

Unedited Rush Transcript

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

Panel 1: Can we reconcile slow wage growth and demographic labor supply decline?

Chair: Erica Groshen, US Bureau of Labor Statistics

Panelists:

David Blanchflower, Dartmouth College and Peterson Institute for International Economics

Julie Hotchkiss, Federal Reserve Bank of Atlanta

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Betsy Stevenson, Council of Economic Advisers

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Peterson Institute for International Economics, Washington, DC

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Adam Posen: All right, good morning folks. Welcome back to the Peterson Institute for International Economics. It is my pleasure, honor and actually very exciting privilege to convene today's conference on labor market slack, assessing and addressing it in real time. We have a great group truly, of speakers and panelists and chairs and also of select people in this audience, but we're of course going out live via the web to the world at large and we welcome everyone who can tune in for today's presentations and discussion.

Clearly the question of what is labor market slack and how we can deal with it in practice and what we should be doing, so one of the critical issues facing economic policymakers today. I mean, obviously, a great reason for this event and for this discussion is how acutely this is an issue for the Federal Reserve at the moment, as Chair Yellen and others have pointed out. But it is an issue that is going to be with us for some time across a variety of central banks because it is reflecting some underlying issues that are at the nexus of labor markets and macroeconomics that have emerged in recent years.

We live in a world where wage inflation and inflation more generally, have become relatively disengaged from each other and these dates back to be prior to the crisis in the advanced economies. We live in a world, perhaps not coincidentally, where the wage share of the economy or the labor share of the economy has been flat or trending down in a wide variety of economies. And we live in a world where traditional measures

of unemployment do not seem to fully capture the reality of the labor market and its distress, including in places such as Spain and Greece for one reason, the United Kingdom for another, the US for a third, it may not be all one answer, but there is a general problem.

And for this reason I am, as I said, delighted to have with us today about standing group of economists, many of whom are friends and colleagues of longstanding. All of whom are making a combination of research and policy-based contributions to the public debate and we look forward to having this be an active discussion and debate today.

In particular, I'd like to thank those senior officials who've taken time to join us today, most importantly of all of course, Charles Evans, President of Federal Reserve Bank of Chicago, who will be giving the luncheon keynote and who's shown such leadership on these issues both publicly and within the FOMC over the last few years. But also, Erica Groshen, Commissioner of the Bureau of Labor Statistics. Wendy Edelberg, Associate Director of the Congressional Budget office. William Wascher, Deputy Director of Research and Statistics of the Federal Reserve Board. Later today, Karen Dynan, the Assistant Secretary for Economic Policy at the US Treasury. And of course, leading us of Professor Betsey Stevenson of the US Council of Economic Advisers.

This is an extraordinarily solid lineup and we have a bunch of no less distinguished although less important academics and scholars and policy people, including myself, who will kibbutz in as well.

Just two more words, one housekeeping and then one substantive. In housekeeping terms, we are asking the chairs who are very distinguished, to not spend time introducing people with bios. There is a full bios available attached to the agenda for those who want it and those who haven't collected the famous economist baseball card collection for these people. All that will of course beyond our website.

Similarly each session we're going to try to have direct engagement among the participants on the panel, but we of course could open it up to the audience as well at the end of each session. There will be traveling mic upfront. There will be a standing mic at back. Anyone in the room is free to ask a question. It's all on the record. We just ask that (a) you identify yourself when you ask a question, and (b) you try to pretend it's a question, not a speech.

Finally on substance, just to try to give you the logic of our very full program, we want to spend the first half of the day looking at the issue of assessment. So the first panel is focused on the current situation in the US, looking at some of the long-term demographic trends, the shorter term

price pressures and wage pressures or absence thereof and the factors that go into that. How do we disentangle those?

Our second session is about more broadly and generally, how do we construct estimates of slack? We're delighted to have participation not only of Wendy from the CBO, but Michael Horrigan from the BLS, Bill Wascher from the Federal Reserve Board and Andrew Levin of the IMF and now Dartmouth, who are going to talk to us and get into some of the nitty-gritty of what are the estimates and what are the judgments you have to make to make those estimates?

As I mentioned, President Evans will speak over lunch. And then, assuming that President Evans has not solved every problem in the world, we will move on to policy discussions in the afternoon.

Our third panel will be about shorter terms cyclical on monetary policy. What is still left to be done? Is there room for monetary policy or not to do more right now and in general when faced with this kind of labor slack?

And then finally and perhaps our most internationally-minded panel, we will be talking about structure reform in labor markets. What kind of structure reform does the US need if any or if a lot? What lessons we can take from elsewhere and how to put that into practice?

So again, I am extremely grateful to all of you for joining us, particularly by colleagues on the program and let's get right into substance if I can ask Erica Groshen and the members of the first panel to come up. Thank you very much.

Male Speaker: I'm on the extreme left, yup.

Erica Groshen: Okay. I see the mics are on already. That's a good sign. All right, well, let me jump right in. We're going to go in the order in which we are seated, which makes that easy. And the first panelist is Betsy Stevenson of the Council of Economic Advisers. Betsy.

Betsy Stevenson: Great. Thank you. It is a pleasure to be here to talk today about the labor market and the outlook for labor force participation. And as I'm starting to speak, I'm realizing I have no idea how to advance my slides. Maybe that will just happen magically.

Okay. Well, the slides will come up because there's not much there, just a few graphs to sort of show what I'm saying. And the first thing I wanted to lead off with is simply the fact that the economy has been noticeably recovering on many economic indicators. Perhaps, no recent economic development has been more surprising than the rapid decline in the

unemployment rate, which if the slides were up there you would see has been declining, but I'm sure you already know that so I wouldn't stress too much about seeing a picture of it.

But what I think it's worth noting is that it's coming it down across all the different measures of unemployment, whether you use U3, U4, U5, do we include the discouraged workers. Just to put this in perspective, for most of the last seven years the Blue Chip Consensus Forecast expected the unemployment rate to be around 7% right now. But instead the unemployment rate is just over 6%, which is approximately three years ahead of these forecasts.

The general pattern holds across genders, age groups, race and ethnic groups. And we see it has taken a look across many different dimensions and what we see is that the unemployment is about 70% to 80% of the way recovered. So it's continuing to increase at a rapid rate, but of course, there's still more to be done. It's not fully recovered. And they remain open questions about how many people not counted among the unemployed can be pulled easily back into the labor force? And that's the nature of most of the discussion you're going to have today, just how much slack is there beyond what we see with U3?

What I'm going to focus on today is the participation rate, but what I want to highlight for you are five challenges that the Council of Economic Advisers sees in the labor market, most of which predate the recession, but are becoming more relevant as we're starting to recover. And these five related challenges are elevated rates of long-term unemployment. As all of you are aware, long-term unemployment rose very quickly in this particular recession and continues to be a challenge. I'm going to talk more about it and its relationship with the participation rate.

What I think people are a little bit less aware of is the fact that the share of the unemployed who are long-term unemployed has actually been rising pretty steadily over time for many decades and just spiked up in the recession, but this is likely to continue to be a challenge in the US economy. The number of people working involuntarily part-time is a challenge, the decline in labor market fluidity and the increased inequality in wages and income.

So, let me turn to thinking about the labor force participation rate. And the labor force participation rate rose in the 1970s and 1980s largely because of the increase in women in the labor force. But it started to fall in the 2000s and fell extremely sharply in this recession. It has not recovered the way unemployment has and that's led many people to wonder whether or not this recovery has been marked by large numbers of people dropping out of the labor force.

So what the Council of Economic Advisers did was took a deep look at what explains the decline in the participation rate. And if you start with the fourth quarter of 2007 and look to the second quarter of 2014, what you'll see is participation has fallen by 3.1 percentage points. And there, I've got a nice long run graph showing you that, but I suspect many of you already know it.

What we did was decompose the decline in labor force participation into three factors. The aging population, which is responsible for 1.7 percentage points of the 3.1 percentage point decline, slightly more than half of the total decline. So this is where it's worth to pause for a moment and say that many forecasters, most forecasters, expected labor force participation to decline starting around 2008. Because 2008 was not only the year of the Great Recession, but it was in fact, the first year that the Baby Boomers turned 62 and began becoming eligible for early retirement.

So although older workers today are participating in the labor force at higher rates than the older workers of previous generations, it should be clear, although I find unfortunately not always, that even when older workers participate at higher rates than previous generations of older workers they are not magically turned into young workers participating at extremely high rates. So that increased participation of people over 55 is really a drop in the bucket compared to the impact of their cohort entering the retirement years.

I think what's important there is that that is a part of participation we do not expect to rebound. In fact, we expect it to continue. Typical business cycle effects are currently responsible for an estimated 0.4 percentage points of that 3.1 percentage point decline. So elevation in the unemployment rate typically coincides with the decline in labor force participation as potential workers defer looking for a job until the economy improves. But again, should be sort of obvious what we did was a lot of analysis to quantify just how big that effect is. And what we estimate is that as the unemployment rate continues to recover that will pull about another 600,000 people back from non-participation into participating into the labor force.

Now, you'll notice that that adds up to 2.1 percentage points and what we have is a 3.1 percentage point decline. So we've got a percentage point that we just are missing and it's not easily explained by either standard cyclical effects or by the aging of the labor force.

So we have three thoughts on what might explain that additional one percentage point. One thing is that it is largely explained for by

unemployment duration. Now, you might think that's the end of the story, but in graduate school we're taught that if you test one hypothesis and can't reject it doesn't mean that there aren't other hypotheses that you won't be able to reject to. So I want to emphasize the humility with which we say this, but I do think it's worth asking whether or not the standard relationship we see between unemployment and participation may actually differ based on whether the unemployed are disproportionately long-term unemployed? In other words, to the fact that the unemployed have been looking for very long time discourage even more people from participating? Our estimate suggests that that indeed may be the case.

Another issue that I hope you talk more about today is declining fluidity in the labor market. This decline, the quits rate has declined enormously in the recession and has not recovered fully during the recovery and with there being fewer job openings you might think that people are less likely to be pulled back into the labor market. Many people find their job serendipitously with fewer openings there are fewer of those serendipitous moments.

A final issue that we think about is whether or not the pre-recession declines sort of got pushed into our residual and therefore, some of this maybe due to sort of the preexisting trends. For instance, male labor force participation has been declining for about 60 years. We don't really know why it's declining, but a sensible forecast in the face of a downward trend for 60 years is to consider that it may continue.

So I think that—now, the one graph that I'm sad that you will miss is that we do in fact show what our forecast is for the participation rate. And what we find is that as the economy continues to recover, of course, the cyclical component will disappear. We model what—it sort of depends on what you think happens with that one percentage point. But no matter what, without meaningful policy changes it's unlikely that we're going to see participation really increase. We expected it to be flat and then continued to decrease as the Baby Boomers go deeper into those retirement years where participation is even lower. Our population will shift to having a larger share that are in their 70s and 80s and if you think people in their 60s don't work very often, people in their 70s and 80s work even less often.

Now of course, participation is not a goal into itself. If more people retire because they are older and saved and contributed their full working lives that can be beneficial. Likewise, if young people are delaying entering the labor force because they're studying this development increases our skilled workforce and benefits our future economic performance. But the declining participation rate does reduce our potential economic growth and exacerbates our future fiscal challenges.

Moreover, not all of the decline and participation we have seen is the result of natural and good developments. In fact, the long-term trend of declining participation and employment rates for many groups, such as prime age men and particularly young black man is troubling and merits to policy response.

So in conclusion, I am going to mention just a couple areas where the administration is thinking about policy responses to participation. So to help offset the decrease in participation and facilitate greater participation the administration is moving forward on a number of fronts. For example, workplace flexibility policies that help workers balance work and family obligations or that allow older workers to remain in the labor force. We are also considering other policies that would increase women's participation, such as paid parental leave and equal pay.

Decreases in participation of young men of color have been a particular concern and the President's launched the My Brother's Keeper initiative to help young men remain on track in school, complete post-secondary education, enter the workforce and stay out of the criminal justice system. Supporting young men of color throughout their life stages will help connect them with the labor force and ensure that they reach their full potential professionally.

Finally, building labor force participation, attachment I should say, labor force attachment among young people can raise their labor force participation throughout life. An often overlooked policy to boost labor force participation is the President's initiative for Preschool For All. For sure this is not a rapid route to increasing labor force participation, but it is actually a tested one and what we've seen is high quality preschool programs like the Perry Preschool Program, result in children growing up and becoming adults who are more attached to the labor force, who work more, who earn more and are able to contribute more to the society. The returns on these types of investments are huge, even if we do have to wait a little while to actually see them.

More immediately there are programs like apprenticeships and training programs that I'm sure you're going to talk more about in your last session today on structural reforms.

So while the labor market is improving on numerous dimensions, even at a strong pace of recovery, the depth of the recession means that a full recovery will take some more time and even after we're fully recovered, we should not expect the participation rate to recover to its precession level. So let me end there. Thank you.

Erica Groshen: Okay. So I now have update, which is—okay. With luck after resetting everything in five minutes, the projector will work. If it doesn't then you'll all have to plan on seeing the slides when they're put up on the web because they are being saved along with the speakers and so you'll be able to see them at a later date.

Okay. Meanwhile, those of us who are sitting at this table and those who are just right there can turn around. Is that actually—that screen shows it. Anyway, so I'm going to have to watch the time carefully here, but I'm going to turn now to Julie. Do you want to stand or ...?

Julie: Well, there's nothing to show.

All right, I'm very disappointed because this was going to be my first Prezi presentation.

Justin: So, first of all, beginning with technology problems, I feel like I'm back at Brookings.

Male Speaker: Wash your mouth out with soap.

Justin: And, it's great of the opportunity. This is actually the first time in my professional career I've had the opportunity to critique Betsy Stevenson on a panel, usually we write together.

So, the big question is, is there a puzzle about what's going on in the labor market right now? There are lots of different ways of framing this. One would be to say is they're more slack than conventional indicator suggest? The other alternative way and in our models that it's equivalent would be to say, "Is there less wage growth than what expect given other things?"

Then I want to make three arguments to prove I'm an economist. The first is that wage growth is definitely too low, suggesting slack is higher. The second is that wage growth is probably about right and the third is that wage growth is totally puzzling and we don't have a clue.

So the first argument that wage growth is too low, suggesting that we may have more slack so, the unemployment rate today is 6.1%. When I go the CBO they told me that that natural rate of unemployment right now is 5.5%. I think the Fed tells me something roughly similar. So that says we're roughly within half a point of equilibrium unemployment so the gap is very small. So we're about to a point where you expect the economy to be in the long run.

Well, what do we expect the economy to do over the long run? Nominal wage growth, we would expect it to grow at the rate of trend productivity,

so that's 1% to 2%. We'd probably want to add to that expected inflation and the Fed tells us that's 2%. So now we're at 3 to 4. And, if you want to make a cyclical adjustment, you think that the slope of the Phillips Curve is about a half because everything is a half, you multiply that by a very small unemployment gap and it says that wage growth should be about 3% to 4% right now.

And I think Chairman Yellen has actually said precisely that that's pretty much what you would expect in a non-inflationary steady state. By contrast, the wage growth today is about 2%. So the employment cost index is running at 2.0, the average ALLE earnings of private work is at 2.1. If you focus instead for—I'm not sure why production in non-supervisory employees is at 2.5 and the median usual weekly earnings of full-time wage and salary earnings is running at 0.8. So I increasingly read about the inflation hawks staring at the wage data deeply terrified and they appeared to be deeply terrified that nominal wage growth is at or below their inflation target, even when we anticipate positive productivity growth over the medium to long run.

So really, this suggest that either that we have a puzzle why is wage growth too low? Or alternatively, it suggest we have more slack in the labor market than one would suggest, looking at sort of 6.1 and 5.5 as the natural rate. If you were way too courageous you would look at wage growth and try an infer from that what the unemployment gap is. So if wage growth is currently running 1% to 2% below what it should be doing in the medium run and the slope of the Phillips Curve is about a half that tells us that slack is two to four percentage points, which then it of course tells us that natural rate is probably about two to four percentage points itself, which stands a little too low. But at the very least these calculations suggests that we're nowhere near running out of slack any time soon. So that's the first argument that wage growth is clearly too low.

The second argument is that wage growth is roughly about right. And it's simply the observation that through the entire period from the last 25 years nominal wage growth in the US runs between 2% and 4% and it's done that almost every year. It's done that during periods of recession, it's done that during periods of recover. And right now wage growth is running at about 2% to 4%. And so, we should stop being surprised when wage growth turns out to be running at about 2% to 4%.

So then, I think that leads to the third way of thinking about this, which is the third argument I make to contradict the previous two, which themselves contradict to each other, is that wage growth right now is totally puzzling.

The standard framework we use for thinking about monetary policy in the United States is the Phillips Curve. We all learned it in freshmen or sophomore economics; you draft inflation against the unemployment rate. I'm actually in the midst of writing a principles of economic textbook and I've got to this point and I had to draw the Phillips Curve and I thought, "You know what I do? I do something totally radical. I'd make the Phillips Curve in my textbook empirical, rather than have one of those stylized curves. I was going to use the data."

The problem with this is when you graph inflation against unemployment for the United States over the past 50 years you get just a cloud. They appear to be basically completely uncorrelated. I'm not quite sure what to do because if no one can believe in a Phillips Curve then I'm not quite sure how we—what our operating framework for thinking about policy is.

Now, it turns out there's a way of drawing that figure that does work for the United States, which is to look at wage inflation instead. So wage inflation, the rate of nominal wage growth seems to be quite closely related to unemployment. I should say there's a third way of doing this, which is you run highly sophisticated models that have a whole bunch of controls and you put in dummy variables for very embarrassing observation and period. And with enough of them you'll actually do a pretty good job.

But when you look at wage inflation, in fact, there's a very strong wage Phillips Curve for the United States, at least for the post 1990s period. And so, that's the context in which we typically do find that a one percentage point rise in inflation leads to about a half percentage point decline in nominal wage growth. But it's in that context you have to think about the last few years that we've been through. We've gone from a period in 2007 where the unemployment gap was either zero and negative, to a period where the gap was clearly four or five percentage points. We had double-digit unemployment. And through that period wage inflation basically didn't fall at all. We then had the subsequent recovery in which we've gone from 10% unemployment back down to 6% unemployment and again, wage inflation hasn't moved at all. And this is the first period in the last—certainly, in the last 30 years in which we have seen wage inflation just refuse to have anything to do whatsoever with the level of slack in the economy.

And so, when you look at those data I think you end up just feeling completely baffled and a little less sure about the frameworks we use for analyzing these things. There is to be sure, the positive interpretation of this and this would be the Fed interpretation, which is if we have anchored inflation expectations then we all know that inflation is going to be 2, so therefore we all know wage growth is going to be right about 3 so

therefore none of us need to look at the state of the economy any time ever and the breakdown of the Phillips Curve is in fact, a thrilling policy success. And I'm somewhat sympathetic to that, although I wonder why it doesn't show up in equal fashion for the price in the wage of Phillips Curve?

So that's where I think I'm at. Where are we with wage growth? It's either too low, about right or totally puzzling and we should stop thinking about it.

And I think the second topic I wanted to talk about is this issue of how much slack it is there in the labor market and in particular, should we expect the labor force participation rate to rebound? The way we try and think about that is we look at the correlation between the labor force participation rate and the state of the business cycle. And if we found that the two were completely unrelated most of the time in most settings then we wouldn't be worried that the recent recession would have knocked the participation rate around. We wouldn't think there were some cyclical part to come back.

If on the other hand we found the two are quite closely correlated then we would worry that that seems to suggest that the state of labor market could have a big impact reducing the current labor force participation rate.

So there's a very recent, I think influential paper and I hope Bill Wascher is going to talk about it today, he gave it at the Brookings Papers on Economic Activity just last week, in which they sort of try and look at how cyclical is the labor force participation rate. And the most convincing evidence to my eye from that was they look across states. The problem of looking at national data is the US over the last 50 years has only generated 50 data points. The nice thing about having 50 states is we've got 50 times as many observations and a whole bunch more recessions to look at.

And they find reasonably, they find evidence that's consistent with what Betsy Stevenson said a moment ago, which is that if you look at the current state of the business cycle they measure it using the unemployment rate. Then for each percentage point that the unemployment rate goes up the labor force participation rate gets suppressed by about a fifth of a percentage point. And so, that seems to suggest there's some possible effect that it may not be large.

Now, one needs to be a little bit careful with how one interprets this. If your preferred measure of labor market slack, the state of the business cycle is the unemployment rate, we know the unemployment rate is just about back to the natural rate. And so, if you want to try and measure the cyclical or this current cyclical effect on labor force participation it's

equal to the cyclical times how big the business cycle is right now. Well if you assume that the unemployment rate is round about normal right now then any measure times zero turns out to be zero. So if you assume that the unemployment rate is a good measure of the labor market slack, then you infer from these sorts of equations that given that the unemployment rate is right about normal, that the participation rate must be right about normal. But that's sort of assuming a question, right? And so, I think what you need to do is take something of a step back and think about this.

Now, I will say, I think all of us realize that the labor market used to be dreadful and now it's moderate. And so, given that, it's unlikely the participation rate is being distorted by a dreadful labor market right now. That's assuming that the relationship between the two is contemporaneous. I think if one wants to make the argument that labor force participation is currently being substantially cyclically repressed, one has to argue that what really matters for today's participation decisions is not today's labor market, but it's the labor market of the previous years.

And the interesting thing that Bill Wascher and his colleagues find, is in fact that labor force participation depends a lot on history and it depends on the state of the labor market, not just today, but also they say all the way back to three years and if you fiddle with their data a little bit you can actually say all the way back five or even six years. Well if you think today's participation decisions depend on the state of labor market over the past six years, it's easy to say on average the state of labor market over the past six years has been dreadful. And then I think it's a lot easy to start to believe that labor force participation today might be cyclically below where it would otherwise be.

So I don't think I know the answer to this, but I think in trying to think about this slack question, I think one's view is really a question of how much do the lags matter? And that's where I think we need to spend a little bit more time and energy. Let me stop there.

Erica Groshen: Thanks Justin. Okay. So we're having paper copies of the slides handed out and these are for Julie's talk.

Julie: That's what we do, we just smile and keep going. All right, I was asked to talk about the longer run view of participation. For those of you who can see any of this, I do before I start need to remind you that the views expressed here are not those of the Federal Reserve Bank of Atlanta or of the Federal Reserve System.

And I think before—as we get started here, we need to agree about why we care about long run trends and labor force participation. Depending on who you ask our concern for the trends and long run trends in growth and labor force either stems from what the heck those 16 to 19-year-olds are doing with their spare time or it stems from a concern about feeling economic growth.

I have a chart in the handouts that you may be able to pick up later, that shows the long run growth in the total labor force since about 1949. And we see in that chart that up until the end of about the 1970s there was increasing growth in the trend in the total labor force and since that time however, total labor force growth has been consistently declining. So the first thing to take from that chart is that the trends, the declining trends in labor force growth, has been going on for quite some time. It's not merely the result of the Great Recession, nor of the Baby Boomers retiring.

And if we focus on the second part of that graph we can also see that there's a significant cyclical component, as Justin mentioned, to these overall long-term trends so that during expansionary periods we can see these spurts of growth coming out of recessions and you'll also see that the last, the current spurt if you will in labor force growth, is right on par with those coming out of previous recessions, although it's starting from a much lower point.

So if the long running trend in labor force growth is a concern and we're interested in policies that might affect or either sort of stem or reverse the trends and declining trends in labor force growth, then we need to talk about the factors that make the greatest contributions to the changes in labor force. And so, from a purely algebraic perspective there are just two factors that contribute to changes in the labor force: population growth and changes in labor force participation rate.

And so, if we think about the year over year change in the total labor force, that you didn't see, then we can decompose that change each year into the contributions that are made by the changes in population and contributions that are made by changes in labor force participation rate.

And the striking feature of that particular picture, imagined in your head, is that historically changes in the population have been the primary contributors to changes in the growth or changes in total labor force. There are three exceptions: 1956, I'll let someone else explain that one, but then more recently 2009 through 2011, contribution of changes in labor force participation rate have been larger to changes in the overall labor force than changes in the population. And there of course, have been some concerns expressed about these declines in the labor force

participation rate that has continued to pull down growth in the labor force.

I'm putting up a chart that shows this dramatic decline from 2009 through 2000—I mean, 1999 through 2014. And the typical—there's been a lot of people who have tried to identify what have been the strongest contributors to this change in the total labor force participation rate from before to after the recession. And the typical approach is to take data from before the recession and project where labor force participation rate would be after the recession if the recession hadn't occurred. And so, if you just use demographics to make that projection you get a line of labor projected labor force participation rate that falls somewhere above the actual labor force participation rate. And that's what we all generally agree is structural in nature, primarily the result of changing demographics, primarily the aging of the population.

And so then you take the difference between the—what labor force participation rate was before the recession to what it would be projected to be and that's your structural portion of that change. And then the difference between that projection and the actual, then it's just attributed to the business cycle.

The work that I have done in this area takes a step further and models the impact of the current recession on changes in labor force participation rate. And I find that the business cycle, adding the business cycle to that projection, that labor force participation rate would have actually been lower if behavior hadn't changed in order to prop up the labor force participation rate.

So an example of the difference between behavior and demographics might be for example, that women today are having fewer children than women in the past. That would be a demographic change. And a sort of counter to that or the behavioral part of that is that women with children are working more today than they were historically. In addition, the population is aging. That's a demographic change. Older people are working more, that is a behavioral change. So there is an important distinction between behavior and demographics.

Behavioral changes are harder to classify; it's either structural or cyclical. But they are important because they're malleable. They're able to be affected by policy. And so, if we think that there is slack in the labor market and we don't consider the possibility of affecting behavior then we're going to be addressing this problem of slack with one hand tied behind our backs.

Now, there are a number of policy options that can be used in order to either stem or reverse this trend. And the policy of choice will be whether or not you believe there is labor slack in the labor market or not.

In a minute I'll talk about the contributions and the policy options related to affecting labor force participation rates. But first, let me talk about contributors or policies that might affect population growth because historically, that has been the biggest contributor to changes in the labor force.

The primary and likely most effective tool for affecting population growth, in a short run at least of course, is immigration. In addition, there's some evidence, although it's not uncontested, that tax policy, such as the child tax credit, can affect fertility decisions. Now of course, that policy option is a bit longer term in its effect.

But now, turning to labor force participation policies, there are three demographic characteristics that are among the most highly correlated with participation decisions: a person's age, a person's education, and a person's immigration status. So the highest rates of participation are among those between the ages of 25 and 54, after of course, formal schooling has completed and before social security or retirement kicks in.

Of course, there aren't any policies that can keep people from aging. We could again, through immigration policy target those age groups that are more likely to participate in the labor market and affect the participation rate in the population. More highly educated people are more likely to participate in the labor market. Now, will I question whether or not there's any sort of causal relationship here? If there is one, we could provide incentives for any individuals to undertake an investment in greater education, which as a result would have them work more in order to recoup the returns on that investment. And immigrants have a higher participation rate than natives. So again, through immigration policy, would it positively affect the participation rates in the population.

As we saw or as you know, labor force participation has a very strong cyclical component. And so, related to that is a person's expected wage. A person's expected wage is the probability of finding a job times their market wage. The expected wage of any person in the labor market on average is weaker—is lower and a weaker labor market, primarily because the probability of finding a job has declined and that increases the chance that the value of some other activity exceeds the person's expected wage, reducing participation.

Now by undertaking policies to stimulate economic growth the labor market strengthens increasing the probability of finding a job and thus

increasing a worker's expected wage. In addition, as technology increases, workers become more productive increasing their market wage, increasing their expected wage and workers participating more as a result as well.

Now I mentioned earlier another set of policies worth considering if you believe that there is slack in the labor market and those are related to individual behavior. The presence of children is consistently one of the most important factors determining labor supply behavior, particularly of women. Any policy that lowers the fixed cost of participation, especially if it relates to the care of children, will significantly affect participation rates.

Now retirement, like death and taxes is something that we can count on. And so, we also know related to retirement, that those decisions to retire respond significantly to incentives. Shifts away from defined benefit to define contribution plans, loss of wealth or stock market crashes and adjustments to social security policy have all had significant impacts on retirement decisions.

All right, so where you stand on slack is important in choosing the right policy for affecting labor force growth. If you believe there is slack in the labor market and you want to entice those untapped resources to enter the labor force then policies that manipulate incentives are where you want to focus. Increasing a worker's expected wage through economic growth and/or wage growth, reducing fixed cost of employment, improving incentives for worker's to delay retirement, these are all about incentives.

Now if you don't believe there are slack in the labor market, but you still want to stem the decline in labor force growth, then your focus should primarily be on those policies related to increasing the human resources available to your economy, which will point you in the direction of immigration and with perhaps some fertility tax policy thrown in.

All right, so let me summarize the things that I think should guide the discussion, because again, I don't have any answers either, but I have some things that perhaps we should think about while we're trying to get to some answers.

The slowing labor force growth threatens economic growth. And this is the primary reason that we care about the declining labor force participation rates. Labor force growth has been declining since the 1970s, so it's not merely phenomenon of Baby Boomers retiring or the most recent recession.

The current cyclical component of the labor force growth appears to be on track, although again, it started from a deep trough after the most recent

recession. And population growth has historically been the largest contributor to labor force growth, but there have been concerns recently about declines in labor force participation prompting endless debates about the contributions of demographics, changes in demographics, labor market strength and behavior as contributors to those declines.

And then finally, there's a myriad of policy options for arresting this decline in growth in the labor force, but policies affecting incentives should be the focus if you think that there's a considerable amount of slack in the labor market. Thanks.

Erica Groshen: Thank you. All right, next, Michael Kiley, Federal Reserve Board.

Michael Kiley: All right, so thanks for having me this morning. A couple introductory marks. I'm going to talk about a narrow area of some of the discussions today and in particular on our relationship between short and long-term unemployment and price inflation. My discussion reflects my own views and not those of the Federal Reserve or its staff.

And I'm going to structure my discussion to start with the general overview of the issues, but then to dig down more specifically, into a research paper, focusing really on methodological issues of how one should approach this question and then see what that approach implies for the underlying relationships and then return to the broader literature.

So, as others have said, Betsy mentioned it, Justin mentioned it, long-term unemployment increased dramatically in the most recent recession. And at the same time, price inflation has not fallen by as much as some would have expected. And currently short-term unemployment has returned to what some might consider to be a normal level, while long-term unemployment is elevated. This confluence of developments has led some to ask whether in the United States long-term unemployment is relatively unimportant for a wage or price pressures?

Certainly there are theoretical reasons why that's an interesting question and one that we should seriously consider. One can write down models or perhaps more accurately stories of why they're long-term unemployed may be relatively weakly attached the labor force and that marginal workers determining wage and price pressures are those who are more recently unemployed.

Perhaps more interestingly, recently there have been a lot of empirical studies coming to the conclusion that perhaps actually in the US data we finally have some observations that can tell—differentiate between the effects of long-term and short-term unemployment. And that in fact, the

effect of long-term unemployment on inflation is relatively needed or completely nonexistent.

On my slides I present an example of this research, which I think is pretty representative. So I reproduced a regression in a paper from Glenn Rudebusch and John Williams, they estimate a standard Phillips Curve over the period of 1960 to 2013. The only thing that's relatively different is that rather than include the total unemployment rate they include the short-term unemployment rate and the long-term unemployment rate. If you look at that regression and behold, the coefficient on short-term unemployment is something like a quarter. That's a nice round number, perhaps not as nice and round as a half, but easy to keep in mind.

And the coefficient on long-term unemployment is zero. Basically zero to decimal points. And the coefficient on short-term unemployment is very, very significant. If you look at the standard error, the coefficient on long-term unemployment is I guess, somewhat imprecisely estimated, but perhaps at conventional significance levels you might say, really there are differences across these two measures of unemployment in generating price pressure and that short-term unemployment is the right measure. Now I'm thinking about—and that's a conclusion that's been reached by quite a few studies, looking at taking this Phillips Curve approach, looking at good data.

Now, why might you have concerns about that approach, the T stats are big, they're different? Well, if you look at the equation, right, we kind of know that that equation is a mess. We have economic reasons to think that the lag structure and the coefficients on unemployment action shouldn't be the same over time. We seem to see an anchoring of inflation expectations that has fed through to the coefficients on lags, that affects estimates on the other coefficients.

Research has demonstrated that changes in monetary policy should have profound effects on the coefficients of slack in the Phillips Curve. After all, a Phillips Curve is a reduced form relationship, not a structural relationship. It's capturing dynamic patterns in the data, not underlying structural relationships. That large body of research suggests, "Well, you should dig a little bit under the cover when looking at those aggregate time series regressions and ask simple questions like, "Are they stable? If they're not stable do the coefficients look a lot different over different time periods?" And in fact, if you were to do standard statistical tests the coefficients are not stable and the coefficients look really different over different time periods.

And in particular, the coefficients look very different over the post-Volcker period relative to the pre-Volcker period, exactly as our

macroeconomic models of what should determine the shape of the Phillips Curve predict. This is something that's been found in many previous studies.

So then if you repeat this sort of aggregate regression and then that's something I do on a paper or in a slide that you can't see, over the last 25 years the coefficients on short and long-term unemployment aren't very different. Certainly not in a statistical sense and depending on what else you include in regression, they're not even very different if you look at the absolute magnitude of the coefficients.

But what is really apparent is that the regression says, "I can't tell the difference between these two variables. The standard errors are huge." Now, why should that be the case? Well there's a graph of the total unemployment rate, short-term unemployment and long-term unemployment in my picture and you can see a couple things in that. For example, you can see the observation that Betsy made that there's an upward drift in the share of long-term unemployment and total unemployment. But the overall impression one gets from that picture, especially if you don't include the last few years, 9s gosh these variables move a lot together. They're really, really correlated. And in fact, we only have one observation of the recent recession in which there seems to be different movement.

Well when variables are highly correlated and here's where we get into the methodological part, we know that regressions have a problem. Right? So if two variables are perfectly correlated they may actually have different effects in some imaginary world in which they were to move differently, but you could never tell because it doesn't happen. It happens to be the case that for sure in long-term unemployment until 2007. That's about what the data is saying with regard to price pressures. You can't tell the difference.

Now this is an observations that others have made before. So, Larry Ball in a paper a few years ago said, "Well, we might actually have enough evidence in coming years to finally differentiate and be able to tell whether short and long-term unemployment have different effects on price inflation because we have seen in recent years some different movements in these variables."

What I do in my paper is take that proposition seriously, look at characterization of the data, simulate the data lots of times and say, "How much data would I need to tell? Well, if I get a couple extra years, will I ever be able to tell that these variables are different?" Unfortunately, a few years is not that much data. As Justin said, in 50 years isn't actually that

much data. And so, adding a couple years onto the Phillips Curve regression just is unlikely to help in this differentiation.

So then I ask, “Okay, well, what might help?” So certainly, if you think US experience is similar to that in other countries, looking at experience in other countries might help. And perhaps a more direct way is to note that the US is not homogenous labor or product market. And there may be factors that, regional factors that affect price inflation and estimate Phillips Curves across regions.

Now, that’s not a trivial step to take. Right? You need to have a structural model of why you think product prices, for example, if you’re thinking of price inflation, are not determined by national factors. What elements are non-traded? How our local labor conditions important for that? But if we put those issues aside I explore a possibility through some Monte Carlo analysis, and indeed confirm that while you’re unlikely without, essentially hundreds of years of data to be able to tell from a national regression the difference between short and long-term unemployment, if you have a lot of regions, you can get a hundreds of years of data a lot more quickly, even if there are important national components to inflation.

So with that sort of statistical motivation or methodological insight in mind, I turn to regional regressions and indeed find that over the last 25 years the Phillips Curve has a strong relationship, so there’s very strong relationship between labor market conditions and price pressures across US regions. In addition, regional factor seemed to be really important, so looking at the national unemployment rate is insufficient for understanding regional variation and inflation.

And then finally, the coefficients on short and long-term unemployment are much more precisely estimated and essentially equal to each other, so they end up—I don’t have the table in front of me. I think one ends up being exactly a quarter and one ends up being 0.27 and the standard errors are tenths or less than tenths, not multiples of tenths as in national regressions.

So that leads to the conclusion that you certainly couldn’t reject to the hypothesis that these are equal determinants of price inflation. Of course, not being able to reject the hypothesis is not the same as accepting the hypothesis, but the sort of statistical evidence that’s been provided in previous studies using a Phillips Curve approach, really is pretty unconvincing and I think not helpful for answering this question. And if you look and take the data seriously, try to expand your sample, you certainly could get yourself comfortable with the notion that short and long-term unemployment, at least in the United States, do not have differential effects on price inflation.

Now, subsequent to my analysis of variety of others or subsequent and concurrently of a number of others, I have looked at the issue in a similar way, perhaps not taking as much of a methodological stance as I do. I really spend in my paper most of the time talking about why this is a tough problem and why the econometrics suggest you need to take a different approach. But other people who have just looked at the data, I think have often come to the same conclusion where they're looking at price or wage inflation, that if you look across regions, regional factors are really important in determining inflation. And that at least in the US labor market, there's not much distinction to be drawn between the inflationary pressures delivered by short and long-term unemployment.

Obviously, this issue has some bearing on an assessment of overall slack, given the current state of the labor market. And in addition, the thing that I personally get at least as excited about is it reminds us that the Phillips Curve is a reduced form relationship and you need to think hard about why the data should look a certain way, what sample you should be looking at and the power of the statistical tests that you bring to bear on these questions. Running a regression and fortuitously finding, probably after running many regressions, that you have a big T stat on one and not the other, is not dis-positive evidence.

Erica Groshen: Thank you Michael.

Adam Posen: Let me just take a moment to apologize unreservedly in behalf of the institute to our panelists, particularly I think, Betsy and Julie who were really caught. We haven't had this problem for a while. Brookings analogies are not justified. But we are now making up for it by expanding our carbon footprint. And hard-copies of all the presentations are being quickly printed out by our team and distributed and I think we're caught up now that actually Danny's presentation is there in a hard-copy for everybody. Thank you for your understanding.

Danny Blanchflower: Thank you sir. Well, thank you for this. I guess in comparison with Betsy and Justin and Julie, I guess I'm a cyclical guy. I think a lot more of this is cyclical and I'm going to talk about why.

I come to this issue, I have to say for about the last 30 years and many of the issues we're going to talk about and Michael correctly talked about the long-term unemployment issue, been there, seen it, done it, we're going to talk a bit—I'm going to talk a bit more about that.

A lot of what I'm going to talk about today actually, relates to trying to put an international perspective on this because many of the issues are actually the same and some are quite different. And I'm going to focus on

the fact that the commonality in all of this, particularly in the comparison between the US and the UK, which I'm actually going to spend some time thinking about, is actually wages. And the paper that you have actually, by Adam and myself today, talks about the huge amounts of downward pressure on wages from a variety of sources and we talk about the need to focus on, for the Fed to focus on, wage pressure. I'm going to talk more about that.

But I just want to put this in context. I think there is a huge puzzle that's going on. And if I was to have sat in this room let's say in 2007 and 08 and I looked back at every regression I have ran and Bill might have argued with me, but there's a similarity anyway. I would have probably said in 2008 that the wage curve that I'd written about, the were effects of unemployment on wages in the US and the UK was about the same, roughly and one minus 0.1 rule would work.

Well since then, we have a big issue here, which I think is a huge puzzle, which I don't understand, which is since 2008 and particularly in recent time periods, in the UK and the US unemployment rates have fallen pretty much together, sharply down with over the last year or so and today the unemployment rate in the UK and the US is basically the same.

It turns out also that despite all the things we talked about, about the declining participation rates in the US and the UK, today roughly, the participation rates are the same, except that over the last 20 years and we've looked at the series today and we've thought about the decline in the US of the participation rate, I can almost exactly plot for you a line which does exactly the opposite in the UK. Strongly rising participation rates with many of the same issues people talked about, about women going back to work and childbearing all the rest of it. So a common set of issues to both the point doesn't explain because in one country it's up and the other one it's down..

But one thing I'm going to start from particularly, is this puzzle, which I have in my head and I don't think I have an answer to, since May 2010, real wage growth in the US is flat basically. In the UK it's down 10%, real wages are down 10% since May 2010 and they're currently falling at about 1.8%. So we've never seen anything quite like this, but I'm going to talk about the commonality between them and in reality, obviously, these issues are big ones and I think there are many puzzles to be had. And I don't have a story and I don't think anybody else does this talk. Would I have said in 2008 that UK wages were much more flexible down with the US? I don't think I would have and so that's where I'm going to start from.

The paper that Adam and I have done and it's released today and you have a copy of it, in that paper we actually show with state level data, at state year panel, we show that—go back to the old wage curve stuff that we did and I'll show you some of the regressions in a sec, that work is just a hunky-dory. But actually, the inactivity rate also end to strongly, significantly, negatively in those wage equations pushing down on wages, hence, the story I'm thinking about in terms of much greater cyclicity.

Also, entirely consistent with everything that Michael talked about, we actually find absolutely no evidence whatsoever of any effects of long-term unemployment. And this is actually kind of interesting because I was brought up as a graduate student at the LSC in the 1980s and we spent most of our days there talking about long-term unemployment. We talked about it because we had it and you didn't talk about it because you didn't have it.

Male Speaker: [Inaudible 01:04:16] no different effects.

Danny Blanchflower: Oh, yes. Correct. Thank you. Yes, yes. I'm just going to—sorry, no different effects in the short--from a short-term. I'm sorry, correct. And actually, we went to look at these issues in 19—Andrew also and I wrote a paper in 1990, where we actually looked at the effects in the UK at that point. And what we found—so Adam always says I get this—I don't say it right, but we mean the same thing, we find no evidence that the long-term unemployed have a different impact on pay than the short-term unemployed. We wrote that in 1990 and everything that I see today in the US is completely consistent with that because it looks like the US is almost exactly like the UK was before and is now and in work we've done we find no evidence at all either for the UK that that's true. So that's completely consistent with what Michael said. This paper is [inaudible 01:05:08] from the Fed that finds the same thing.

I'm going to show you a couple of regressions in a second.

The one thing I also going to talk to you about is the fact that despite the fact that I see inactivity rates in the UK didn't move in the same direction, that doesn't look like an additional measure of slack because the participation rates are rising. So something we have to think about, same unemployment rates. What the heck is going on? I'm going to talk a little bit about the fact that we have a lot of evidence now and I'm glad I've Erica is here because I want some questions for her to put into the survey and I'm going to tell how great they are. But you'll see why they're great.

Okay. So, this is really the paper. If people have got the paper, I think the handouts coming around, let's just quickly please go to—this is table four of the paper, it's the first set of wage equation and I think this is really the

first part of the story, it's the paper with Adam. This is the first part of the story that says, "This is really all about the participants." I think of the nonparticipants actually sitting there ready and willing to step back into the labor market and find work and that's what this suggest.

And actually, I think if you look in the paper, we talk about the fact that actually, quite a lot of the slack, both in the UK and the US actually, a huge amount of the slack are the young if you look in the data. I don't think I don't agree with Betsy's estimate, they're much larger than that. The young, they've left and they've gone to be students, they have unpaid internships and stuff and they're going to step back in.

So essentially, what you have in these equations is you cannot at a state level panel, you run wages, you run a lag wage, state fixed effect, year effects and controls, all kinds of controls generated from the CPS. And basically, you get a nice wage curve, you get unemployment enter in the wage equation, but for the first time, and Andy Levin was the person who at the conference some time ago Boston said that this would happen and I stood up in the audience and said he was wrong. And about two months later I had to call him out and say, "Oops, you were right."

Anyway, so that's true in both hourly and weekly wages. If you go to the second table, that's table five in the handout, it turns out that we can do all sorts of experiments. I mean, everything we get, we get a wage effect from the unemployment rate, we get an activity rate. So it turns out if you've measured out the size of the effects, it's about a third—the change in the inactivity rates has an impact on ways about a third of a size of the change in the unemployment rate. But that's just suggesting to you that the reason rates are being pushed down is because these inactives are actually pushing down. If they weren't there, if they weren't really prepared to come back to the labor market, you wouldn't think they'd be putting down the pressure on wages, which is what they're doing.

And we actually in this table, actually have some evidence and I think Michael has actually got the similar kind of evidence. We basically find very little difference between the short-term and the long-term unemployed, but if anything and he has some regressions around the same kind of thing, if anything we actually get the opposite. We even get a negative side note which tells us that actually they have greater downward wage pressure than the others. So if anything, I'm not saying I'm going to push that, if anything, that's true.

So in the US context, we think, I think and I'm obviously doing a lot more on that, we think that that's happening. And Andy is going to—we've now started more projects trying to think about what else might build into that slack. And Andy and I doing some work. He's going to talk about it a

little bit later and we actually can show you as well now that these underemployment variables, in addition, enter into these equations, things that the proportion of part-time for economic reasons enters. But what's quite interesting, just like the inactivity rate, it looks almost orthogonal to the others. So if you looked at the tables we have here, you put the inactivity rates and then the unemployment rates coefficient doesn't really move at all.

How am I doing for time? I'm on track I think. Oh, four minutes, I'll be good, I'll be there.

The think I would like people to think about actually, is what happened in the UK? And we actually get similar kinds of things going on, but the big difference with the UK, it's not about the participation rate, the big thing in the UK actually, is in fact we've had a big rise in the underemployment rate. I was very struck with Betsy's chart. I've always looked at U3 and U6 and roughly they look like they move with a constant, not exactly, but roughly.

But we have this great series in the UK, which is sort of a set of papers so I give references to them. We have a great set of questions in the UK on the equivalent of the CPS, starting in 2000 where we ask people, "Would you like to change the number of hours that you work at the going wage?" If the answer is you'd like to increase them, tell us how many you'd like to increase it by. If you'd like to decrease them, tell me how many you'd like to decrease it by. And in some sense, this is the rewriting of the part-time for economic reasons, but we actually—I'm going to show it, well, tell you, that actually, we get a third of the slack we identify comes from full-timers who also say that they would like extra hours. So obviously, the part-time for economic reasons excludes those people.

Okay. But here's what's really interesting. If you will look at the table, it's in the chart here. What's really interesting is actually think of what equilibrium in these tables are. Between 2000 and 2008 these two series are equal to each other. Good old labor market stuff, the people could move around, there's plenty of jobs going around, you can adjust your hours if you'd like.

So equilibrium is basically from 2000 to 2008 flat. From 2008 on the series saying would I like to work less hours roughly remains, a bit squiggles, but roughly it remains flat. And this series would you like more hours takes off. It's roughly equivalent to about now, about another two percentage points on top of the unemployment rate. That's moved a little bit with it, but the things have separated.

And it looks like in the UK that underemployment series pretty darn much explains the noninflationary changes that we're seeing. The nice thing about this is these people are asked at the going wage, what would you like to do? Yeah?

Female Speaker: [Inaudible 01:11:06]. We don't have it.

Danny Blanchflower: I'm sorry. It's—okay, I'll [inaudible 01:11:09] you. Oh, take this one. There it is, look. Sorry. So here's the chart that you-

Female Speaker: But it's not what we have.

Danny Blanchflower: Okay. Well, there's that chart.

Female Speaker: Oh, you guys have it.

Danny Blanchflower: Okay. So you can see that if you just track it to the unemployment rate, this is a variable. So this tracks in many senses that two countries. It looks like under-employments in the UK is the big deal, pushing down a ways, but hugely pushing down a ways. I don't have a great story for that. I've been very critical. Actually, it turns out that the MPC has actually been reducing by hand the scale of the unemployment rate. This is [inaudible 01:11:48] contrary to all the things we said in this room. But actually what it will do is it will take off a chunk of the unemployment rate because of long-term unemployed, despite the fact that they have outside evidence that the amount of long-term unemployed are different.

Second, what it does is it's actually taken off. It said, "Yes, we'll accept some of the underemployment you've taught about Danny, and the publish it and it's part of the inflation report, well we'll just carve that." So all their predictions have actually been wage growth is going to grow strongly. They've been predicting that for the last two years. And every time they predict it wages fall further and further. So, it certainly does look that the level of slack is much greater than they think. So in both countries you have these levels of slack. Suggesting lots of cyclicalities going on. I'm giving you obviously, my approach to this, but I don't think I have the great answers. Who would have thought that real wages in the UK will be down 10% in four years?

So my conclusions, more cyclicalities than other people thought. We find no evidence at all that wage growth is about to take off. There's a lot of downward pressure on wages coming from the unemployed, from the nonparticipants and from the underemployed. We find those separate effects for long-term unemployment. And I think that a way to summarize all this work we've been doing is the unemployment rate doesn't appear to be a sufficient statistics, a sufficient statistic.

For us to model the labor market we need to look at other things, but these things, particularly in my UK contact, you can see Bill and I we're talking about it a little bit yesterday, prior to 2008, certainly in the UK, the unemployment rate was a sufficient statistic to tell you about what was happening in the labor market. Because if you wanted to add the underemployment rate to it, it's just you're adding zero to it. But of course, since that time, it turns out, it's not a sufficient statistic at all because you've got other stuff you've got to add to it.

So I think that's the way I would conclude from it, lots of downward pressure unemployment rate, not a sufficient statistic and I see no evidence whatsoever that wages are about to take off.

Thank you. How did I do for the time?

Erica Groshen: So, we have about 15 minutes for discussion and I'm going to, first of all thank all the authors for particularly for carrying on despite the lack of slides. I think we've got just the most of what you had to say.

And let me start off by giving everybody else on the panel the same opportunity that Danny just took. I'd be really interested in what other data we'd need to begin to resolve some of these questions? And also, understanding how important is it for us to continue to produce the data that we're already producing?

So, let's see. I'll start with Betsy, yeah.

Betsey Stevenson: All right, great. I was actually thrilled. I think one of the reasons why we were grappling around trying to find Danny's chart is I think he put his finger on a question that we'd really like the answer to in the US context, which is how many workers who work over 35 or 35 more hours actually feel that they are underemployed? We are all I think, struggling to understand the rise in part-time for economic reasons and as I've investigated this data I'm left scratch in my head and wondering, "Hmm, so, if you work 34 hours, we ask you do you wish you had a different job or do you wish you had a full-time job?" And we give people the chance to express displeasure with the current job they have. If you work 35 or more, we don't.

I think just to put this concrete way. If you're a college graduate working at Starbucks and you work 32 hours, we know you're in the wrong job. If you work 35 hours we don't know you're in the wrong job. So it's not even just about asking about more hours, but trying to figure out whether people are in what they consider a temporary makeshift job or if they're in sort of the right job for them I think would be useful to know.

One other thing and I'll say this as an academic not an administration official, although in my capacity at CAA we think about this as well. It's like longitudinal data is so very, very useful to understand what's happening with people over time and I know represents one of the biggest challenges for our statistical agencies.

Julie: I'll follow-up on that in addition to those data hours. I would add that any access or easier access to administrative data would certainly be something that would be useful as the response rates to surveys continue to fall and Erica knows this. So, I'm not saying something she doesn't already know, but I just want to encourage people to be thinking about how open we can be with the data that we collect for other purposes and how it might be used to answer some of these labor market questions.

Erica Groshen: No, we're doing it in order.

Michael Kiley: So I supposed I'll play to my comparative advantage and not talk too much about the data because I'll just embarrass myself, but rather talk about categories of data to look at in assessing slack in the economy. So I think the standard that a macro-economist like me starts from is looking at a Phillips Curve in a Okun's Law relationship.

As my talk hopefully illustrated, the Phillips Curve can be very unreliable. It's not particularly stable over time. There are lots of other developments that can help us and form our assessment of the state of the economy. So for example, fluctuations in other variables, the credit cycle for example. In that paper earlier this year looking at an Okun's Law, a Phillips Curve and a credit cycle variable. If one were to look in quasi real time at period like 2004 to 2006, inflation would have been telling you, "Well look, maybe the natural rate of unemployment is under five." But if one were to look at the historical position of the supply of credit, one would say, "Gosh, this is a really unsustainable position." I'm taking those cyclical relationships into account, the natural rate of unemployment even in real time would be estimated something more like five and a half. So I think broadening our framework to focus not only on the Phillips Curve, it's just not as helpful as we would like it to be to think about slack.

Erica Groshen: Justin.

Justin: I want to echo something Michael Kiley said before, I think the biggest data storage we have is we only get one new business cycle every seven or eight years and so really working with three or four data points. So I do want to thank I guess, Chairman Greenspan for creating more data for us.

But given that short and particularly this important question of the role of long-term unemployment, the only two places we can look for that are do exactly what Michael has done and look down at the state level or go overseas and start looking instead. And what's interesting is the [inaudible 01:19:19] position between the two when you do what Michael has done and you look at MSAs or states, it looks like the long-term unemployed mattered just as much in the United States as the short-term unemployed.

When you go over to Europe and particularly the European experience during the 1980s, you have to be drawn to the conclusion the long-term unemployed became completely irrelevant or you have to believe that somehow the natural rate of unemployment in Spain was 20%. And so, I think during those two together is interesting.

The second thing I want to do is lesser pitch to Erica, the collector of data and more pitch to Michael, the economic theorist. There was a time the Phillips Curve was an empirical relationship. Bill Phillips, *The New Zealander* drew a graph between the change in wages and the unemployment rate. We macro-economists have become sufficiently sophisticated now. The Phillips Curve is the relationship between unemployment relative to something unobservable, the natural rate and versus inflation relative to something unobservable, inflation expectations, all mediated by a slope, which is mediated by something else unobservable the extent to which inflation expectations are anchored.

So the Phillips Curve, it's now a relationship between two unobservable variables mediated by a third unobservable variable, which either makes it profoundly true or profoundly false, but I think none of us really have a clue.

Erica Groshen: Okay, Danny.

Danny Blanchflower: I don't agree with anything about the long-term unemployed that you said. All the evidence is actually in Europe for more the empirical work that actually once, just as Adam said, that the long-term unemployed and the short-term unemployed have exactly the same effects. So I don't agree with that at all.

One of the things I'm actually quite interested in, it turns out particularly in a place like the UK, it's actually trying to learn more about the self-employed because we've been talking about wages. In the UK, it turns out that the national statistic excludes all workers who firms under 20 and entirely excludes the self-employed. But we do actually in this series that Betsy was talking about, for the full-time, too, we actually have evidence certainly now that prior to 2008 the self-employed were kind of happy

with their hours and now they're really, really unhappy. But we have very little clue about what's actually happened to their earnings.

The shock in the UK was that we just had a small survey came out with the latest estimate and I told you about the fact that 1.8% is the dropping earnings of people in firms of greater than 20. What about new firms? What about small firms? But the real wages of the self-employed in the UK in the last time period fell 14% in a year. So I think that what's happening to the self-employed, especially if in this time period people are being pushed from employment to unemployment to some kind of low paid self-employment. So I think that the earnings of the self-employed is obviously important and obviously we know we have a little bit of it in the marches, but I think the self-employed a really big thing we need to try and understand about.

Erica Groshen: Okay. We have some time for questions from the audience. Maybe the best thing to do is to take a few questions and then have some responses from the panel. So, I think there's a microphone back there, right?

And there's also a hand one, okay. So, all right, we have one up there and over there. Okay. So go ahead please.

Christopher Gaber: Hi, Christopher Gaber at *The Associated Press*. Just a quick question for Professor Blanchflower. What is your research if you're looking more to cyclical of long-term--of the LFPR, what does that imply for the rate in the future? Do you expect a bigger rebound in that figure? Thank you.

Erica Groshen: Yup. Let me take a couple minutes.

Male Speaker: Please of course, please.

Erica Groshen: But write it down. Okay. Another one over here.

Andrew Levin: Yes. Hi, I'm Andy Levin. They're great presentations. I'm actually intending this to be a question for Justin, but it really, maybe it's also a question for you Erica. There was a very nice polled on this summer by Reuters. I didn't think it got nearly the amount of attention it should have. It was an explosive Reuters poll conducted between June 6th and August 8th. Shows as there's many retired and other jobless people who have stopped looking for employment declaring that they're ready to reenter the labor force if the right opportunity came along. It was a poll of 7,700 individuals aged 18 and older. Thirty four percent said they had stopped looking for work because the job market was so bad. Despite the following unemployment rate, 40% said they were no more optimistic about their job search today even when they initially stopped working. I think that's Justin's point about the lags. Maybe there has been some

improvement lately, but some of these people may not be as aware of it or the unemployment rate is exaggerating the improvement.

Among those who said they had halted the job search, many were ready to resume the hunt if they received the right signals from the market. Those signals included more job postings to match their qualifications, evidence of a stronger economic recovery and word that friends or relatives had landed jobs, which again it connects up to Justin. How do people get information?

Now, this--the question for Erica is that one of my frustrations over the last few years is that marginally attached and discouraged refer to people who've searched for a job in the past year, which in normal times is probably a good way of thinking these people are still—they haven't searched in the last month, but they're still marginally attached.

The issue we've faced in the last five years is that we know from Pew Foundation work and other studies that people have been out of work for years, that are full-time parents, they're doing other things, they went back to school. That marginally attached isn't a good measure of it. And so, an obvious thing I think to do in this survey would be to follow the Reuters example and ask people even, if they haven't been working for quite a while and maybe they're using some words that Betsy said, "What would it take to get you to come back?" sort of questions. It also connects up to what Julie said sort of, "What kind of incentives?" another policy should have mentioned or maybe she did was about child care programs. There's lots of room for improvement.

But again, this seems like an urgent area. Maybe it could be done in the next March supplement. If we don't change these surveys until 2020 it will be too late to inform these questions and these are urgent questions for policymakers now.

Erica Groshen: Very interesting. Any other questions? We've got one more there and a couple here and then we better start answering.

Audience: I wanted to ask Danny Blanchflower to elaborate a little bit on the idea that long-term unemployment in Europe was just as effective in holding down wages as short-term unemployment in the 1980s, 1990s. Why didn't we see bigger declines in real wages in Europe in an environment of very, very high unemployment if that was the case? Just the basic facts without looking at any micro-data would suggest that long-term unemployment wasn't that effective to meet.

Erica Groshen: Yeah, we have a question back there.

Ernie Tedeschi: Thanks. Ernie Tedeschi from ISI Group. One thing that I didn't hear mentioned but that Janet Yellen mentioned in her Jackson Hole speech, in terms of the wage data was the possible role of nominal wage rigidity isn't explaining the breakdown in the relationship. And just empirically, I think the San Francisco Fed has a wage rigidity index where they've longitudinally linked CPS data and they showed that their elevated number of job stayers that have not received a nominal wage increase over the past year.

So to what extent do you think that sort of during the recession, not getting the wage cuts that would normally be expected and now pay back, not getting raises that might be expected? Explain some of the breakdown in this relationship. Thanks.

Erica Groshen: Okay. And one more question. Yeah.

Jacob Kirkegaard: Jacob Kirkegaard from the Peterson Institute. Just a quick question for David. About this notion that so many more in the UK wants—true full-time workers want higher wage—oh sorry, high hours after 2008, but isn't that basically a function of the levels of inflation in the UK? I mean, isn't it perfectly rational that if you have suddenly 4% to 5% levels of inflation that even if you work full-time you want higher wages.

And so, I'm just wondering if you don't end up, if you add these kinds of things into the slack don't you get something that's basically highly correlated with inflation?

Erica Groshen: Okay. So Danny, a lot of these questions are for you. So maybe I'll let you try and summarize a lot of questions--answers quickly.

Danny Blanchflower: I expect labor force participation rate to start rising again especially for the young. And I have an instructed movie. It's called *The Full Monty*. I don't know if you remember it but those people were actually out of the labor force, been out of the labor force for a very long time. I won't spill the beans to what they do, but they'll do almost anything to get themselves a job and I think that's the first thing.

Second thing that a lot of the work that was done by Laird and Nickel and others on time series data and there's a paper by Andrew [inaudible 01:28:54] in 1990, which basically shows that what happens when unemployment gets really, really high, perhaps in the orders of double digits, things alter. My view in all of that stuff was that there were other explanations. But long-term unemployment is correlated with high unemployment and it's high unemployment that does things and it just happens that long-term unemployment happens to be correlated with it. In the Spanish example it's about the fact that there's no mobility in the

Spanish labor market driven by what happens in the Spanish housing market.

The other one too in terms of inflation, obviously, that might be right, but actually what you have here is, in a sense in the UK now, is quite a nice experiment over this period 2008 to 2014, you had inflation over five and you've had inflation now falling down to one and a half. And basically, the underemployment rate hasn't moved as the inflation rate has moved. So I don't know the answer to that, but it doesn't look that it's underemployment variable at all has moved with the inflation rate, just with the data that we have. And we had a much great to spike in inflation and then in the US, partly because when we pushed down the exchange rate people let me talked it down expecting that all the literature is saying about the pass-through being low and slow, well it was actually high and fast. But anyway, so I don't know, but maybe. Thank you.

Erica Groshen: Justin?

Justin: The only question that was darted to me was Andy Levin's asking how we should think about people at the margin of labor market. And, the single best answer I know is a little parable called Betsy Stevenson's Coffee Shop. So, rather than tell you that, I'm going to let Betsy answer.

Betsy Stevenson: Okay. I will--so, Andy, I was hearing you discuss the issue of how long does it take people to come back and look? And that you actually said I think, that these people said that they were ready to resume their search if they've got more information about openings. It just drew to me one of the reasons why I think about and think we need to have a better understanding of the relationship between participation and fluidity in the labor market.

If people don't change jobs and there's not very many openings then you don't hear about openings. And so, the example Justin was talking about was I was asked at a press briefing in the White House, someone said, "You've been talking about this decline in labor market churn and how it affects people. What does this mean for real people? Give me a real life example." And to the real life example I gave is, well let's say you're a woman who was working and then you had kids and then you had a first kid and a second kid and by the third kid you just thought, "I can't handle this right now," and you dropped out of the labor market. And now your third kid is three or four and you haven't worked in a while.

And through the back of your head you're thinking about going back to work but you're so busy with your three kids that you're not actively doing it. But you go into a coffee shop and we're in a world in which there are tons of job openings because people are moving jobs all the time. And

you go into the coffee shop and you run into a friend who says, “Hey, did you hear about the opening at so and so? Because I think they’re looking for somebody just like you. Have you thought about going back to work?” And maybe you don’t get that job, but that prompts you to look into it and to apply and then there you go you’re back in the labor market.

And that’s what I meant when I said, “I think that there’s a lot of serendipitous interactions that pull people back into the labor market.” And so, it’s not just the information. It’s not picking up the newspaper and hearing that unemployment is down to 6.1%. It’s going out and talking to friends and finding out that there’s a lot of openings.

Well, when we’re talking about net job growth and declining unemployment rates, we’re missing the growth and the growth is what really matters for that serendipitous. It’s how many openings are being created in total, not how many openings are there over destruction. And so, I think that’s one of the reasons we need to be paying attention to labor market flows and understanding better the quit rate. And one of the reasons why I look at the quit rate a lot and it has not recovered, I think it’s only a little more than halfway to recover. So, I think that that is an important link.

Let me answer sort of one last question that I think is sort of in there, which is when we’re describing the participation rate I said that I thought there’ 0.4 that we really could explain through standard business cycle effect, but there was a whole percentage point that may be due to long-term unemployment, that may be due to decreases in fluidity, that may due to the unusual severity of the recession. I think if you think that that 1.4 percentage point participation is all potential slack and then you think that 5.4 is a natural rate and we’re at 6.1, well now Justin, we’re getting into your 2.2 to 4 percentage points.

And then one of the things that I—if I glossed over, let me say it again, the one thing that hasn’t recovered in a way that everything else has been recovering is the part-time for economic reasons rate. And I think we should think of that as potentially being slack. I know these people are saying actively that they’re looking for more hours and it’s one of the reasons why I think it would be useful to know who else is looking for more hours. But that’s also another source of slack.

Betsy Stevenson: Okay. So, go ahead Julie and then I’m going to jump in.

Julie: Well, just on this point of part-time, I mean, I agree. I think this is sort of like been the focus and preoccupation at the Atlanta Fed, as well as many other places. I think that it’s important to keep in perspective the number of people that are affected by or who are indicating their part-time for

economic reasons relative to other events that have affected everybody across the Great Recession. So there's a new working paper from *The Atlanta Fed* that measures the decline in family welfare from before to after the recession looking at how much of that, what's the result of changes and wages and lost in wages, loss of real wage growth if you will and non-labor income, relative to how much of that loss is from not working in as many hours as you want or would be predicted to be optimal. And nearly 80% of that welfare loss across the recession comes from loss in wages and non-labor income.

And so, I think while this is an extremely important question related to slack and getting the most out of the resources that you have available for filling economic growth, we need to keep in perspective I think, the welfare of individuals and how important real wage growth and other losses to family wealth have been.

Erica Groshen: Okay. Well, let me add- The BLS now publishes growth flow data and this is what I was going to encourage people to take a look at. I think that there are opportunities there for understanding some of the flows that Andy was asking about. We do see a lot of flows from out of the labor force directly into unemployment. Those happen and I think that there are opportunities that therefore understanding exactly the kind of behavior you're asking about much more.

The other direction I think that could be very useful, would be to understand what the other side of the labor market is doing. What is it that the employers are doing and are doing differently? We know there was the advent of the lean staffing movement in the 80s and the 90s. How has that change how employers look for employees, how they adjust to shocks?

And also, the other big change that I think it's worth it for us to think about, is during that time we saw an increase in wage volatility for people and so we thought that that meant wages were more flexible. But now, we're measuring them as less flexible. So that's a puzzle right there and worthy of some examination.

So with that, I'm going to thank Peterson-

Female Speaker: Oh, [inaudible 01:37:42] with Michael.

Erica Groshen: Oh, I'm sorry. Michael, yes.

Michael Kiley: I don't think I have anything to add. Thank you.

Erica Groshen: Okay. Well, I'm going to thank Peterson Institute for bringing us together and all of the panelists for teaching us so much this morning.

Adam Posen:

Just let me quickly add my thanks, especially for those we forced to go cold turkey on PowerPoint. I'm very grateful, particularly to Erica who is running a large organization and ran this panel with similar [inaudible 01:38:19] and substance.

We're going to take a coffee break now. We will reconvene at 11:00 for the panel chaired by David Stockton on the issues of measuring slack and constructing estimates where we have a number of people from the official sector talking about how do they do theirs. I think it's an important next step to dive deeper.

But again, my thanks to the panelists who've got us off to such a great start on such an important issue.

