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Conference: Labor Market Slack: Assessing and Addressing in Real Time

Panel 3: How should monetary policy react to uncertain or persistent labor market slack?

Chair: Angel Ubide, Peterson Institute for International Economics and D.E. Shaw

Panelists:

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William Dickens, Northeastern University
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Angel Ubide: All right. We are going to start the next session. This is the session where after listening to President Charlie Evans tell us what he thinks the FOMC will do or should do. We now get to play to be FOMC members and try to assess what monetary policy should be doing, taking into account everything we have learned and everything that has been discussed.

My name is Angel Ubide. I'm a Senior Fellow here at the Peterson Institute and Global Director of the Global Economics Division. What I think we have learned in the last few hours is that the Fed faces a very difficult challenge. They need to normalize policy in the context of inflation that is below target, not just in the US but also around the world. There is tremendous uncertainty about the amount of the slack and about the dynamics of inflation for that matter. And that is more in the name of the income distribution that even if some FOMC members and I know that Central Bank think it doesn't matter, it may come to matter at some point. So there are several important issues that I think we can discuss in terms of assessing what monetary policy should be doing. Let me just list a few of them and then I will introduce the panelists.

For example, should the Fed allow a small overshoot of its inflation forecast with respect to the target in order to give growth a chance? That was one thing that President Evans discussed earlier today. Is the zero lower bound really a constraint on policy? And should it be an argument to keep a sort of asymmetric stance of policy? Or have we learned in the last several years that unconventional policies do work and therefore our monetary policy should behave in a more symmetric fashion.

We know we have tremendous doubts about the slack and about changes in the weight setting mechanism that were set in process, so should perhaps the Feds and other Central Banks wait until they see weight inflation rather than assume that weight inflation is going to appear in a forecast and therefore act in anticipation of that weight inflation. Or finally, how do we run monetary policy in a setting where we believe or there is a wide consensus that the neutral interest rate is lower than it was in the past. Does that mean that interest rates are going to be flying closer to the zero-bound and what are the implications of that for monetary policy?

I think we have a panel of experts that is perhaps the perfect mix of policy experience, academic excellence, and market savvy. So let me just briefly introduce them in alphabetical order and then I will let them take the floor. So I have Professor Laurence Ball, who's a Professor of Economics at Johns Hopkins University and a Research Associate at the MBR. We have Professor Will Dickens, Professor of Economics, and Chair of the Economics Department at Northeastern University. We have Jan Hatzius, who is the Chief Economist and the Co-head of US Macroresearch and Global Economic Research at Goldman Sachs; Steve Oliner, who is a Resident Scholar at the American Enterprise Institute and also a Senior Fellow at the UCLA Ziman Center for Real Estate. And finally, last but not the least, Adam Posen, Resident of the Peterson Institute and among many other things, former member of the Bank of England Monetary Policy Committee.

So I'll ask each panelist speak for about ten or fifteen minutes. Keep your comments, if you can, to the point of what monetary policy should be doing in the current environment. And then, we'll open it up for questions. Thank you.

Laurence Ball: Okay. There's a handout that says 'A Phillips Curve' at the top without my name on it so that I can disavow it if there's too much criticism. All right. So in the very brief time, I'll spend about three or four minutes declaring how I personally think how Phillips Curve behaves and then go on to talk about policy implications. And listening to the discussions, most of the things I'm going to say about the Phillips Curve either somebody else has already said or somebody else has already presented evidence about why it's not true. So this is my personal belief about the Phillips Curve which we can debate later; continue to debate.

So we start off with the expectations augmented Phillips Curve, inflation depends on expected inflation and this is the deviation of unemployment over the last four quarters from the natural rate, then a couple of wrinkles. I like to measure inflation with a couple of Cleveland Fed median. That's just a pet issue of mine. I think that's a good measure of quarter underlying

inflation. Then, there's the assumption to the relevant unemployment is short-term unemployment. We've heard people have different views, let's accept that as gospel truth for the purpose of my analysis here. So then there's the natural rate of short-term unemployment and let's say there's no special reason to think that that's changed since 2000. And also, that expected inflation has been fixed, so complete anchoring of expectations presumably due to Fed policy over time.

So, with those assumptions, we're arranging, we get a very simple Phillips Curve where inflation depends on the constant which depends on expected inflation and the natural rate of short-term unemployment and then inflation depends on unemployment over the last four quarters. So I should say, my co-author, Sandeep Masunda from Wake Forest, and I have ran this regression since 2000 and the coefficient on the unemployment variable, the short-term rate is conveniently pretty close to -1 – an easy number to remember. If you assume the expected inflation is 2.5%, you can back out 4.37 as the natural rate of short-term unemployment. Obviously, the number of digits overstates precision. 2.5, as some of you know, that's where the expectations of CPI inflation seem to be anchored according to the survey professional forecasters. It corresponds roughly to the Fed's 2% target for PCE inflation.

Now, this equation fits well. So if you turn to the next page, this is a four-quarter moving average of median inflation since 2000. And then what this equation says it should be. And I won't tell you know many specifications I tried first, but this one fits well. And then I would be willing to defend it a little bit more seriously if necessary. But so for the rest of this little talk, let's assume, again, this is what the Phillips Curve is and facing this Phillips Curve, what should the Fed do and when should it start tightening and so on.

So the first thing to notice, which probably some of you have noticed, is that the current level of short-term unemployment is like a little bit below 4.37% and of course again, given the imprecision, we don't know a little below or a little above. But to our first order, this equation said that the short-term unemployment is the relevant variable of a labor-market slack in, as Larry Myers says, in the Phillips curve sense as opposed to maybe the social welfare sense. And so we're right about at the natural rate of short-term unemployment and that of course, on the third page, just reflects a fact other people have pointed out that short-term unemployment is back down to about the level where it was before the recession, which looked like kind of a normal level.

All right, now, some people have suggested we're near the equilibrium level of short-term unemployment and therefore if that variable goes any lower, inflation will rise above where the Fed wants it to be and so now is

the time to tighten and to choke off the unemployment going down any further and we want to keep short-term unemployment where it is.

And that's not going to be my view. Again, fundamentally because of the distinction between the natural rate in the Phillips curve and the normative situation of the labor market that we like to see. So in my opinion, again, if this Phillips Curve is at all the right specification, and we're near the natural rate of short-run unemployment, the Fed should keep pushing demand and pushing the economy and try to undershoot the natural rate of short-term unemployment significantly. Other people, Andy Levin, other people have said this.

Now, again according to this Phillips Curve, if we undershoot the natural rate of short-term unemployment, we are on purpose pushing inflation temporarily above the Feds long run target. We're not accepting a risk that maybe it'll go above the target. We're, on purpose, pushing inflation above the target and the relevant unemployment variable below its long run level. And I'm going to argue that that would have benefits in terms of the labor market and possible costs in terms of inflation, but the benefits are a lot greater than the costs.

Now, at this point, the analysis will become much more qualitative. I would love to have a graph showing the optimal path of short-term unemployment and how much we should undershoot, but that depends on a bunch of relationships that are not very well understood about how expectations behave and about the relationship with short-term and long-term unemployment that I'll talk about. But, qualitatively, I think we should aim for substantial undershoot of U Star.

All right, so the benefits; this has been anticipated again in other talks. I think there's a great potential that a high pressure economy could push down long-term unemployment and also the hidden forms of long-term unemployment that show up as lower labor force participation or involuntary part-time work. And we could eat in the long-term unemployment, bring people back into the labor force. That could be a very persistent or permanent gain, so that would be a big benefit for human welfare.

Now, the basic idea behind this, again, if you look at the graph that shows short-term unemployment and long-term unemployment, if you look at the recession, there was a temporary increase in short-term unemployment and it's now come back down to normal. Long-term unemployment was pulled up and it has not yet come back to normal. So if we think we're back in equilibrium in terms of short-term unemployment, we have this very unhealthy legacy of higher long-term unemployment and lower participation and so on which would be very nice to try to reverse. And to

the extent, these things work symmetrically, and again a lot more research is needed, but I would imagine that a period of temporarily low short-term unemployment would reduce long-term unemployment. And again, the effects would be persistent going in that direction as well as in the bad direction. So by temporarily overheating the economy, I posit that we can undo some of the long-term damage from the temporary under heating of the economy since the onset of the Great Recession.

Okay, now, I don't really have time to discuss this and there are other people here who know more about the UK than I do, but I pulled off this graph on the next. I think I would like to argue that sort of a positive historical example to emulate to some degree is the UK in the 1990s. As in the late '80s or in middle late '80s that UK was the poster child for hysteresis that the Thatcher austerity had created all these long-term unemployment and permanently raised the unemployment rate. In the early '90s, there was what I would view as demand-driven expansion in particular triggered by the UK dropping out of the European Monetary System so there could be a depreciation of lower interest rates. And that demand-driven expansion made remarkable progress in cutting into long-term unemployment and leaving the UK in the early-2000s with a rather benign unemployment situation compared to a lot of other countries.

All right, now, so what's the downside? So the downside is that the minimum is that we at least temporarily overshoot the Fed's inflation goal. Now, I'm going to assume for the sake of this talk that that's the right inflation goal and that it will be a bad thing if inflation goes above to 2%. Even if we somehow know that 2% is optimal, so it's a bad thing for inflation to go above 2%. I mean, to say it would be not that bad a thing compared to the benefits of cutting into long-term unemployment.

Now, again, if you believe the estimated equation, there's this coefficient of -1 which says, taken literally, if the equilibrium level of short-term unemployment is 4.3 something and we reduce that variable to 3.3 something for one year, so 1% is point for one year, that would raise inflation above the Fed's target by one percentage point for that period. So I would say even if we know from some source that 2% is optimal, maybe 3% is not that far from optimal in the big scheme of things.

And then also, of course, if you take this Phillips Curve literally, and we have anchored inflation expectations, the overshoot of the Fed's goals could be temporary. That the scheme, I imagine, again think of it as the reverse of the Great Recession, we engineer the great expansion, the great overheating for some period of time and then we get back to normal. And when we get back to normal, we have the normal level of short-term unemployment, the normal level of inflation, but again, we've cut into this

terrible problem of long-term unemployment and people who would like to have jobs who don't have jobs.

Now, of course, needless to say that there's a risk that this strategy only works up to a point. But I don't want people to think that I'm in a time machine back to 1960 and there's a permanent tradeoff; that if this policy will pursue too aggressively and inflation were too far above the Fed's long run goal for too long, presumably at some point, expectations would become de-anchored and then we'll have the inflation go up and we need to have another disinflation, that would all be a big mess. So that's the risk to worry about a little bit.

The last, and again, we don't know enough about the behavior of expectations to really judge how far we can overheat the economy without the de-anchoring expectations. Just the last graph that I have, the solid line is again my favorite measure of core inflation, the median for quarter moving average. And then the dash line, some of you may recognize, as the survey of professional forecasters long-term inflation expectations. And qualitatively, the way I read that is that actual inflation has gone up and down a considerable amount and expectations have stayed very anchored, suggesting that there is substantial scope for inflation to overshoot for some time without de-anchoring expectations.

But again, I would love and I think maybe research can make progress in the future at optimal policy design of deciding just how fast we can push the economy and just how aggressive we can be in pushing down long-term unemployment without major inflationary costs. Thank you.

William Dickens: You have the handout. I have to dig it up here on my computer. So I actually had some trouble with a title for this talk. You can presumably see the one that I settled on. At one point, though, I was considering the fact that we're actually pretty near Farragut Square and was going to entitle the presentation something like 'Damn Inflation Full Speed Ahead'. That's because, as I said, there's three reasons here that I want to argue that the Fed should not be worrying too much about inflation right now.

And the first one is just sort of a quick little add-on to what we've been discussing here today. But the second two are anticipating the fact that we are going to start seeing inflation pick up sometime in the not too distant future and when that happens, I think, first of all, we want to make sure that we're seeing the whites of their eyes and not just white eye shadow. And the second thing is that I want to make sure that the point that Larry made is hammered home, because I have some additional data I want to bring to bear on that. I think that it's very important or it's very likely that the long-term unemployed are likely to be hanging out there even after we start seeing inflation pick up. And that we really don't want to let them sit

there. We don't want to be the victims of the sort of hysteresis that Larry has documented so thoroughly his own work.

So just one thing about the brief observation about what we've seen so far. An awful lot of the inflation hysteria to the extent that some people do seem to be getting hysterical about the imminence of inflation seems to be concentration on one or two measures that seem to be either at or almost approaching levels that we suggest we're back to normal. But then, there's all these other measures. So while everyone's were saying, "Well the Fed's going to have a hard job of figuring what they are," at least right now, if you give every different measure a votes, the votes are going to be overwhelmingly that we're pretty far away from full employment. And so I would urge to think more about things more in terms of indexes of slack and trying to figure out how those figure into inflation forecasts. So that's point number one.

Point number two though takes me to some work that I did with Akerlof and Perry way back in 1996 and that was the work that we did on downward nominal wage rigidity. If you don't believe in downward nominal wage rigidity at this point, I think you really should and if you do believe in downward nominal wage rigidity, then you cannot believe in a vertical Phillips Curve. You have to believe that there's some curvature to the Phillips Curve in the area where you're at low inflation and you're starting to approach the ultimate lowest sustainable rate of unemployment.

And so let me just, if you turn to the first diagram in my slide set, you see an example of one of those curves that I've estimated. Now, at this point, I'm sort of giving up on all of my old curves for a number of reasons, but this comes from a model that is estimated using the Akerlof-Dickens-Perry method from the 1996 paper combined with my time-varying NAIRU model that I presented in the paper that I gave at the Boston Fed in the late 2000s; 2008, if I remember correctly.

And it takes into account the outward shift in the beverage curve, which I'm going to give you some reason to doubt in a couple of minutes. And it then raises the natural rate or the lowest sustainable rate of unemployment to about 5%. But as you see, as we start getting close to 5%, the ADP Phillips Curve, the one that has downward nominal wage rigidity in it, predicts that you should start seeing higher stable, potentially stable, levels of inflation. And so just because you're above the 2% target or you start seeing inflation going up above the 2% target, that doesn't mean that we're off to the races in terms of acceleration. It can simply mean that we're heading to a new equilibrium at a higher level of inflation and a lower level of unemployment in a sort of standard sort of old-style Phillips Curve analysis, although this isn't old-style since there is a point where you can't take it any lower.

So if the last six years aren't enough to convince you that we face downward nominal wage rigidity and that it's a major factor in wage setting and price setting in the United States, I hope that I can convince you that it should be. The modeling work that I've done with my research assistant at Northeastern and at the Boston Fed, where I'm a visiting scholar, seems to show that if—so I have a model that can actually incorporate all the different stories that people have given for why it is that we didn't see deflation over the last six years. It's got downward nominal wage rigidity. It's got anchored expectations or the potential for anchored expectations in it. It's got a shifting NAIRUs so that you can see that if that was there, a time-varying NAIRU.

And what we find is that one factor is enough to do a pretty good job just by itself. And that's the downward nominal wage rigidity. If you don't have downward nominal wage rigidity in that model, you have some problems fitting some of things somewhere if you want to have a relatively stable Phillips Curve. Now, Mike was saying we didn't have to have a relatively stable Phillips Curve. So if you're of that mind, maybe the stability of our model over long periods of time doesn't impress you, but I think that that's not a bad thing to have and our model has that. We also experimented with short-term versus long-term unemployment as a slack measure in the model and our results come down decisively on the slide of the short-term being the thing that matters. Now, Danny has convinced me that I ought to try some other slack measures as well and I'm going to go back home and do that, but for now, downward nominal wage rigidity and slack and using of short-term unemployed for the slack measure seems to do a really good job of accounting for the last several years without having any deflation.

I might add that when we do include downward nominal wage rigidity, we see absolutely no evidence of anything happening with anchoring of expectations. We see that the coefficient on long-term inflationary expectation, we've used a couple of different measures, including the Board of Governor's measure, Anders, with the coefficient of 0.05. And overwhelmingly, it's mere contemporaneous or lag inflation that seems to matter for inflationary expectations. There's a coefficient of 0.65 on the first lag.

So if that's not enough to convince you, I'd like to present some new evidence on downward nominal wage rigidity from a graduate student of mine who's working with a survey of income program participation. So if you look at the first graph that shows the distribution of wage changes, and a frequency distribution for wage changes, what you see is something that you typically see with survey data, which is—so this is data for 1996 and what you see is a very small spike at around 8% that shows that about

8% of the people right at zero. And then you see this sort of distribution on both sides suggesting that there's actually a fairly large number of wage cuts happening and you might be able to just push that spike down and just fill out the gaps that are in the area right around it. So the number of people who suggested that maybe all that's going on with that spike is that you've got some people doing some rounding in their survey sponsors one time and not the next time and that's why you get that.

If you look at the next photo, now actually these weren't as close together as they were supposed to be, but I can tell you if you go back to the year right before this and then you look at this year, you see the same thing as I just showed you for 1996 and then 2004. All of a sudden, that spike gets a whole lot bigger and the distribution becomes a whole lot less symmetric. And what happened? Was there sudden change in the economy? No, there was a change in the way that the Bureau of Labor Statistics asked the question on the survey of income program participation. Instead of asking people, "what's your wage?" or, "what's your earning this week?" they asked them, "Did your rate change from the last time we surveyed you?" And if they said, "No," they recorded it at zero and if they didn't, they recorded what the change was.

This is the same thing that Akerlof and Perry and I did in our 1996 paper on a much smaller scale and we got exactly the same results, which is that you get—and in fact, a number of people have done statistical corrections of the survey data taking into account the fact that people answered incorrectly at different points in time. And those sorts of estimates involve typically given you the same sort of picture that you see here which is a much bigger spike at zero and a much less symmetric distribution.

So let's go to the next page which gets us to last year. And it looks pretty much like this throughout the recession. Now, we've got 40% of the people not getting wage increases and a much, much less symmetric distribution with a median that's just a couple of points above zero. And so like I said, if the experience with the last six years hasn't in fact convinced you, and all the other evidence we have on payroll data on statistical corrections to data from all over the world, with a few important exceptions, then hopefully, this will convince you at least that it's important for the United States.

And so if that's the case, then we have this situation where we have a bend in the Phillips Curve and you can expect that we can experience in increase in inflation without meaning that we are going to experience accelerating inflation. So, Point number two.

Point number three is Larry's right. Larry's been right all along. He's been telling us for decades that there's hysteresis in the long-term

unemployment. When you let a recession go on for too long, a whole bunch of people get long-term unemployed and it's hard to get them back to work. Larry's also said that if you run a little bit of inflation, if you push the economy a little bit past its comfort point that you can get those people back to work. And I think that's a really, really important observation as well. And I want to provide just a little bit of evidence to suggest that Larry knows what he's talking about.

So my graduate student, Rand Gahyad, a couple of years ago, I was doing this estimation with this TV NAIRU with the beverage curve and I was really concerned about the fact that the beverage curve had shifted out and that that indicated that we perhaps had a higher NAIRU. He wasn't convinced and so he went out and started trying to dig through data to find out what it was that—was there any special place where this was happening or was it happening everywhere. And this is only, I think, at the very end of the slide, if it was copied. But there was only one place that he found where the beverage curve has not shifted out. Every other way he could cut the data, the beverage curve had shifted out. And that one way was that when he looked on the short-term unemployed, there was absolutely no outward shift in the beverage curve whatsoever. The beverage curve that was established in the early 2000s is exactly the beverage curve that we're still on today and I can tell you that I've updated that graph to the most recently available data in July and we're still right on that beverage curve if we look only at the short-term unemployed.

So, what that means is that the other side of it is the graph the next graph or one of those in that long list shows you the beverage curve for the long-term unemployed and that's where you can see the entire outward shift to the beverage curve happening is among those long-term unemployed. So I said, "Okay, so it's all long-term unemployment, it's all the unemployment insurance extension. That's what's doing it. That's what's shifted out the beverage curve so as soon as that goes away, everything's going to be fine."

Well, as you know, it's gone away and everything's still isn't fine. There's still a heck of a lot of long-term unemployed. But he also went out and showed that the beverage curve for those who were eligible for the long-term unemployment and those who had, had shifted out the same amount. So there goes another hypothesis of mine.

So then he gets another idea and that is that he goes out and he sends resumes to a whole bunch of people who are advertising job openings. And thousands of resumes he sends out. And if you look at what I have labeled Figure 2 which is about page 15 in your handout, you'll see what he found. He had people who were really well-matched to the job, who'd

had experience in exactly the same occupation according to their resume before. Everything else about their resume was randomized and yet a bunch of people who didn't have relevant experience. And the really interesting thing in this picture is what happens to the people with experience right at six months.

So all of a sudden, so up to six months, there's a slight decline over the length of time unemployed in the frequency with which they got called back for interviews. But then right at six months, boom, it drops way, way down and it now sinks statistically indistinguishable for the rate that's experienced by people with no experience whatsoever. And then you see that it even goes down further after that.

So here's my point about this and why I think that it shows that Larry is probably right on the money about this. If you think about what this implies for the models or the people who are saying, "Well, it's all structural unemployed. These long-term unemployed are people who can't find jobs or that they've experienced really awful declines in their human capital or they're just simply losers," why did that happen also suddenly for a bunch of identical people at exactly seven months? That to me suggests that it's not a supply side problem at all but a demand side problem.

So what's the nature of that demand side problem? Rand and I have both done some fair amount of talking to employers about this issue and it turns out that all of them had to tell pretty much the same story, which is, "Oh we know those six months, those people who have been unemployed for six months are just awful. Ten years ago, when business was good, I hired one of them and you know, they were awful. They didn't show up on time, blah, blah, blah, blah. Why do you think they've been unemployed for so long?" Well, that may have been true of the tiny fraction of the labor force that was unemployed for a long time ten years ago. But it probably is not true of the people who are long-term unemployed today. So I would argue that what this shows is that there's an employer bias that's set for a different time and it's out of date.

And so what I think is behind Larry's numbers about what's going on at the macro level is this: that if you get employers desperate enough that they will be willing to go out and sample from those long-term unemployed, they're going to start seeing that it's a different group out there than what they used to see and that you'll get them back into the labor market or get them back into employment. And so that's what I think is going on behind Larry's work.

So, first off, we're not there yet. Maybe a couple of measures suggest that we are at the point where we need to start worrying about inflation, but

come on, let's give everybody a vote. Let's give every measure a vote and if you do that, then we're still pretty far away from the point where we need to start worrying about it. But when we do start seeing inflation, if you believe that there's downward nominal wage rigidity, and I really hope you do, then it's got to be the case that there's going to be some curvature to the Phillips Curve. If you really want to understand exactly why that is, then go back and read Ackerlof-Dickens-Perry from 1996 Brookings Papers. And be aware that it's possible that when you start seeing inflation picking up, it's not where off to the races for accelerating inflation but rather we're just heading to a new equilibrium.

And then the third thing would be: even if we are off to the races, even in my model, where there's no effect of anchoring, and where there's a big heavy weight on one lag of inflation, it still takes a long time for inflation to build up a steam if the unemployment rate is just a half a point below of your lowest sustainable rate. It's still going to take time for that whole thing to work through the system and back through all of its recursions. And then, finally, hey, if you're the Fed, if you're seeing the whites of their eyes and they're right in your face, you have arms, you can push them back. You still have the ability to use policy if you make a mistake to put things back and the loss function, as we've been arguing, everyone here seems to be arguing today, is very, very asymmetric. We would much rather put those people who are long—take the chance of putting those long-term unemployed back to work and suffer maybe an equilibrium rate of 4% of inflation that we have to opportunistically let go away during some future recession than leave those people unemployed. Thank you.

Jan Hatzius: Okay. Thank you. I'm going to be brief. My view basically on labor market slack and monetary policy is that if we believe that the unemployment rate tells you everything you need to know about labor market slack, if we believe that, then it probably would be time to think about the monetary tightening. But I don't really believe that. I think there's quite a lot of evidence that that's not correct. And if we look at broader measures of labor market slack, then monetary policy still has quite a bit of time. And something like late 2015, or maybe even early 2016 would seem more appropriate for the exit. So there's a handout with my name on it. And I would just want to go through the slides quickly to put some flesh on those statements.

Slide number one just shows that the unemployment rate has gotten pretty close to the FOMC's estimate of the natural rate or the structural rate. And if you look at the pace of decline very simplemindedly, the pace of decline since the middle of 2013 and extrapolate that forward, you would get back to 5.3% or 5.4% in early 2015 and even if it ends up taking a little bit longer – it probably would be in 2015. And if you think that monetary policy should be somewhat forward looking and if you take into account

the fact that you're starting from zero, then I think there's a good case to think about monetary tightening relatively soon, if you think this really is the catch-all measure of labor market slack.

Another way of making a similar point is shown on Page 2. This requires a little more explanation. Page 2 basically takes the model, the large scale macro model of the Fed staff, Forbes, which has been in the public domain since early this year. And thank you to everybody from the Division of Research and Statistics who is here. It's extremely helpful to have access to this model. And we have run some simulations of different monetary policy rules using Forbes. The way these simulations work is that we basically take the baseline from the summary of economic projections. This is the *June Summary of Economic Projections*. It hasn't been updated for September yet. We feed in different monetary policy rules. And then I show the path for the Federal Funds rate. taking into account the economic feedback from the changes in the monetary policy assumptions. It's a little difficult to see, to distinguish between the different lines here in a black and white printout, but the basic story from the three approaches to setting the funds rate that we looked at is that pretty much all of them suggest that the FOMC really should get going certainly within the next year in lifting the funds rate.

The three things we looked at were the Taylor Rule of 1999, that's the version with the larger weight on the unemployment gap than the original Taylor Rule. An Inertial Version of the Taylor 1999 Rule, which basically assumes that it should take a while for the funds rate to converge to the Taylor 99 Rule. This is a rule that's featured up pretty prominently in some Fed staff work that was published by Bill English and colleagues in November 2013. And then we also looked at an Optimal Control Approach where the path for the Funds rate is set to basically minimize weight deviations from the Feds Rule mandate over time. And all of these, if you just use the unemployment rate as your measure of labor market slack, suggests that monetary policy exit should occur correlatively soon. That's true even for the Optimal Control Simulation because there just isn't that much slack anymore in the labor market if you use that as your measure of slack.

Now there's been a lot of discussion already around the evidence that the unemployment rate does not capture all of the dimensions of labor market slack. Not going to talk much about that.

Page 3 summarizes a lot of the studies that are out there that look at the contributions to the decline in labor force, the dissipation and split those into a trend or structural component and a cyclical component. They cover somewhat different sample periods so that the median or average of the trend and the median or average of the cyclical component don't

necessarily sum to the entire three percentage drop that we've seen since 2007. But they get pretty close and the median would suggest that the cyclical component is something like one percentage point, so towards the upper end of the range that Bill Wascher talked about from his study with his co-authors. And that's obviously a sizeable amount – one percentage point on the participation rate is worth one and a half percentage points in terms of the unemployment gap and therefore about twice as big as the gap between the actual unemployment rate and the FOMC's estimate of the structural rate.

You can make a similar case of course for part-time unemployment. Page 4 simply shows that that remains high. If you think that the average pre-crisis is a normal level, that's worth another maybe three quarters of a percentage point if you translate it in to the loss of hours worked along the lines of what Andy Levin talked about. So it's not quite as large as the participation gap but nevertheless sizeable.

Now, there's also, I think, a lot of evidence that the unemployment rate does not tell you everything you need to know, it understates slack by looking at the behavior of wages. Page 5 shows that our wage tracker, which is the first principal component of the ECI average hourly earnings and compensation per hour. And I think this is appropriate usage of a principal components analysis because all of these things are supposed to measure more or less the same thing. That first principal component has basically been at 2% for the last five years with very little sign of moves in one direction or another. So just looking at the raw data would suggest we're clearly not very close to full employment and I think that look at the raw data holds up pretty well if we look at perhaps more sophisticated, more complicated ways of assessing this situation.

Page 6 tries a very, very simple econometric approach – much simpler than a lot of the things that have been talked about here. It's a Paleo-Phillips Curve, Paleo-Wage-Phillips Curve. It simply has our measure of nominal wage growth on the left hand side and it's got different measures of labor markets slack on the right hand side. There's no inflation adjustment because I only use data since1997. I assume that inflation expectations have been anchored at around 2% since 1997 and then I basically report the coefficients in the R-squares. And there's at least some evidence that broader measures of labor market slacks, in particular in this case, U6 do better than narrower measures and certainly the unemployment rate does much better that the short-term unemployment rate in predicting wage growth over this period. The graphical version of these different equations are shown on Page 7.

Page 7 simply plots the predicted values from each of these equations and confirms that the U6 version fits a little better than the others. It's not a

massive difference, obviously relative to the headline unemployment rate. It's a much more significant difference relative to the short-term unemployment rate. But I think the other noteworthy point in this chart is that actual wage growth has lagged behind even the numbers predicted by the broadest measure of labor market slack that I have in here named the U6. So that's probably not got a huge amount of statistical significance, but it's nevertheless a data point that I think we shouldn't entirely lose sight of.

And then of course, speaking about wages, I would just note, at least in passing, that this very, very simple aggregate approach is also quite consistent with a lot of the regional work on price inflation that Mike Kiley talked about earlier and in particular, wage inflation, the study by Chris Smith of the Federal Reserve Board and also by Dan Arenson of the Chicago Fed. The Chris Smith table is on Page 8, and suggests that broader measures of slack do seem to have impact on wage setting, as well, if you look at these kind of Wage Phillips curves. And the Blanchflower and Posen study has a very similar flavor. The specifications are obviously a little different because it looks at the level of wages rather than the growth rate, but I think the basic story is similar.

So what is the monetary policies story if we do focus on broader measures? Well, if you simply go back to the first chart I showed and apply that to U6, then you get clearly a later convergence to full employment, again mindlessly extrapolating the recent trend that has been in play since the middle of 2013. U6 would be projected to return to a level that might be called normal based on some other measures of full employment, such as the difference between CBLs estimate of the NAIRU and the actual unemployment rate for a period such as 2005 when there wasn't nearly as much uncertainty around different measures of labor market slack. That would suggest 9% is perhaps a normal level of U6 and would take up to early 2016 to get there if we kept going in the path we've been on.

And if we look at another measure, the total employment gap, that's the same series I think that Andy Levin showed in his presentation. And using the current CBO estimates of the cyclical component of labor force participation which is three-quarters of a percentage point, you would get back to normal in April 2016, if you used a somewhat largest estimate and more in line perhaps with the median of the studies I looked at, it would be obviously somewhat later.

So it seems to me that that would already make you a lot more relaxed as a monetary policymaker. If we cannot reasonably expect to be back at full employment next year but really only in 2016, you wouldn't of course be nearly as antsy about the tightening monetary policy.

And again, the last slide, we went back and basically re-ran all these Forbes simulations using a broader measure of labor market slack, namely U6, basically translated that into unemployment terms. So you need to make some, you need to introduce some bridge equations into the model if you don't want to treat a percentage point of U6 the same as a percentage point of U3, but we basically included these bridge equations and then looked at four different simulations with broader measures of labor market slack. The Taylor '99 rule using U6. The Inertial Taylor '99 rule using U6, an Optimal Control using U6. And then we also included just for illustration a Wage Rule, very, very simple reaction function where the Federal Reserve simply tries to get wage growth back to a normal level.

And you get a reasonable distribution of outcomes here clearly because these are all different monetary policy reaction functions but the lift off is shifted back to somewhere between the third quarter of 2015 and the second quarter of 2016. So clearly, somewhat later than current market pricing, including somewhat later than the consensus of forecasters which is somewhere in the middle of 2015 or it's at least with a strong bias that it might be later.

The flip side of that somewhat later lift off is the somewhat steeper path, certainly somewhat steeper than the very flat path that's priced into the bond market at the moment, though not necessarily steeper than what we've seen historically, but nevertheless a somewhat steeper path than what we're seeing in current market pricing.

So that's basically my analysis. What are our views or expectations? My view is that there's a strong economic case for still waiting pretty long time, late 2015 or even 2016. At the same time, the signal coming from the FOMC seems to be somewhat earlier in terms of our actual forecast. We sort of split the difference between those two on that kind of horizon, so we're kind of projecting the first rate hike in the third quarter of 2015, which is a touch later, I think, than the consensus, probably.

And at this point, we would expect the somewhat steeper path for the increases in the funds rate, at least relative to current market pricing though I would not expect anything as steep as the historical average which has been 200 to 300 basis points per year. I think my expectation would be that it's going to be a shallower than that but of course, it's difficult to know because all of this is a very long time away. Thank you.

Steve Oliner: I like to begin by thanking Adam for inviting me to participate in this conference. It's been fantastic. I've learned a tremendous amount and I'm really happy to be here. Unlike, I think, every other speaker, I have no slides. Part of that is--

Adam Posen: I don't either.

Steve Oliner: Good. I feel in better company now. Excellent. This is going to be a pretty informal talk, obviously no equations, no models. It's probably going to be a relatively short talk too – maybe ten minutes or less. So Adam asked me to talk about the topic of keeping monetary policy credible and prices stable. And I'm going to try to cover both but not together, rather one after the other, because the prices stable part of it just doesn't seem relevant in the current policy environment because inflation is very low and if anything too low, but it could be a issues as others have said, as we move down the road. And I do have some comments about what the FOMC could do in that area, mostly on a communication front.

Rather, I'm going to start by talking about the current policy environment and issues that arise with regard to communication, which are really issues for this year. There are no policy issues with regard to, first, tightening this year and then what's really on the spectra for next year where policy tightening is more of a consideration.

So the first thing is really about communication. And anybody who's been associated with Central Bank knows Central Bank Communication is really hard to do well. It's rare when the communications are crystal clear despite the tremendous amount of effort that goes into crafting those words. And currently the FOMC is relying heavily on forward guidance to try to guide expectations and a central part of that forward guidance is the statement that the FOMC intends to maintain the current range for the funds rate for a considerable time after the asset purchases end.

So, of course, this guidance now has a very short shelf-life with the very high likelihood that the asset purchase program will end at the next meeting. So this is going to be gone either at the next meeting or at the latest at the December meeting. It also isn't really the most informative guidance that could be provided, as some FOMC members have themselves stated publicly, because it really doesn't provide any guideposts for helping macro participants or the public in general. It says how the FOMC is going to react to incoming data. So I think it's deficient and it's also short-lived. It needs to be replaced by something. So what could that something be?

Well one option would be to reintroduce some form of quantitative thresholds that were part of the FOMC forward guidance from December 2012 until this March. This was the 6.5% unemployment threshold and the 2.5% inflation threshold. I think they worked pretty well while they were in force. Unfortunately, the unemployment rate fell too fast. And they became inoperative by March of this year. But one possibility would be to

reintroduce something along these lines with, of course, a reset. Unemployment rate is sufficiently lower to recognize a strong likelihood that there's a lot more slack in the economy than is contained in the unemployment rate. And President Kocherlakota of Minneapolis has in the past suggested a resetting down to about 5.5%. I have some sympathy for this. I think, this actually in principle is not a bad idea, but as I read FOMC communications, I really don't sense any appetite for going back to this. So I think this is a very unlikely thing but I want to throw it out because I don't necessarily think it's a bad idea.

Another option would be to go to the complete opposite end of the spectrum and to just stop trying to do forward guidance. I mean forward guidance has been very, very effective, I think, during the period when we've been at the zero-bound. But it gets a whole lot harder to formulate effective forward guidance when you get closer and closer to your policy goals. And so one option would be to just use the characterization of the economy, the labor market and inflation. It's in the first paragraph of the statement, and currently, it says there's a significant underutilization of labor resources. And just leave it at that.

I mean significant underutilization of labor resources? That tells me everything I need to know about where the FOMC members stand with regard to policy at this point. The considerable time language, it's confirming but it doesn't really say anything to me that I didn't already know. And it's going to get harder going forward, as Charlie mentioned, to figure out what are they going to use instead of considerable time. Is he going to be patient or some other word out of the very small playbook that it's going to be crafted in a way that there's no daylight between that and the statement about the current conditions that's in the labor market that's in the first paragraph. And that's going to get hard to do and plus that words going to have to change whatever it is on a relatively frequent basis if the economy progresses as the FOMC anticipates.

So my thought is that perhaps we've just reached the end of the road on forward guidance, which wouldn't necessarily be a bad thing. Maybe the FOMC should just convey their best assessment of current conditions and be explicit about the uncertainty behind that assessment, and then let the SCP forecast do a little bit of the work as well to help bring some quantitative sense to that. So let me spend a second on the SCP forecast. I know that Jenna has gone out of her way to downplay the value of those forecasts. If you look at the statement that's the consensus. The FOMC don't really pay too much attention to the forecast and besides they're not different.

I actually think the SCP forecasts are pretty useful but they have to be filtered in the right way. Taking the median of all 17 is not a good idea

because there are at least four members of the committee, the Hocks members whose views, in my view, don't make any different for policies. So those four should just, the high four dots, I think should just throw them out and then take the median. And if you do that, it looks a lot more in line to me with the sentiment that's being expressed in the FOMC's statement.

So what are the challenges for 2015 and 2016? I mean, I agree entirely with Charlie's characterization of how one you think about policy setting. Patience is key. Policymaking is always done in a fog of uncertainty. Now that fog is really, really dense. So you don't want to move prematurely, particularly because there is the whole zero bound problem. And one other aspect besides is zero bound itself that I think argues against premature move as well, is that, I think, QE as a policy tool is essentially sidelined now. I mean, there can be a little bit of variation depending on when the decision is made to stop reinvesting. But other than that, I just don't get any sense that there's an appetite for reopening QE. So if that's true, then that tool's gone, except perhaps in really extreme circumstances, so you really do have just the funds rating guidance about the funds rate and the zero-bound lurking really close, so I think it's pretty clear that patience is the right policy.

So let me turn now away from current policy and next year's policy to think a little bit further ahead about FOMC guidance and policies regarding monetary policy strategy. So I'm now going back to document that's been referred to a few times, the statement on longer term goals and monetary policy strategy, which came out initially in January of 2012 and has been reaffirmed with basically no change in the two subsequent Januaries.

This is the document that introduced the 2% explicit inflation goal, which I think is very valuable. I think that's a really good thing to have done. But otherwise, I think it's a pretty uninformative document. I feel bad saying this with Charlie at the table right there, but it really, to me, misses the boat to say something more to harden the FOMC's commitment to low and stable inflation. It seems to me it's really more just a restatement of the dual mandate. It has a lot of words about balancing objectives. Well that's what the dual mandate says you're supposed to do, so I'm really not sure what I learned from this that I didn't learn from knowing that the Fed had a dual mandate.

So what would I add? As I said, I would think about hardening the commitment to low and stable inflation by adding some language about an explicit control range around the 2% target that would be symmetric to recognize that undershoots in inflation are just as bad as significant overshoots. It could be a range from 1% to 3% which is what the Bank of

Canada and the Bank of England has. It could be narrower. It could be phrased in terms of realized inflation or for in terms of inflation forecast. I mean, these are tremendously important details that would really have to get hashed out if there was a sentiment to do this. But I think it would be helpful thinking further ahead to provide greater transparency for the Fed and greater accountability. And in principle, I don't think this would actually be that controversial though the details are of course, important because I think all FOMC members have fairly limited tolerance for inflation that deviates much from 2%.

I did a little research of my own on this because I wrote a piece last year when Janet was still being considered for the nomination to try to counteract the notion that she was somehow soft on inflation which I thought was idiotic. So I thought, "Well, if that's really true. There should be some documentary evidence to support that view from the many speeches that she's given." I mean, she's been a public figure and she gives a lot of speeches. So I went back and I read, probably more accurately I should say skimmed, all 42 of the speeches that she'd given in the five years leading up to that point when she was President of San Francisco Fed or was Vice Chair, and there is absolutely no evidence that she would be comfortable with more than a fairly slight and temporary deviation in inflation on the upside away from 2%. There's nothing in those speeches that suggested any comfort with the number above 2.5%. So Janet's fairly dovish. I mean, I think that that really indicates that this is not that hard to do in principle, although, of course, the details are tough.

So there's one other reason beyond transparency and accountability that I think this might be a good idea. I don't the Fed is completely out of the woods yet on attacks on its independence. I mean, they are lying low right now even though last week, again, the House passed by an enormous majority an Audit the Fed bill. This is the second one in three years. It's going to go nowhere because it's going to die in the Senate, but in two years, if there's an Republican President and there's Republican control of the Senate and a Republican control of the House with strong Tea Party representation, this could be a more live issue. And I think that it would really come to the forefront if the Fed commit a policy mistake on the exit, if there's a goof on the exit so that inflation really does pick up. I don't think that's a high probability event, but it could happen. Then I think this becomes something that's potentially real.

And you know, one other thing that I've really learned working a right leaning think-tank is that I've come into contact with a lot of people who have views about the Fed that don't intersect with mine at all. And there really is a strong strain of resentment about the Fed being too powerful, too elitist and not caring about ordinary people. There's no understanding in many quarters about why a 2% inflation target, or even a 3% inflation

target could be optimal. People that I've talked to say, "Why is there any inflation at all? Why are my prices going up? Why is the CPI five times higher today than it was 25 year ago?" So there's a strong strain I think of anti-Fed sentiment that could, in a low probability event, do real harm to the Fed's independence. So I think hardening that commitment to low and stable inflation could be a really good insurance policy from a risk-management perspective. Thank you.

Adam Posen: And it of course turns out that the one thing that's harder than the Central Bank communication is communicating about Central Banks without putting people to sleep. So let me try to come out somewhere a little bit differently than some of my colleagues and not just for the sake of difference.

I think we've heard of pretty powerful set of arguments from a variety of perspectives about the fact that a simple unemployment measure understates labor market slack, that inflation threats are not around the corner, that the monetary policy is to take these into account. And I think notwithstanding some of the people Steve is required to interact with, this is not all that controversial. I think the question that comes is; where do we go from here both in terms of again, sort of following Steve, the short-term reaction and the longer term, what sort of regime do we think we need for monetary policy? And as much as I basically agree with 95% of what Charlie Evans said at lunch, I'm going to suggest we need to be a little more forceful than that. And let me try to explain why.

I think one of the things that we keep talking in terms of, and this goes back to Justin's Phillips curve for his textbook, is that we tend to view everything as perturbations around a small area. We are moving up and down some curve. The curve may be like this. The curve may be like that, but in the end, we are adjusting. And this is the notion of fine-tuning. This is the notion that it really matters whether we move in March or June or August.

But I think an important way to look at the last few years, which was something I started saying about Japan in the previous decade, is that when you end up with these kinds of situations, what you're really doing is moving from one state of the world to a different state of the world. You're moving from a good, perhaps over-exuberant but happy equilibrium to a bad, bad-for-people, hard-to-get-out-of equilibrium. And as facetiously as I make that sound, I think the more technically-minded people in the room will remember that there's the whole Jim Hamilton argument about switching of States as a way of thinking about business cycles. It's not just some smooth thing.

And if you think about the persistence of the business cycles, or going back to some work that Oliner and Sichol have talked about in the past, and others have talked about the past, the asymmetry that in the US, we have long periods where you never really have much downturn to make up for your long expansions. Then in Europe, we have this long periods of deleterious growth that you never have expansions to make them up. The idea of imposing this sort of sign wave on the world, I think, is wrong. And that's a theoretical nicety but I think it permeates the mindset.

And so when we start talking about the kinds of persistent labor market slack that have been the focus of this conversation today, I think we have to talk about what jumpstarts and gets you out of one state into the other state. And again, I don't want to say this is totally new or groundbreaking and there are echoes of that – the things that Charlie and Danny and others have said – but we have to go back to sort of contextualism.

There was a paper by Bernekin in Michigan back in 1992 in the macro-annual in which they said, "What is it Central Banks actually do?" And they went through and they found that successful Central Banks mostly were firefighters. They say, "Okay we got inflation now, let's go worry about inflation. All right, we thumped out inflation, we got an unemployment problem now, let's go worry about that." For those of us that have worked in government, we know that that's the way the world really works. Now, you could say, "Well, that's just is shortsightedness and this shows how bad the government agencies are," or you could say, "Maybe that is the optimal response. Maybe that's the reason why all government agencies repeatedly end up in that kind of model." And if you're in that kind of model, then you want to start going back to thinking about, okay, what's different today and what's appropriate today?

And so here's where I differ a little bit from some of what Larry and Bill were doing, even though it's important it is the kind of work that they're doing. I think we need to talk a little more about the structural shift in the labor markets. And I'm going to mean this in a different way. This doesn't contradict the coauthored paper I've done with Danny or the work Michael Kiley is doing or others, suggesting that there's a huge remaining slack component to labor.

Well, what I want people to do is step back a second and just think about what has happened to labor in the last 15 years. And without wanting to sound like, oh I don't know, somebody from down on 16th street, the fact is bargaining power of labor around the world has been significantly reduced full-stop, whether it was Thatcherism and Reaganism breaking down unions, whether it was globalization, whether it's technology, these are all important issues we can talk about but you have to believe in some sense that the bargaining power of labor is broken down.

Moreover, if you look at the income trends and technological trends, you have to believe that except for our friends in the hedge fund industry, the substitutability of labor has gone up. That most people can be plugged compatible into different things. We've talked about skills mismatches but the overwhelming evidence is they're in few very specialized pockets. We don't have broad skill mismatches in his country at the moment. We don't have broad skill mismatches in other places. We can see people moving in and out of labor. And that's part of the reason why you go down to the metropolitan level or the state level. Because if those kinds of things were going to be major factors, they should show up more at that level and we don't see that happening.

So we're looking at—no matter how pressed in some of the work, the bill and others have done that they were able to say in 2006, "In 2014, the labor force participation rate will be 64.2%," or whatever it was. And of course I'm not being fair because of course they did put an error band on it. Or my former late colleague, Mike Muses standing in this podium in 2007 saying, "We're seeing a permanent decline in labor force growth in the US," or not permanent but persistent. We know that was coming. You still have to think it through and say, "Okay, is that really the only thing that went on here?" Is it because we thought that number broadly right, we can say, well, that's sufficient. Or is it maybe because that trend was there it clouded our thinking about some of these other things that were going on.

And it's not enough to just say, "We got it probably right and that's the only explanation we need." And I know there's no one in this room who's actually saying that. But there is something of a defeatist tendency to say. "Well I looked top down. I've gotten this number only through looking at demographics. That should be enough. And therefore, it is structural." And I think that's a mistake, especially since the structural argument would if anything push you in the other direction. They would say, "Okay yes, maybe the workforce is ageing. Yes, maybe there are cohort effects. But for a lot of young people, their ability to substitute in and out of the labor market should if anything be increasing." For a lot of people in the UK, in the US, we should be seeing, if anything, more troubling or [inaudible 1:16:33] let's say, labor-markets, more free flowing of labor. In which case, it doesn't make any sense to think that things should have gotten mobility problems or mismatch problems.

Now there is, for someone who generally leans the way I do, an uncomfortable implication of this which I think is empirically supported. With all due respect for Larry Ball, I think actually we have to give up on the idea of hysteresis. I think empirically, if you look across countries, and this relates to some of the stuff Danny was talking about earlier about

long-term unemployment, it's actually not that well-supported. And so when I was at Bank of England, I think part of the reason I was so agitated was that I was thinking, "Oh my god, these poor people are getting out of work and they're so scarred." And we know there are scarring effects. When you look across countries over time, it's actually very hard to get strong evidence of hysteresis.

So let me just give you two examples since I'm not putting up slides with statistics. If we look at Japan in the 1990s, their unemployment rate stayed extremely low but it doubled. It not only doubled, if we go in the spirit of Andy Levin and others, the part-time participation rate shot up. And the number of people who had temporary jobs non-attached to the labor force as opposed to permanent lifetime called jobs went way down. And in this environment plus an ageing society plus total lack of welfare state, you would've expected hysteresis effects to be very large. Then, to dig into the cultural issues of Japan and Japanese labor practices, which is one would assume would reinforce this. And yet when expansion came to Japan ten years later, basically everybody who was unemployed went back into work. There was absolutely no evidence of hysteresis.

If we turn around and we look at Germany, and I defer to my colleague, Jacob Funk Kirkegaard on this issue. If we turn around and we look at Germany in the period after the Hartsfear Reforms, which were the major liberalizing reforms of the labor market in Germany, what you see is a huge decline in structural unemployment in Germany once the recovery starts. Now, you can say that was in part because they took out the—[inaudible 01:18:49], they reconciled the differential rates at which you could be basically a well-paid 55-year-old and retire. So there was a supply side incentive there. But I think as Jacob has shown through the data, the labor market surge in Germany over the last six, seven, eight years is not entirely due to 55-year-olds staying in the workforce. It's a lot of young people and new people getting jobs. Some of those who had been out of work a long time including in Eastern Germany.

So I think to, even though it's uncomfortable and it's intuitively appealing, though scary, we have to abandon the hysteresis argument. And if we abandon the hysteresis argument, then there's all the more reason to suggest that there's a lot more indigeneity to the actual labor force participation, right, than people sometimes give it credit to.

So as not to go on too long, what does that mean for monetary policy? Well, I think it means a few things. I think, first, is it is reasonable to start focusing on wage inflation as perhaps not a sufficient statistic but in the current context as a very good intermediate target. And that if we're going to talk communications about monetary policy, as I've said on many occasions, it's always better to talk about targets and goals and less good

to talk about needs. I have no hesitation saying, “Thank god forward guidance is dead.” It was always nonsense and it only had meaning if you bought into Woodford. And if you bought into Woodford that meant you had to ignore economic conditions in order to get any benefit from following forward guidance. Otherwise, you’re following the forecast. So let’s be clear what the goals are.

Second, when we talk about the goals – and this is where I completely with the thrust of my colleagues on the panel, including Steve and Larry and everybody, you have to recognize that we’re not in a situation with explosive inflation around the corner. And so, I'm not so sure I would go as far as to say it’s the whites of their eyes, fair and square, down the torpedoes, full speed ahead, all the great American images we can talk about from the bully pulpit. I think it’s more a question of we don’t have to be that dramatic, we can just be very reasonable. And say on a forward going basis, we know that wage inflation developments have been basically disengaged from national wage developments for many, many years now. We know that we’re in a very different world than the ‘70s in terms of labor forces, labor force contracting, unionization, indexing and so on. What is your forecasting equation for inflation? And we actually may have a dual mandate that’s feasible where for quite a while wage inflation is perhaps not orthogonal but much less tightly correlated with inflation developments than people think.

Let me make two more points. That’s all about the short-term. So this puts me in a kind of an odd position because it means that I am actually much less excised, as I already said, about were the Fed to raise right now, were raised in six months. Now, Charlie and others have correctly warned about you don’t want to fall back into zero lower bound but, you know, I actually believe, as Angel implied, that asset purchases can work. And I do not accept the political imposition that because they’re unpopular the Fed shouldn’t do the right thing if asset purchases would work. I just fundamentally do not accept that. That’s what independence is for.

So if we leave that aside a minute, the question is really for me, what’s your terminal interest rate and what’s the slope by which you get there? And I think in the current context, we can talk about a very shallow slope and a very low terminal rate for this Fed hike cycle, even before we get into issues of secular stagnation or balance sheet recessions.

Finally, I think we’ve talked a lot about, suddenly, today everybody started referring to dots as SCP forecasts. They’re dots. And I'm afraid here I don’t really see the use. I think there’s very little reason to fight the Fed when Chairman Yellen says, “Please don’t pay attention to these. These are kind of like monetary targets. They don’t really mean anything but if I give them up, people will be mad at me.” Let’s get away from the

dots. Let's get away from pretending that this is a Fed where there's lots of individual votes. And let's get away from pretending that this is about the precision of individual member's forecast. Let's get towards – and this here I think I'm very much inspired of what Charlie Evans was – make it clear what our goals are, operationalizing the dual mandate, pushing forward, and if we can't have stimulus, at least make sure we're not cutting off our recovery. Thank you very much.

Angel Ubide: Thank you Adam and thank you to all of the panelists for what I think is a brilliant discussion of the current situation that the Fed is facing. Let me just make a very quick comment and then we can open it up on the floor for questions. And I think it relates to what Adams just said about the economies moving from a good equilibrium to a bad equilibrium.

I always think that we have seen the future in Japan. And if you read the Governor Kurula's speech in Jackson Hole, I think he makes a point that is quite important and relevant for what we have been discussing here, that is: that because of the drastic labor market reform in Japan in the mid-1990s plus the two shops that ensued that sunk the economy and deflation for over a decade. There has been a structural shift in the wage bargaining process in Japan such that workers do not fight for wage increases anymore. They fight for jobs, not for wage increases. And so when he has been trying to move the economy from zero inflation to 2% inflation, they have had to manufacture a different type of wage bargaining process whereby the wage bargaining process has been between employers, employees, and the government to try to push the labor market from the zero percent wage growth to something that is positive.

And I think that, combining what Jan has been saying with just in time employment practices and all that, it's something that perhaps we have to take into account in terms of thinking whether wage inflation is ever going to go back to what it was before and whether it has any impact for our price inflation.

And with that, why don't I open it up for questions from the floor. We have the microphone at the back, the microphone here. Raise your hand and identify yourself.

First Question: Question for Adam. I very much appreciated your injecting diminished worker bargaining power into the mix. Do you believe that part of a better equilibrium, the one you'd like to get to, includes greater bargaining power by workers? We don't have to talk about how you get there. I'm not asking you to endorse some unionization level or scheme, but is that kind of an outcome of a bunch of stuff that's happened or is it in your view that more worker bargaining power is an integral part of a better equilibrium?

Adam Posen: In short, the answer is yes, but I'm very much in the spirit. We didn't coordinate on this actually, but I'm very much in the spirit of what Angel just said – that there is some interaction between monetary policy or macro policy in labor market institutions. And so you can come up with all kinds of complicated schemes. There is the count force and driffle stuff your well familiar with. That there's some optimal degree of labor market centralization. It's always a U-shaped curve, whether it upside down or right side up.

But I think what we have to look at, and this goes back to something that you said in earlier discussion, Jared. That there is meaning in the fact that the wage share is down so much. And I think, was it Charlie was saying earlier, that even at Carnegie-Mellon, you were taught that the long-term wage share was sort of one of the fixed points. And I want to point out that it wasn't just for useless RBC models. If you go, and Dave Stockton or Mike can correct me on this or Jan or somebody else. But every Central Bank macro-forecasting model I've ever seen, one of the things you use to close the model long-term is you make some assumption about mean reversion in terms of labor and wage share, otherwise—you need something to close the model tong term and usually you rely on that.

And so, in a sense, I'm not saying all the pathologies I'm mentioning either are all captured in the wage share or in labor force bargaining, but to me that is a fundamental reflection when I say it's a good equilibrium versus a bad equilibrium. And actually, Angel was right to remind us about some more details about the Japanese experience that I needn't bother to invoke.

Angel Ubide: Okay, more questions.

Gregory: Hi. I'm Gregory from The Economist. I'm sympathetic to a lot of what I've heard today. But if you wanted to sort of enter the debate of how much slack there is with no priors whatsoever, you have the following observation: almost every surprise we've had on the supplies out of the economy over the last five years has been negative. Labor force participation has consistently year after year come in lower than we expected, even on short-term forecast basis. Productivity is the same story. And as a result, year after year, CBO rises down the path of potential. Now, if you want to say it's all endogenous because demand has been weak. Well take a look at this year where demand is actually tend to surprise of the positive side. Long-term unemployment has come down faster than short-term unemployment. U6 unemployment has continued to come down faster. Still no movement in labor force participation.

So I would say that just by looking at the incoming flow of data, I can't see how it didn't force you in the direction of believing that it is more of

the supply side than the demand side. I realize the strongest argument in the other direction – to Jan I guess – is the wage data which hasn't picked up. But that sorts of presumes like a hypothetical. It presumes that this is a wage behavior we see when the problem is all lack of demand. If it had been a withdrawal of supply, you would have been wages growing a little bit faster. But do we really know that. Let's sort of posit that it has been withdrawal of supply and that absent that withdrawal supply, wages would be growing even more slowly. That seems quite plausible. We don't have the strong counterfactual to tell us what wages would be doing if in fact there hasn't been that supply side possibility. So I just want to throw that on to the panel.

Steve Oliner: I would suggest that Bill Dickens take this in a second. But let me try to just say one thing, Greg. We can get very complicated in this life and, yeah, we can always create a different counterfactual, but sort of basic supply and demand usually applies if we think that there is a shrinking of supply and an inefficiency of allocating that supply, generally, the cost of the good goes up. Now, you can say, well, then wages could have gone down some huge amount, but it you look at the historical record absent the kind of thing we've seen in Spain or Greece, which basically requires being in a fixed exchange rate system with a very nasty Central Bank, that doesn't usually happen. Then there's the whole nominal wage rigidity issues which is why I'm thinking maybe Bill wants to come in.

William Dickens: Yes, downward nominal wage rigidity. I don't think you'd ever expect to see much in the way of declining wages no matter what was going on unless you really were in a Great Depression sort of situation. I mean we did see declining wages and declining prices during the early parts of the Great Depression when firms were failing and the only way the firms could stay afloat was to get their workers to accept wage cuts that would make them competitive.

If you read Truman Bewley's book, where he went out and interviewed a whole bunch of human resource managers about why they don't cut wages, the answer always was that, "Well, it's just really bad for morale and we lose the wrong workers," but when he did encounter somebody who hadn't cut wages, they always regretted it. But sometimes, they said, "Well we just had to do it. We have competitors and we were in a situation where we just couldn't sustain our wages. If we were going to get this next contract, we had to have a lower bid and therefore we had to have lower wages." So I just think we're not in that sort of—most firms are not in that situation so you're just not going to see wages going down. And that's why I think wages have become stable.

Jan Hatzius: Just one other point, this is stating the obvious, but I don't think it's necessarily a contradiction that the news on the supply side has been bad

over the last few years. I think that's right. It's definitely been worse than I would have thought three or four years ago. But then nevertheless, given where we started out that we still have a lot of slack in the economy. I think that both of those points are, I think, perfectly compatible.

Angel Ubide: You want to add some? No?

William Dickens: Actually, can I just—one more thing, which is that it also can you explain why it is that wages don't move up very much because you've got a reservoir of unrealized notional wage changes in those people who are stuck there are zero. All right.

Question: What people talk about is it demand or is it supply. Is this on? People talk about demand versus supply. Maybe this is simplistic but it's just an air of unreality to me. I mean if the story is that there was this big recession which has only short run effects, and then at the same time, by coincidence, there were this structural changes which may be involved long-term trends but were not predicted. Nobody was predicting. Correct me if I'm wrong, nobody predicted the fall in labor force participation. Some. All right. Some people. Many people, then okay.

Anyway, it's an awfully big coincidence if there are these deep supply things that have caused this sharp fall in the labor market which happened to occur at the same time as this financial crisis and occurred in every country around the world. And this is not persuasive to the person. It hasn't answered the question, but—okay.

Justin Woolf: Justin Woolf of the Peterson Institute. Larry, just as an aside, there was a coincidence, which is 2008 was both the first real gear of the recession and also the first year that the leading age of the baby boom turned 62. So in fact there was a coincidence of a huge demographic effect and macro-conditions.

Actually my question was more to Adam. Your screed against hysteresis worries me. It worries me 1) because I think it's empirically poorly grounded, and secondly because even if you're right, the risk that you're wrong I think is even more important. By which, I mean, if there's no such thing as hysteresis, then a couple of years of unemployment being too high is no problem with a linear Phillips Curve, you're just then have a couple of years of unemployment too low, everything averages out, nothing matters at all. If there's even some possibility hysteresis is a problem, then that will be a massive policy mistake that could put a generation out of the works.

So I think even skeptics of hysteresis should put into their models the probability that they're wrong and I think that ends up pushing you

towards, even you put a small probability that you're wrong, I think that ends up pushing you very much in the same policy directions as a true believer in hysteresis.

Angel Ubide: And that's a question?

Adam Posen: It's certainly questionable. And especially your use of the word scree, but we'll get back to that later. I mean I take your point about the balance of risks, but I think this goes back to something, I forget who it was, but maybe somebody was referring to Larry Myer distinguishing between sort of Philips Curve unemployment and social welfare unemployment. I am perfectly willing to believe from a human welfare point of view that there is a huge asymmetry to being unemployed versus being overemployed or however you want to put it, that there's something fundamentally different there. And I apologize and regret for giving any impression otherwise.

But I will push back with you even though I do so at my peril on your claim about it being empirically poorly grounded. My understanding, again, notwithstanding some clever work by Larry, Larry Birchill, Olivier Blanchard and stuff by Larry Ball, we tried to do a project on hysteresis here a couple of years ago and we basically gave it up because we couldn't find any evidence for it. And publishing no results doesn't usually lead to good grants. And we tried looking at it in UK data when I was at Bank of England and again we found very little evidence for it.

I think as Dave Stockton has remarked on previously in this auditorium, there's income scarring and again, if you want to talk about it as a welfare issue for policy, you might want to address that. But as a question of should monetary policy think, "Oh god, those people out there in long-term unemployment or in non-participation and almost all of them," I know nobody says it's totally black and white, "But almost all of them are redeemable absent very active labor market interventions." I do think that's wrong. I do think it's empirically supported to argue that on that pure forecast basis, that's just not true. It's just not there. I mean, if you've got studies that I'm not aware of, please let me know.

Justin Woolf: I think there's a terminological conclusion. What you say, there isn't any hysteresis. I might say, there is hysteresis, but there's also reverse hysteresis, but again that's just silly terminology. I mean, I think, and tell me if you disagree. The point I argue is that there are not strong equilibrating forces. Like in textbooks, no matter what happens to aggregate demand, you can mess up and get a recession for a few years, but then for sure unemployment goes back to a fix natural rate.

Adam Posen: Okay, yeah. I'll agree with that. And I think that's a usual clarification. Thank you. All I was saying is that the notion that once people pass—I

suppose to what I was saying about recessions, that once your pass—if you think about states of being and once you pass into the bucket, that is non-participation. You're out. That was the part that I was working against.

Angel Ubide: I have time for our final question. Quick. Short. Question.

Last Question: That's asking a lot. I do want to say, first of all, it's a great panel. And again, just Adam just gone the last time, so I just want to just say thank you again for organizing this. It's really important. I also just want to agree with what Steve Oliner said. I think the Fed's independence is at risk. And I think personally, for good reason. It's a principle agent problem. It's a delegation problem. Okay, so you often have a case where a boss has an employee and they trust the employee and they give them a lot of operational dependence. They go on and pretty much do everything. And once a week, they kind of check in maybe briefly by phone or whatever, like keep up the good work. And that's the way things were with the Fed for a long time. We've had a lot of problems in the last decade, let's say. I think the public is a lot more concerned and they want to check in much more. We can talk more about at different conference about Audit the Fed or other ways, but I think this is a case where the manager is the public. The Fed is responsible to them. The public has every right to expect a tighter accountability when things haven't gone according to plan.

Now, just to give you an illustration, this is about the forward guidance issue. Just before the last FOMC meeting, reports in the media indicated that the Fed was likely to remove the significant modifier from the characterization of under-utilization in the labor market. You look at the FOMC minute from the previous meeting; it's not surprising why there was an expectation. The extent to which that is as cloudy as it is, when it's so crucial to their decision-making, makes the Fed look very arbitrary and discretionary.

And so the waning of public trust on all sides, I think, is partly because the Fed looks too discretionary, too unpredictable, too hard to understand. And the solution to that is, as far as I'm concerned, is to be more transparent, more clear in its communications, more clear in its assimilations, more clear about it how its sorting through the diversity of views. So I guess, sorry the question—

Angel Ubide: It's okay. Let me ask the final question related to that. You have 30 seconds each of you to answer. So from what I got from the panel, all of you would be in favor on the Fed overshooting the inflation target. So does this mean that if you were an FOMC member, your 2017 inflation

forecast would be above 2%? Something that no FOMC member is doing right now? Start here, Larry.

Laurence Ball: I mean, if the other FOMC members agreed with me, then yes.

Angel Ubide: No. You are independent FOMC member. You put your own dot on your inflation forecast for 2017.

Laurence Ball: I think I would assume I would be outvoted by the other FOMC members and not achieve the policies that would produce that.

Angel Ubide: Yeah. But you can put your own number. That's what I'm saying.

Laurence Ball: I'm sorry.

Angel Ubide: You can put your own number. All of the numbers will be published.

Laurence Ball: So I am confused. I think it would be good if that happened. Okay.

Angel Ubide: Okay

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William Dickens: Extremely unlikely event that I would be appointed to the Board of Governors, I don't think I would do it anyways because I don't think that's a good thing for Central Bankers to do, to give that kind of guidance. So I would probably say 2% and not believe a word of it.

Quick note for Steve: It's not just your crazy right-wing friends. It's my crazy left-wing friends who hate the Fed as well, and that worries me as much as the other side. Occupy people holding up Rand Paul as their hero.

Jan Hatzius: Yes, a little bit, either for 2017 or '18.

Angel Ubide: Okay. Steve?

Steve: Yes. Same as Jan but I think it's not obvious that one could actually achieve that goal given the policy tools that are available.

Angel Ubide: Okay. Adam?

Adam Posen: Yes, which I'm going to relate back as quick reparse to Andy on independence. You have to do the right thing and you have to be honest about what you're doing. So there are two caveats to I think or two push backs to the way you characterize things. The first is a rules-based policy extremely done, especially just to humor Rand Paul or John Taylor, is likely to backfire badly. And obviously, you well know Janet Yellen's speech of Jackson Hole this summer was basically about that. And I don't

think, you know, it's just like we can have people out there saying, "I don't want to have carbon tax because I know it snows where I live." You know, well, god damn it, I don't care. Reality is there.

And similarly on the communications point, I think you have to be—as again, you're well aware so I was surprised by your statement, just to get it out there. As I sometimes explain to some of our team about our website, more is not necessarily clearer. Right? Sometimes, it matters what you focus on and what you choose to disclose. And so therefore, talking about it as though we have an insufficiently transparent Fed at the moment, when—or an insufficiently predictable Fed at the moment when by any standard compared to the past, the Fed is far more open and far more forward-committed and explicit about what it's doing, than I think at any time in this previous history, strikes me as odd.

And I don't think we should give up the ground to either the friends in the loony-left or the loony-right and pretend that the Fed is obfuscating. The Fed, Jesus Christ! I mean we've had Paul Volcker in this room. okay. He won't do this on the record. Maybe he would actually, but I mean he basically thinks that it's insanity how much the Fed is talking now and how clearly they're talking. And I think those of you and there are many in the room who worked for the Fed back when the Chairman Volcker even Chairman Greensman was there would agree with that.

Angel Ubide: And on that note, please join me thanking the panel for a fantastic discussion. Thank you.