EMBARGOED UNTIL
11:30 A.M. Eastern Time on
Wednesday, January 9, 2019 OR UPON DELIVERY

"Perspectives on Monetary Policy and Market Volatility"

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The Boston Economic Club

Boston, Massachusetts
January 9, 2019

The views expressed today are my own, not necessarily those of my colleagues on the Federal Reserve Board of Governors or the Federal Open Market Committee.

Good morning. It is a pleasure to welcome the Boston Economic Club to the Federal Reserve Bank of Boston, and to be joined by many of the Bank's staff members as well. Early January is a good time to assess the economy's recent performance, its fundamentals, its outlook, and the forces that may impact it over the year ahead.

As everyone knows, the past several months have seen a good deal of financial market volatility. From the beginning of October to the end of December, the Dow Jones Industrial Average fell 12.5 percent, and the S&P 500 index fell 14.3 percent. However, over the full year the same indices declined a smaller 6.0 percent and 7.0 percent, respectively. Furthermore, one measure of stock market volatility, the Chicago Board Options Exchange Volatility Index – or VIX – ended December well above its historical average, at 25.4. In addition, the rate on 10-year Treasury notes, which had reached a high of 3.24 percent, finished December trading below 2.7 percent.

The decline in stock prices has certainly caught the attention of investors. It constitutes a tightening of current financial conditions, given the decrease in the value of these assets, and could portend a decline in future economic growth. In that scenario, there might be less need – or even no need – for further tightening of monetary policy by the Federal Reserve.

However, a critical issue is whether financial market sentiment is too pessimistic, too optimistic, or about right. After all, we know that financial markets can, and do, reverse themselves. This could happen if it turns out that late last year many investors had become overly pessimistic about potential risks to the economic outlook. If the economy continues to be resilient, one might expect financial markets to reprice if it becomes clear that risks had been overstated.

Indeed, I personally suspect that financial market sentiment may have become unduly pessimistic. I recognize that the risk of a U.S. economic slowdown, led by weakness abroad, has increased. But monetary policy remains accommodative, as does fiscal policy. Economic growth was quite strong in 2018, and some of that strength is likely to carry forward. Furthermore, the engine behind the good growth level in 2018 was the consumer. There are many reasons to believe the consumer is still engaged and willing to spend – employment growth remains strong, wage growth rates are rising, the savings rate is high, and consumer confidence remains high by historical standards.

However, I do view the current economic outlook as being quite uncertain. Even at the best of times, it is difficult to navigate soft landings for the economy. Recent data from China's economy, the potential for increased trade tensions, and heightened volatility all counsel for policy to be both flexible and patient. My baseline forecast still assumes growth somewhat above potential, and some modest declines in the unemployment rate over this year. Nonetheless, I am sensitive to the heightened risks, and believe that policy is currently appropriately balancing risks. Should these risks materialize and significantly impact the economy, resulting in an economic slowdown – which is not my baseline forecast – policy would need to recalibrate for that less-favorable environment. But at this juncture, with two very different scenarios – economic slowdown implied by financial markets; or growth somewhat above potential GDP growth, consistent with economic forecasts – I believe we can wait for greater clarity before adjusting policy.

With that as introduction, I would like to preview my remarks today. I will begin by providing some noteworthy context to recent financial-market movements. I will then examine whether these market movements have altered the predictions of private-sector forecasters. I will

then discuss how these private-sector forecasts compare to the forecasts made by Federal Reserve policymakers at the December 2018 Federal Open Market Committee (FOMC) meeting. Finally, I will explain why my own assessment is closer to the relative optimism of many economic forecasters than it is to the more pessimistic outlook suggested by recent declines in financial markets.

At the same time, I will hasten to add that the market's effect of tightening financial conditions – coupled with the uncertainty in forecasts – make it imperative that monetary policy should be data dependent. By this I mean that there should be no particular bias toward raising or lowering rates until the data more clearly indicate the path for domestic and international economic growth.

Recent Financial Market Movements, in Context

Figure 1 shows the yield on the benchmark 10-year Treasury note over the past three years. For much of that period, the 10-year rate was rising gradually, reflecting a strengthening U.S. economy, inflation nearing the Federal Reserve's 2 percent target, and gradual tightening of monetary policy. While the 10-year rate had risen to 3.24 percent in November of 2018, it fell appreciably in December, and is currently trading around 2.7 percent.

Figure 2 shows a similar pattern prevailing in stock prices over the last three years. The stock market rose from early in 2016 until the beginning of 2018, when the Dow Jones Industrial Average and the S&P 500 index both fell – before rising in the summer of 2018 and then falling significantly over the past several months. Still, despite these recent declines, stock prices remain well above where they were three years ago.

Figure 3 shows the volatility index for stocks, the VIX. As unsettling as the recent *declines* have been, the increased *volatility* in the stock market – with daily market swings of more than 1 percent – has become increasingly common of late. This highlights that many investors are quite uncertain about the outlook, and markets are particularly sensitive to new information.

Figure 4 shows the price of oil. Oil prices have also been increasing over the past three years, as demand outstripped supply, in part because of a tightening in supply by OPEC. Earlier this year, the price of oil exceeded $75 a barrel, but more recently it has declined sharply, to the mid-50s per barrel.

Looking beyond U.S. financial markets, **Figure 5** shows stock market performance in Japan, Europe, and China along with the U.S. What we see is that despite the declines in U.S. stocks recently, U.S. stock prices have fared significantly better than many foreign stock-price indices. Of the four, the U.S. S&P 500 index remains the furthest above its level at the start of 2016. By comparison, the other regions' stock indices rose less in 2016, leveled off in 2017, and declined in 2018. Among these four stock indices, Chinese stocks have fallen the most – likely because the Chinese economy has been slowing, financial stability concerns have risen, and China has been the country most involved with and impacted by trade policy changes with the U.S.

In summary, clearly financial markets ended 2018 on a sour note. U.S. stock indices have performed better than many foreign counterparts, but were down 6 to 7 percent over the year – and the decline and the increased volatility have understandably raised concerns about the durability of the economic recovery. However, at least to date, the economic data and the

outlook of forecasters have both been more optimistic than recent financial market movements might indicate.

Effects on Economic Forecasters' Outlook

While economics is sometimes referred to as the dismal science, at present economic forecasters seem to have a more optimistic outlook than the sentiment suggested by recent financial market movements.

Figure 6 provides the Blue Chip forecast, as of December 10, for real GDP growth over 2019. The Blue Chip forecast is a compilation of the outlooks of roughly 50 private forecasters, with the solid line reflecting the average of those forecasts, and the dotted lines reflecting the average of the 10 highest forecasts and the average of the 10 lowest forecasts. The consensus is for growth slower than last year, but averaging more than 2 percent over next year. In addition, even the Blue Chip's average of the 10 lowest forecasts does not expect any quarter next year to be negative.

Figure 7 provides the Blue Chip forecast for the unemployment rate over 2019. The consensus forecast is for the unemployment rate to drift down to 3.5 percent by the end of this year. In addition, the average of the 10 highest forecasts does not expect the unemployment rate to rise above 4 percent in any quarter this year.

One likely reason for the forecasters' low assessment of the probability of negative real GDP growth, or significantly higher unemployment, is the strength of consumer spending. **Figure 8** shows that other than in the first quarter of 2018, consumers have increased their purchases of goods and services by more than 3 percent over the past year.

I would note also that most forecasters expect the last quarter of 2018 to end up proving to have been strong for consumer spending. This would reflect the strong growth in income and employment, and the fact that house values continue to rise.

Figure 9 shows the consumer confidence index as published by the Conference Board. While the index remains quite high, there was a decline in December as consumers became more cautious – presumably because of recent financial market movements.[1]

Turning to labor market conditions, **Figure 10** shows the monthly change in U.S. payroll employment. Payroll employment grew by around 312,000 in December and averaged 220,000 per month in 2018. This is much higher than the roughly 100,000 jobs necessary for the unemployment rate to merely remain flat, and much stronger than most forecasters had expected. All this is consistent with a very robust labor market.

Figure 11 shows that filings for initial claims for unemployment are still trending down, and below the levels we have seen over most of the past three years. In fact, initial claims for unemployment insurance remain fairly close to 50-year lows.

FOMC Members' Outlooks

Participants in the FOMC,[2] the U.S. monetary policy decision-making body, also provide their economic forecasts on a quarterly basis, in the Summary of Economic Projections or SEP. **Figure 12** shows the forecasts of FOMC participants for real GDP over the next several years. For 2019, FOMC participants' median forecast was for growth above 2 percent, with the central tendency also above 2 percent.[3] Given my 1.8 percent estimate of the economy's "potential" growth rate, a forecast of above 2 percent growth would be consistent with further declines in the

unemployment rate. I should note that every FOMC participant in the central tendency anticipated real GDP growth remaining at or above 1.5 percent through 2021.

Consistent with the forecast for real GDP growth, **Figure 13** shows the median unemployment rate expected by FOMC participants and the central tendency. The median for the fourth quarter of 2019 is 3.5 percent, which is below the current level. The chart shows it rising somewhat thereafter. I would also note that in the SEP, for the unemployment rate forecast the central tendency is quite similar to the median forecast.

In terms of inflation, the FOMC median forecast was a bit below 2 percent for 2019, but somewhat above 2 percent thereafter, as shown in **Figure 14**. Thus, FOMC participants expect inflation to remain quite near their symmetric inflation target of 2 percent.

Concluding Observations

My own view is that the economic outlook is actually brighter than the outlook one might infer from recent financial-market movements. I expect real growth over 2019 to remain solid enough to tighten the U.S. labor market somewhat. My views are therefore closer to the optimism reflected by many professional forecasters and the FOMC members of late, than they are to the recent pessimism in financial markets.

Nonetheless, financial market volatility reflects a perception of heightened risks. Concerns with global growth, international trade, and geopolitical upheaval are important to take into account, and serve as a prudent warning that actual economic outcomes could diverge significantly from what is being forecast.

I will close by returning to the implications of all this for the Federal Reserve's monetary policymaking. Today, we have explored the contrast of relatively optimistic economic forecasts and the pessimism reflected of late by financial market participants. This contrast, if nothing else, highlights why monetary policy should not be on a set course, but rather should take into account and reflect how real economic data unfold.

To that end, if the pessimism evident in financial markets eventually shows through to economic outcomes, there would be less need (and perhaps no need) for further increases in interest rates. However, my current expectation is that the more optimistic view will prevail, with economic outcomes consistent with the more upbeat forecasts (and stock markets perhaps rebounding). Yet given the reduced certainty I have about my forecast – in light of the slowing abroad and volatile financial markets – in my view, the appropriate stance for monetary policy is, for now, to not have a bias on moving policy in either direction until there is greater clarity around economic trends here and abroad. The Federal Reserve's current monetary policy seems appropriate for now, and can patiently observe future economic developments.

Thank you.

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[1] Note that the University of Michigan's Index of Consumer Sentiment did not see a decline in December. See more here: http://www.sca.isr.umich.edu/.

[2] FOMC participants include Federal Reserve governors and Federal Reserve Bank presidents. Not all presidents are voting members in each year but all presidents submit forecasts.

[3] The median forecast is the middle projection when the projections are arranged from lowest to highest. When the number of projections is even, the median is the average of the two middle projections. The central tendency excludes the three highest and three lowest projections for each variable in each year. More information here: https://www.federalreserve.gov/monetarypolicy/files/fomcprojtabl20181219.pdf.