

November 12, 2008

The changing operational face of monetary policy

“Cleveland? Yes, I spent a week there one day.” As someone who proudly called Cleveland home for seventeen years, that one’s not usually one of my favorites. But lately, I have to say, I’m getting to know the feeling. Financial markets? Yes, I spent a year there one month.

I could have in mind any number of developments, but what I’m thinking about today is [the announcement on October 6](#) that the Federal Reserve would commence paying interest on funds that depository institutions hold on reserve with the central bank. Initially, the interest rate that applied to these balances was the target federal funds rate less 10 basis points (or 0.10 percentage points) on [required reserves](#) and 75 basis points (or 0.75 percentage points) on [excess reserves](#). On October 22, the Board of Governors of the Federal Reserve [announced that the rate paid on excess reserves would be raised to 35 basis points below the funds rate target](#). [Last week the Fed announced](#) that, henceforth, “the rate on required reserve balances will be set equal to the average target federal funds rate over the reserve maintenance period. The rate on excess balances will be set equal to the lowest FOMC target rate in effect during the reserve maintenance period.”

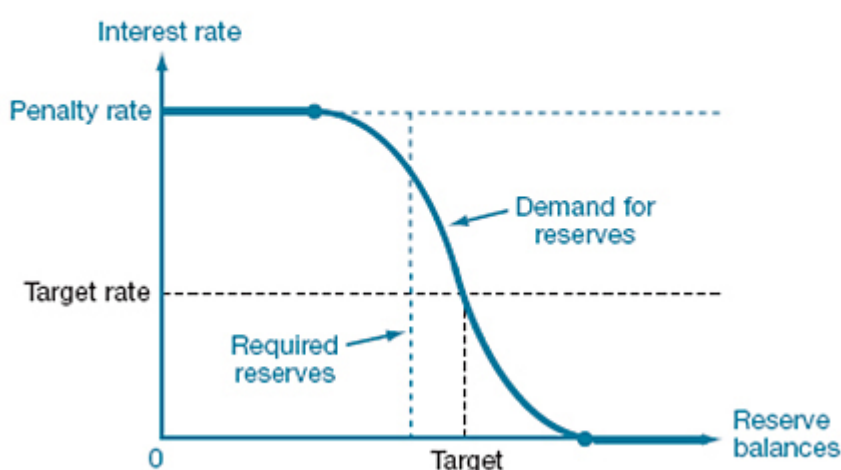
This last change may seem small and technical — and I guess in a sense it is — but it is one with some fairly consequential implications. I could explain, but I could hardly do better than the prescient article appearing [in the FRBNY Economic Policy Review](#), written by New York Fed economists Todd Keister, Antoine Martin, and James McAndrews. If you’re a teacher — or otherwise have to explain this stuff to the uninitiated — the authors provide three mighty nice graphs. First the traditional stuff:

“We begin by examining the total demand for reserve balances by the U.S. banking system. In our stylized framework, this demand is generated by a combination of two factors. First, banks face reserve requirements. If a bank’s final balance is smaller than its requirement, it pays a penalty that is proportional to the shortfall. Second, banks experience unanticipated late-day payment flows into and out of their reserve account after the interbank market has closed. A bank’s final reserve balance, therefore, may be either higher or lower than the quantity of reserves it chooses to hold in the interbank market. This uncertainty makes it difficult for a bank to satisfy its requirement exactly and generates a ‘precautionary’ demand for reserves.

“First, note that if the market interest rate were above the penalty rate, there would be an arbitrage opportunity: banks could borrow reserves at the (lower) penalty rate and lend them at the (higher) market interest rate... As a result, the demand curve is flat . . . at the level of the penalty rate for sufficiently small levels of reserve balances...

“If the market interest rate were exactly zero, however, there would be no opportunity cost of holding reserves. In this limiting case, there is no cost at all to a bank of holding additional reserves above the fully insured amount. The demand curve is therefore flat along the horizontal axis after this point.”

EXHIBIT 1 Monetary Policy Implementation in the United States



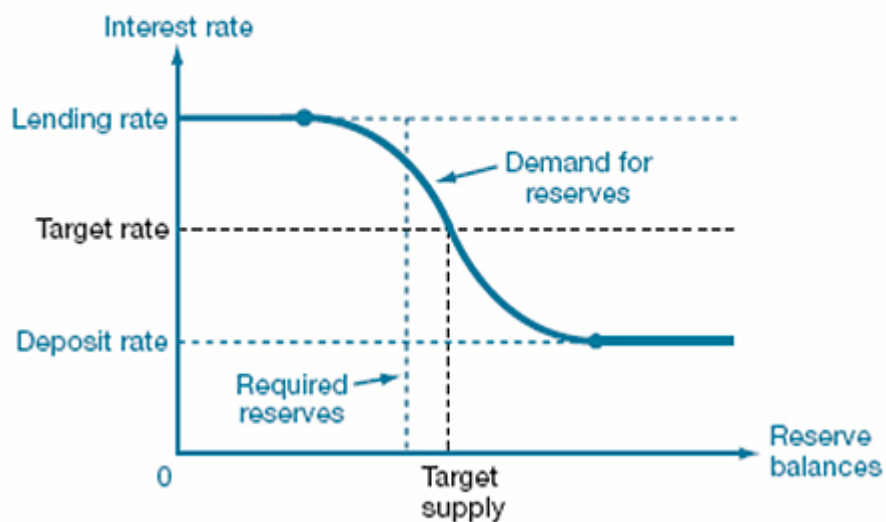
Source: FRBNY *Economic Policy Review*, Sept. 2008

Then, on to the system that became effective in the United States on October 6.

“Many central banks use what is known as a symmetric channel (or corridor) system for monetary policy implementation. Such systems are used, for example, by the European Central Bank (ECB) and by the central banks of Australia, Canada, England, and (until spring 2006) New Zealand. The key features of a symmetric channel system are standing central bank facilities that lend to and accept deposits from commercial banks...

“The new feature in Exhibit 2 is that the demand curve does not decrease all the way to the horizontal axis, but instead becomes flat at the deposit rate. In other words, the deposit rate forms a floor below which the demand curve will not fall.”

EXHIBIT 2
A Symmetric Channel System of Monetary Policy Implementation



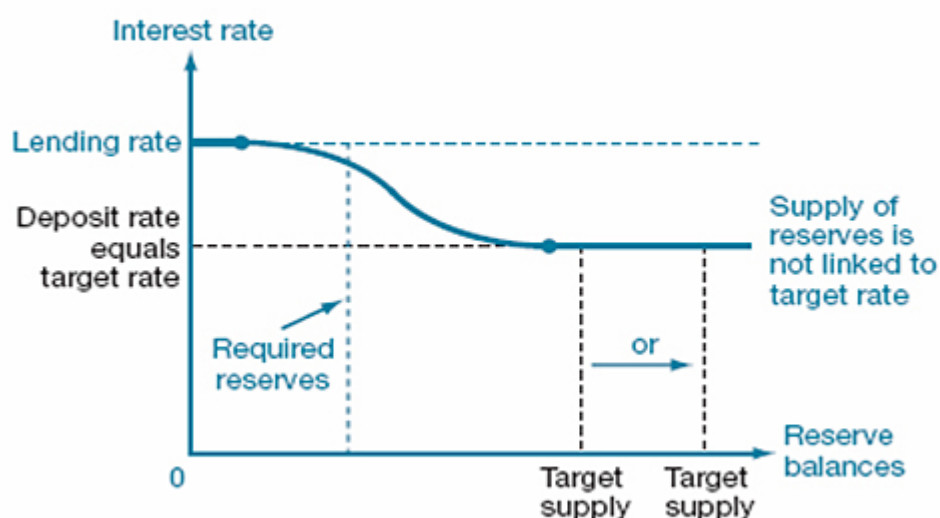
Source: FRBNY *Economic Policy Review*, Sept. 2008

Finally, what of the world as it is today?

“Starting from the symmetric channel system presented in Exhibit 2, suppose that the central bank makes two modifications. First, the deposit rate is set equal to the target rate, instead of below it. In other words, in this system the central bank targets the floor of the channel, rather than some point in the interior. Second, the reserve supply is chosen so that it intersects the flat part of the demand curve generated by the deposit rate (Exhibit 3), rather than intersecting the downward-sloping part of the curve. Supply and demand will then cross exactly at the target rate, as desired.

“The key feature of this system is immediately apparent in the exhibit: the equilibrium interest rate no longer depends on the exact quantity of reserve balances supplied. Any quantity that is large enough to fall on the flat portion of the demand curve will implement the target rate...”

EXHIBIT 3
A Floor System of Monetary Policy Implementation



Source: FRBNY *Economic Policy Review*, Sept. 2008

I haven't thus far offered explanations for why these changes might be desirable and how they relate to the broader context of monetary policy generally. More on that tomorrow.

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