



# PERSPECTIVE

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## THE FEDERAL RESERVE'S EXIT STRATEGY AND THE NEUTRAL LEVEL OF RATES

One of the most dramatic financial outcomes in recent years has been the sustained low interest rate environment. Modest economic growth, in the aftermath of the financial crisis and Great Recession, left the American economy with a considerable degree of slack. This constrained inflationary pressures and led the Federal Reserve to keep monetary policy in a persistently hyper-stimulative state. However, with the Fed having committed to ending its bond-buying program in October, and with both unemployment and inflation trending towards their target levels, there is increased speculation over when the Fed will raise rates. The exact timing is uncertain, but the start of the tightening cycle is likely to be six to twelve months after the end of QE. An even more complicated issue is how high rates will eventually need to rise. There is a growing view that the normal, or neutral, level of short-term rates is much lower than it was prior to the recession. In this note we examine the likely timing of rate hikes and where this new normal level might actually be.

Fed Chair Janet Yellen shocked markets earlier this year when she suggested that rates could start to rise about six months after the end of QE. The Fed has now indicated that it is likely to end the bond buying in October, assuming economic recovery remains on track. Six months later would imply the Fed starting the tightening in April. This is much sooner than markets currently anticipate, with fed funds expectations (based on eurodollar futures) pointing to a September tightening. While one cannot rule out an April start to higher short-term rates, it seems a bit too early for two reasons.

First, the recent disappointing economic growth performance suggests that the Fed may want to wait longer to ensure that the expansion has become more entrenched. Even if economic growth accelerates to above 3% for the remainder of this year – as expected by the both the Federal Reserve and TD Economics – the annual pace of economic growth in 2014 will fall short of 2% and should not pose an inflationary threat. It is true that labor markets have improved significantly this year, but wage growth has remained weak. Nominal wages have scarcely kept pace with overall inflation, implying no gains in real purchasing power. The lack of wage pressure, despite several months of robust employment growth and a falling unemployment rate is in part due to what Fed Chair, Janet Yellen, has termed “shadow unemployment”. While the unemployment rate now stands at the same level as on the eve of the collapse of Lehman brothers, the share of the adult population who either report that they are working part-time because they can't find full-time work, or those who are no longer looking for a job, but would like one (discouraged workers), remains elevated. If wage pressures do begin to materialize in the coming months, implying that the bulk of the drop in the participation rate is permanent, then the Fed could very well hike in Q2. However, a more likely outcome is that wage pressures will be slow to build, allowing the Fed to wait until the second half of next year.



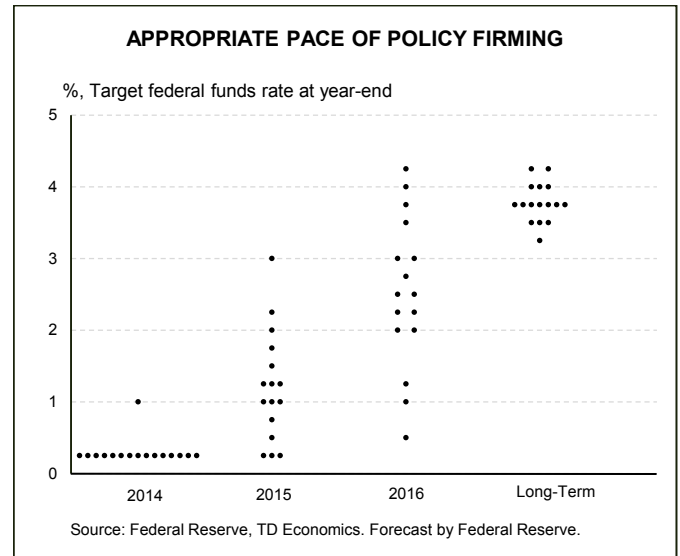
Second, the Fed will need to drain substantial amount of liquidity from the financial system before raising its policy rate. The target fed funds range is currently set in a range of 0% to 0.25%. The Fed is also paying 0.25% to depository institutions on their excess reserves. However, since not all institutions that trade federal funds are eligible for interest on excess reserves (IOER) the effective fed funds rate is currently sitting at around 0.10%. Before the Fed can begin to hike, it needs to take control of the short-term rates. The central bank is already testing and running trials of how overnight reverse repos and a term deposit facility can be used to drain reserves and thereby lift the effective fed funds rate. By our estimation, the Fed will need to drain an additional \$600 billion to \$1 trillion in deposits, above and beyond the \$200 billion it has already drained through the facilities in trial mode. This will not happen overnight and is likely to be done incrementally. Again, this suggests that any increase in short-term rates will not happen until mid-2015.

It is also worth noting a hike as early as April appears inconsistent with the FOMC projections of the appropriate pace of policy firming that is presented in the Fed's the Summary of Economic Projections (SEP). The 'Dots' forecast shows that the median projection on FOMC members is for a fed funds rate of 1.00% at the end of 2015 (see chart). Assuming the Fed hikes in quarter point increments and with no pauses, this would imply a start of tightening in September.

The outlook for 2016 in the 'dots' forecast is particularly interesting because the range of predictions by the FOMC members ranges from 0.50% to 4.25% and the distribution across the range is very even. This gives the impression that the FOMC members are very much undecided about the appropriate stance of monetary policy at the end of 2016. However, the fact that 13 out of 16 members are predicting short-term rates at 2% or higher does show that the majority feel higher rates will be appropriate.

The longer run 'dots' forecast shows that the FOMC have a very strong conviction that short-term rates will need to rise, with the range being from 3.25% to 4.25%, with a median of 3.75%. It is interesting to note that the assessment of the appropriate long-run level has dropped. In the prior SEP, the FOMC had a range of 3.50% to 4.25% with a median of 4.00%. And, when the Fed started providing the 'dots' forecast in early 2012, the range was 3.75% to 4.50% with a median of 4.25%. So, their assessment of the long-run level of rates has come down by half a percentage point. This may reflect changes in the membership of the FOMC or a decline in the estimate of the appropriate long-run level of short-term rates.

If one assumes that the longer-run period of time includes a full business cycle, the forecast can be interpreted as an estimate of where the neutral level of interest rates stands. The neutral (or natural) rate of interest is the rate at which real GDP is growing at its trend rate and inflation is stable, at around the central bank's target. The challenge is that the neutral level of rates is not constant. It fluctuates in response to things like changes in the desired level of savings and investment. The neutral level is also not directly observable. So, it is an estimate of the interest rate consistent with trend growth in the economy and stable inflation.



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Economic models have been used to estimate the historical real (after-inflation) neutral level of the fed funds rate. From the 1960s to prior to the latest financial crash, the estimate has fluctuated between 2% and 6%, with a declining trend over time. In 2005, a Federal Reserve research paper estimated that the real neutral was about 2.25%, implying a nominal neutral rate of 4.25%, and financial markets broadly agreed with this assessment at the time.

However, to illustrate the cyclicity of the estimate of neutral, the same Fed methodology suggests that the current nominal neutral rate could be as low as 1.70%. In other words, the poor economic environment has brought neutral down sharply. The FOMC 'dots' forecasts suggest that the Fed members believe that stronger economic growth, and concurrent improvement in savings and investment, will raise neutral back to 3.75%.

TD Economics has long believed that structural factors had lowered the long-run neutral rate. In 2012, we released a report that argued that a neutral level for the fed funds rate over the next decade was 3.50%, reflecting slower labour force growth (due to an aging population) and due to weaker productivity growth.

The question is whether other factors have pushed the neutral rate even lower. Some market participants are arguing that neutral could be as low as 2.00%. This seems too low. If the Fed is aiming to have inflation of around 2%, the concept of a zero real fed funds rate as the long-run equilibrium does not make economic sense unless America experiences a Japan-like lost decade. It implies the absence of profitable investment opportunities over the longer run and it could provide an endless incentive for unproductive investment in things like residential real estate. An argument is often made that the prevailing high level of global leverage will keep rates low, because central banks cannot afford to raise rates much. But, one can argue that it is low rates that were part of the problem in creating the prior credit bubble and the environment we are living in today. We are already seeing financial imbalances in the global economy arising from the sustained hyper-stimulative monetary policy. While Janet Yellen has indicated that regulations should be the first defense, it is still the fact that the economy will ultimately have to be weaned off excessively low interest rates. Proponents will say that other structural headwinds, such as aging demographics and technology, will also keep rates low. To this point, we agree, and it was precisely these factors that led TD Economics to lower our projected neutral level of rates to 3.50% in 2012. Earlier this year, we revisited the estimate of potential U.S. economic growth and lowered it from 2.3% to 2.0%. Thus, the neutral level of rates should be marked down to 3.20%. One downside risk to this estimate is the effect of excess global savings that may continue to exert downward pressure on rates. We may have been underestimating the effect that this can have, and accordingly, a neutral fed funds rate over the next cycle might be as low as 3.00%.

The bottom line is that due to sustained economic slack and strong international financial linkages at a time of considerable global leverage, the neutral level of interest rates for the economy are well below their long-run normal levels and will likely remain so for some time. At some point next year, the Fed is likely to begin raising rates, and we favor the second half of the year. As the economy strengthens, the neutral level of rates is likely to edge up towards the 3.00% to 3.50% range. However, it will take the Fed many years before the monetary policy is back to its normal level.

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