The Following Speech by Richard Clarida, Vice Chairman of the Federal Reserve, was given on November 27, 2018. Highlighted below are quotes which we believe are important in helping to determine current Fed posture and inclination. More specifically, given Clarida's role as the Vice Chairman, he is one of the main sources of communicating whether the Fed is indeed considering reversing to a more dovish stance in the months ahead. Intertwined within his speech you will find our comments and explanations. Please also see our summary thoughts following the speech below.

Data Dependence and U.S. Monetary Policy Vice Chairman Richard H. Clarida At The Clearing House and The Bank Policy Institute Annual Conference, New York, New York I am delighted to be speaking at this annual conference of the Clearing House and the Bank Policy Institute. Today I will discuss recent economic developments and the economic outlook before going on to outline my thinking about the connections between data dependence and monetary policy. I will close with some observations on the implications for U.S. monetary policy that flow from this perspective. **Recent Economic Developments and the Economic Outlook** U.S. economic fundamentals are robust, as indicated by strong growth in gross domestic product (GDP) and a job market that has been surprising on the upside for nearly two years. Smoothing across the first three quarters of this year, real, or inflation-adjusted, GDP growth is averaging an annual rate of 3.3 percent. Private-sector forecasts for the full year--that is, on a fourth-quarter-over-fourth-quarter basis--suggest that growth is likely to equal, or perhaps slightly exceed, 3 percent. If this occurs, GDP growth in 2018 will be the fastest recorded so far during the current expansion, which in July entered its 10th year. If, as I expect, the economic expansion continues in 2019, this will become the longest U.S. expansion in recorded history. Likewise, the labor market remains healthy. Average monthly job gains continue to outpace the increase needed to provide jobs for new entrants to the labor force over the longer run, with payrolls rising by 250,000 in October. And, at 3.7 percent, the unemployment rate is the lowest it has been since 1969. In addition, after remaining stubbornly sluggish throughout much of the expansion, nominal wage growth is picking up, with various measures now running in the neighborhood of 3 percent on an annual basis.•The inflation data in the year to date for the price index for personal consumption expenditures (PCE) have been running at or close to our 2 percent objective, including on a core basis??that is, excluding volatile food and energy prices. While my base case is for this pattern to continue, it is important to monitor measures of inflation expectations to confirm that households and businesses expect price stability to be maintained. The median of expected inflation 5-to-10 years in the future from the University of Michigan Surveys of Consumers is within--but I believe at the lower end of--the range consistent with price stability. Likewise, inflation readings from the TIPS (Treasury Inflation-Protected Securities) market indicate to me that financial markets expect consumer price index (CPI) inflation of about 2 percent to be maintained. That said, historically, PCE inflation has averaged about 0.3 percent less than CPI inflation, and if this were to continue, the readings from the TIPS market would indicate that expected PCE inflation is running at somewhat less than 2 percent.

RIA Pro comment- *Clarida believes the economy is growing at a healthy clip and wage growth is relatively strong in the 3% range. These statements by themselves argue that the Fed is woefully behind the curve in raising rates. Based on historical precedence, one would expect Fed Funds to currently reside in the 3.50-5.00% range versus the* *current 2.25%. One explanation for the low Fed Funds rate, as Clarida implies, is that inflation and inflation expectations remain low. In the next two paragraphs, he goes on to explain why inflation may remain low and not rise to levels that would overly concern the Fed.*

What might explain why inflation is running at or close to the Federal Reserve's long-run objective of 2 percent, and not well above it, when growth is strong and the labor market robust? According to the Bureau of Labor Statistics, productivity growth in the business sector, as measured by output per hour, is averaging 2 percent at an annualized rate this year, while aggregate hours worked in the business sector have risen at an average annual rate of 1.8 percent through the third quarter. This decomposition--in which the growth in output is broken down into measures of aggregate supply, the growth of aggregate hours and the growth of output per hour--suggests that the growth rates of productivity and hours worked in 2018 each have been exceeding their respective longer-run rates as estimated by the Congressional Budget Office. In other words, while growth in aggregate demand in 2018 has been above the expected long-run growth rate in aggregate supply, it has not been exceeding this year's growth in *actual* aggregate supply. Ultimately, hours growth will likely converge to a slower pace because of demographic factors. But how rapidly this happens will depend in part on the behavior of labor force participation. And recent years' developments suggest there may still be some further room for participation in the job market??especially in the prime-age group of 25-to-54-year-olds??to rise. Labor participation by prime-age women has increased around 2 percentage points in the past three years and is now at its highest level in a decade. That said, it is still 1-1/2 percentage points below the peak level reached in 2000. Labor force participation among 25- to 54-year-old men has risen by roughly 1 percentage point in the past several years. But it is still 2 percentage points below levels seen a decade ago, and it is 3 percentage points below the levels that prevailed in the late 1990s. As for productivity growth, there is considerable uncertainty about how much of the rebound in productivity growth that we have seen in recent quarters is cyclical and how much is structural. I believe both factors are at work. The structural, or trend, component of productivity growth is a function of capital deepening through business investment as well as a multifactor component sometimes referred to as the "Solow residual." Initial estimates from the recent GDP release indicate that equipment and software investment in the third quarter moderated from the rapid pace recorded in the first half of the year. One data point does not make a trend, but an improvement in business investment will be important if the pickup in productivity growth that we have seen in recent quarters is to be sustained.

RIA Pro comment- *The highlighted sentences in the paragraph above are important to understand. Productivity growth, demographics and levels of debt/money are the primary components of economic growth. Given, for the most part, that the amount of debt and demographic trends are a known commodity, productivity growth is the marginal determinant of growth. His statements above suggest that productivity growth has picked up recently but ?one data point does not make a trend.? This means that a failure of continuing strength in capital investment by corporations will imply weaker productivity growth and therefore will signal weaker economic growth ahead.*

As for the economic outlook, in the most recent Summary of Economic Projections (SEP) released in September, participants had a median projection for real GDP growth of 3.1 percent in 2018 and 2-1/2 percent in 2019. The unemployment rate was expected to decline to 3?1/2 percent next year. And, for total PCE inflation, the median projection remains near 2 percent. With a robust labor market and inflation at or close to our 2 percent inflation goal and based on the baseline economic outlook for 2019 I have just laid out, I believe monetary policy at this stage of the economic expansion should be aimed at sustaining growth and maximum employment at levels consistent with our inflation objective. At this stage of the interest rate cycle, I believe it will be especially important to monitor a wide range of data as we continually assess and calibrate whether the path for the policy rate is consistent with meeting our dual-mandate objectives on a sustained basis.

> **RIA Pro comment-** *As he implies above, the Fed is becoming more ?data dependent.? Clarida has made that comment explicitly in prior speeches. In other words, their path towards more rate hikes or a suspension of hikes will be more heavily influenced by incoming economic data.* ***This likely means that markets will become more volatile around major economic data releases.*** *Furthermore, if the Fed does become more data dependent, that also suggests a reduced reliance on ?forward guidance.? We will expand more on that later, but be aware that forward guidance is the Fed?s way of telegraphing to the markets where they expect rates to be in the future. In the past this guidance has proved comforting to the markets.*

Data Dependence of Monetary Policy: What It Means and Why It Is Important Economic research suggests that monetary policy should be "data dependent." And, indeed, central banks around the world, including the Federal Reserve, often describe their policies in this way. I would now like to discuss how I think about two distinct roles that data dependence should play in the formulation and communication of monetary policy. It is important to state up-front that data dependence is not, in and of itself, a monetary policy strategy. A monetary policy *strategy* must find a way to combine incoming data *and* a model of the economy *with* a healthy dose of judgment--and humility!--to formulate, and then communicate, a path for the policy rate most consistent with our policy objectives. In the case of the Fed, those objectives are assigned to us by the Congress, and they are to achieve maximum employment and price stability. Importantly, because households and firms must make long-term saving and investment decisions and because these decisions??directly or indirectly??depend on the expected future path for the policy rate, the central bank should find a way to communicate and explain how incoming data are or are not changing the expected path for the policy rate consistent with best meeting its objectives. Absent such communication, inefficient divergences between public expectations and central bank intentions for the policy rate path can emerge and persist in ways that are costly to the economy when reversed.

> **RIA Pro comment-** *Clarida alludes to something we wrote about in Everyone Hears the Fed, But Few Listen. Essentially, the comment highlighted above is in reference to the fact that the Fed is still projecting another 1% increase in the Fed Funds rate, while the market is currently estimating a smaller increase of .37%. Whether the Fed backs down from their forecast or they talk the market up to their level is important to follow. The reason it is important comes back to the topic of forward guidance. The difference in rate expectations (1% versus 0.37%) is evidence of less investor certainty about what the Fed may do. That uncertainty contributes to volatility by challenging the notion, as John Maynard Keynes put it, ?that the existing state of affairs will continue indefinitely, except in so far as we have specific reasons to expect a change.?*

Within this general framework, let me now consider two distinct ways in which I think that the path for the federal funds rate should be data dependent. U.S. monetary policy has for some time and will, I believe, continue to be data dependent in the sense that incoming data reveal at the time of each Federal Open Market Committee (FOMC) meeting where *the economy is* at the time of each meeting relative to the goals of monetary policy. This information on where the economy is relative to the goals of monetary policy is an important input into the policy decision. If, for example, incoming data in the months ahead were to reveal that inflation and inflation expectations are running higher than projected at present and in ways that are inconsistent with our 2 percent objective, then I would be receptive to increasing the policy rate by more than I currently expect will be necessary. Data dependence in this sense is easy to understand, as it is of the type implied by a large family of policy rules *in which the parameters of the economy are known*. *But what if key parameters that describe the long-run destination of the economy are unknown?* This is indeed the relevant case that the FOMC and other monetary policymakers face *in practice.* The two most important unknown parameters needed to conduct??and communicate??monetary policy are the rate of unemployment consistent with maximum employment, *u**, and the riskless real rate of interest consistent with price stability, *r**. As a result, in the real world, monetary policy should, I believe, be data dependent in a second sense: that incoming data can reveal at each FOMC meeting signals that will enable it to *update* its *estimates* of *r** and *u** in order to obtain its best estimate of where *the economy is heading*. And, indeed, as indicated by the SEP, FOMC participants have, over the past nearly seven years, revised their estimates of both *u** and *r** substantially lower as unemployment fell and real interest rates remained well below prior estimates of neutral without the rise in inflation or inflation expectations those earlier estimates would have predicted. And these revisions to *u** and *r** almost certainly did have an important influence on the path for the policy rate that was actually realized in recent years. I would expect to revise my estimates of *r** and *u** as appropriate if incoming data on future inflation and unemployment diverge materially and persistently from my baseline projections today.

> **RIA Pro comment-** *Clarida resorts to economic jargon in the paragraph above to affirm his belief in the Phillips Curve. He is saying that lower levels of unemployment spur wage growth, and if that is occurring, interest rates should be higher to offset the effects of higher inflation caused by wage growth. This statement tells us that the monthly labor report from the Bureau of Labor Statistics (BLS) should be followed closely for signs of further strength in employment. Within the labor report, other important statistics include hours worked, wages and the participation rate.*

Consequences for Monetary Policy What does this mean for the conduct of monetary policy? As the economy has moved to a neighborhood consistent with the Fed's dual-mandate objectives, risks have become more symmetric and less skewed to the downside than when the current rate cycle began three years ago. Raising rates too quickly could unnecessarily shorten the economic expansion, while moving too slowly could result in rising inflation and inflation expectations down the road that could be costly to reverse, as well as potentially pose financial stability risks. Although the real federal funds rate today is just below the range of longer-run estimates presented in the September SEP, it is much closer to the vicinity of *r** than it was when the FOMC started to remove accommodation in December 2015. How close is a matter of judgment, and there is a range of views on the FOMC. As I have already stressed, *r** and *u** are uncertain, and I believe we should continue to update our estimates of them as new data arrive. This process of learning about *r** and *u** as new data arrive supports the case for gradual policy normalization, as it will allow the Fed to accumulate more information from the data about the ultimate destination for the policy rate and the unemployment rate at a time when inflation is close to our 2 percent objective.

> **RIA Pro comment-** *In the final two paragraphs, Clarida is essentially relaying that the Fed Funds rate is much closer to its terminal value than when they started raising rates in 2015. While obvious, the statement seems to convey a feeling that future rate hikes will require more robust data than that seen over the last three years.*

RIA Pro Summary:

In general, we are not swayed that Clarida is looking to stop Fed Funds rate hikes, but he makes it apparent that weakening economic growth and any slowdown in employment data will result in a more dovish Fed. As is now customary for Federal Reserve officials, Clarida is making a bold attempt to ?have his cake and eat it too.? Broadcasting the Fed?s tendencies with regard to interest rates through forward guidance has afforded the Fed tremendous power over guiding market expectations and thereby reducing volatility. Their wish is to maintain that influence, but doing so while raising interest rates is a very different circumstance than doing so while lowering them. As was the case when the Fed expressed 100% certainty about implementing extraordinary policies, they are now desperately trying the same approach but while keeping a foot in the exit door. More than anything else, what they want to avoid is being caught dead wrong as they were about the housing market and economy in 2007-2008. Simply said, on the one hand, Clarida wants to convey certitude about the economic outlook and the Fed?s path, on the other hand, he is trying to reserve the right to be wrong. We would applaud an honest acknowledgment of possible alternative outcomes, but his approach in this speech was more than a little ham-handed.