be done as long as inflation is less than 2 percent, unless the economy is not burrowing ahead. But I think experience shows that a rule should have a higher rate at this point given the state of the economy. It will still be easy. It will still be quite easy compared to normal.

MR. WESSEL: Now when we talk about using a rule in normal times when things are stable like they were in the 1990s, and you think that one reason things were so good is because the Fed was using a rule, but it's also true that we had a pretty unusual period in the last 10 years. What would the Taylor rule have had the Fed do? And if the only thing you can tell us is well, let's deviate from it, then have you really accomplished your aim of having a systematic rule to which people can put confidence in?

MR. TAYLOR: Well, I think it's pretty clear. First of all, the rate would not have been so low in '03, '04, '05. That's my calculation after I've written about it many times. Other people have, too. That was written down before the crisis. That's probably the biggest thing. But the cut in rates in '08 is almost exactly what a rule would say. So if you want me to comment on it, on what Bill said, you basically have the rate coming down. I don't think it would have gotten as high if it had been raised earlier back in '03, '04, '05. You basically had inflation pick up and so the Fed raised the rate. It wouldn't have happened I don't think. So then they cut the rate and I never heard any complaints about that.

In 2009 there was a real issue about the zero bound. I've always thought when you hit the zero bound, it doesn't mean you do massive QE. It means you look at money growth and make sure that's steady. That's what I'd always written. And so then I think after 2009, as late as 2010 or 2011, there could have been some movement in the funds rate. So to me it's before the panic and after the panic are the big problems.

MR. WESSEL: So once they -- explain to me what happens. Once you hit zero, the rule tells you the interest rate should be negative, right?

MR. TAYLOR: Well, you don't have a negative. I never thought of having a negative rate.

MR. DUDLEY: You say you want to increase the money split, but how do you increase the money split when you're at zero?

MR. WESSEL: Yeah, exactly.

MR. DUDLEY: I mean a money split is not just going to increase by itself.

MR. TAYLOR: No, I think what --

MR. DUDLEY: Presumably you'd have to add more reserves to the banking system. And how do you add more reserves to the banking system? You do QE.

MR. TAYLOR: The QE was not motivated by keeping money growth from falling. In fact, it may have been sufficient not to do any QE to keep money growth from falling.

MR. DUDLEY: No, I think it actually was in the sense that we were trying to make financial conditions more accommodative to stimulate growth demand and create demand and actually then feeds back to money split off.

MR. TAYLOR: Well, I never heard any discussion about what we need to do now that the rate is at zero, just make sure money growth doesn't fall. That was the lesson from the Great Depression. Money growth fell.

MR. DUDLEY: But how do you prevent money growth from falling? What's your instrument?

MR. TAYLOR: You have the ability -- what did you do when you did QE? You bought bonds.

MR. DUDLEY: We increased reserves in the system.

MR. WESSEL: So is it you don't like the rationale for QE, or you don't think that they should have done QE and they should have done something else?

MR. TAYLOR: I think they simply should have made sure money growth didn't fall and if that involves some -- maybe it would involve some sales of securities.

MR. DUDLEY: No, we would have been buying securities to put reserves in the banking system, which is precisely what we did.

MR. TAYLOR: That's the counter faction.

MR. DUDLEY: It's precisely what we did.

MR. TAYLOR: Certainly wouldn't have purchased a massive amount of mortgage-backed securities.

MR. DUDLEY: John, you're not explaining what causes the money supply growth -- there has to be some instrument or policy that causes --

MR. TAYLOR: It's what we teach our students for years and years. You increase the monetary base by the amount that will increase the money growth.

MR. WESSEL: So they would have had to buy some assets.

MR. TAYLOR: I don't know. I don't think it's necessarily buy. In fact, money growth was doing okay. It would have been maybe sufficient.

MR. DUDLEY: It was doing okay because we were providing lots of stimulus to the economy. That's why it was doing okay. So I don't really think there was a conflict between QE and money supply growth --

MR. TAYLOR: Well it certainly didn't, that was not the justification. The justification was the low mortgage rates, lower long-term bond rates. And then eventually it was to stimulate the stock market.

MR. DUDLEY: But I think --

MR. TAYLOR: I never heard a description we got to get M2 moving again. I mean maybe somebody said it, but.

MR. DUDLEY: Well I think the reason why we didn't focus on money supply growth, was because we've seen that the linkage between money supply growth and nominal GDP growth has broken down in recent years. Which brings me back to a comment you made about --

MR. TAYLOR: Well that's --

MR. DUDLEY: -- Paul Volcker. Paul was systematic in his pursuit of his goals. But he was not a creature of habit in terms of what instruments he used to achieve those goals. He used money

supply growth for a period of time. And then when money supply growth no longer turned out to be a good predictor of nominal GDP growth, he switched back to interest rates.

So I think we completely agree that you want to be systematic in the pursuit of monetary policy. But you always want to be flexible, so that if you're implying some rule, and the rule's not working, then you need to modify your rule. And that's what really happened in 2008 and 2009. We were at the zero lower bound, and so the question is how do we -- if the economy needs more stimulus, because we're far away from our goals in terms of full employment and price stability, so how do we provide more stimulus?

We provide more stimulus by forward guidance. We're gonna keep interest rates low for a long time, and by large scale asset purchases. And I think that was much superior than following a rule. And to say, well we have to follow the rule. Because we got much better results. Not great results, but better results than we would if we'd been stuck to saying, "Oh, we have to follow this rule."

MR. TAYLOR: First thing, if you want to say what a policy rule would have said, you can go back and read what people wrote before this period, including myself, which is if we did simulations of models, if the rate hits zero, we usually cut it off at 50 basis points, or a hundred basis points. And then the idea is to just go back to a Friedman rule. I mean the things like Taylor rule came from Friedman rules. And so then you would do that. That was basically the strategy.

I don't think it would have been more than a year that you needed to do it.

MR. DUDLEY: So the Friedman rule is that money supply growth grows at a certain rate. So how do you --

MR. TAYLOR: That's exactly right.

MR. DUDLEY: -- do that?

MR. TAYLOR: And well we --

MR. DUDLEY: You add reserves of the bank, which is precisely what we did.

MR. TAYLOR: Exactly.

MR. DUDLEY: So I don't see the conflict.

MR. TAYLOR: Because you added so much in ways which were not dedicated to increasing money growth. It was --

MR. WESSEL: So your two objections are one, it wasn't described in terms of money growth. And Bill has said why.

MR. DUDLEY: We were focused on financial conditions.

MR. WESSEL: And the second question is that you think that a rule, which you would have been comfortable, would have implied less QE than they got, is that?

MR. TAYLOR: It may have applied no QE. It may have applied no QE. It remains to be seen, remember when you're evaluating --

MR. WESSEL: Because always the counter factual which is hard to --

MR. DUDLEY: I'm sorry?

MR. TAYLOR: I actually did work on evaluating the first QE.

MR. WESSEL: Right.

MR. TAYLOR: And found that it did not impact mortgage-backed securities. If you do a careful study of what else was going on to affect risks, it did not have an impact itself on reducing rates in mortgage market. So in that sense it did not work. So in that sense --

MR. DUDLEY: I think --

MR. TAYLOR: -- it made it more worse. Because you now have a policy --

MR. DUDLEY: -- we just primarily disagree about that.

MR. TAYLOR: -- which you can't describe systematically. You don't know how you're going to unravel it. You still don't know how you're gonna unravel it. And I don't think that's constructive. I think in this sense that's counterproductive.

MR. DUDLEY: John, once we got to the zero lower bound, we'd never been there before. We're in an unprecedented financial crisis, at that moment it makes sense to figure out what you can do to innovate, to provide more monetary policy support to the economy. And that's what we did. And I think that's far preferable to saying, "Well, we're just stuck here." And we got this old set of rules

and we got to follow them. I think we did much better by pursuing the course of action that we did. That's just my view.

MR. WESSEL: All right. And you disagree on the efficacy of QE. You don't think it works. And you do.

MR. DUDLEY: I think it was helpful

MR. WESSEL: Right, right. John, I want to tease out one thing, because you both mentioned it, but I'm not sure if everybody understands. The Taylor rule has an equilibrium real interest rate in it. That is an interest rate that we think is the inflation adjusted rate when the economy's at full employment, kind of things are at normal.

MR. TAYLOR: Neutral monetary policy, we just keep you there.

MR. WESSEL: Right. And when you did the Taylor rule, there seemed to be a lot of consensus that we kind of knew what that was. But now, there's a lot of disagreement about what it is, and there's a substantial argument that it's come down. So, if you're the fed, and you pointed out that it's always hard for the fed no matter what you're doing to know exactly what's happening now, exactly what the inflation rate's gonna be, how big the shortfall from full employment is, doesn't it get another order of magnitude more complicated when you can't be sure you know what the equilibrium rate is?

MR. TAYLOR: So first of all, David, I don't think it's correct, at least my memory is that everybody agreed about what the neutral rate was in the '80s or '90s that was basically an approximation that seemed sensible at the time. And it worked. I mean it wasn't like it was everybody thought -- they didn't think of it in those terms very much. In fact, the very focus on what the equilibrium real federal funds rate should be, in a sense came out of that policy rules. And it was assumed to be two -- that rule had a lot of twos in it. Easy to remember the number two. (Laughter) Two percent inflation target, which the fed eventually adopted, 2% real equilibrium funds rates. One over two for the coefficients.

So it was based on lots of studies, but in a way it was simple.

MR. DUDLEY: But the --

MR. TAYLOR: So I don't think it's changed that much about the uncertainty. What I think

has happened is we are in a world which is craving, maybe it's going to reverse, but for a while has looked for my discretion and so that is the best way put in discretion into a policy rule. You just change the level. You can do whatever you want, if you just change that rate. And --

MR. WESSEL: You don't think there's more uncertainty today about the equilibrium rate than there was ten years ago?

MR. TAYLOR: I think what's happened because of the unusual monetary policies, the holding things at zero, how that's gonna unwind, I think it has caused more uncertainty of where the inflation rate's gonna go. I think that's caused uncertainty. And in a way, the inflation has more stability about where the -- I mean what were you going to assume about the inflation rate in the '80s? So there's I think much more certainty about that.

MR. DUDLEY: When --

MR. WESSEL: Oh, well, please.

MR. DUDLEY: Subtle point. John, you talk about the rule, as if the rule came first and the then the policy in the '80s and '90s followed it. But isn't it really more accurate to say that there was this monetary policy that was pursued doing the '80s and '90s, and it turned out that the Taylor rule was a good description of that monetary policy? I mean isn't that really sort of the causality it sorts goes from the monetary policy to the rule, rather than the other way around?

MR. DUDLEY: Well Alan Greenspan describes it as the fed deserves and assist.

MR. TAYLOR: Okay.

MR. DUDLEY: And the policy, the Taylor rule, if you like. I think that's right. But I want to put it this way, you're still -- what was going on with Volcker was an attempt to focus policy on a smaller number of things, maybe inflation, so he thought inflation was the best thing to get down in order to help the unemployment rate.

MR. TAYLOR: Absolutely.

MR. DUDLEY: And to be clear about that strategy, he didn't even have to go and talk about it very much. I remember the Jackson Hole meetings, he basically didn't say anything. And

everybody knew what the policy was. And the other members didn't have to talk about, it was very clear. So that to me was very rules based and forecast.

But if you just did a regression at that point, you'd have the '70s in there, and you'd get much different estimates. See, somebody, at least if what you're saying, would have to of chosen a particular period and used that to drive the coefficient. So I think it's really based, at least I can speak for myself, it was not based on a regression. It was not based on looking what the fed did. It was based on what our research told us would be good to do.

MR. DUDLEY: I think no one wants to go back to the monetary policy of the '70s, so we certainly agree on.

MR. WESSEL: Right. So, but John, when you tell the story about what's happening, I have this caricature in my mind that the only thing that matters in the economy is monetary policy. We had stability in the '80s and '90s. We had bad times in the early '80s, because we had lousy monetary policy. Paul Volcker brings a miracle. Everything's good for a while. The fed deviates from your role, and then everything falls apart.

Aren't there a whole lot of other things going on at the same time?

MR. TAYLOR: Absolutely. No, absolutely. Monetary policy can't do everything. And the fed says that, I agree with it completely. But it can cause instability. It can cause stability. And I think you look at the timings of those movements, if you look at different periods of history. If you look at different countries, monetary policy is very powerful for good and for bad.

MR. WESSEL: And your view is that if the fed had been a little tighter in the 2003, 2005 period, we would have had no crisis? No housing bubble? Or a smaller one? Or what?

MR. TAYLOR: Yeah. It's not a little bit. Just by way of comparison. In 2003 the funds rate was 1%. The inflation rate was about 2. In 1997 the inflation rate was 2 and the funds rate was 5 ½%. So just to get that, 2% inflation, two different periods, roughly the same state of the economy. One point 5 ½% the other point 1%. It's a big difference. I think that was part of the search for yield, a part of the excesses. I always say it wasn't the only thing. I think it was some regulatory oversight missing.

And, but those together, and we never know for sure, but it's just the kind of thing that people were talking about. And it's the kind of thing that happened.

MR. WESSEL: And do you agree that?

MR. DUDLEY: I think that monetary policy is very second, third order. I mean I would point to the mortgage underwriting standards, or lack of standards. I would point to the leverage that existed in the financial sector. I would point to the securitization of really complex mortgage products that people thought were safe, that turned out to be totally toxic. I mean I think we would have gotten a housing boom, even if the fed reserve had followed a slightly tighter monetary policy regime.

If I were to critique the 2003, 2007 period, I would have a slightly different critique than John's. Which is even though the Federal Reserve raised short-term interest rates systematically, meeting after meeting, financial conditions actually never really tightened. Biennials came down, the so-called savings glut. Stock market went up. And mortgage credit availability until we actually got deep into the financial crisis became more and more available. So I think it was the fact that monetary policy wasn't sufficiently tight to generate a tighter set of financial conditions. Not because the fed was sort of deviating from the Taylor rule.

But I think the biggest failure is really more on the regulatory side. I think monetary policy was very second order. Chairman Bernanke's written about this in his blogs. And I guess I would sort of --

MR. WESSEL: And his new book. You got to plug the book.

MR. TAYLOR: And his new book, exactly. He's gonna be speaking at the Economic Club in New York, which I chair, so I'll give a little (laughter) (inaudible) for him next month.

MR. WESSEL: John, when you look at what the fed has done over the last several years, as Bill pointed out, they have these quarterly forecasts, they say where they think the rates are gonna be in the next couple of years, and what they think they're gonna be in the long run. They have this dot plot, although they don't have names on it, and everybody guesses whose dot is what. They have a press conference. They have written a statement of kind of a mission statement. They've moved

to a 2% inflation target. Overall, do you think this is all a move in the right direction? Or do you think it's a move in too much information and not enough consistency?

MR. TAYLOR: I think you can have too much information. I don't think that's doesn't --

MR. WESSEL: Cannot have too much information?

MR. TAYLOR: No, I think you --

MR. WESSEL: You can?

MR. TAYLOR: -- can.

MR. WESSEL: Okay.

MR. TAYLOR: You definitely gonna be out there talking all the time and thinking you're being transparent, but you're just confusing things. I think in a way, I agree there are many different examples of how to communicate. And sometimes you don't have to communicate; the people know what you're doing. And I think that's kind of the ideal.

I do think though, that the examples that you're giving are missing an important thing as what's the strategy? There's a very important statement of goals and strategy that you guys worked out. It's all goal, there's no strategy. If you read it -- you read it, it's a couple pages.

MR. DUDLEY: I don't agree with that, John.

MR. TAYLOR: There's no strategy there. So I think that's the -- it doesn't say what you're gonna do to the instruments. It doesn't say how you're gonna react if you're goal is off track. To me it's misnamed. It's goals. And you need another thing on strategy.

MR. DUDLEY: No. I think we actually do have a pretty clearly defined strategy. Look at the FOMC statement. We're gonna follow a very accommodated monetary policy designed to push the inflation rate up and unemployment rate down. We're gonna lift off. We anticipate we're gonna lift off after we've made further progress in the labor market and become reasonably confident inflation's gonna return to 2% over the median term. (inaudible) that seems to be pretty clear to people.

I mean what's not clear is about how the economy's actually gonna perform. And then so I think the issue is not how the feds are gonna react to the incoming information. It's about how the

economy's actually gonna perform. Is the economy gonna be strong enough to generate further improvement in the labor market, to make us reasonably confident that inflation's gonna return to 2% over the median term.

People want us to be able to be clear, both about our reaction function and about how the economy is gonna evolve. We can do the former, but we can't do the later. So there's always gonna be some residual uncertainty.

MR. TAYLOR: I don't think there is anything about the reaction. You, in remarks, mentioned you want to have a list of key factors and some sense of how you react to those. I don't see that in the strategy statement, Bill. I heard you say it here. I applauded that. But I don't see anything like that in that statement.

MR. DUDLEY: Well, I mean I think it's there in the FOMC statement, the press conference, the Summary of Economic Prediction. We basically said right now what's important to us, growth rate of the economy, pressure on labor market, push the unemployment rate down, and a sense that this will be sustained. So it's not just about what's happening today, but it's how it affects the economic outlook. And if those things happen, then we'll begin to be able to raise -- being to normalize interest rates.

I don't really understand what's unclear right now. What's unclear right now is the economy and how --

MR. TAYLOR: Are you kidding? No one knows what you're doing. (Laughter) You guys, I'm sorry, this is a public event. (Laughter)

MR. DUDLEY: Please, don't hold back, John.

MR. TAYLOR: By the way, I want to say, I should say this, I have great respect for people in your position. And I respect what you're doing. But one of the great things about our country, and institutions like Brookings, is we have a civil society that can come and criticize.

MR. DUDLEY: Oh, debate is good. I mean I completely agree with that.

MR. WESSEL: So the questions you think the fed hasn't answered are what? What are

the questions that you -- that information do you want, that you don't have?

MR. TAYLOR: How much is it gonna react with the interest rate when certain events happen.

MR. WESSEL: You mean like an if-then sentence? If inflation gets to 1.9 --

MR. TAYLOR: Yeah.

MR. WESSEL: -- % then we're --

MR. TAYLOR: That would help, yeah. Right.

Mr. WESSEL: And you think that's a wise thing to do given all the other noise --

MR. TAYLOR: No. For example, you asked me, David, what should the interest rate be now, if you were at normal. And I said if you were back to normal it'd be maybe 1 ½%. I don't hear anything like that coming out of the fed. There are dots, but what is the dot in 2017 by Mr. X refer to? I think if you connected those dots to those people's forecasts, or outlook, then that would be -- then you'd begin to talk about a strategy.

MR. DUDLEY: If you look at the Summary of Economic Projections, you have a median forecast for real GDP. You have a median estimate of how that's gonna translate in terms of the unemployment rate and inflation. And then you have the dots that show how people think interest rates are gonna evolve. So I think you have a pretty complete description of the reaction part.

MR. TAYLOR: What would be, what would be helpful, and this relates to this legislation, if that legislation passed, and you had to report some kind of strategy, you guys the whole system, would have to get together to think about it and articulate it. It'd be hard. You might have a range. It's like when money growth was put into the Federal Reserve Act in 1977, originally the fed reacted in a way which they didn't want it, but it was coming. So what the fed did was everybody got together, and they thought, "What's the best way for us to report our money growth this year and the following year?" And it was -- there were different opinions. A lot of people never heard of money growth before. So they had to come together, and I think that's what would happen in this case.

MR. WESSEL: John, you mentioned the legislation, one of the facts of life is that almost

all the people who liked that legislation and criticized the fed are Republicans. And the Democrats have been very defensive of the fed. And I'm curious why you think that is, and does that make you a little uncomfortable that things have become so partisan on this?

MR. TAYLOR: I think it's a problem. I thought about it for a long time. And by the way, when I testify it's so visible, it's that side, one side, that. It's just so stark. And it's an arcane subject. It somehow, I don't think it just reflects the polarization people refer to all the time. It could be, I mean lots of possibilities. Some people say, well the parties have somewhat different philosophies about government and interventions, and power, and that. So one party is sort of generally less interventionist. I'm not saying that everyone is. And the other is a little more interventionist. I think the fed is quite interventionist recently, so they may be more comfortable with that.

There could be, I'm sure there's more political reasons. If I were a political scientist, I'd be able to figure that out.

I don't think it's good, quite frankly, it's this way. I think it's, I mean people mean well. They're trying to be constructive, but for some reason it's gotten very partisan.

MR. WESSEL: And why do you think -- what's bad? What do you say you don't think it's good? Why not? What's your concern?

MR. TAYLOR: Well the issues don't really, to me, fall on party lines that much. You know we all want to have a good strong economy. We want to have a stable economy. We want to keep inflation low. And all those things. So there's nothing that needs to be partisan about it.

It could also be, it could go way back to the William Jennings Bryan type of partisanship. I don't think it's that. I think it's --

MR. WESSEL: Do you have thoughts on that?

MR. TAYLOR: Well I think it's, I mean I think that the fact that it is polarized politically understates why it's a bad idea. In part, because it would essentially politicize the monetary policy setting process. I think you want to have independence of monetary policy in terms of insulated from the political process. That doesn't mean independence in the sense that the fed can do whatever it wants. It's the

Congress sets the goals of monetary policy, and the fed has to carry them out.

But you don't want the said fed to be second guessed over every little monetary policy decision, because that would ultimately politicize the process, reduce the credibility of monetary policy, and make it harder for the fed to achieve its goals. I mean there have been a lot of academic researchers, as John knows, that the outcomes are better if monetary policy's insulated from the political process. And I think this legislation would actually reduce that independence, and that would actually make -- that would risk having a less effective monetary policy setting process in the United States, in my opinion.

MR. TAYLOR: So just for the record, I disagree with that. I think in some sense if you look at where independence has come and gone, ebbs and flows, it's not really the Congress, it's the administration. Think of the accord, on and off, and think of the period of the '70s, it's clearly administration.

So in a sense this legislation leaves it up to the fed to determine that it's strategy should be, when to change it, what's reports it. I think, my experience in government, which is not at a central bank, but in the administrations, is I think that would improve independence because you say this is our strategy. We reported it. So get off our back. We're not gonna do what you're asking us to do.

MR. WESSEL: Wait a minute, I'm just -- so I agree with you that the original concern about independence of the central bank was from the administration. But since I'd say Bill Clinton and beyond, the administrations both parties have been very consistent. And if there's a threat to fed independence now it seems pretty clear to come from the Congress. I'm not sure you could get a vote of the majority of Congress who think that independent central bank is a good idea. Of course, you couldn't get a vote of the majority of Congress to pick the day of the week. So I mean that's not a very heroic statement. (Laughter)

MR. TAYLOR: Well, yeah. We're actually talking about the particular legislation, not all of Congress. And there are pieces of legislation which would go in the direction you're talking about. But this particular legislation I don't see it that way. I think it's constructed in a way to try to give more

independence and more insulation. There's always resistance by the Fed to Congress. Congress has responsibility for oversight, this legislation enables the Congress to have oversight in a way that things like a lot of -- the Fed don't.

Mr. DUDLEY: Right.

MR. TAYLOR: It basically, you know, one joke is, if it was not the Fed, and the (inaudible) finds out the Fed is using Ouija board, well that's too bad, but what are they going to do about it? On the other hand, if there's a requirement, you report your strategy as you see fit, the best you can, and along -- I think along the lines Bill was describing at the Pentagon. I think there's a way to have some accountability, and if you deviate, why, just tell us.

MR. DUDLEY: Well, you have said that the Fed looks at the Taylor Rule, or Taylor Rules, and it's input, it's a reference.

MR. TAYLOR: Right.

MR. DUDLEY: So, if members of Congress -- it always amuses me, the members of Congress even those who are in favor of John's Bill, never asked Janet Yellen. So, explain to me what the Taylor Rule would tell you now and how you are deviating from it. So, it's not clear to me what their motivation is, but why not just -- You have a semiannual report to Congress, there's lots of tables, lots of charts. Why not just put a chart in with the Taylor Rule and tell Congress we did it and let's talk about something else?

MR. TAYLOR: Yes. You can do that. That's an option, I think the problem of course whenever you start to focus on any particular rule that is that you are creating questions when you deviate from that rule, and then that may, in turn, limit your ability to pursue a different approach, in a systematic way. So, it's not the point that you just want to wander all over the place following a different policy, depending on what day it is, but you want to be systematic, that's very clear, but the (crosstalk).

MR. WESSEL: Right. And what John is saying is, I'm going impose some discipline on you, right?

MR. DUDLEY: But if the world changes, if the world changes systematically you have to

be able to change your process in that way as well, or how are you going to achieve and (inaudible) economic outcomes. I mean one of the problems with the Taylor Rule formulation, is like the interest rate over the last few years is, it would have led to a monetary policy that was significantly tighter than the one we've actually pursued, which means we wouldn't be make as much progress towards the -- to many of the objectives, unemployment.

And think of it this way, more people would be out of work today, and I think that's a -- that's the real consequence, and I don't feel comfortable having more people out of work today, on the basis of, well, I had to follow this rule.

MR. TAYLOR: I'm really just can't agree with that. I just -- you have no evidence for that whatsoever. It would be, my evidence looks at historical periods, when the economy is performing well that means unemployment is low, there's a pretty clear strategy it's being used, and you don't have to look at the United States alone, you can look at many other countries. It's counter to what you just said, and I think -- I understand you have a different view, but I don't think that's the way --

I think we'll be better off now, even in this current situation, if the interest rate was already, I'm not saying you should do that right away, but already 1.5 percent, you would be even less concern about downturn. I mean what are you going to do if there's a downturn?

MR. DUDLEY: And let's be --

MR. TAYLOR: And so all those things --

MR. DUDLEY: We'd be in a normal state, people would have a sense of --

MR. TAYLOR: The economy is operating pretty well, we got away from that very unusual policy, I think the economy would be in much better shape, I think it's --

MR. DUDLEY: And just repeat what David said, it's not the only issue.

MR. TAYLOR: There are lots of policy issues to address.

MR. DUDLEY: Then let's compare where the U.S. is today, to Europe or Japan. I think the big difference between those three countries, and we'll be much more aggressive in our pursuit of monetary policy, we are much more aggressive that we can't -- forcing the banking system to be

recapitalized, and as a consequence, even though we haven't performed it well, in the absolute sense, we've performed much better than the other major industrialized economy.

MR. WESSEL: But the proof of the pudding is in our actual performance compared to other countries that were slower out of the blocks to follow the similar types of policies.

MR. TAYLOR: Yes. Comparing to Europe I think there's so many other things in Europe. Just compare with ourselves at different points in history, in Japan, they followed you with QE. Because basically you did all those QE, drove up the yen, how they run, the yen is too high, we are going to appoint a Governor that's going to do what Fed did, we are going to do QE too. They did QE, they drove the yen to 1.20, just what they wanted, but where is that economy. Is that humming along?

People have written a lot about this currency exchanges, and of course in 2014 the ECB does their big QE and they drive the euro down. We've got a problem internationally, by the way, which is not healthy, the emerging markets countries are not doing well. You refer to them impacting you, how about you impacting them?

MR. DUDLEY: I think what's going on in the emerging markets is a lot more complex that what -- about the U.S. monetary policy. I think it's got a lot to do with the Chinese strong economic growth, and now the slowing and the change in commodity prices from, you know, from commodity price boom to commodity price bust. I would argue that the Fed's monetary policy regime has been very, very unimportant in terms of what's going on.

MR. WESSEL: John, do you think that fiscal policy in the United States for the last -- for the period since the crisis has helped the Fed achieve its goals? Or have been something that the Fed had to fight against?

MR. TAYLOR: So, that's a big question and I -- the stimulus packages, I don't think worked out too well, both in 2008 and with the Bush Administration in 2009, with the Obama administration. I don't think that's surprising, we learned in the past that there is temporary stimulus things do much effect -- have much effect, so that's what I think about the fiscal policy. I do think that the unraveling of those has required some contraction, and so I think that's sort of the inevitability of these

short-term boosts, you've got to undo them.

I do think that the issue about the debt is a problem, it's a little stable now, it's continuing to -- it's going to explode. I mean, the Fed is affecting that to some extent, and I think that's a problem. But it seems to me that the Fed's actions, sometimes the idea is out there; we are the only game in town. The fiscal policy is not working and so we've got to do it, some of the bankers hold out their advertisement, and we can do it, and everybody wants you to do it, and so you end up doing too much, I think, and I think that other central banks have had the same problem.

I remember there was -- the Reserve Bank of India in 2009 the Governor said to me, "Mr. Taylor, my government is telling us to do the same thing as the Fed is doing. Can you give us some ammunition so we don't have to do that?" But there's this kind of pressure that came all over the place to do something and I don't think it was a good -- sometimes you just say no, that's not our job. We are not a multipurpose institution, we are a focused institution, and the housing market --

MR. WESSEL: But the fiscal policy after the stimulus is contractionary, which you said it is, and the Fed should offset that or just say, tough, Americans, you voted for these clowns, live with it?

MR. TAYLOR: They should look at the overall economy and many things affect the economy and --

MR. DUDLEY: Including fiscal policy?

MR. TAYLOR: Including fiscal policy, yes.

MR. DUDLEY: Do you?

MR. TAYLOR: I mean, the Taylor Rule does that.

MR. DUDLEY: I mean, Congress gave us a very clear mandate, full employment in the context of price stability, that's what we need to pursue. And it doesn't say anything about, you are going to get a get out of jail free card, just because we are following a contractionary fiscal policy, we have to take the world as it is.

MR. TAYLOR: Right.

MR. DUDLEY: And so of course we need put all the tools that we have available to try to

achieve those objectives. Obviously I would have liked the fiscal policy to unfold a little bit differently, maybe a little bit more focused, probably like John, with a long-term fiscal outlook, and maybe a little bit less austerity, as quickly and as strong as it was in 2013 and 2014. But, you know, we have to take the world as it is, and then just use the tools that we have as best we can to achieve our objectives.

MR. TAYLOR: Also a lot of the austerity, so that would speak at the state and local level, is the economy itself. I mean, basically with the economy not growing so well, the revenue is not so well, so state and local spending has not proceeded very fast, so that's part of overall economy again.

MR. WESSEL: Right. I kind of wish we had one of these room where there were clickers and you could like, (inaudible), but of course I didn't think of that before. So we are going to take questions now, and there a lot people here, so I'm going to ask you to identify yourself, and keep your questions short. Do you want to start Krisha? There's a mic coming, and we'll see whether Krisha is as succinct as the speakers were.

MR GUHA: Unlikely. So, a question for Bill. Krishna Guha with Evercore ISI, and formerly at the New York Fed with Bill. Bill, you've emphasized a lot financial conditions in the framework of thinking about how policy affects the economy. Since mid of last year the biggest change in financial conditions, has been the dollar, and probably the case, and you've got a lot more dollar tightening, perhaps, than one would normally anticipate based on the rate plans and rate differentials.

So when you look forward, how do you think about the dollar in the context of your forecast and policy strategy? Is it reasonable to assume that you'll get more drag from the dollar than you would normally get if you follow a rate path that's more like the SEP than the path that's currently priced into the market?

MR. DUDLEY: Well, certainly we consider the dollar in terms of how it's going to affect import price, and how it's going to affect the trade sector's performance, and we see over the last year the dollar has appreciated about 15 percent on a broad trade-weighted basis, so of course that's dampening inflation, and it's also restraining growth.

So, of course we take that into consideration in terms of forecast. But we are not

targeting the dollar in any sense, we don't have an object for the value of the dollar, and we leave the dollar in terms of its valuation to the Treasury's Department to think and worry about. So the dollar is an environmental factor, just a lot of other environmental factors, what's having the credit spreads, what's happening in the level of the stock market. And all those things together sort of assume up in what -- what you would describe as financial market conditions.

Everything else equal, if the financial conditions are accommodative, then you'd expect the economy to grow faster, and you can incorporate that into your monetary policy thinking. Conversely if financial conditions are tighter, well then you would expect the economy to grow more slowly and everything else equal and you would factor that in terms of --

MR. GUHA: What if monetary policy is -- what if financial conditions are tighter because they anticipate (crosstalk)?

MR. DUDLEY: Well, there's an endogenous element as well. I mean, to the extent that the Fed follows the monetary policy consistent with market expectations, and other countries follow monetary policies consistently than market expectation, you wouldn't expect the dollar to move very much. If we tighten a lot more -- if we were to tighten a lot more rapidly than expected, and if other countries were to follow easier policies than expected, then the dollar would probably likely appreciate all else equal.

But, you know, today the dollar and its current valuation is presumably incorporating expectations about how monetary policy in the U.S. is going to evolve, relative to monetary policy in other countries.

MR. WINSTON: My name is Cliff Winston. I'm at Brookings. I'm a Micro-Economist. So, let me just say, you know, I've been -- as I hear all of this, you know, I'm thinking, this is just a déjà vu debate about a regulatory agency.

MR. WESSEL: About?

MR. WINSTON: About a regulatory agency. So the way I think about this, you know, the '70s and '80s, we have regulatory agencies, CIB, ICC, you know, FCC, they employed forms of Taylor

Rules, that's where prices were regulated using certainly -- they were bad ones, but they had them. And people then took your perspective and saying, look, this is rigid, let's start experimenting, give some flexibility, and we say, hmm, you know, these guys can make decisions on their own, so it's sort of looking good for you, and saying, you know, this more nuanced approach is desirable, but then they said, look, let's go one step further and completely start deregulating all these industries.

And that's sort of what I'm thinking about, with your perspective. If people are so good, and better than Taylor Rules, really guiding what the Fed ought to be doing, why don't we go then, that one step further, and completely isolate the Fed from any kind of political influences whatsoever, and say, look, we have these bright people, that look at data, they'll be nuanced, they'll start with Taylor Rules, and so on and so forth, and let them make policy, period.

They are not appointed by the government; they don't have to go before Congress. Now if you find that's off the wall, then I'll say, okay, fine, but then doesn't that bring you back to Taylor Rule saying, well, if they really are good, we really ought to let them go, but given that we can't, and we think that there'd be situations where they would be a complete disaster, maybe the rules aren't so bad. What do you think?

MR. DUDLEY: I think that, you know, the Federal Reserve has to have legitimacy in terms of what it does, and it gets its legitimacy from the fact the Chair of the Fed, the Vice Chair and he Governors are appointed by -- named by the President and confirmed by the Senate. And the fact that the Federal Reserve Bank Presidents are chosen by their Board records, and the Board of Governors, so that's a two-key approach, and that's where the legitimacy comes from.

They also get the legitimacy because we report to the Congress and to the world what we are doing and why we are doing it. So I think that legitimacy is very, very important. I think the problem with having this completely walled-off approach, is I think that people would have a legitimate question in a democratic society, who are these guys and women? And where do they get the ability to do this in a democratic regime?

So, I think that the balance that we have right now, I think actually it works quite well.

You know, a clear sense of legitimacy of the people that are doing the monetary policy, maybe because of the way that it works, in terms of who gets the positions. And then lots of reports to Congress and to the public about what we are doing, and so we can be evaluated on the basis of our successes and failure in the conduct of monetary policy. I think that's a good balance, people leave the decision-making about how to do it to us, but the goals are set by Congress, and I think that's a good balance.

MR. WESSEL: John?

QUESTIONER: John (inaudible) from The Wall Street Journal. I'm going to try to ask two very succinct questions, one for Mr. Taylor and one for Mr. Dudley. For Mr. Taylor, when you wrote your rule the Fed didn't have an inflation objective, one of the benefits of the rule was it has embedded in it a 2 percent inflation goal. The Fed now says explicitly it has a 2 percent inflation goal, why do we need a rule? By analogy when I call my plumber and ask him to fix a leak, I don't ask him to tell me before he's looked at the leak how he's going to fix, I just want to know he's going to fix it.

For Mr. Dudley; two Fed Governors spoke this week, Lael Brainard and Dan Tarullo, they both expressed skepticism, with expectations augmented Phillips Curve, which is a foundation of the Fed's view right now that inflation is going to rise. I'd like to -- And they also expressed some desire to see actual evidence that inflation is rising before they act on rates. I'd like to hear what you think that argument, if you have doubts about the expectation augmented Phillips Curve, and if you want to see actual evidence in prices and wages before you start moving. Thank you.

MR. WESSEL: John, do you want to start, the inflation target substitute?

MR. TAYLOR: Yes. So, the idea -- the question is, isn't just an inflation target enough? You say that it is, and we'll do whatever it takes to get to that. I don't think it is enough; it basically laves open completely how you get it. Anything goes, massive QEs, intervention in this market and that market, it doesn't describe your policy at all. I think also the plumber is probably -- What if there was only one plumber in town that you had a choice to go to, wouldn't you want at least some evaluation of their techniques, that they didn't rip your place apart? I think there's a little more than just -- a little more than your analogy you've got to think about.

QUESTIONER: More by (inaudible); Well, I think if there was only one plumber in town, and the plumber in town was completely incompetent, somebody would do something to make sure there was a new plumber in town.

MR. WESSEL: So, let's just pause with the metaphor, right.

MR. TAYLOR: Enough of that.

MR. DUDLEY: It's John's metaphor so I'll blame John. We'll blame John. In terms of the Phillips Curve, I think there's a lot of uncertainty about exactly how the inflation process works as you drive unemployment down to so-called foreign employment rate or maybe even a little bit beyond. So, there's really a question about, how much is inflation influenced by inflation expectations, versus how much is inflation influenced by pressure on resources.

And so we don't really know, precisely, what the shape of that tradeoff is, in terms of lower mark, and how much inflation we gat as a consequence, and we don't know how the Phillips Curve changes its shape as we drive the unemployment rate down still further. My own personal view is that I believe that if you push the unemployment rate down far enough, the Phillips curve would almost certainly get steeper, because inflation expectations will probably rise, that people will start asking the question, why is Federal Reserve running inflation, and then the unemployment rate gets that low.

There's just a lot of uncertainty about -- that when it gets between pressure on labor resources and how that actually feeds through in terms of higher inflation. And the reason for this is we've -- is inflation expectations have so well anchored over in recent years, and that seems to be the more powerful determinant of what actually -- inflation actually is.

Now, you asked the question, John, do I actually need to see actual inflation. I think to be reasonably confident that inflation is going to return to my 2 percent objective, or the medium term. Now, for some people that might, they might decide that they need to see actual inflation start to head up and be reasonably confident, but I actually don't feel that that's a necessary condition, or inflation getting back to 2 percent in the medium term.

Actually it's more pressure on resources and how to believe that the economy is going to

continue to grow above trend, and so the unemployment rate is going to going to continue to climb. I would expect that I'll become more recently -- more confident about inflation going back to 2 percent of the medium term. So I see -- I definitely see a linkage between the pressure and the labor market resources, and my confidence about inflation returning to 2 percent on the (inaudible).

That's why I see -- So, I'm not willing to just throw that relationship out the window, even though there's quite a bit of uncertainty about how that linkage works, precisely.

QUESTIONER: Thank you. Joe (Inaudible) from (Inaudible). A question for both of you. Can you comment on the usefulness in the United States of targeting a negative interest rate as an alternative to QE as it is now being experimented with in your --

MR. WESSEL: John?

MR. TAYLOR: So, I think it's worthwhile thinking about this a little bit, but I didn't go in that direction, it opens so many cans of worms, if you like, and you should probably stay away. I think it's a great thing to do research on, how you would articulate it, but I could image there's new securities that get developed, and there's new ways to game the system. So I would -- besides right now, interest rate doesn't have to be negative in the U.S. So I would stay away from.

The fact that -- you know, frankly my -- I think we only had this period in 2009, where you could even think about it, and since then it's not really been an issue, and it certainly wasn't an issue, in 2003, 04' and '05, which to me is the biggest mistake that there is no zero balance question then. They were way below what I think would be reasonable, but way above zero.

MR. DUDLEY: I don't think it's a question that's on the table right now because I think the economy is growing above trend and the issue is really a question of when are we likely to raise short term interest rates, not whether we are going to lower short term interest rates below zero. Now the one thing that we have seen over the last year or so is other countries have moved to negative short term interest rates and I would say that on balance the unintended consequences of moving to those negative short term interest rates is it's probably been less than what people had feared, but they're doing it in a totally different institutional set up than we have in the United States and so it's not obvious that just

because it's working relatively okay there that you would necessarily want to import it there.

We have a very different system in terms of how our money markets work and I think you'd have to ask yourself the question is the benefit of going to negative interest rates -- obviously in a very different environment than we are in today -- is that does that outweigh the potential cost in terms of unintended consequences. Obviously, as we went through the financial crisis that was an option and we decided not to pursue that option because of fears that the benefits were not sufficient to outweigh the potential costs.

The gentleman in the back there? Yeah. I think the mike is coming behind you.

MR. BROWN: Stuart Brown with Warren Capital. Aren't our interest rates already extremely high? You can see that in world markets our 10 year bonds pay three percent the same as Spain versus German at half of one percent and so our rates are very high and we are seeing the effect in terms of trade and also in terms of our monetary policy, we are experiencing the limitation of what can be done from just buying paper so money ends up at the banks but it doesn't leave the bank in terms of creating money. We are working with fiscal policy that's negative. So isn't there a limitation to saying we'll buy mortgages, we'll buy bonds, versus actually buying stuff like water and sewer authority bonds, port authority bonds, highway bonds, et cetera.

MR. DUDLEY: Right, two questions: First of all the fed is very circumscribed in what assets we can actually buy. We can buy treasuries, agency mortgage backed securities and we can buy very short term general obligation bonds at state localities, so it's very limited in foreign sovereign debt which it's highly unlikely we would ever do. So we're very limited in terms of what we buy, so what we bought did in terms of quantitative easing was in part defined by what the set of things that were actually within our domain to buy. Look I think that long term rates in the U.S. are quite a bit higher than they are in Germany and Japan. They are around two percent for the 10 year treasury yield right now. I think that's actually a very good thing because it shows that people actually think that short term interest rates in the U.S. are going to rise in the next few years and that's a sign that we are actually making some progress in terms of achieving our objectives. The fact that interest rates are so low in Germany and

Japan reflects a greater concern about the prospects of success and greater concern about how quickly short term interest rates will be normalized in those countries so I am very happy that we have higher long term yields in the U.S. that compare to Japan.

MR. WESSELL: Because you think they reflect a stronger economy?

MR. DUDLEY: They reflect a stronger economy and they reflect an expectation that short term interest rates will rise in the future so that we are actually making progress towards our objectives.

MR. WESSELL: Sam?

MR. FLEMING: Thanks, Sam Fleming from the Financial Times, can I just ask you to flesh out a little bit your comment at the beginning in answer to David's question that you are seeing a slowdown in the economy. Could you give us a little bit more idea of what indicators you are looking at when you say that. And one of the points Lyle Braniff made was that there is a risk when you are at the zero low bound of going too soon. That risk outweighs the risk of going too late and having to obviously hike more sharply. I wondered if you could give us your view on that.

MR. DUDLEY: I think there's some news that suggests that the economy is slowing down a little bit, obviously the things that's gotten the greatest attention would be the last payroll employment report, retail sales which we got earlier this week were a little on the soft side. I wouldn't want to make too much out of that. There is a lot of information between now and the end of the year and the economy has a lot of variability in it, just in normal course. The data is often not measured very well, very precisely.

So I wouldn't want to make too much out of that. When I look at the U.S. economy basically what I see is a domestic economy actually that's performing pretty well. Consumption is growing at a decent clip. The housing sector is recovering. Business fixed investment is rising. What's holding the economy back is really two things right now. Inventories. We had a lot of contribution of inventories to growth in the first half of the year and we are probably going to give some of that back in the second half of the year, almost certainly.

So third quarter for example we'll probably be somewhat weak around the GDP perspective, not because the economy is really that much weaker but because inventories are a drag. And the second aspect is the fact that the dollar is appreciate so much and growth in the rest of the world is quite sluggish. And so we are seeing persistent deterioration of the trade -- U.S. trade performance and that's not anything new, but that's going to stretch out for a while. When I put it altogether I still see an economy that's growing a bit above trend and if that's the case that we should see greater pressure over time on resources and if that is the case, then we should be able to be able to normalize monetary policy, but as I said at the very beginning that's a forecast.

MR. WESSELL: The question also was that when you are zero and you don't have very much inflation you have to make a judgment about what is the worst outcome? Is it a worse outcome that you wait too long and you get a little more inflation than you had hoped for if two, three percent or is it a worse outcome if you move too soon and you tank the economy just at the wrong moment. You don't seem to look at it that way, you seem to think that raising interest rates would be good for the economy and keeping the low is bad.

MR. TAYLOR: I think we're extra low now, so sort of moving them is in the direction of where they should be. So there' a constant confusion about if the inflation rate is low why shouldn't you just have zero rates? If the inflation rate is below two why not just have zero rates? Here that and maybe that is part of the question. That's not what we've learned from history. It doesn't work that way.

You've got to have the rates somewhat higher and so when I say it should be higher I don't mean it should go to two, three, four percent by any means, but it should be higher than zero. Also I think zero causes its own problems as -- there's distortions, it can't be lowered without raising questions by negative interest rates or QE4 which I hear unfortunately around sometimes. It's better to have a more -- it's like your car needs to have a sense in which it can go faster and slower. You can put on the accelerator, take it back, put on the brakes. But we're not in that situation now.

MR. WESSELL: Bill in your view of risk management is it zero?

MR. DUDLEY: Look, I think there are risks on both sides. I mean I think there's risks on

both sides. One if you tighten prematurely then you risk having to go back down to the zero lower bound and that raises questions about what do you do at that point? But if you wait too long then you might have to tighten monetary policy aggressively and that would risk -- the risk of recession on the other side. So you are balancing those two risks and balancing those two risks at a time the economies growing just a little bit above trend its reasonable people can reach different views on which of those risks predominated. So I think there's risks on both sides.

MR. HUTCHINS: My name is Glen Hutchins. One comment: If there's only one plumber in town I think I'd want to have as many tools and technique as possible to fix my problem.

MR. WESSELL: I thought we agreed to do away with that metaphor. Now you're bringing it back?

MR. HUTCHINS: If as a thought experiment you assumed that we're measuring productivity incorrectly and that it's much higher today than we think it is which is what a number of people including Marty Feldstein hypothesized two questions: One is does it then mean that inflation is lower, growth is higher, rail rates are higher and labor markets are probably weaker than the data is measuring. And question number two if you were in a situation where the economy was behaving very differently than it had in the past, where you did all your data sets for the development of your rules, and if your data risked being wrong what would the implications of applying a rule as opposed to being more flexible in how you approached making monetary policy.

MR. WESSELL: Ben do you want to start?

MR. TAYLOR: Yeah, the questions are quite related. I think it's always hard to estimate the economies potential and the productivity. It means you're not sure what the gap is like, where you are relative to potential but I think you need to do that. At least have a sense whether you are completely discretionary policy or a rule. You have to have some sense of where the economy is, so it's just a fact of life. So this idea about the world changing and economy changing and so how could you possibly have one rule to deal with all that?

I think what we've learned and it's a good question, what we've learned is that you can

have lots of different views of the world and if your policies robust though then you want to look for something that is robust to that. It's one reason not to have a very complicated thing where you react to everything because almost always -- say the things we were just talking about a few minute ago, you are going to start reacting to those and you are probably going to overreact, because you are taking into account one little thing on there. So in a way the more robust -- robust means it works with lots of different views of the world. It works lots of different models. It sort of -- doesn't -- you don't require an expectations (inaudible) curve, you don't require particular growth or productivity and that's what I think we found about a lot of these strategies rules and so that's why they're attractive.

They wouldn't if they weren't robust. They'd be a waste and everyday there is someone coming out to propose a new rule based on their model, there's a guy in Frankfort, the University of Frankfort, Volker Wieland he has the database of 50 different models. Fifty different models that he's meticulously kept. A lot of them are from central banks. Volker Wieland and he basically says you have a new rule, new idea try it out here. Try it out on these 50 models. That's -- don't hear just your view of the world or your new guess about how things changed. So I think that's something to take into account.

MR. HUTCHINS: But, John, if we are understating productivity then isn't potential growth higher and the output gap bigger than we think and that would be a problem for applying a Taylor rule.

MR. TAYLOR: It's always a problem to know where you are relative to potential. It's harder in developing countries where growth is even higher and more volatile. But it's not really more of a problem if you are using discretion.

MR. HUTCHINS: Discretion is a problem.

MR. TAYLOR: It's not an argument in favor or against.

MR. WESSELL: I agree, Bill do you think we're over, understating productivity and if we are does that have consequences?

MR. DUDLEY: I don't know if we are not. I mean there's a lot of debate about it. But I think the interesting question is if we are understating productivity are we understating it by more now than we were a few years ago? So to me it's really the -- it's really -- you find in miss-measuring

productivity for a very long time, right? As new products get innovated, you product and they gradually get into the consumer price index and the other inflation indicators so I guess the question I would have is are we making bigger errors now that we were in the past?

If we were marking bigger errors it wouldn't imply that inflation was lower. I don't really know how we can answer this question though, because obviously if we knew how to measure productivity growth better we would be doing it right now. So I think this is one of those almost theological kind of issues where some people are very pessimistic, like Robert Gordon, about productivity growth while some people are much more optimistic. That's why I agree with John.

I think potential GDP is a very difficult concept to really get your arms around. Probably because we don't know what productivity growth is today let alone what it's going to do in the future, so that's why in my mind I spend a lot more of my energy not worrying so much about what potential GDP growth is, but really what's full employment?

In other words where can you push the unemployment rate safely without generating so much pressure on resources that you end up having an inflation problem.

MR. TAYLOR: Just real quickly, there's a debate amongst what kind of policy rules to use. Bill referred to this. Some put more weight on the output gap, others put less. One reason not to put too much weight is you've got this uncertainty problem. So to push you in the direction of not overdoing it in that respect.

QUESTIONER: (Inaudible) facilitator -- the application of the 1999 version of the (inaudible) rule in 2009 would have called for minus five percent of the fed fund. Which authority in so far as prescription would you have proposed and referring to the prescription demand of (inaudible) awards which the fed proposed and to presently communication in the reaction function of the fed. A week before Jackson Hole you were somewhat skeptical in so far as the inflation expectations and normalization of policy. Son Fisher somewhat disagreed. September 17th the committee reaches a statement. A week later Chair Yellen gives a totally different version of what one might have expected. Within a week the supposed question is what changed between the end of August and the 24th of September and so for us

the lift off is concerned. Thank you.

MR. TAYLOR: The rule that I proposed ages ago -- it seems like ages anyway, I still kind of like. It's not perfect. I put it out as one thing to think about. It's held up over time. There's a robustness. It works in different countries. Attempts to modify it are great. We'll talk about --

MR. WESSELL: But I think his question was if the rule tells you that the interest rate -- ideal interest rate would be below zero what is it that the feds should do that they didn't do?

MR. TAYLOR: They would not have had to do the big QE -- mortgage backed securities. Buying the mortgage backed securities was not bestified by that particular situation. Is that the question?

MR. WESSELL: No the question is -- back to the question that Bill asked before, you said that if interest rates -- if you get zero and you need to do more you should increase the money supply and --

MR. TAYLOR: I didn't say if you needed to do more. If you needed to do something. I think a lot of the discussion is about particular events and episodes that you want to react to, but what we do know is that if you have a rule and part of that rule is when it hits zero or hits one you don't focus on the interest rate, you focus on money growth as -- because I said Milton Freedman used to argue, then that's a well-defined policy -- well-defined rule -- when it hits zero you do this. If it's above zero you do that. It is a rule. It is a strategy, which -- that's what I would recommend. I recommended long ago.

MR. WESSELL: And Bill? I think you heard the question, were you sending mixed signals in September.

MR. DUDLEY: I think -- I mean everyone's going to put slightly different emphasis on the things that they think are more or less important but I think the message was pretty consistent. It depends on the data, we've been very consistent, it depends on the data and I think in everything that has been said by Stan, me or the chair, many others economic -- global economic developments and developments in financial markets are important in terms of the monetary policy decisions. I think at the end of the day people are exaggerating the degree -- generally I think we're pretty much all on the same page.

MR. WESSELL: With that please join me in thanking John and Bill. (Applause) And we would appreciate it if you could pick up the papers or coffee cups at your feet and there's recycling outside. Thank you very much.

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