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Jerome H. Powell, Governor
Federal Reserve System

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Introduction

Chairman Terry J. Lundgren

Welcome. I'm Terry Lundgren. I'm Executive Chairman of Macy's, Inc. and also Chairman of the Economic Club of New York. This is a continuation of our breakfast series. We have a fantastic size audience for our breakfast meeting here obviously because we have a Federal Reserve Governor, Jerome Powell, with us this morning. Jay took office as a member of the Board of Governors of the Federal Reserve System in May of 2012 to fill an unfulfilled, unexpired term, but then he was reappointed and sworn in on June of 2014 for just another 14 years. So his term expires in 2028.

Prior to his appointment to the board, Jay was a visiting scholar of the Bipartisan Policy Center in Washington, D.C. where he focused on federal and state fiscal issues. From '97 to 2005, Jay was a partner with the Carlyle Group. He served as assistant secretary and as under-secretary of the Treasury under President H.W. Bush with responsibility for policy on financial institutions, the Treasury debt market, and related areas. Prior to joining the administration, he worked as a lawyer and an investment banker here in New York City.

In addition to service on corporate boards, Jay has served on the boards of charitable and educational institutions including the Bendheim Center for Finance at Princeton University and the Nature Conservancy in Washington, D.C. in Maryland. A native of Washington, D.C., he received his A.B. in politics from Princeton in 1975 and earned a law degree from Georgetown University later on. And while at Georgetown, he was the editor-in-chief of the *Georgetown Law Journal*. So, Jay is going to come up and talk. He's got a very interesting subject. We've got some slides to help explain his message today. And afterwards, I'll come back and we'll moderate some questions and answers, With that, welcome Governor Jay Powell (Applause)

Jerome H. Powell, Governor

Federal Reserve System

Thanks very much, Terry. It's great to be here this morning, a great crowd. Thanks for coming out. So, today I'm going to discuss the ongoing progress of our economy and the prospects for returning both the federal funds rate and the size of the balance to more normal levels. And as always, the ritual disclaimer is that these will be my own views and not necessarily those of the FOMC, or anybody else.

So, starting with the economy, as you know the Fed is committed to fulfilling our statutory mandate of stable prices and maximum employment. And I'll start with the labor market where many indicators suggest that the economy is close to full employment. In fact, in April, the unemployment rate was 4.4%, a rate not reached since May 2007 and actually slightly below most current estimates of the natural rate of unemployment. Estimates of the natural rate are inherently uncertain, but other labor market measures are also near their pre-crisis levels, including what some of you will know as U6, a broader measure of labor market utilization that includes those who would like to work but have not recently looked for a job and those working part-time who want full-time work.

In addition, the labor force participation rate, which had declined sharply after the crisis raising concerns of hysteresis, real damage to the labor force, has now been roughly stable for the last 3 ½ years, which represents an improvement against its estimated downward trend. So, the labor force participation is thought to decrease about a 1/3 of a percent per year. If it's flat for three and a half years, that means that you're catching up to the old trend. And so we now think that we are right about labor force participation trend level.

Wage data have gradually moved up, consistent with a tightening labor market. Although average hourly earnings are rising only about 2 ½% per year, which is slower than before the crisis, much of that downshift likely reflects the slowdown in productivity growth that we have experienced. For example, over the past three years, unit labor costs – one way to think about this is unit labor costs are nominal wages adjusted for increases in productivity – have generally been rising a bit faster than prices for the first time in many years.

So, let me turn to inflation. And there the FOMC interprets price stability to mean 2% inflation as measured by the personal consumption expenditures price index. The objective is symmetric, so that the Committee would be concerned if inflation were to run persistently above or below that target. So inflation has, in fact, run below 2% for most of the period since the financial crisis reflecting soft economic conditions as well as transitory factors such as the earlier decline seen in energy prices and the stronger dollar.

But over the last two years, inflation has gradually moved closer to our 2% objective. Prices rose 1.6% over the 12 months ending in April. Here, red is total inflation, and black is core inflation on this slide. Prices rose 1.6% over the 12 months ending in April compared with only .2% two years earlier. But much of that movement actually reflects price changes in the often-volatile energy and food components of the index. Core inflation, which excludes food and energy prices, has proven historically to be a better indicator of where overall inflation is heading, although that, too, can be affected by transitory factors like import prices. Core inflation was 1.5% for the 12 months through April. And that measure has also risen since 2015, although its gradual increase appears to have paused because of weak inflation readings for March and April.

Some of that recent weakness can be explained by transitory factors – about half I would say. And there are good reasons to expect that inflation will resume its gradual rise. Incoming spending data have been relatively strong, and the labor market should continue to tighten, exerting some upward pressure on wages and prices. Nonetheless, it is important that the Committee assess incoming inflation data carefully and continue to demonstrate a strong commitment to achieving our 2% symmetric objective.

Despite strong job gains, very weak productivity growth has led to disappointingly slow economic growth of only about 2% over the course of this expansion. And here the black line is the 10-year trailing average and the red line is the 5-year trailing average. You can see how remarkably stable the 10-year trailing average was at better than 3%. Now only about 2% for the eight years since the end of the financial crisis. While monetary policy can contribute to growth by supporting a durable expansion in a context of price stability, it cannot reliably affect the long-run sustainable level of growth in the economy. So, the success of monetary policy should be judged by the economy's performance against our statutory mandates of price stability and maximum employment. And today, as you can see, the economy is as close to our assigned goals as it has been for many years. You can see the two things. You can't get much closer than that.

My baseline expectation is that the economy will continue on a path of growth of about 2% with strong job creation and tightening labor markets and inflation moving up toward our 2% target. I expect that unemployment will decline a bit further and remain at low levels for some time, which could draw more workers into the workforce, put upward pressure on wages, or cause businesses to invest more as labor costs rise, all of which I would view as desirable outcomes. Risks to the forecast now seem more balanced than they have for some time. In particular, the global picture has brightened as growth and inflation have broadly moved up for the first time in several years. Here at home, risks seem both moderate and balanced, including the downside risk of lower inflation and the upside risk of labor market overheating.

Turning to monetary policy normalization then, the healthy state of our economy and the favorable outlook suggest that the FOMC should continue the process of normalizing monetary policy. The Committee has been patient in raising rates, and that patience has paid dividends. While the recent performance of the labor market might warrant a faster pace of tightening, inflation has been below target for five years and has moved up only slowly toward 2%, which argues for continued patience, especially if that progress on inflation slows or stalls. If the economy performs about as expected, I would view it as appropriate to continue to gradually raise rates. And I would also see it as appropriate to begin the process of reducing the size of the balance sheet later this year. Of course, both of those decisions will depend on incoming economic data.

So, let me put this normalization process in context. And to do that, let's consider where we've come from. It was ten years ago, in the summer of 2007, that we were just entering the most painful economic crisis since the Great Depression. And the crisis and its aftermath prompted large-scale policy interventions by the Federal Reserve and other authorities to avert the collapse of the financial system and prevent the economy from spiraling into depression.

Most of the Fed's targeted financial measures – such as liquidity facilities to ensure the flow of credit to households and businesses – were withdrawn soon after the crisis as orderly conditions resumed in financial markets. In contrast, the FOMC's easing of monetary policy increased over time as the longer-term effects of the crisis gradually became clear. In fact, from 2007 through

2013 – that's for six full years – the FOMC added ever-greater support to the economy. From late 2008, with rates pinned at the zero lower bound, the Committee resorted to unconventional policies to put additional downward pressure on long-term rates, including strong calendar-based forward guidance regarding the likely future path of the federal funds rate, and several rounds of quantitative easing.

Both the federal funds rate and the balance sheet are still currently at levels intended to provide significant support to the economy. Normalization of the stance of monetary policy will return both tools to a more neutral setting - a more neutral setting. And that process can actually be said to have begun in 2014, when the FOMC ended its asset purchases and began active discussions on lifting the federal funds rate from the lower bound. The first rate hike came in December of 2015, with another in December of '16, and one additional increase earlier this year. The whole normalization process is forecast to have several years left to run, as I will discuss.

In the case of the federal funds rate, the endpoint of that process will occur when the target reaches the long-run neutral rate of interest. Estimates of that rate are subject to significant uncertainty. The median estimate of FOMC participants at the March meeting for that rate was 3%, which is more than a full percent lower than before the crisis. This decline in the long-run neutral rate, and an even larger decline in the short-run neutral rate, imply that even the very low rates of recent years may be providing less support to the economy than may appear. At present, the median FOMC participant estimates that we will reach the long-run neutral rate of 3% by the end of 2019, so only a couple of years of tightening would get us there, if the economy performs about as expected. And you can see that with the red dots on the right there.

So, turning to the balance sheet, in September 2014, the FOMC outlined plans for the balance sheet. And that initial guidance has been supplemented over time in other communications, most recently in the minutes of the May meeting. So, I'll just summarize the key points. First, normalization of the balance sheet will commence only after normalization of the level of the federal funds rate is well under way. And most FOMC participants think that that condition will be satisfied later this year if the economy continues broadly on its current path. The balance sheet will be allowed to shrink passively as our holdings of Treasury and agency securities mature – or prepay – and then roll of. The process will be gradual and predictable. As noted in the May minutes, although decisions have not yet been made, the Committee has discussed pre-announcing a schedule of gradually increasing caps on the dollar value of securities that would be allowed to run off in given months. The Committee will continue to use the federal funds rate as its principal tool for adjusting the stance of monetary policy. Once the process of balance sheet normalization has begun, it should continue as planned as long as there's no material deterioration in the economic outlook. And in the long run, the balance sheet should be no larger than it needs to be to allow the Committee to conduct monetary policy under its chosen framework.

Taken together, the Committee's communications present the broad outline of our likely approach to normalizing the balance sheet. Although the process of normalizing the balance sheet will be in the background, that process will interact with the Committee's decisions regarding the federal funds rate. As the Fed's balance sheet shrinks, so debt held by the public will grow, which in theory should tighten financial conditions by putting upward pressure on long-term rates. Any such tightening could affect the Committee's decisions on the federal funds rate of course. The question is how big is that effect likely to be?

One way to approach that question is through model-based approaches, which estimate changes to financial conditions through increases in the term premium as the balance sheet shrinks. These estimates vary but they're generally fairly modest, and I've cited a number of them in my footnote here. One reason for that – why they would be modest – is that, for several years, the FOMC has signaled our intention to normalize the balance sheet as economic conditions allow, and so some of the effects of normalization should already be priced in.

A recent research paper by Fed staff estimated that unconventional policies are currently holding down term premiums by about 100 basis points, but that those effects should decline to about 85 basis points by the end of 2017 as market participants see the beginning of normalization coming nearer. That same approach suggests that bringing forward the date of the start of the anticipated phasing out of the Fed's reinvestments from mid-2018 to the end of '17 should have raised the term premium by only about 5 basis points. Of course, needless to say, markets don't always obey models. They sometimes do what they want. They always do what they want and react quite differently than expected, as the 2013 taper market showed.

The market's recent responses to changes in expectations for reinvestment policy also suggest that there need not be a major reaction when the Committee begins to phase out reinvestments. Long-term rates, as you can see here, did not react strongly to the reinvestment discussions in the minutes for the March and May meetings, and those did lead market participants to bring forward their expectations, as I mentioned, by about six months. In addition, a recent survey of economists also suggests that they expect that a gradual well-telegraphed reduction in the Fed's balance sheet should have modest effects. So, these results augur well for an orderly phase out of reinvestments. Of course, if changes to reinvestment policy do tighten financial conditions more than anticipated, then I expect the FOMC would take that into account and react accordingly.

I want to turn to the long-run framework now. Over the next few years, the runoff of assets acquired through quantitative easing is expected to reduce the balance sheet substantially below its current level of $4.5 trillion. In the long run, the ultimate size of the balance sheet will depend mainly on demand for the Fed's liabilities – currency, reserves, and other liabilities – and on the Committee's long-run framework for setting interest rates, and I'll talk about each of those.

So, the next slide compares the Fed's balance sheet as of May 2007 with that of May 2017 – 2007 is on the right, those numbers are going to be small for some of you, 2017 is on the left. So, what these numbers show is that on the asset side, the balance sheet increased by $3.5 trillion roughly as the FOMC acquired securities in our QE programs. And these assets were matched on the liability side of the Fed's balance sheet by a $2.2 trillion increase in reserve balances held by commercial banks, a $700 billion increase in currency outstanding, and $500, a little more than $500 billion increase in other liabilities.

As can be seen more clearly in the next very brightly colored chart, prior to the crisis, currency was the Fed's main liability. So, if you go to the left before the balance sheet goes up, what you have is liabilities on the bottom, assets on the top. I'll call that purple. That's currency. Before the crisis, the overwhelming liabilities were currency. Currency outstanding has doubled essentially over the past ten years to $1.5 trillion, growing at a compound annual rate of 6.8%. And that growth reflects strong domestic and international demand for U.S. currency, which is expected to continue. So, the eventual level of demand for reserves, however, is less certain but is highly likely to exceed pre-crisis levels when reserve balances averaged only about $15 billion. Reserves is, I call it – the big item up there on the liability side – I call it pink, I guess. So, reserves, central bank reserves are the ultimate safe asset, and demand for safe assets has increased substantially over time because of long-run trends, including regulatory requirements. Other liabilities have also increased significantly. That's the liability, let's call it kind of orange, and those include a group of things including the Treasury General Account, the foreign repo pool, balances held at the Fed by designated financial market utilities, and other items as well.

So, to gain a sense of the possible long-run size of the balance sheet, the next slide shows simulations under three different assumptions for the ultimate level of reserves. Effectively, the exercise here is to assume that currency continues to grow and other liabilities continue at about their current level, and so the swing factor is going to be the level of reserves. And what this shows is three different simulations, $100 billion, $600 billion, and $1 trillion. The current level is $2.2 trillion. And you can see along the bottom are dates. You can see that the smaller the level of reserves needed by the Fed to manage our interest rates, the farther out the normalization process would be. So, the top dotted line is if the equilibrium level of reserves is $1 trillion. The next line is if it's $600 billion. And the bottom line is if it turns out to be $100 billion. You can see that broadly, 2021, 2022, would be the time for normalization. And you can see then that the balance sheet would continue to grow. I think you can also see, though, that even in the case, even in the low case, where we're only going to need $100 billion in reserves, you still have a balance sheet that's well in excess of $2 trillion in 2022. In fact, it would be about $2.4 trillion in 2022 and grow from there. And if you wind up at $600 billion or a trillion in reserves, in equilibrium, then the balance sheet would be that much bigger. In fact, if you take a step back, I would say based on this, it's hard to see the balance sheet being, getting below a range of about $2.5 to $3 trillion in my view.

And to some extent that's going to depend, the size of the balance sheet will depend on the operating framework that the Fed uses going forward. Before the crisis, reserves were scarce, and the Committee used open market operations to control the federal funds rate by managing the supply of reserves. And that process was operationally and resource intensive for both the

Desk and its counterparties. As a consequence of quantitative easing, however, reserves have been highly abundant, super abundant, and they're going to remain so for several years. So, to affect financial conditions, we can't make reserves scarce and have them trade on that basis. Instead, we've used administered rates, including the interest paid on excess reserves, or IOER, and more recently, the offering rate of the overnight RRP facility. So that approach is sometimes referred to as a floor system. It is simple to operate and has provided very good control over the federal funds rate. In fact, in November of 2016, when the Committee discussed using a floor system like that as part of its longer-run framework, I was among those who saw such an approach as, and this is quoting from the minutes, such an approach as "likely to be relatively simple and efficient to administer, relatively straightforward to communicate, and effective in enabling interest rate control across a wide range of circumstances."

Some have advocated a return to the old framework or one similar to the pre-2007 system, in which the volume of reserves would likely be far below its present level and the federal funds rate would again be managed by frequent open market operations. This corridor, so-called corridor, framework remains a feasible option, although, in my view, it may turn out to be less robust over time than a floor system.

So, to wrap up, after a tumultuous decade, the economy is now close to full employment and price stability. The problems that some commentators predicted have not come to pass. Accommodative policy did not generate high inflation or excessive credit growth; rather, it helped restore full employment and return inflation closer to the 2% goal. The current discussions of normalization are a result of that success. So I'll stop there. Thank you very much. I look forward to your questions. (Applause)

QUESTION AND ANSWER PERIOD

CHAIRMAN TERRY J. LUNDGREN: Thank you Governor Powell. We're going to start questions with the Fellows table. Any questions from Table 16? Yes. Identify yourself please – there's a microphone – and then your question.

Thank you. Lorraine Wilson. How are you?

GOVERNOR JEROME POWELL: Great. How are you?

LORRAINE WILSON: Great. I had a question. You focused on, you know, labor participation rate stabilizing, unemployment dropping. I'm just curious, there was a *New York Times* article yesterday about income instability or volatility, I'm wondering if that's something the Fed tracks and, you know, what your views are on someone who may be working but their industry, such as construction or retail, causes volatility in their take-home pay?

GOVERNOR JEROME POWELL: Yes, so we, it's fair to say that we pay very close attention to labor markets generally and certainly to that. The other area, of course, would be inflation. We have vast resources in those areas. And it's true that, you know, that there are more people working in the gig economy, more people working part-time. But I'd say those are not dominant features of the landscape, that's a fact of the landscape. But the dominant feature of the landscape has been very strong job creation and generally the jobs that have been created almost exclusively, on net, have been full-time jobs, full-time regular wage jobs. So, actually job creation post-crisis has been an upside surprise relative to the level of growth, and wages are not really a mystery given low productivity. So, I hope that's responsive.

CHAIRMAN TERRY J. LUNDGREN: Any other questions from that table? If not, we'll just open it up to...

Good morning. Mike Terilli. How might the current political agenda, particularly tax reform, impact your views on normalization?

GOVERNOR JEROME POWELL: Of course, we spend a lot of time thinking about the possibility of fiscal action and the nature of it and the timing of it and that kind of thing, but there's just so much uncertainty, it's very hard to bake that into a, certainly a forecast for 2017. I think, my own view would be there's some likelihood of a tax cut, probably to have an effect in 2018 and thereafter. But the scope of it, the nature of it, does it address supply side matters, is it tax reform or is it just a tax cut, and the timing of it are highly uncertain. So it's been a real challenge to try to incorporate that into the forecast, and I frankly don't for 2017. And for 2018, I just think of it as, you know, something that balances the downside really, so that it should assure that the left tail is a little bit truncated because of the probability there will be some support of fiscal action.

CHAIRMAN TERRY J. LUNDGREN: Open it up to the room, questions? Yes, over here...

Governor Powell, Phil Suttle from Tudor Investments. A terrific presentation, thank you. Your three scenarios had this sort of feeling of, perhaps appropriately at breakfast time, the three bears' porridge. You know the one that may be a little too small, the one that may be a little too big, and the one, you know, the $600 billion in the middle may be just right. Should we sort of take away from – I don't want to put words into your mouth, but, you know, can you give us a little more sense of how the Fed is thinking about how it sees the optimal level of bank reserves, you know, especially in a scenario where clearly at some point we're going to get some liquidity stress in the system?

GOVERNOR JEROME POWELL: So we have not made a decision about the long-run framework, and we're not going to make one before beginning the normalization process. That's something that we'll get to, and that's a key driver of the size of the balance sheet. If you're going to have a floor system, reserves have to be abundant. They have to be well above the demand for reserves. So even if you knew with some certainty the ultimate sort of equilibrium level of demand for reserves, you still wouldn't know exactly how big the balance sheet would be. And we don't know, we don't know at what level of reserves they will once again become scarce. There will be very large demand from banks for reserves. They're a great, high-quality liquid asset. And so it's really hard to say. I think for now it's going to be a range.

CHAIRMAN TERRY J. LUNDGREN: I'll let you take over the questions.

So a question, unless I missed it – my senior moment – you didn't mention anything about currencies. There is always this talk about currency wars and I'm more concerned about what's happening between China and the United States, even though European currency seems to be rising up. So I would appreciate your commenting on that.

GOVERNOR JEROME POWELL: So, I may have discussed that and I just forgot it myself. (Laughter) That's extremely possible, so stop me if you've heard this. It happens every day. No, so we, you know, we take the, we don't do currency policy. The Fed is not responsible for currency policy – the administration is. So we don't have a perspective on the right level of the dollar. We sort of take the dollar as an exogenous element that comes into our forecast. That's what we do. So we don't, we don't talk about that. It's not our job. We try to stick to our knitting, and that's the level of the dollar relative to Chinese currency would be the definition of something that's not our knitting. So, sorry that I can't help you on that.

JAN HATZIUS, GOLDMAN SACHS: Thank you for that presentation, and I think you've been very clear about the central case. I'm curious about deviations from the central case on both sides of the mandate. So, suppose we saw no normalization of inflation, no move-up to the 2% target, but something that stays in the 1.5% range, but the unemployment rate continues to fall, and we fall maybe even a little bit below 4%, so we go back to something that we had in the late 1990s, '99 and 2000. And I'd be curious what you think the appropriate response to that would be. Back in 2000, the funds rate ended up at 6.5%, of course, which is, you know, way above anything that anybody's expecting. But there was a very clear choice made in that period to step up the pace of tightening despite inflation that was still very tame. So I'd be very interested in your perspective.

GOVERNOR JEROME POWELL: That would be a very challenging situation. It's not the situation we face today, but it would be a challenging one. And I'll tell you, my own view would be that we have to be committed to our 2% inflation mandate and we'd need to conduct monetary policy in a way that supported inflation going up. So that would clearly enter into my own views about the appropriate level of tightening, if that situation does arise.

Thank you very much. I wanted to ask you about the interaction of winding down the balance sheet with the evolution of the funds rate over the longer run, the longer-run neutral level. There does seem to be some tension between the assertion on the one hand that the balance sheet is holding down the term premium by close to 100 basis points that will fade over the next five, six, seven, eight years, and the assertion that it will be possible to move the federal funds rate back to around 3% in spite of the drag from the rising term premium over that period. That would seem to imply that in some underlying sense the unadjusted, the non-balance sheet adjusted neutral rate would have to be rising very steeply over this period. And yet there doesn't seem to be much in the data to support that hypothesis. Can you talk a little bit about how you reconcile the view that we have the large balance sheet effect today that will fade over time and yet we can still get the funds rate to something around 3.

GOVERNOR JEROME POWELL: Well, to some extent, it's already – it's a very good question, very technical question – but to some extent I would say we've always known that we were going to normalize the balance sheet, and so, in a sense, the 3% already assumes an increase over time. And, you know, it's a forecast, we'll see whether it's right. But that would be my thinking.

Thanks Governor Powell. Wilson Ervin from Credit Suisse. The Treasury Study for the Reform of Financial Markets, I believe, is due some time around this weekend. Are there any outcomes in that study that you are particularly looking for? Any things that from your perspective in financial regulation would be very important reforms to come out of that Treasury study? And are there any possible Fed reforms that you guys are looking at on your side to think about how the post-crisis reforms come together, where there are overlaps, where there are changes needed from here? Thank you.

GOVERNOR JEROME POWELL: So the work product that Wilson is referring to is the

Treasury study. It's a Treasury study, these are Treasury's views explicitly. And they've been kind enough to solicit our input, that of all the other agencies, that of international agencies, that of the industry. It's been a very wide consultation. And I'll just say a couple of things. First, I think it's a very appropriate exercise. We've had eight years of significant, and in many cases novel regulation, you know, resolution plans, liquidity, stress testing. These are very new things. They were brand-new things. And so it's only natural to get to the place where we are now, which is close to full employment, most of the post-crisis reforms are fully implemented now, and look back over that and ask, is some of this redundant, is some of it inefficient, what parts of it are absolutely essential? So, I think that's the, I would approach the question in that spirit. I believe that's similar to what Treasury is doing. And I think, you know, the exercise doesn't concern me in general. I think probably no one will agree with absolutely everything that's recommended, but broadly speaking, it's a constructive exercise and, you know, we're doing some of that at the Fed as well.

Eric Winograd from Alliance Bernstein. How do you interpret the financial market's response to recent Fed actions? Or to put it more simply, the Fed has raised rates twice in the last six months, the March increase at least being at a more rapid pace than the markets probably anticipated ex ante, and yet financial conditions have actually eased. Does that cause concern on your end about the efficacy of the funds rate as a policy tool? Do you worry that markets are missing the message? And how do you bring that onboard as you think about the forward path of rates? What happens if you keep tightening and conditions keep easing?

GOVERNOR JEROME POWELL: So, the thing is monetary policy is only one of many factors that are affecting global financial conditions, U.S. financial conditions and global financial conditions. So there are many other things happening and, of course, there's been a lot of geopolitical things happening, you know, the lead-up to the French election and all of the things that are happening around the world that I won't go into detail on. So those things affect long-term interest rates. They affect levels of inflation compensation that you see in the markets. They affect financial conditions, the equity market. And monetary policy affects those too, but, you know, the net effect can be up or down. Your real question is what if there's a longer term disconnect as there was during the conundrum period. And, you know, that could present challenges, but, you know, we don't face that now. I think you have to take it into account, though. I think, you know, what matters is not the level of the federal funds rate, it's financial conditions. It's the level of financial conditions generally. So, if something like that does persist, then I think it's something you need to take into account in setting monetary policy. But I would say it's premature to be doing that today.

Kevin Chin. I appreciate very much your presentation. So you did mention about, in two years, you know, the target, fed funds rate might arrive at a normalized level of 3%. And we have already had eight to nine years recovery and post-World War II average recovery, economic expansion is about seven years. So we are already two years above average. Given another two years, would you consider that the rate hike at, let's say 3%, would coincident with a new economic recession?

GOVERNOR JEROME POWELL: I'm sorry, I didn't catch your question.

KEVIN CHIN: Okay, so when the rate continues to be increased to 3%, let's say by 2019, and we are way above the average economic expansion cycle, would it be coincident with a new economic recession by 2019? Thank you.

GOVERNOR JEROME POWELL: So the question is would there be a recession by 2019? I don't know. You know we're about to, on June 30, this recovery will be eight years old, and there are no signs that I see of the economy overheating. It won't be, nothing like that. The labor market doesn't see super tight. You don't see overheating signs. You don't see financial markets at very toppy levels. You don't see credit growth above its longer-run trend. But, you know, eventually there will be a recession. I have no idea when it will be. Sorry, I can't help you there. This gentleman here...

Mike Haddad with New York City Retirement Systems. My question is about your inflation target. So Congress sets the mandate. The Fed has chosen the target of 2%. One could argue the global economy's climate has changed dramatically since that time period. If you think about technology, the forces on inflation, demographics' forces on inflation, globalization of labor forces on inflation, is 2% still the right target today and the forward-looking economy?

GOVERNOR JEROME POWELL: The question is, is 2% the right inflation target? You know, the answer is yes. For one thing, basically all the major central banks in the world have adopted 2% and the public has to have, you know, an anchor to rely on, on that, and that anchor is 2%, so we're fully committed to that. You can imagine the people who call for a higher level, it sounds like in your intuition it might be a lower level, but, you know, for working central bankers, it's 2%, and we're committed to that. This gentlemen over here, we'll bring a microphone to you.

Hi. Jim Bicksler, Professor, Rutgers University, Finance and Economics Department. Now, my question is in terms of your economic strategy, what academic economists have influenced your thought process leading to the strategy the most? And more specifically, what role would Milton Friedman play in such a strategy? (Laughter)

GOVERNOR JEROME POWELL: I couldn't start naming economists, I mean there are hundreds of them that I would have to name. But I will answer on Milton Friedman. I read *A Monetary History of the United States* 30 years ago. I would consider him the, possibly the, you know, certainly one of the greatest economists of all time. And, you know, also a truly world-class polemicist later in his, on topics such as economic freedom and such. You know his fundamental idea, though, about quantities of money determining the price level kind of stopped working about 35 years ago and doesn't really work now. So that is not, I mean the monetarist approach that came out of Friedman's work, I wouldn't say that. But there are so many economists that we all follow and read, I wouldn't want to try to start to name them, but thanks for your question. The quantity of stuff that we read, that I read, is just so vast that, I'm not going to start naming academic economists. We will talk afterwards, but thank you. Ma'am...

Thank you. My name is Nili Gilbert. I'm a co-founder and portfolio manager at Matarin Capital. When you talk about the transition between the corridor system and the floor system, does the Fed assume, do you and/or your colleagues assume that market participants will be essentially indifferent between tools like interest on excess reserves, overnight RRP, the old open market operations? Is there any discussion about when we move from theory to actual practice, whether behaviorally market participants would react differently to these tools? And we could also throw in the mix, how market participants may react in practice to the decrease in the size of the balance sheet, the term premium, and so on? Is that something that's on the table for discussion?

GOVERNOR JEROME POWELL: Very much so, and in fact, it's at the heart of the discussion. So, one of the principal differences between the floor system and the corridor system is that in the current floor system we face a much broader set of market counterparties, including government-only money market funds. So, whereas the federal funds rate is, by definition, if you're really looking at trading in that market, in a corridor system that's really just banks. Only banks can own reserves, so it's a much narrower thing. And when I made that comment about the robustness in the longer run, inter-bank trading of unsecured instruments is broadly declining. This is the story with LIBOR. It's the story with fed funds. It's the story kind of all over the world. Markets going to, you know, different counterparties, the money markets are, and also to more secured borrowing. So that's why I said that. But, I mean, I think Bill Dudley is sitting here, and his people are in very close contact with market participants. We are too. We have outreach. So we certainly, in thinking about the federal funds rate in particular, you really have to be talking to money market participants very carefully, and we do that.

NILI GILBERT: Sorry, so do you have to build some kind of a different reaction function into your models when you think about switching from system to system?

GOVERNOR JEROME POWELL: They work quite differently. I mean they're two different things. And again, it's not a decision we're making today or in the very near future. So, is it a different, it's not really...what really matters to the economy is broader financial conditions and you can control, we think that you can control broader financial conditions in the short term through either approach. In the longer run, my own view would be it may be that the floor system is more robust for the reasons I said.

Thank you. Brian Smedley, Guggenheim Partners. There was a mention in the FOMC minutes of a desire to preserve the robustness of the overnight bank funding rate and underlying volumes. Could you just maybe give us an update on the work of the Alternative Reference Rate Committee and is that one of the reasons why the staff is paying so close attention to the dynamics in the OBFR?

GOVERNOR JEROME POWELL: So, I'm going to construe that as a LIBOR question, because this is close to my heart. So, this is, we are, as many of you will know, we're looking for an alternative rate to LIBOR for use in swaps markets and such, which sort of is a better fit for those markets and more robust over the longer term. And the Alternative Reference Rate Committee, which meets in a couple of weeks, is choosing between either overnight bank funding rate, which is another unsecured rate, and also some form of a repo rate, which is a secured rate. That's a decision that hasn't been made. The Committee will make it in the relatively near future. And I think either of those rates could work. It's really just a question of which one is more robust and more appropriate over the longer term.

Thank you. Naveen Sehgal from BlackRock. Over the past couple of years, the Fed has had good reason to either pause or slow the rate of normalization due to negative international developments. My question is if over the next few years we should see those negative international developments turn into materially positive developments, how might U.S. monetary policy respond in light of those developments, assuming that the U.S. situation went along exactly as expected? Is that relationship supposed to be, in your opinion, symmetrical, or is it supposed to be linear? And the second part is what do you think the market's view of that relationship is relative to the Fed's and would there need to be communication to align those two?

GOVERNOR JEROME POWELL: Okay, so what's happening in the global economy matters a great deal for the United States' economy, not least because the level of the dollar will be affected, and the level of other financial asset prices, so I see that it's very symmetrical. So, it's two things. One, you ask in the upside case – if global growth surprises to the upside – that would really help. In addition, it would lower the risks. I think when you're near the zero lower bound, you are not in a symmetric world. I think you have to be more risk averse because you've got, really you don't have the tools to deal with the downside case. So you've got to do more to push away from the zero lower bound. Once you're well away, the reaction function becomes more symmetric, but I think that's, I think we're not at a point now where you can ignore the fact that we're only 100 basis points above the zero lower bound. But I look at that as symmetric actually, and I certainly hope that's the case we face, upside surprises. Maybe one more...

Governor Powell, what's your take on Bitcoin?

GOVERNOR JEROME POWELL: Bitcoin, nothing against Bitcoin, nothing against, you know, private currencies, you know, I think, we don't take a position that they're bad or anything like that. I think we generally look at some of the risks from cryptocurrencies associated with money laundering and those sorts of issues. But we're not, you know, we're not broadly opposed or supportive of alternative currencies. I think from a Fed standpoint, I would say I'm very cautious on the idea of a Fed digital currency, but that's something that central banks are generally looking at, but I would say my approach to that would be very, very cautious. Okay, thanks very much. (Applause)

CHAIRMAN TERRY J. LUNDGREN: Thank you Governor Powell. Not all of our guests answer questions as completely and succinctly as you do, and we are grateful for that. So, thank you for that thorough presentation. Also thanks to Barbara Van Allen and our team here at the Economic Club of New York, who always do a great job of pulling these events together. So, thank you. And I want to remind everyone that the Economic Club's next session will be a breakfast hosting Dr. Craig Thompson, President and CEO of Memorial Sloan Kettering, for a breakfast on June 22 and that's followed by Jeff Immelt, CEO and Chairman of G.E. on the 22nd. Actually, the 15th is when Craig Thompson is coming. Thanks everybody. Enjoy your day.

(Applause)