

Open Market Operations and the Fed's New Facilities

Basics of Open Market Operations (OMOs)

Remember, the money stock (M) is the sum of currency (C) and bank (checking) deposits (D).

$$M \equiv C + D$$

C is a liability of the central bank (e.g., the Fed), while D is a liability of the private banks. So the Fed does not control the money supply directly; it only controls the money base (MB) which is the sum of C and bank reserves (RE):

Using the notation from the textbook, Res is foreign exchange reserves, NDA is usually government securities. Then the left hand side is the asset side, and the right hand side is the liability side:

$$\text{Res} + \text{NDA} \equiv \text{MB} \equiv C + \text{RE}$$

Or in tabular form, here is the balance sheet for the Fed:

Federal Reserve System	
Assets	Liabilities
Government securities	Currency in circulation
Discount loans	Bank Reserves
Foreign Exchange	

What are open market operations (OMOs)? Consider a \$100 billion injection.

Banking System		Federal Reserve System	
Assets	Liabilities	Assets	Liabilities
Securities -\$100		Securities +\$100	Reserves +\$100
Reserves +\$100			
Loans +\$0			

Why Is Bank Behavior Important?

Think about the asset side of the banking system. When reserves increase, the bank will have an incentive to lend out as much as it can. However, there is a legal restriction against lending it all out (a reserve requirement, which requires a percentage of deposits be held in reserve) constrains the lending. If the reserve requirement is 10%, and banks hold no excess reserves, then the below graphic depicts the process induced by a \$100 billion injection of reserves.

TABLE 1 **Creation of Deposits (assuming 10% reserve requirement and a \$100 increase in reserves)**

Bank	Increase in Deposits (\$)	Increase in Loans (\$)	Increase in Reserves (\$)
First National	0.00	100.00	0.00
A	100.00	90.00	10.00
B	90.00	81.00	9.00
C	81.00	72.90	8.10
D	72.90	65.61	7.29
E	65.61	59.05	6.56
F	59.05	53.14	5.91
.	.	.	.
.	.	.	.
.	.	.	.
Total for all banks	1,000.00	1,000.00	100.00

Notice that an increase in bank reserves via an OMO increases loans and deposits (D). But if banks don't lend out all they can (if they hold excess reserves), then the increase in loans for a given increase in reserves will shrink. That translates to less lending (to households, to firms).

The Fed has recently implemented the Term Auction Facility (TAF), which allows borrowing from the Fed with weaker collateral than required at the discount window. The implementation of the TAF seeks to reduce the tendency to hold excess reserves by banks, and the implementation of the "Term Securities Lending Facility" (TSLF) to increase the ability of non-banks to borrow (from the Fed) and then lend.

The Fed has also expanded the use of repurchase agreements. The Fed has actually long managed day-to-day fluctuations in the money supply using repurchase agreements, or "repo's". From Wikipedia entry:

United States Federal Reserve use of repos

Repurchase agreements when transacted by the Federal Open Market Committee of the Federal Reserve in open market operations adds reserves to the banking system and then after a specified period of time withdraws them; reverse repos initially drain reserves and later add them back.

Under a repurchase agreement ("RP" or "repo"), the Federal Reserve (Fed) buys US Treasury securities, U.S. agency securities, or mortgage-backed securities from a primary dealer who agrees to buy them back, typically within one to seven days; a reverse repo is the opposite. Thus the Fed describes these transactions from the counterparty's viewpoint rather than from their own viewpoint.

The point of the focus on repos is apparently to maintain the supply of Treasuries in the system, and boosting the demand for other securities. Usually, there is not a lot of difference when Treasuries and other assets are treated similarly by actors in the financial system. However, these are not those times.

What are the implications of the TSLF? This article is from *FT*.

<http://www.ft.com/cms/s/0/ad24d17a-efa5-11dc-8a17-0000779fd2ac.html>

Fed takes leap towards the unthinkable

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The Federal Reserve on Tuesday made its most radical moves yet in the battle to ease market liquidity.

The US central bank is to lend primary dealers up to \$200bn in Treasury securities for 28 days in exchange for collateral including AAA-rated private label mortgage backed securities.

The action takes the Fed a step closer to the nuclear option of buying mortgage securities in its own right. However, the latest initiative stops clearly short of crossing this line.

The Fed hopes that by allowing the primary dealers to swap top-rated mortgage-backed securities that are hard to refinance in current market conditions for Treasuries that are much in demand, they will ease funding pressures in the markets in general and the market for mortgage-backed securities in particular.

In effect, dealers will be able to park their MBS with the Fed and obtain Treasuries that can in turn be lent out for cash. Senior Fed staffers say this should shore up liquidity in the MBS markets, allowing for a more efficient process of price discovery. That in turn should ease risk spreads on these securities.

The new \$200bn Term Securities Lending Facility will augment the increased swap lines announced on Tuesday that will provide \$36bn in offshore dollar loans in Europe, and the expanded \$100bn Term Auction Facility and \$100bn 28 day repurchase operation announced on Friday.

In the same way as the 28-day repo, the new securities lending facility will target the primary dealers, many of which are investment banks and other securities houses, and cannot access the TAF cash loans.

However, unlike the 28 day repo – which was structured to invite dealers to offer as collateral mortgage-backed securities guaranteed by Fannie Mae and Freddie Mac – the new facility will accept top-rated private label MBS as well.

Fed staffers said that unlike the TAF and the term repo operations – which provide cash loans in return for collateral – the securities lending facility would not change the total amount of bank reserves outstanding since it only substituted one set of securities for another.

This means that it can be scaled up quickly to \$200bn and could be increased further on short notice as required.

The new securities lending operation will be the same term as all the other liquidity operations – 28 days. The staffers said they did not extend the term beyond one month because they did not want to displace the private market for longer-term loans. Increasing the term beyond 28 days would also increase the credit risk taken on by the US central

bank. The new operations are still focused primarily on tackling liquidity risk rather than credit risk in the markets. However, the staffers admitted that the central bank was taking on some additional credit risk by offering to lend Treasuries in return for AAA-rated MBS for a month.

The margin requirements, though not yet fixed, will be more generous than those presently available in the markets.

Nonetheless, the Fed has several layers of protection in place. It will only accept AAA-rated MBS that are not on review for downgrade and will apply a haircut. Moreover, it will only deal with those primary dealers that it believes represent a low risk.

The reaction across all markets was euphoric, with shares surging, bonds falling, the dollar rallying and the cost of credit insurance falling.

By late afternoon in the US, spreads on agency-backed MBS had narrowed by about 18 basis points against Treasuries, while the one month Libor/Overnight Index Swap spread – a measure of strain in the money markets – was down to 43 basis points from 56bp the day before. Spreads remain far above normal levels.

Short-term Treasuries fell sharply, pushing up yields as investors anticipated increased availability of Treasury securities and the prospect of the Fed putting more weight on liquidity tools to manage the credit crisis rather than interest rate cuts. At the same time, the dollar rallied off a record low against the euro, while financial stocks rose. The cost of credit default swaps for investment-grade borrowers fell. Dan Alpert, chief executive of Westwood Capital, an investment bank, said that the positive response was misplaced, however: “The move by the Fed today treats the symptoms but not the infection.

“It does not treat the underlying cause of the symptoms – the unknown magnitude of residential mortgage loan losses.”

Lehman Brothers said the move was a “short-term positive for high-quality collateral” but added “this does not seem to be enough”.

Mohammed El Erian, co-chief executive of Pimco, the bond fund manager, said that by deploying its balance sheet more aggressively, the Fed was getting closer to a “regime shift” that could involve the central bank buying MBS directly, thereby substituting the unimpaired public sector balance sheet for a contracting private sector balance sheet.

The Fed has legal authority to buy agency-backed MBS, though not private label MBS.

The Fed is not there yet. Outright purchases of mortgage securities would expose the Fed to much greater credit risk. The staffers emphasise that it wants to help the market; it does not want to become the market for allocating credit.

Before it took such an extreme step, the US central bank would likely expand the size and term of its new lending operations further.

But with policymakers appearing increasingly willing to consider all options to try to stop the US falling into a 1990s Japan-style recession – and painfully aware of the limits on the effectiveness of interest rate cuts in an environment of higher inflation and expanded risk spreads – direct purchases no longer look unthinkable.