Why/When/How the Fed May Push Short-Term Rates Higher

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As we anticipate the end of quantitative easing and frame our analysis of future US monetary policy, our base case scenario is that as the Federal Reserve (Fed) debates the objectives and appropriate uses of monetary policy, one outcome may be a decision by the Federal Open Market Committee (FOMC), sooner rather than later, to nudge short-term rates higher, and return to a more traditional, non-emergency policy-making approach. We note that current consensus expectations for the first rate-rise decision by the FOMC are more data dependent than our base case, especially regarding the progress of the labor market. For now, the federal funds futures market suggest the first upward rate decision will come in mid-2015 (See Figure 1). Of course, market participants will attempt to anticipate the decision, thus bonds, equities, and currency markets may well move in advance of any decision.

This report is organized to first frame the issues around the rate decision by:

• Identifying the policy drivers of any Fed rate decision, and then

• Developing possible scenarios for the timing of the first rate decision, highlighting our perspective that the rate rise decision may come sooner than current market expectations.

Our next step, intended for readers interested in the complexity of the rate rise implementation process, is to delve much more deeply into the unintended consequences of quantitative easing. Our key conclusions are that:

• One of the important Fed tools for encouraging higher short-term rates may be raising the interest rate paid on excess reserves held at the Fed.

• Market-based effective federal funds may trade at a 15-20 basis point rate discount to the interest rate paid on excess reserves held at the Fed. That is, if the interest rate paid on excess reserves is raised from its current rate of 25 basis points to 50 basis points, the effective federal funds rate may trade around 0.30% to 0.35%.

• The Fed is likely to continue to set a 25 basis point wide target range for effective federal funds, possibly bounded at the top by the rate paid on excess reserves.

• The Fed may or may not choose to align the lower bound of its target range for effective federal funds with the rate paid on required reserves.

• The Fed may choose to broaden its rhetoric concerning the set of short-term rates it monitors and seeks to influence beyond its primary target, federal funds, in order to send a message that it is the general level of short-term rates it seeks to influence, not one specific rate. Intellectually, Yellen is leading the Fed away from a one indicator approach to measuring anything of interest, preferring a broader view of labor markets, the economy, and rates, too.
In our view, the typical employment-inflation trade-off framework used by most Fed-watchers distracts from a more fundamental question, now under debate both inside and outside the Fed, that cuts to the core of the evolving philosophy within the Yellen Fed and bears critically on the timing of any FOMC policy action. Namely – what is the appropriate role of monetary policy for an economy that is in a sustained, albeit moderate, economic expansion, and that is neither fragile nor about to collapse? This alternative framework that forms our base case is conditional on the evolution of labor markets and inflation, but to a much lesser extent than one might realize. Subject to the US real GDP continuing to grow at least at a trend pace of 2% per year or maybe a little faster, the FOMC may reach a consensus sooner than later to start the process of raising short-term rates. This is a lower economic hurdle than what is implied in the received employment-inflation trade-off framework, since there are no specific thresholds, just a continuation of the economic expansion, even at a moderate pace.

In this scenario, an FOMC interest rate decision would be predicated on the view that emergency policies, including resort to negative short-term real (inflation-adjusted) interest rates, are no longer appropriate for an expanding economy. Accordingly, we anticipate that any move by the Fed to tighten credit market conditions would be implemented so that nominal short-term interest rates rise very gradually to levels that more or less match the prevailing core inflation rate.

To appreciate the criticality of the Yellen-Fed debate over the appropriate role of monetary policy in an expanding economy, a bit of recent Fed history is required to set the scene. The essential themes are mounting disenchantment with the Bernanke Fed’s experiments, coupled with a strong desire to return to traditional central bank policy-making based on maintaining an appropriate premium for short-term rates relative to perceived inflationary expectations.

1. The Bernanke Fed’s Choices

Former Fed Chair Ben Bernanke made a mantra of the Fed’s dual mandate to encourage full employment and to maintain price stability. Acknowledging the depth of the recession after the financial panic of 2008, Bernanke cited the high level of unemployment and the very low core inflation rate, even after the economy was well into its recovery cycle in 2011, to justify further rounds of extraordinary measures, notably, massive asset purchases by way of “quantitative easing (QE)” combined with maintenance of near-zero short-term interest rates -- to speed the pace of job market expansion. There was always a minority of FOMC members, however, who believed that extraordinary monetary policy measures were not appropriate for an economy no longer in a state of emergency.

2. The Debate within the Yellen Fed: Finer Nuance, Shifting Focus

As we decipher the language of the Yellen-Fed, and observe its emerging culture, we are struck by an apparently growing desire to return to traditional monetary policymaking, and to leave well behind both the emergency policies of the Bernanke Fed and the legacy of the financial panic of 2008.
There is no doubt that emergency policies were needed in the 90 days following the badly managed bankruptcy of Lehman Brothers and messy bailout of AIG in September 2008. What is now under scrutiny, rather, is the extended nature of the Fed’s zero interest rate policy and its multiple rounds of QE since 2011. Since QE is likely to end in October 2014, the focus has already shifted to the next decision: Whether to return to a more traditional version of short-term rate policy, or to maintain negative real short-term interest for an extended interval after QE ends?

We would argue that negative real short-term rates – that is, short-term rates that remain below the prevailing rate of inflation for a sustained period of time – represent an emergency policy, just like QE, that is increasingly being perceived as inappropriate for a growing economy. A more traditional, non-emergency approach, yet still accommodative for the economy, would be for the central bank to encourage short-term rates to be more or less equal to the prevailing rate of core inflation.

Please note, a tight policy is not under consideration. A tight or restrictive monetary policy typically involves short-term rates being pushed higher than long-term bond yields. We are not talking about such a shift to an outright restrictive policy. We are only suggesting the Fed may decide, sooner rather than later, to set short-rates more or less the same as core inflation – which in absolute terms is still an “easy”, not “tight”, monetary policy.

There is another way to look at the debate inside the Fed and why it seems to be shifting. The policy discussion is no longer just about whether headline unemployment data hide some residual slack in labor markets, as Yellen suggests, or weather rising food inflation eventually will filter into core inflation. The question is: Should the Fed, or any central bank for that matter, be treating an economy as fragile and ready to collapse, when it has run-off essentially five years of modest economic growth since the recovery started in Q3/2009?

Under this logic, QE had to end as soon as possible, and the Yellen-Fed is achieving that. And the follow-on step is that monetary policy may still remain relatively accommodative but it should not do so any more with negative real short-term rates – a clearly emergency-type policy measure. As the voices for a return to traditional policy-making based on the fundamental perspective that the US economy is neither fragile nor ready to collapse takes greater hold on the psychology of more regional Fed Presidents and Fed board members, then the Yellen-Fed could easily choose to start the slow process of encouraging incrementally higher short-term rates at either the January or March 2015 FOMC meeting. The tactical objective might be just to get short-rates up to the level of core inflation by mid-2016. Moreover, such a policy shift could easily be reconciled with Yellen’s view that there is still some residual labor market slack, since even if short-rates were roughly the same as the core inflation rate, such a monetary policy would still be characterized as accommodative, just not as an extraordinary policy designed for emergency situations.

Figure 2
Fed Debate: Are Negative Real Short-term Rates Still Appropriate for a Growing Economy?

B. The Status Quo: Labor Markets vs Inflation

As noted, the market consensus follows a different logic. Most Fed analysts and market participants tend to see any FOMC decision to push up short-term rates as based largely on an implicit trade-off between labor market conditions and inflation. Under this
framework, the essential determinants of any FOMC policy decision are the relative timing of, and the trade-off between, two macroeconomic trends: (a) when the unemployment rate declines beneath its natural (or full-employment) level (Figure 2), and (b) when the core inflation rate and associated inflation expectations rise above a generally agreed long-term inflation target of around 2% (Figure 3). While the Yellen-Fed has made it clear they are not tied to any specific indicator of labor market conditions, nevertheless, an improving unemployment rate is an important part of the puzzle and likely to be associated with improvements in a variety of other labor market indicators.

Figure 3: Unemployment

Our read of the US economy suggests labor markets are very robust and that a variety of jobs data will increasingly support a rate rise decision in 2015. The core inflation outlook is less clear. Food inflation is rising, but that is not part of the core price index. While we believe that there will be a slow, incremental rise in the core inflation rate going into 2015, we are not yet willing to project a more rapid rise although that is a possible scenario for discussion.

C. Market Reactions to a Rate-Rise Decision

It is critical to note that the employment-inflation trade-off framework, as well as our scenario based on the fundamental role of monetary policy during a sustained economic expansion, both embody multiple scenarios for bond, equity, and currency market reactions based on how the economic data evolves. Here are three cases to consider.

1. Improving labor markets, no core inflation pressure

In this scenario, labor market conditions continue to improve while core inflation and related inflation expectations remain well contained. Under this scenario, without inflation pressure, the bond market might not move much, and the yield curve might flatten with short-term rates rising and long-term yields remaining relatively stable. Equities may well rally, even though this policy move would incrementally remove a modest bit of monetary accommodation, the policy would remain characterized as accommodative and much more importantly, the rate rise decision would signal that the Fed had a high degree of confidence in the state of the US economy. The US dollar would likely be buoyed by a rate rise decision under this scenario of improving economic activity with little to no inflation pressure.

2. Improving labor markets, some observable core inflation pressure develops

In this scenario, labor market conditions continue to improve while core inflation edges higher a little faster than currently expected, general inflation moves even higher on the back of food price inflation, and inflationary expectations appear to
be rising. With inflation expectations rising in this scenario, the bond market might already be seeing rising yields (e.g., lower prices) by the time the Fed rate decision comes, and the Fed might easily be perceived as being late to realize and appreciate the inflation pressure. In this scenario, one has higher bond yields, with perhaps a more mixed picture for equities. Equities will like the increased corporate pricing power and potential for higher earnings as revenues rise, but they may not like the implication the Fed may have to keep raising rates in many steps for a long time to come to constrain inflation.

For the US dollar the key takeaway from this scenario of robust labor markets and rising inflation, may be that the Fed is late to the inflation game, and the US dollar might lose a little ground or be less supported by the rate rise than one might think at first glance.

3. Global political tensions rise and disrupt trade flows and economic growth

Due to unexpected rises in global political tensions, trade flows and economic activity are disrupted, so the Fed remains on hold as it assesses the damage to the US economy. No rate rise decision is made at all. In this scenario of reduced global economic activity, the US is a safe haven country, and US bonds rally (e.g., lower yields), the US dollar strengthens, while equities around the world enter a bear market.

D. Implementation Complexities due to Trillions of Excess Reserves

The complexities of implementing short-term interest rate policy have been greatly complicated by QE, and the resultant stock of over $2 trillion of excess reserves now held by the banking system. These are uncharted waters, as the Bernanke Fed undertook its massive QE programs without a clearly stated exit plan.

A quick primer on how the Fed creates and destroys federal funds is in order. When the Fed buys billions of Treasury securities and mortgage-backed securities (MBS) as part of its QE program, it creates federal funds to pay for these securities. Federal funds are merely deposits at the Fed held mainly by Federal Reserve System member banks and a few other entities allowed to have accounts at the Fed. Importantly, only the Fed can create federal funds, and only the Fed can destroy federal funds. Banks can trade them among each other – moving them around within the financial system – but they cannot alter the supply of federal funds.

An immediate implication is that there is no point in trying to encourage a higher federal funds rate until the Fed stops expanding the supply of federal funds – that is, until it ends its QE program. QE3, the current version of QE, is on track to end in October 2014 (subject to the usual Fed caveats that the US economy does not collapse between now and then).

Beyond this, there are several structural implications regarding how federal funds trade and how QE has changed the game—

1. Market Rates vs Administered Rates

Between 1984 and 1996 the ratio of excess reserves to required reserves averaged 4%. It shifted up to around 20% between 1996 and 2007 with changes in reserve requirements. Between 2004 and 2007, on the eve of the 2008 financial crisis and the advent of QE, excess reserves averaged just $1.7 bln, or 19% of the $8.8 bln average stock of required reserves. Banks traded federal funds among themselves mainly for the purpose of meeting reserve requirements. Banks with strong local or regional retail deposit bases typically lent or sold federal funds to commercial and investment banks active in new corporate lending but without strong deposit bases.

This changed with the financial panic of 2008 and the Fed’s emergency response measures. A sequence of QE programs manufactured billions and then trillions of federal funds in excess of required reserves. In consequence, federal funds do not trade as they once did: With banks holding trillions of dollars of excess reserves, few need to purchase federal funds to meet their reserve requirements.
Owing to their overabundance, federal funds now trade at a lower (market) rate – around 8 basis points per annum over the last 12 months – than the (administered) rate of 25 bps per annum paid by the Fed on excess reserves. If a bank gets 25 basis points on its federal funds for doing nothing, it will need a lower rate (i.e., essentially a higher price) to sell or lend them to someone else.

If the Fed were to raise the rate it pays on excess reserves to 50 bps per annum, and if the 0.17 bps premium over the market rate for federal funds were to persist, then the daily effective federal funds rate would be expected to reside around 33 basis points. As a point to note, on 1 August 2014, July 2015 federal funds rate futures closed at 99.64, signifying a contract interest rate of 36 bps per annum.

2. Fed Open Market Operations

Moreover, the type of daily operations to influence the federal funds market used by the Fed before QE programs, before the financial panic of 2008, were aimed at adding a few hundred million or removing a few hundred million of federal funds from the market place temporarily. For example, from 2004 through 2007, the average weekly required reserves in the US banking system was $8.8 billion, and the average amount of excess reserves in the system were $1.7 billion. If the Fed needed to drain reserves temporarily, $500 million of transactions over a week would have represented 30% of the outstanding supply of federal funds and would most probably have been a market moving event.

By contrast, after years of QE, currently, for the first half of 2014, the average weekly required reserves in the US banking system were $79 billion and the average amount of excess reserves in the system were $2.5 trillion. A sequence of repo operations to drain even $5 billion of reserves is only going to represent 0.2% of excess reserves outstanding. Such a sequence of trades might very well not move the market price much at all.

That is, the Fed’s operational techniques, such as repurchase or repo activities, were not designed for removing trillions of dollars from the financial system and restoring federal funds trading to its old habits before the financial crisis and before massive QE. Fed repo activities in the old days were like tuning a high-end audio system, which was the expertise of the Greenspan-Fed. With excess reserves currently topping $2 trillion, a new approach is needed to encourage short-term rates to move above their near-zero levels. Indeed, a new approach to Fed rhetoric may be required, as well, given that the focus is likely to be on a more general view of short-term rates. Our conclusion is that one of the unintended consequences of QE, that is, the changed nature of federal funds trading, may lead the Fed to adopt new processes and new rhetoric to achieve the target effective fed funds rate it desires:

3. Operational Aspects for Implementation of Monetary Policy

We see the Fed evolving toward the following policy decisions:

- The Fed will continue to set a target range for federal funds. Indeed, the Fed has already moved to strengthen its monitoring of short-term rates, including the federal funds rate, Eurodollar rates, and CD rates, through the requirement for larger banks to report daily on Form 2420 information about transactions in these categories. Moreover, the Fed will want to ensure that the market understands that the objective is to encourage generally higher short-term rates and not just to hit a specific federal funds rate target.

- A critical tool to both signal rate increases and to enforce them may be the rate of interest paid on excess reserves.

- There is a possibility that the Fed may choose (or not) to have a different rate of interest paid on required reserves. This would be similar to the old discount rate and Lombard lending rate used by the Bundesbank, when the discount rate set the floor and the Lombard rate set the ceiling, and overnight money market rates traded in between. In the Fed’s case, they might set the rate paid
on required reserves as the floor and the rate paid on excess reserves as the ceiling, aligning these rates with the desired target range for the federal funds rate.

The case for expanding rate guidance beyond the target range for the effective federal funds rate is simple. With trillions of excess reserves in the system, federal funds are much harder to manipulate by the Fed with traditional operational tools like repurchase agreements. Thus, the next tool in the line is the rate of interest paid on deposits held at the Fed. Remember, that before the financial panic of 2008, no interest was paid on either required or excess reserves. In October 2008, the Fed starting paying 1% on reserves, mainly as way subsidize banks and help them get back to profitability – although at the time its decision was not explained exactly that way given the public and general political anger at various players in the banking system, which were being blamed for the crisis. Within a month or two, the Fed settled on paying a rate of 0.25% on required and excess reserves, which was the top-end of its stated target federal funds rate range of 0.00% to 0.25% (i.e., 0 to 25 basis points). That is, the Fed aligned the rate of interest paid on reserves with the top of its federal funds target range. When/if the Fed decides to encourage short-term rates in general to move a little higher, it will include in its policy decisions an increase in the interest rate paid on excess reserves.

There are a few things we do not think the Fed will choose to do. For example, there has been discussion around changing the calculation of the federal funds rate specifically to include a broader set of market participants along with an increased variety of transaction types. This has come on the heels of LIBOR and other short term interest rate benchmark reform. While possible changes to the federal funds rate may be briefly discussed, we think it is simpler and more than sufficient merely to broaden Fed rhetoric to include other rates, while keeping the federal funds rate targets in place. We would note that in the June 17th-18th FOMC minutes: “...Most participants thought that the federal funds rate should continue to play a role in the Committee’s operating framework and communications during normalization, with many of them indicating a preference for continuing to announce a target range.” (Minutes of the FOMC, June 17-18, 2014, pg 3).

4. Additional Fed Decisions Affecting the Supply of Federal Funds

Eventually, the Fed will have to take steps to shrink its balance sheet, perhaps at a faster pace than the market expects. Namely, as part of the overall process of paving the way for encouraging short-term interest rates to move higher, the Fed will be deciding the additional following questions:

- Should the Fed stop reinvesting coupons received from its holdings of Treasury securities and MBS?
- Should the Fed stop rolling over principal payments from shorter-term Treasury securities that mature on a regular basis?

A positive response to either of these questions will help the Fed reduce the massive size of its balance sheet a little faster than the market may expect. The decision to no longer re-invest interest and principal could possibly come as early as the December 2014 FOMC meeting, or at the January 2015 FOMC meeting. This does not necessarily directly impact the market implications of a rise in the interest rate paid by the Fed on excess reserves, but it does bring forward the time, somewhere in the next two decades, when the balance sheet of the Fed has shrunk back to its more traditional level relative to the size of the economy.

Regardless of how fast the Fed shrinks its balance sheet by not investing coupons or principal payments it receives, our view is that the Fed is still very unlikely to outright sell any Treasuries or MBS. The reasoning goes that the Fed would not want to disturb the longer-term Treasury bond market of the MBS market that supports US housing by outright selling. Thus, the Fed’s balance sheet is likely to remain quite bloated – and subject to potential unrealized market losses, should bond yields rise – for another decade or more.
E. Conclusions

Since late 2013, the July 2015 federal funds futures contract has traded at a price with an implied overnight interest rate between 25 and 50 basis points per annum. (See Figure 4.) This is consistent with our presumption of a Fed rate move before July 2015, and with our analysis of how federal funds will trade if the rate on excess reserves is moved to 50 basis points and with a new target federal funds rate range of 0.25% to 0.50%. Meantime, the January 2016 federal funds futures contract rate is between 0.75% and 1.00%, suggesting that by year-end 2015 the rate paid on excess reserves will have been raised to 1.00%, and that the target federal funds rate range will have shifted to 0.75% to 1.00%. This would probably happen in 25 basis point steps, with at least one or two FOMC meetings intentionally skipped between each incremental rate increase.

![Figure 5.](image)

If we are correct, the debate within the Fed may increasingly focus on the longer-run question of whether emergency policies – not just QE, but negative real short-term rates – are appropriate for an economy that has five years of modest but reasonably steady expansion under its belt. In this scenario, there are no unemployment or inflation criteria to be met, just a general sense that the US economy is neither fragile nor about to collapse. Our read is that the Yellen Fed is moving in this direction as it debates the legacy of the Bernanke Fed and seeks to put behind it the extraordinary policy measures of the post-crisis era, and all of their negative baggage for economic confidence. If this perspective takes hold, the first FOMC rate decision could come at either its January 2015 or March 2015 meeting.