



TD Economics

Special Report

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THE LOW DOWN ON A LOW FED FUNDS RATE

The Fed has been on an easing cycle for many months now. At its most recent rate decision, the Fed lowered the fed funds rate by 50 bps to 1.00% and left the door open for further cuts. Going forward, we think that another 50 bps easing is in the pipeline, but there is the possibility that the Fed needs to ease more and could even take the fed funds rate to zero. In reality, the U.S. might even be closer to the zero bound than the official rate would suggest. The effective fed funds rate – which typically fluctuates around the target fed funds rate – has recently been well below 1%. As such, there are clearly a number of operational issues that are germane to the discussion as the Fed may soon be approaching the zero bound one way or the other.

COULD THE FED GO TO ZERO?

Following a zero interest rate policy (ZIRP) is certainly possible. Statements from Fed Presidents Yellen, Plosser, and Stern in the last month have confirmed that the Fed does not see the current 1.00% level of the fed funds rate as the definitive bottom. Former Fed Director of Monetary Affairs Vincent Reinhart said in 2004 that “...there seems to be little reason for central banks to avoid bring-

HIGHLIGHTS

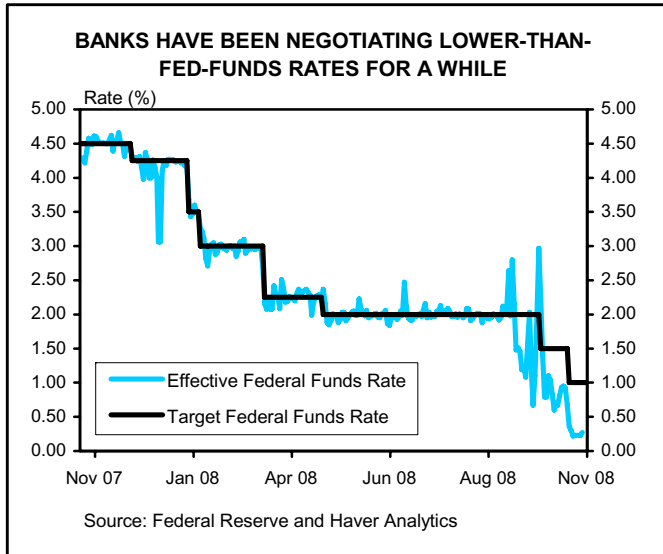
- **A Fed funds rate at or near zero raises broad policy concerns as well as technical issues in conducting monetary policy.**
- **The closer the Fed lowers rates to zero, the more money markets would become impaired.**
- **The low interest rate environment is already driving U.S. banks to hold many more reserves than needed.**
- **Fortunately, there are other policy options to stimulate the economy than just lowering rates.**
- **These include lowering long-term interest rates through words or actions, as well as increased fiscal spending, which could be supported by the Fed.**

CONTENTS

COULD THE FED GO TO ZERO?	1
OBSTACLES THAT PREVENT CUTTING BELOW 0.50% ..	2
Money market funds	2
Deposits and repo markets	3
Debt issuance and lending	3
Excess reserves	3
ALTERNATIVES TO INTEREST RATE CUTS	4
Talk down long-term interest rates	4
Target a different interest rate	4
Direct purchase of Treasury debt	5
CONCLUSION	5

ing the policy rate close to zero if the economic situation warranted.” Moreover, as in Japan, this would likely be accompanied with a credible verbal commitment by the Fed to keep the fed funds rate low for a certain and defined period of time (i.e. until inflation returns to some target). This would help flatten the yield curve as longer dated yields would fall, not because of an expectation that short-term rates already at zero will fall lower, but due to the expectation that short-term rates will remain at zero for a longer duration of time. In the past, Chairman Bernanke has spoken quite highly of the power of “central bank speak” alone to move markets even at the zero-bound when lower short-term interest rates are no longer possible.

However, just because the Fed can do something, it does not necessarily follow that they must do that thing.



While every little bit counts, interest rate cuts only impact the economy with a lag of up to 24 months. A 50bps cut would tend to increase consumer spending by a quarter of a percentage point and residential investment by almost two percentage points over the next year, with the impact on business investment not really showing up until the second year. However, if the 350bps of easing already delivered over the last year failed to rouse the economy from its slump, this impact would be much more akin to leaning against the wind. Moreover, this impact requires efficient credit markets.

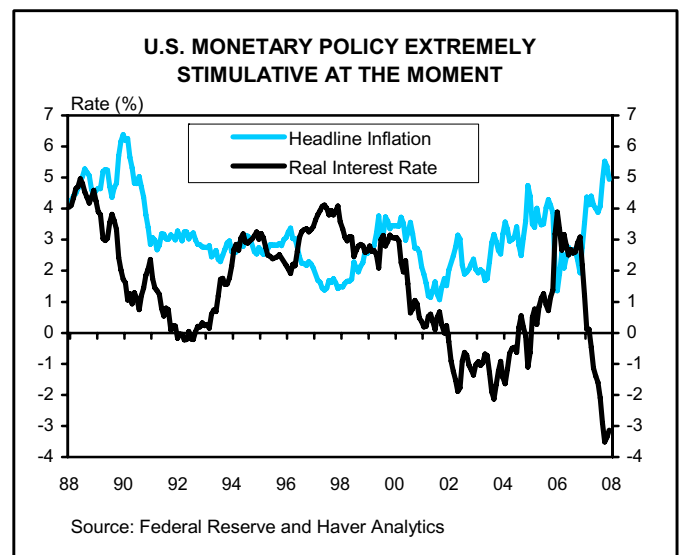
OBSTACLES THAT PREVENT CUTTING BELOW 0.50%

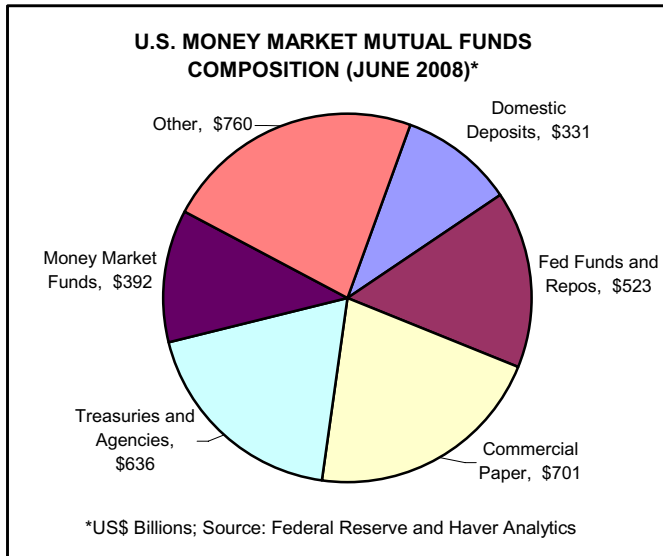
The marginal economic stimulus that a final cut by 50bps to 0.00% might provide would have to be weighed against the costs for different sectors of the financial system. In general, any market where interest rates are set on a spread below the fed funds rate would become impaired (as a spread below zero would be impossible). This could potentially not only impact lending within that market, but leak into other segments of the credit market that rely on it. But even though there is a cost associated with getting to zero, this does not necessarily preclude the Fed from going there. This would be akin to saying moving to a colder climate entails additional costs of buying a winter jacket, sweaters, snow boots etc, but this is not necessarily an argument against moving there. The Fed would simply have to weigh the benefits against the transitional costs below, or establish new facilities that reduce these costs.

Money market funds

A lower fed funds rate sharply dilutes the security of returns that money market funds are supposed to deliver. As the fed funds rate inches toward the zero bound, it creates a difficult environment for money market funds to cover their operating costs *and* offer returns. The average expense ratio in the top yielding institutional money market funds is 17bps. For the top yielding prime retail money market funds, it is around 46bps. Moreover, if there was a major sell off of money market funds, it might create a flood of funds that would be difficult to absorb into the rest of the market. In the Japanese experience with ZIRP, money market funds were made vulnerable by the low rate environment, but it was losses on their Enron holdings that drove significant flight out of money market holdings.

There has already been one instance of a U.S. money market fund “breaking the buck.” In September, the Reserve Primary Fund exposed investors to losses as the net value of its assets fell below \$1 per share, as deep losses associated with its Lehman Brothers holdings dragged its share price to \$0.97/share. But an important circuit breaker has been put in place with regard to mutual funds. The U.S. Treasury has set up a backstop for these funds, called the Temporary Guaranty Program for Money Market Mutual Funds. This program guarantees up to \$3.4 trillion in money market funds (held as of September 19th) for the remainder of 2008. The program costs 1bps, and will top up money market funds so that their net asset values are returned to \$1, should they ‘break the buck’. Secretary Paulson also has the option of extending the program for





an additional nine months to September 2009, should he deem it necessary. As with FDIC guarantees of deposits, this program is supposed to provide confidence to the market and stem capital flight in the first place. However, this program would become problematic should the Fed lower rates below 0.50%, as it could put the U.S. Treasury in the position of backstopping the entire market if capital flight and fund losses are driven by the fed funds rate being set below the expense ratio of particular funds.

Deposits and repo markets

Should rates reach zero, a massive flight out of deposits seems unlikely in the U.S. just as it did not happen in Japan. Cash is still needed on a daily basis, and it is simply not feasible to hold all this cash at home even if there is no return at the bank.

There are perhaps bigger issues for the repo market though. Essentially a repo is a contract to sell a security and then buy it back at some point in the future. Since these securities tend to trade close to the fed funds rate when it is closing in on the zero bound, it suggests a negligible premium and little incentive to lend these securities. As in money market funds, the result could be a loss of liquidity.

Debt issuance and lending

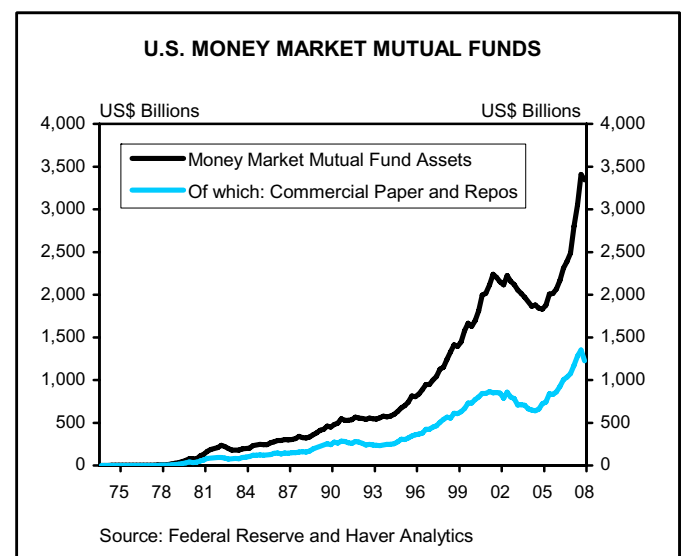
There are also matters related to debt issuance with a zero percent fed funds rate. That is because such a low rate makes it much more difficult to roll paper in the overnight market. This exacerbates the problems in the short term market, because the incentive to lend at short tenures

is virtually eliminated as the fed funds rate reaches zero. That would create obstacles in the short term funding market, since it would slow the downward trend in overnight LIBOR rates, which has played a fundamental role in alleviating some of the recent strains in the credit market. As such, as less credit is available at the short end of the curve, it might further exacerbate businesses' inability to fund projects. However, while there is scope for rolling paper over further out on the curve, there is the possibility that a retrenchment in lending at the short end of the curve could create systemic risk in the money market and quickly unwind whatever repair has occurred to date.

Excess reserves

A new development in the last two months has been a massive accumulation by U.S. depository institutions of excess reserves - reserves held with the Fed far in excess of those required by law. In fact, as of November 5th, U.S. depository institutions had \$415bn in reserves, which is more than the \$404bn they have in demand deposits (principally checking accounts). So banks are now holding 103% of their deposits in the form of reserves, as opposed to the 13% average seen over the last decade.

There are three reasons for this. First, banks are more concerned about liquidity and the need for cash. Second, in mid-September, the Fed began paying interest on bank reserves. So, as a result, there is now a higher return for banks to park their money with the Fed than take the risk of investing in the market. And third, there are associated costs that money managers have that may not be recouped in a low interest rate environment. The problem is these



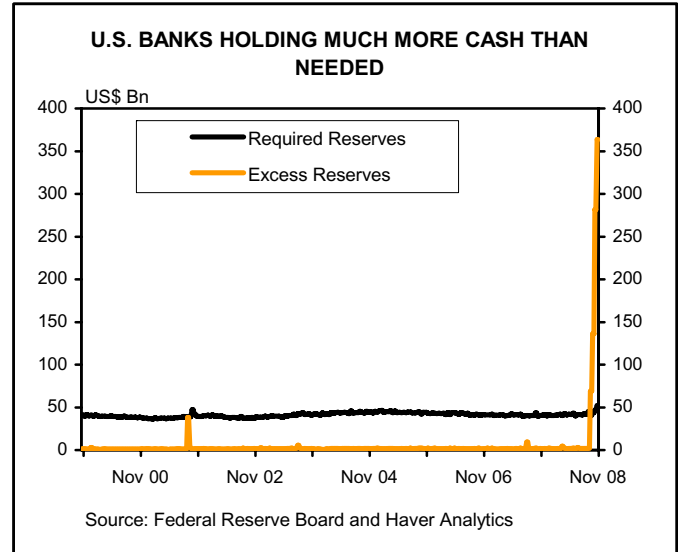
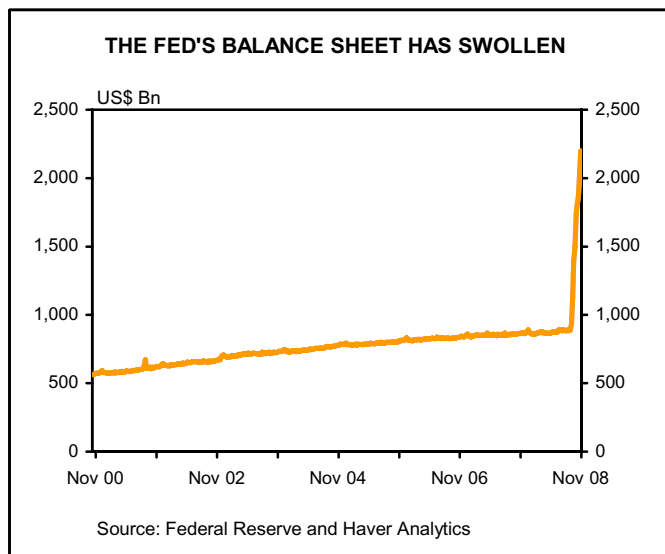
excess reserves are money that is not being lent out by the banking system, implying slower economic growth, which would only be exacerbated were the Fed to lower interest rates further.

ALTERNATIVES TO INTEREST RATE CUTS

The exceptional scenario of zero or near-zero interest rates still not being sufficiently stimulative for economic activity and inflation calls into question many of our standard conceptions regarding how a financial system and economy function. Bernanke himself has characterized the framework for response as:

- (i) Impacting interest rate expectations (Bernanke has always spoken highly of the ability of central bank communication to impact the shape of the yield curve even in a ZIRP environment)
- (ii) Quantitative easing (QE), which entails flooding the banking system with excess reserves (via increasing the size of the Fed's balance sheet)
- (iii) Targeting other areas of the yield curve (via changing the composition of the Fed's balance sheet)

This provides little operational guidance to markets, however, as to what tactics might be used when. We believe (ii) is likely to be used only in a deflationary environment, which will be addressed in a forthcoming paper. (i) is effective in any environment, while (iii) is a better option if credit markets remain strained.



Talk down long term interest rates

While short-term rates which anchor the yield curve can not easily go below zero (technically if you tax cash, you can create a negative return), the Fed can promise to leave rates at or near zero until some predetermined conditions are met. The Fed's words could then flatten the curve and entice borrowing and lending. This would be the result of the Fed's words reducing the uncertainty over future interest rate changes and increasing the expected duration of ZIRP, which would lower the additional premium included in long term rates to account for these risks.

Target a different interest rate

Current government guarantees reduce the credit risk associated with lending. In addition, massive liquidity operations and expanded collateral requirements of the Fed reduce the liquidity premium, which lowers long term lending rates below where they would otherwise be. However, long-term interest rates may still remain too high to stimulate enough borrowing in the economy. In this case, another option would be to target an interest rate further out the yield curve by buying as many securities as necessary at the given maturity to bring down that rate. Remember, ultimately the Fed's goal is to renew lending in the credit markets and to do that, if short-term rates are at zero and that is not enough, they must somehow get longer-term rates lower.

Switzerland currently targets the 3-month LIBOR as its policy tool, so targeting the overnight rate is not the only option. Moreover, the Fed actively targeted multiple interest rates from 1942-1951. During World War II, the Fed

pegged the Treasury bill rate at 0.375% and the Treasury bond rate at 2.50%. This was done to support the government borrowing requirements to finance the war, but could be classified as a form of quantitative easing. As much money was injected into the economy to support as much lending as was desired at those rates. Rather than necessarily increasing the size of the Fed's balance sheet, this option could entail just a change in the composition of the existing balance sheet.

Paradoxically, if this raises expectations for future inflation or fiscal or corporate profligacy and the potential for rating downgrades, these actions could be counterproductive and increase long-term rates elsewhere along the curve. Implementation would also have to be balanced with the risks that the Fed would be distorting lending and investment decisions, bank profits would fall due to a flatter yield curve, and the Fed would likely take a loss at the successful completion of the operation when these purchases are unwound – as renewed economic growth would mean falling bond prices (offset to some extent by the rising bond prices earlier when the Fed bought bonds to lower yields/increase prices).

Direct purchase of Treasury debt

Economic stimulus could also be achieved by having the Fed directly purchase new debt from the Treasury. In his study of the Japanese economy, Chairman Bernanke saw scope for circumventing impaired credit channels in Japan through fiscal policy when simultaneously faced with deflation, though we see no reason this could not be extended to stimulate economic activity in a non-deflationary period. Specifically, he suggested tax cuts or government investment projects could be financed by debt bought directly by the central bank. This would leave the level of publicly-held government debt unchanged, put cash directly into the hands of consumers to spend, and thereby increase

GDP growth without raising concerns that more spending now will simply be offset by higher taxes in the future.

CONCLUSION

These are indeed extraordinary times, still wracked with a good deal of uncertainty. Policymakers have made it clear in action and in deed that they are willing to think outside the box and implement unusual policy measures to help reflate the economy. In short, the Fed is not out of tools to fight the battle ahead, but the tools necessary are certainly exceptional.

The economy is sufficiently weak such that the likelihood that the fed funds rate could approach the zero bound seems to be growing. And while the net stimulus to the system is unlikely to be felt for some times, given the long and variable lags inherent in monetary policy, the underlying reasoning for taking the fed funds rate near zero is to address some of the systemic problems in the financial markets, rather than economic stimulus, per se.

If the Fed were indeed to lower interest rates to zero, there are a number of additional costs that would arise, especially for the money markets. As a result, it seems doubtful the Fed would cut rates all the way to zero. Instead, there are a number of other policy alternatives. These could include verbal support by fed officials, targeting different interest rates, or expanded fiscal spending by the Treasury that could be supported by the Fed. As such, given the continued uncertainty in financial markets, the Fed could soon explore any one of these policy options.

Charmaine Buskas, Senior Economics Strategist
416-982-3297

Richard Kelly, Senior Economist
416-982-2559

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