



***Remarks at a Panel Discussion on
“Monetary Policy Normalization: Graceful
Exit or Bumpy Ride?”***

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I am happy to be participating on today’s panel, especially since the topic is monetary policy *normalization*. At the AEA’s annual meetings since 2008, my sense is that monetary policy discussions have not had the word “normal” in the title. It is a pleasure to be seeing the types of economic conditions where such a discussion is not just theoretical – where the economy has improved enough for the discussion to move from *whether* normalization will occur to *when* normalization will occur.

As I begin, I would note as I always do that the views I will express today are my own, not necessarily those of my colleagues at the Federal Reserve's Board of Governors or the Federal Open Market Committee (the FOMC).

In the year just past, the monetary policy environment has been quite stable – perhaps surprisingly stable, given the number of significant monetary policy events that transpired. Over the past year, we have seen new leadership at the Fed, in both a new Chair and Vice Chair. The Committee wound down and ended its bond purchase program, and provided a revised exit strategy. The FOMC has also shifted the FOMC statement from providing forward guidance tied to labor market outcomes¹ to a “patient” policy that is not time dependent.²

This all occurred in the context of a falling unemployment rate, a below-target inflation rate, a rising stock market, and falling long-term interest rates. As the second part of the title to this session suggests – “Graceful Exit or Bumpy Ride” – such good fortune cannot, of course, be automatically assumed for the coming year.

Any change in policy, monetary or otherwise, has the potential for unanticipated effects. In assessing the potential consequences of a patient monetary policy response, for example, some observers worry that such a policy entails significant risks of overshooting full employment, overheating financial markets, or even causing undesirably high inflation. I would note, however, that the last time the FOMC raised rates after a recession in June of 2004, the unemployment rate was at 5.6 percent, below our current 5.8 percent, and Personal Consumption Expenditure (PCE) inflation was at 2.8 percent, well above its current reading of 1.2 percent. Some worry that patience will mean deferring the first rate increase until well past the arrival of economic conditions

that historically result in tightening, but I would point out that we have some way to go before reaching those conditions, and so have not been unusually patient as yet.

While many market participants are understandably concerned about the exact timing of a rate liftoff, it is important to recall that economic forecasts are imperfect and predictions of turning points are particularly imprecise. While we would all like to know when the liftoff will occur, it is not possible to predict the relevant economic conditions with enough precision to pinpoint the point in time at which a data-driven liftoff will be appropriate. Furthermore, while market participants worry about whether liftoff will occur in April, June, or August, in fact most models imply that the macroeconomic implications of such differences are quite small. Indeed, such circumstances remind us that monetary policy can be as much art as science.

As such, there are a few key questions to consider at this juncture: Is the economy clearly on a sustainable path to full employment and the 2 percent inflation target? Will that path be sustained as policy accommodation is removed? Can we be quite confident that the risks to the forecast will not materialize and perhaps result in a need to reverse policy, particularly considering the policy challenges when short-term rates are bounded by zero?

As I consider these questions for this cycle, I believe the continued very low core inflation and wage growth numbers provide ample justification for patience. A patient approach to policy is prudent until we can more confidently expect that inflation will return to the Fed's 2 percent target over the next several years. Such patience also provides support to labor markets, boosting the prospects of the many Americans who were adversely impacted by the financial crisis, severe recession, and slow recovery.

Today I would like to discuss how I think about a so-called “exit strategy” in the context of a patient monetary policy. I will first compare current economic conditions to the conditions prevalent at the time of the last two rate liftoffs following recessions. I will then discuss some of the differences that may make an exit from accommodative monetary policy more complicated this time compared with the previous two economic recoveries. I will then discuss the impact of previous liftoffs on economic and financial variables and what that history may portend as normalization becomes appropriate in the United States this time.

Considering U.S. Economic Conditions at Tightening

The timing of the initial tightening of short-term interest rates after a recession depends on several factors, including the position of the economy relative to the Fed’s mandated goals of stable prices and maximum sustainable employment, the speed at which the economy is likely to reach these mandated goals, and the likelihood that the recovery is sufficiently vigorous that removing accommodation will not undermine that progress. Because of the complicated interactions of these and other factors, and the difficulty associated with economic forecasting, I would argue that previous liftoffs can provide only an imperfect guide to likely future actions – but do provide some indication of factors that should be considered.

Figure 1 shows the unemployment rate with vertical lines indicating February 1994 and June 2004, the months when the first rate increase occurred after the recessions of 1990-91 and 2001 respectively (shaded in gray). The first rate increase in 2004 occurred when the unemployment rate was at 5.6 percent, a lower rate than in 1994 and a

little lower than the current 5.8 percent unemployment rate. In both 1994 and 2004, the first interest rate increase occurred sometime after the unemployment rate had begun to decline, and in both instances, the unemployment rate continued to decline after that initial tightening, with the onset of tightening having no perceptible effect on the steady improvement in labor markets.

Figure 2 uses another indicator of the strength of labor markets: the growth in payroll employment. In 1994, the first tightening did not occur until payroll employment growth was reasonably sustainable, and the economy continued to create jobs as the tightening cycle began. In 2004, payroll employment growth was less entrenched and subsequent employment growth also was less solid than in the 1994 tightening episode.

Figure 3 shows the other element of the Federal Reserve's dual mandate – stable prices – using the inflation rate as measured by the PCE price indices. While this comparison across episodes is a bit more complicated, given the possibility that the FOMC implicitly used a somewhat higher inflation target in previous years, the PCE inflation rate was above 2 percent at the time of the previous two initial rate increases.

One compelling reason for patience is the uncertainty surrounding how quickly inflation will return to the Fed's 2 percent inflation target. Developed economies around the world have been experiencing inflation rates well below the targets set by their central banks. With current *core* PCE at 1.4 percent and *total* PCE at 1.2 percent, current inflation remains quite low – and recent data do not yet indicate a clear trend back to 2 percent. Such low inflation, and the risk that inflation expectations may decline, are reasons to allow labor markets to tighten further, which should spur wage growth and

increase the likelihood that inflation will return to the 2 percent target within the next several years.

Figure 4 highlights that the first tightening in the previous two recoveries coincided with relatively strong real GDP growth. With third-quarter real GDP growth of 5 percent (2.7 percent on a year-over-year basis) and the likelihood of above-potential GDP growth in the fourth quarter, the economy appears to be growing at a pace that is likely to foster continued improvement in labor markets.

Figure 5 contains a measure of compensation growth: the employment cost index. Given the improving economy, this index has been growing more slowly than one might expect, and also well below the experience at the time of the two previous tightenings. Given modest increases in productivity and a 2 percent inflation target, we would normally expect more rapid growth in compensation in a steadily improving labor market.

Figure 6 shows another important distinction between current conditions and conditions around the start of the two previous interest rate increases. The Federal Reserve has substantially increased its balance sheet to help stimulate stronger growth in the economy over the past six years. My own assessment is that this is one reason why our economy is stronger and our inflation rate closer to target than is the case for many other developed countries. Nonetheless, the level of short-term interest rates *understates* the degree of accommodation the Fed has provided, given the much larger balance sheet. As the normalization process progresses, the Federal Reserve will need to carefully balance how quickly to normalize short-term rates versus how quickly to normalize its

balance sheet – a problem not faced during the two previous periods of monetary policy tightening.

In sum, three areas stand out as complicating current discussions of raising short-term interest rates. First, it is unusual that inflation is still well below the Fed’s target, with favorable supply shocks (for example, dramatic declines in oil prices) making overall inflation likely to be particularly depressed in the short run. Second, it is unusual for compensation to be so subdued at a time when raising rates is under discussion. Finally, it is unusual to have conducted nontraditional monetary policy that enlarged the Fed’s balance sheet which will need to be normalized in conjunction with normalizing short term rates.

Global Complications

The global economy provides a potential challenge to policy normalization. During most monetary policy normalizations, one sees a reasonably high correlation of economic and financial variables across countries. However, in the coming year, it is fairly likely that there will be an unusual divergence, with some countries beginning the normalization process while other industrialized countries continue easing domestic policy.

One of the key differences across countries has been the divergence in the inflation experience, as shown in **Figure 7**. While Japan has tended to experience a much lower inflation rate than most other developed economies, Europe and the United States have had relatively similar moderate-inflation experiences, until recently. While most developed economies have been modestly undershooting their inflation targets,

Europe's inflation rate has continued to decline, and has recently diverged significantly from its target, registering inflation below 0.5 percent. At the same time, U.S. core inflation has been reasonably stable at 1.4 to 1.5 percent, and the small effects of an appreciating exchange rate and falling oil prices should keep overall inflation quite modest over the near term. In part, this provides the opportunity for a patient monetary policy, at least until wage and price pressures are sufficient to ensure reaching our inflation target.

While many developed economies are in a similar position with respect to inflation, the likely trajectories for inflation may result in quite different monetary policies, at least initially. Countries worried that disinflation could lead to deflation are likely to continue stimulating their economies, while countries more confident that low inflation is temporary (and will soon return to their inflation target) will likely follow less accommodative policy. This may result in a more divergent period of global monetary policy than we usually experience during monetary policy normalization.

As **Figure 8** shows, short-term rates most influenced by monetary policy have generally tended to move together among developed countries. With short-term interest rates moving together, there is less incentive for short-term funds to surge across national borders seeking higher returns. However, with some countries tightening while other countries are continuing to ease, exchange rate and asset price dynamics may become more complicated, creating yield differentials that might spur cross-border asset reallocation.

Potential Impact of First Tightening

Figure 9 illustrates that the reaction of the 10-year U.S. Treasury rate to the first tightening depends on the context of the economy, and the *expectations* surrounding the first tightening. The first tightening in 1994 was not fully anticipated at the time and resulted in a fairly sharp increase in long-term rates to a level noticeably above where they ended up later in the normalization process. In contrast, the first tightening in 2004 appears to have been anticipated and thus did not cause much reaction relative to the rates immediately prior to the tightening or relative to rates later in the normalization process.

A complication with the present cycle is the presence of unusually low long-term rates. With inflation low, global rates low, and large central bank balance sheets, we see long-term rates are below their historical average in many developed countries.

Assuming inflation does return to 2 percent in the United States, a 10-year Treasury rate fluctuating around 2.25 percent is lower than one should expect – unless investors expect a negative real after-tax return on average over the next 10 years. This implies that there will need to be some upward adjustment in long-term rates during the normalization process.

While conventional wisdom is that a cycle of tightening monetary policy is bad for the stock market, **Figure 10** shows that has not been true during the past two tightening cycles. In part, this is because in those cases the tightening was initiated because the Fed assessed that there was sufficient strength in the underlying economy to justify tightening. As it turned out, their assessment was about right, so the tighter monetary policy did not derail the economy. However, currently it is worth noting that there already has been a significant improvement in stock prices, and interest rates have

been unusually low as a result of the depressed economic conditions following the financial crisis – so the pattern of the previous two tightenings might not be repeated this time.

Figure 11 shows that stock market volatility did not increase significantly in the past two periods of normalization. As measured by the Chicago Board Options Exchange Market Volatility Index (VIX), both periods of monetary policy normalization have been periods of relatively low volatility. High volatility of stock markets tends to occur during periods preceding or during recessions rather than when the economy is strengthening and monetary policy rates are rising.

Concluding Observations

Clearly, an unusual set of conditions prevails as the Federal Reserve considers beginning a move toward more normal rates. Both short-term and long-term rates are unusually low, and remain below their historical average in most countries. Large central bank balance sheets – here and in many developed countries – and very low inflation rates in developed countries are important contributors to current low rates. Also, unlike in some previous periods, some countries will be easing while others will likely be tightening, causing more complicated exchange-rate dynamics. These are all factors that complicate the period of normalization.

The low inflation rates experienced globally may also allow for a more gradual normalization process than typically occurs. With so little wage and price pressure, and relatively slow productivity growth, it is possible that rates may not normalize at the same level they were prior to the financial crisis.

In sum, the complexity of monetary policy normalization is more pronounced than in 1994 and 2004. However, as I noted at the outset of my remarks, the fact that discussion of policy normalization is now appropriate is a welcome change from discussions of monetary policy over the past six years.

Thank you.

¹ Note that the January 2014 FOMC statement still had the phrase, “that it likely will be appropriate to maintain the current target range for the federal funds rate well past the time that the unemployment rate declines below 6-1/2 percent”

² The statement, available at <http://www.federalreserve.gov/newsevents/press/monetary/20141217a.htm> notes that “Based on its current assessment, the Committee judges that it can be patient in beginning to normalize the stance of monetary policy.”