The Fed's New Tools for Monetary Policy

The Lender of Last Resort Gets Creative

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Monetary Policy Overview

The Three Basic Tools for Policy

1. Open market operations.

2. Discount Window

3. Reserve Requirements

To understand these and their macroeconomic effects, we need to first understand the Fed's balance sheet.

Monetary Policy Overview

The central bank has a balance sheet, just like any other bank.

As assets, it holds government securities, loans to depository institutions (banks), and other assets.

As liabilities, it has currency (the cash in your pockets) and reserve balances. Reserves are deposits that banks keep at the central bank. When a bank needs currency it withdraws from its deposit, effectively turning it into bills and coins that you and I can use.

Monetary Policy Overview

We now turn to the three traditional tools of monetary policy:

1. Open market operations.

This is an outright purchase (or sale) of government securities from (or to) banks. When conducting this operation, the central bank increases its assets and credits banks' reserve balances. Eventually, banks withdraw from their reserves at the central bank and turn them into cash. So an open market operation amounts to withdrawing government securities from the economy and replacing them with cash. The central bank can also reduce the amount of cash in circulation, by doing just the opposite: selling government securities and absorbing cash. By far, an open market operation is the best-known of the central bank's tools.

Monetary Policy Overview

This is a simplified version of the U.S. Federal Reserve's balance sheet on August 15, 2007:

Federal Reserve's balance sheet, $ millions (Aug. 15, 2007)		
Assets	US government securities	789,601
	Repurchase agreements	24,000
	Reverse repurchase agreements	-31,941
	Direct loans	264
	Other assets	37,058
Liabilities	Currency in circulation	813,085
	Reserve balances	5,897

Monetary Policy Overview

Suppose that on August 16, 2007, the Fed pumped $1,000 million in the system through an open market operation. The Fed's balance sheet would experience the following changes, once banks have withdrawn the new funds from their reserve accounts:

Changes in the Fed's balance sheet after a $1,000M open market operation		
Assets	US government securities	**+1,000**
	Repurchase agreements	0
	Reverse repurchase agreements	0
	Direct loans	0
	Other assets	0
Liabilities	Currency in circulation	**+1,000**
	Reserve balances	0

Monetary Policy Overview

2. Discount Window:

The central bank simply lends money to a bank. The central bank increases its balance of loans, and simultaneously credits the reserves of the borrowing bank. Then the bank withdraws from its reserves, effectively turning them into currency in circulation. Asking for a direct loan usually means that the bank was not able to obtain liquidity in the inter-bank market. Moreover, borrowers are also subject to scrutiny by the central bank, and watched by other banks. And the interest rate charged for direct loans is higher than the inter-bank rate. For those reasons, the discount window is used rarely and in small amounts.

Monetary Policy Overview

3. Reserve requirements.

Banks are required to keep a certain amount of reserves at the central bank. If the central bank increases that requirement, banks are forced to withdraw currency from the economy and put it in their reserve account. The central bank can also do the opposite, i.e. increase the amount of currency in circulation by lowering the reserve requirement. This tool is the least often used.

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Monetary Policy Overview

Normally banks obtain liquidity for their daily operations in the Fed Funds market. Last summer some U.S. banks started experiencing losses from their portfolios of mortgages and securitized mortgages. Nobody knew which banks would suffer losses in the future, or how large they could be. So banks starting growing wary of lending to each other, and it became more expensive—or just plain impossible—to raise as much liquidity as needed.

The Fed stepped in to help. Instead of providing liquidity through outright open market operations, it increased the use of an operation that is more frequently used, yet less well known: repurchase agreements. These are short-term loans, usually overnight, extended by the Fed to banks. As collateral, banks transfer high-quality securities to the central bank for the duration of the loan. At expiration, the loan is repaid and the bank takes back its securities.

Monetary Policy Overview

From an accounting perspective, the repo increases the central bank's assets and potential currency in circulation, much like an open market operation does. This, for example, is what happened between August 8 and August 15.

Soon after, the Fed decided that it didn't want to increase the potential amount of liquidity in the system, which affects short-term interest rates and inflation. So it offset the repurchase agreements by selling some of its own government securities (or letting them expire without purchasing more), and thus withdrawing cash from the system. So the repos didn't have any bottom-line effect on liquidity: they merely changed the composition of the Fed's assets and provided temporary cash to the borrowing banks.

Moneyless Monetary Policy

Here's how a repurchase agreement would change the Fed's balance sheet, after offsetting it with an open market operation:

Changes in the Fed's balance sheet after a $1,000M repurchase agreement, offset by an open market operation		
Assets	US government securities	**-1,000**
	Repurchase agreements	**+1,000**
	Reverse repurchase agreements	0
	Direct loans	0
	Other assets	0
Liabilities	Currency in circulation	**0 (-1,000 + 1,000)**
	Reserve balances	0

New Tools: Term Auction Facility

After doing this for months, and aware that banks were not getting as much liquidity as they wanted, in December the Fed unveiled the **Term Auction Facility** (TAF). As its name suggests, this is an auction for a limited amount of Fed's loans. Just like a repo, loans through the new facility require borrowers to cede collateral to the Fed for the duration of the loan. But the TAF represents an improvement with respect to repos in their capacity to provide liquidity. First, it lowers the bar for the type of assets that the Fed accepts as collateral. Second, it is more targeted than repos: the bidding system ensures that the limited loans go to the banks that value them most.

New Tools: Term Auction Facility

By themselves, TAF loans would increase both assets and liabilities of the Fed, just like open market operations and repos. Here's the simplified balance sheet on December 26 and August 15:

Federal Reserve's balance sheet, $ millions			
		Aug. 15, 2007	Dec. 26, 2007
Assets	US government securities	789,601	754,612
	Repurchase agreements	24,000	42,500
	Reverse repurchase agreements	-31,941	-40,542
	Term Auction Facility loans	**0**	**20,000**
	Direct loans	264	4,535
	Other assets	37,058	52,869
Liabilities	Currency in circulation	813,085	829,193
	Reserve balances	5,897	4,781

The balance of TAF loans grew from $20bn to $60bn between December 26 and March 12. By doing offsetting open market operations, the Fed can manage liquidity just as in repo's.

Two additional tools

BUT, these liquidity venues are available only to members of the Federal Reserve system, which are all "depository institutions."

There is another set of financial intermediaries and investors, such as Bear Stearns or Lehman Brothers. They have been as affected by the liquidity crisis as much as banks have, but don't have direct access to either the discount window or TAF.

TSLF

So the Fed has announced two new facilities for those institutions. The first one is the **Term Securities Lending Facility** (TSLF), which opened on March 27. At this new window, all primary dealers -all banks and brokers that trade in government securities with the Fed- are allowed to borrow up to $200bn of government securities for 28 days. Borrowers must pledge collateral for these loans, but the minimum quality of the assets is even lower than for the TAF (it includes federal agency debt, federal agency residential-mortgage-backed securities (MBS), and non-agency AAA/Aaa-rated private-label residential MBS).

PDCF

The second institution is the **Primary Dealer Credit Facility** (PDCF), which started operating on March 17. This venue provides overnight loans to all primary dealers, backed by even riskier collateral: they accept all collateral eligible for repos, plus investment-grade corporate securities, municipal securities, MBS and asset-backed securities. With the PDCF, all primary dealers have de facto access to the discount window, from which only depository institutions could borrow before.

Unlike the TAF, neither TSLF nor PDCF will increase the assets of the Fed. It will temporarily decrease balances of government securities, and increase those of sketchy securities. And because participant institutions don't have Fed reserves, TSLF loans don't affect the monetary base. These two venues circumvent the necessity to conduct open market operations so that the monetary base doesn't change.

Monetary Policy without the Money

Here's the balance Fed again, in December and after the PDCF opened:

Federal Reserve's balance sheet, $ millions			
		Dec. 26, 2007	Mar. 19, 2008
Assets	US government securities	754,612	660,484
	Repurchase agreements	42,500	62,000
	Reverse repurchase agreements	-40,542	-46,143
	Term Auction Facility loans	20,000	80,000
	Primary Dealers Credit Facility	**0**	**28,800**
	Direct loans	4,535	125
	Other assets	52,869	36,603
Liabilities	Currency in circulation	829,193	818,362
	Reserve balances	4,781	3,507

Monetary Policy without the Money

With its new tools, the Fed has provided liquidity without printing much money. It has temporarily absorbed risky and illiquid securities, and supplied government securities, which are risk-free. So instead of monetary policy, in the sense we traditionally have thought about it, the Fed has become a risk-absorber -- or, to put it less kindly, a pawnbroker.