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***“Are Financial Markets Too Pessimistic
About the Economy?”***

Eric S. Rosengren
President & Chief Executive Officer
Federal Reserve Bank of Boston

*American Savings Foundation Distinguished
Lecture at Central Connecticut State University*

New Britain, Connecticut
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Good evening. It is a pleasure to be joining you for the American Savings Foundation Distinguished Lecture at Central Connecticut State University.

At the outset, let me note as I always do that the views I express today are my own, not necessarily those of my colleagues at the Federal Reserve’s Board of Governors or on the Federal Open Market Committee (the FOMC).

Incoming economic data for the first quarter suggest that growth in the quarter was disappointing, with real GDP likely to have advanced at a pace well below most estimates of

potential growth, about 2 percent. However, I will point out that weakness in the first quarter has been a consistent pattern in recent years, and to date, that weakness has generally been offset in subsequent quarters, as the economy has continued to improve slowly. Certainly the March unemployment report showing 215,000 jobs created, along with an increase in the labor force participation rate to 63 percent, is supportive of a more optimistic reading of the GDP numbers. Additionally, the core PCE inflation rate is now at 1.7 percent, much closer to the Federal Reserve's 2 percent target than were the core PCE readings in 2015.

Despite this gradual improvement in the U.S. economy, global financial markets have been quite turbulent. Concerns that low inflation and weak growth abroad might spill over into the U.S. have had an impact, it appears, and prices in financial futures markets now suggest that market participants expect considerably fewer interest rate increases in the United States than historically occur when the Federal Reserve begins to raise rates. Federal funds futures currently reflect the expectation of approximately one-quarter of a percentage point increase in each of the next three years.

While I believe that gradual federal funds rate increases are absolutely appropriate, I do not see that the risks are so elevated, nor the outlook so pessimistic, as to justify the exceptionally shallow interest rate path currently reflected in financial futures markets. The forecast for economic variables contained in the most recent Fed policymakers' Summary of Economic Projections is consistent with my own estimate – GDP growth slightly above potential and a continued slow decline in the unemployment rate.

Furthermore, I would point out that the extremely shallow rate path reflected in the market for federal funds futures seems at odds with forecasts by private sector economists and by

financial firms that serve as counterparties to the Federal Reserve (the so-called primary dealers), as well as my own forecast for the U.S. economy. Most of these forecasts envision a much healthier U.S. economy than is implied by that unusually shallow path of the funds rate, and many of the major private forecasters expect short-term rates to rise more rapidly than implied by financial futures.

The unemployment rate is currently 5 percent, and I expect it to continue to drift down. As I have noted publicly in the past, it is quite appropriate to probe how low unemployment can go, given that the inflation rate is below the Federal Reserve's 2 percent target and wages are only increasing modestly.

Probing just how low the unemployment rate can fall before risking overheating in the economy can be beneficial for labor markets. It should encourage those who have left the labor market to re-enter, a welcome trend we have seen recently. Such probing is particularly helpful to those who became discouraged by the very weak labor market during and following the Great Recession, and thus stopped looking for work – as well as those who continue to be part-time workers who would prefer full-time work. In the parlance of labor economists, I suspect that the amount of so called labor market “slack” is greater than what is captured by the traditional and widely reported U-3 measure of the unemployment rate, and we should welcome any remaining slack being absorbed by a healthy labor market.

However, the unemployment rate is now at 5 percent – relatively close to my estimate of full employment, 4.7 percent – and net payroll employment growth is averaging over 200,000 jobs per month over the past quarter. My concern is that given these conditions, an interest rate path at the pace embedded in the futures markets could risk an unemployment rate that falls well

below the natural rate of unemployment. We are currently at an unemployment rate where such a large, rapid decline in unemployment could be risky, as an overheating economy would eventually produce inflation rising above our 2 percent goal, eventually necessitating a rapid removal of monetary policy accommodation. I would prefer that the Federal Reserve not risk making the mistake of significantly overshooting the full employment level, resulting in the need to rapidly raise interest rates – with potentially disruptive effects and an increased risk of a recession.

In sum, in my view the very shallow path of rate increases implied by financial futures market pricing would likely result in an overheating that necessitates the Fed eventually raising interest rates more quickly than is desirable, which could endanger the ongoing recovery and continued growth.

Financial Futures and the Expected Path for Interest Rates

Figure 1 provides the path of the federal funds rate in the rate-tightening cycles following the last two recessions. The Federal Reserve raised interest rates by a quarter of a percentage point at each FOMC meeting in the two years following the first increase in 2004. The pace of increases was even quicker when the FOMC began to raise rates in 1994. In contrast, as noted in my introduction, the federal funds futures market is currently reflecting the expectation of a much more gradual pace of tightening this time around. The market is currently assuming only a roughly one-quarter percentage point increase *per year* rather than per FOMC meeting as in the 2004 episode, over the next three years – an exceptionally shallow rate path.

The federal funds futures are not the only anomaly that I see in financial markets. In **Figure 2**, we see that the rate on 10 year Treasury securities is currently below 2 percent. If one believes that the Federal Reserve will be successful in averaging 2 percent inflation over the next 10 years, then investors in these benchmark securities are accepting a negative real rate of return over the 10 year period.

The pricing on both short- and long-term securities seems most consistent with either a fairly pessimistic best guess for the economy's prospects in the near future, or with concern about an unusually large "tail" risk (that is, a significant chance that the economy could be much weaker than expected). Both scenarios would affect the path of federal funds rate futures prices. With that in mind, I will turn now to private-sector forecasts for the economy, to see if economists or financial forecasters are predicting either an unusually weak economy or very significant tail risk over the next several years.

Private-Sector Forecasts of the Economy

Focusing first on the likely economic outlook, I would note that private-sector forecasts do not seem particularly pessimistic. **Figure 3** shows the most recent Blue Chip forecast for real GDP, which aggregates the results of roughly 50 private sector economic forecasts. Most of these private sector forecasters are expecting a weak first quarter, but are not expecting that weakness to persist.

Consistent with GDP growth that is expected to be somewhat above 2 percent, **Figure 4** shows that the Blue Chip forecasters expect a gradual decrease in the unemployment rate. The

consensus is that the unemployment rate will level off at 4.5 percent, a little below my estimate of full employment.

The Blue Chip forecast extends only through 2017. An alternative survey is conducted with the primary dealers, the financial firms that serve as counterparties to the Federal Reserve when we buy or sell government securities as part of our monetary policy responsibilities. The Federal Reserve Bank of New York surveys the primary dealers on a regular basis regarding the economic outlook and their forecasts. **Figure 5** shows the primary dealers' forecast for the unemployment rate through 2018. Like the Blue Chip forecast, the primary dealers see the unemployment rate drifting down to 4.5 percent by 2017, but then have it returning to 4.7 percent by the fourth quarter of 2018. One interpretation of this path would be that it predicts the unemployment rate modestly overshooting full employment but then stabilizing at full employment as the Federal Reserve takes steps to gradually normalize interest rates.

So the evidence suggests that economic forecasters and primary dealers do *not* seem to expect a particularly weak economy. But, it is possible that while they view the most likely outcome as benign, they fear an elevated risk of a much more worrisome outcome. If true, such a pricing-in of tail risk probability could potentially justify a low federal funds rate and 10-year Treasury rate, even with a favorable expected economic outlook.¹

One way of ascertaining the perceived potential for a heightened possibility of a tail risk event is to look at surveys that try to capture forecasters' assessments of risks around the forecast. The Survey of Professional Forecasters (SPF) incorporates the outlook of private sector economists and provides the distribution of outcomes around their forecasts, as well as the most

likely outcome in their forecast. A significant tail risk event would likely be reflected in a higher probability of an elevated unemployment rate, which would be more consistent with a recession.

To that end, **Figure 6** examines the average probability among SPF forecasters that the annual average unemployment rate will be 6 percent or higher in either 2016 or 2017. A 6 percent unemployment rate is a full percentage point above the current unemployment rate of 5 percent, and would be consistent with a relatively mild recession. But rather than being elevated, the probability of such an outcome has fallen quite significantly over time – in the surveys taken in 2014, 2015, and 2016. While some of this multi-year trend reflects the drifting down of the realized unemployment rate, the probability has continued to fall over the past several quarters, while the unemployment rate has been relatively stable near the current rate.

Figure 7 provides the entire distribution of the predictions for the unemployment rate in 2016 according to the two most recent forecasts by the SPF. While the average probability or assessed likelihood of the unemployment rate being at recession levels is relatively low, the surveys show an increased probability of the unemployment rate falling below 4 percent, a rate most forecasters would judge to be well below estimates of full employment. **Figure 8** shows that for 2017, the probability that the unemployment rate will fall below 4 percent actually rises to just over 10 percent.

Figure 9 highlights one reason why it might be risky if the unemployment rate were to fall well below the estimates of the natural rate of unemployment. The green line provides the Congressional Budget Office's estimate of the natural rate of unemployment. As the figure shows, prior to the last three recessions, the unemployment rate fell well below the green line. At times like that, the economy has exceeded its sustainable level of activity, and monetary

policy often needs to react to try to modestly slow the economy. Unfortunately, *modestly* slowing down the economy is difficult, and as the chart shows, during these previous episodes the unemployment rate subsequently rose significantly above the natural rate of unemployment.

Recently, the unemployment rate has been fluctuating around 5 percent. In part, this reflects positive news on labor force participation. Unemployment has remained stable in the face of strong growth because many of the new jobs have gone to workers re-entering the labor force. As **Figure 10** shows, for the preceding five years, the unemployment rate has been drifting down along with the labor force participation rate.

One reason for the decline in labor force participation involves changes in the demographics of the labor market. As the percentage of the population (notably baby boomers) reaching retirement age rose, labor force participation was expected to decline. However, at least some of the decline in labor force participation has reflected the poor job prospects of workers who have become discouraged or have not looked for work over the past year given the jobs that are available to them. As the labor market has become tighter, some individuals have returned to the labor force, as we had long expected.²

One reason for probing how low the unemployment rate can go is that it will encourage more people to return to the labor force. Particularly for those workers who may need additional training, there are benefits to the individuals and to the economy of having a higher percentage of the population working. However, these advantages need to be weighed against the risk that significantly more people might not actually be drawn into the labor force, and in that case with continued employment growth, the unemployment rate would fall well below the natural rate.

At the Boston Federal Reserve Bank we have been expecting only a slow decline in the unemployment rate, a forecast in part predicated on people being drawn into the labor force. However, given the difficulty in accurately estimating labor force participation, our model has assumed that real GDP growth somewhat over 2 percent will be consistent with some gradual further decline in the unemployment rate. In part it is gradual because of increased labor force participation, but also in part as a result of a gradual normalization of interest rates, which we also assume.

Figure 11 shows that in addition to the financial market prices, the Survey of Primary Dealers reports a rising probability of seeing *no* federal funds rate increase this year. As of the March 21 update, the survey indicated somewhat more than a 20 percent probability of no change this year. Even more striking is that the federal funds futures market does not price a 25 basis point increase in the federal funds rate with near-certainty until 2017. In my view, such our interest rate projections do not seem consistent with the outlook for the economy that I and many others share.

Concluding Observations

High frequency real economic data are indicating that the real economy likely grew less than its estimated potential growth rate in the first quarter of this year. Nonetheless, most private forecasters – and my own forecast – expect the economy to continue to improve over the next several quarters. In addition, while there have been significant headwinds from abroad, and market turbulence related to those headwinds, I view the U.S. economy as fundamentally sound and likely to perform better than the domestic economies of most trading partners.

In my view, this represents an outlook strong enough to engender further decline in the unemployment rate, even with some gradual normalization of interest rates. As I see it, the pricing in the federal funds futures market, which implies roughly three-quarters of a percentage point in increases by the end of 2018, is inconsistent with the assessment – mine and that of many forecasters – of continued moderate growth in the U.S. economy.

Thank you again for inviting me to be with you today at Central Connecticut State University.

¹ Another explanation is that the level of r^* – the equilibrium real interest rate – is deemed to be extremely low by participants in the federal funds future markets. Historically, r^* has been around 2.5%, which is consistent with inflation of 2% and a nominal interest rate of 4.5%. Even with an r^* of 0, the current fed funds rate implies a significant amount of policy accommodation at this stage in the business cycle. As economic headwinds fade over time, r^* should increase gradually and be around 1.25% to 1.5% in 2018. The 75 basis points through 2018 in the futures markets would require a value for r^* well into negative territory over the forecast horizon. Most estimates, instead, already place the current value of r^* at or slightly above zero.

² Since September of 2015, we have seen an increase in labor force participation – with a significant flow of people from outside of the labor force becoming employed. While it is difficult to predict with certainty how many people are likely to return to the labor force as the economy improves, this is certainly a positive sign.