Chapter 16 - Tools of Monetary Policy

From Chapter 15 : The Fed can control the MB but cannot precisely control the Money Supply

The Fed's "Old/Traditional" Monetary Policy Toolbox

- **Open Market Operations**
- **Discount Rate** - the interest rate the Fed charges on the loans it makes to banks
- **Reserve Requirement -** the level of balances a bank is required to hold either as vault cash on deposit or at a Federal Reserve Bank
  NOTE: The primary instrument of monetary policy is the Federal funds rate: the interest rate on overnight loans of reserves from one bank to another
- **A New Fourth tool: Interest on reserves** - required and excess
  - Currently set at 0.25%
- The Financial Services Regulatory Relief Act of 2006 authorized the Federal Reserve to begin paying interest on reserve balances of depository institutions beginning October 1, 2011.

Federal Funds Market

- Federal funds are reserve balances that depository institutions lend to one another.
- The most common federal funds transaction is an overnight, unsecured loan between two banks. (bilateral agreements)
- Note that without the FF market, banks would need to hold a substantial amount of excess reserves.

Open Market Operations

- The Fed buys and sells U.S. Gov't securities in the secondary market in order to adjust the supply of reserves in the banking system.
- The Federal Reserve's most flexible means of carrying out monetary policy.
- The Fed does not participate directly in the Federal Funds market.
  - The Fed participates indirectly through open market operations. The Fed adjust the level of reserves in the banking system to target the FF rate, influence short-term interest rates and reach monetary policy goals.

Two Types

1. Dynamic/Permanent:
   Meant to change MB

2. Defensive/Temporary:
   - Meant to offset other factors affecting MB.
   - Typically use Repurchase Agreements (repos) and Reverse Repurchase Agreements (reverse repos)
   - With a repurchase agreement ("repo"), the Fed buys government securities from a dealer who agrees to buy them back, typically within one to seven days.
   - With a reverse repo, the Fed sells gov't securities to a dealer and agrees to buy back.
   - Repos add reserves to the banking system and then withdraw them;
   - Reverse repo initially drain reserves and later add them back.

Supply and Demand for Reserves

Demand for reserves:

- Excess reserves are insurance against deposit outflows
- The cost of holding this insurance is the interest rate that could have been earned minus the interest rate that is paid on these reserves, i_{er}
- As the federal funds rises above the rate paid on excess reserves, i_{er}, the opportunity cost of holding excess reserves increases and the quantity of reserves demanded decreases
- Downward sloping demand curve for reserves. The demand curve becomes flat (infinitely elastic) at *IOER*
- IOER acts as a floor on the federal funds rate.

Supply for reserves:

- Two components: non-borrowed and borrowed reserves
- The discount rate (i_d) is the cost of borrowing from the Fed
- Borrowing from the Fed is a substitute for borrowing from other banks in the Federal Funds market.
- If the Federal Funds rate (i_{ff} *)< Discount rate (*i_d*),* banks will not borrow from the Fed and borrowed reserves are zero
    - The supply curve will be vertical at the level of non-borrowed reserves (NBR).
- As i_{ff} rises above i_d, banks will borrow more and more at i_d, (NOTE*:* they can lend at i_{ff})
- The supply curve is horizontal (perfectly elastic) at i_d

How OMO affects the federal funds rate

- Open market operations shift the supply curve of reserves.
- Effect of open an market operation on the federal funds rate depends on whether the supply curve initially intersects the demand curve in its downward sloped section versus its flat section.
- An open market purchase causes the federal funds rate to fall whereas an open market sale causes the federal funds rate to rise when intersection occurs at the downward sloped section.
- Open market operations have no effect on the federal funds rate when intersection occurs at the flat section of the demand curve.

Affecting the Federal Funds Rate: Discount Rate

- If the intersection of supply and demand occurs on the vertical section of the supply curve, a change in the discount rate will have no effect on the federal funds rate.
- If the intersection of supply and demand occurs on the horizontal section of the supply curve, a change in the discount rate shifts that portion of the supply curve and the federal funds rate may either rise or fall depending on the change in the discount rate

Affecting the federal funds rate: reserve requirement

- When the Fed raises reserve requirement, the demand for reserves shifts to the right (increases) and federal funds rate rises.
- When the Fed decreases reserve requirement, the demand for reserves decreases and the federal funds rate falls.

Response to a change in the interest rate on reserves

How the Fed's operating procedures limit fluctuations in the federal funds rate