Econ 330: Money and Banking

Spring 2015, Handout 7

Chapter 15 : Markets for reserve and Tools of monetary policy

1. **Monetary Policy**: In this chapter, we examine the tools of monetary policy that the fed uses to control the money supply and interest rate.

   In recent years, the Fed has increasingly focused on the **federal funds rate** (the interest rate on overnight loans of reserves from one bank to another) as the primary instrument of monetary policy.

2. How can central bank control Fed fund rate?

   - Demand for reserve is **downward sloping** when the fed funds rate i_{ff} is above the interest rate earned on reserves i_{or}.
     - The amount of reserves can be split to two components: required reserves and excess reserves.
     - The Fed Funds Rate (i_{ff})—the interest rate on overnight loans of reserves from one bank to another.
     - $i_{ff} - i_{or}$ is the opportunity cost of holding excess reserves, where i_{or} is the interest rate earned on reserves.[1]
   - Supply for reserve is **vertical line** when the fed funds rate i_{ff} is below the discount rate i_d; representing the fact that central bank is the sole supplier of reserve in the system.
     - The supply of reserves can be split into two components—the non-borrowed reserves (NBR) and borrowed reserves (BR).
     - The discount rate (i_d)—the interest rate that the Fed charges on discount loans. Borrowings from the Federal Reserves and from other banks are substitutes.
   - Market Equilibrium: occurs where the quantity of reserves demanded equals the quantity supplied—where the supply curves intersects the demand curve.

3. Tools of monetary policy:

   (a) **Open market operations** are the most important monetary policy tool.

      i. **Advantages**: the Fed has a complete control over the volume; flexible and precise; can be easily reserved; can be implemented quickly.

      ii. Purchases vs Sales

[1] Before 2008, the Federal Reserve did not pay interest on reserves.

- Purchases: expand reserves and the monetary base, increasing the money supply.
- Sales: shrink reserves and the monetary base, decreasing the money supply.

iii. Dynamic vs Defensive

- Dynamic open market operations: are intended to change the level of reserves and the monetary base.
- Defensive open market operations: are intended to offset movements in other factors that affect reserves and the monetary base.

(b) Discount policy affects reserves and the monetary base through discount loans.

- **Advantage**: lender of last resort

(c) Reserve requirements affects reserves and the monetary base through required reserve ratio.

- **Disadvantage**: much less effective now; liquidity problem.

Practice questions:

Chapter 15

[Q1] (Spring 2009) An assumption in the model of the money supply process is that the desired levels of currency and excess reserves

A) are given as constants.
B) grow proportionally with checkable deposits.
C) grow proportionally with high-powered money.
D) grow proportionally over time.

[Q2] (Spring 2009) Suppose, at a given federal funds rate, there is an excess demand for reserves in the federal funds market. If the Fed wants the federal funds rate to stay at that level, then it should undertake an open market _____ of bonds, everything else held constant. If the Fed does nothing, however, the federal funds rate will _____.

A) sale; increase
B) purchase; increase
C) sale; decrease
D) purchase; decrease

[Q3] The money supply is _____ related to expected deposit outflows, and is _____ related to the market interest rate.

A) negatively; negatively
B) negatively; positively
C) positively; negatively
D) positively; positively

[Q4] The primary indicator of the Fed´s stance on monetary policy is

A) the discount rate.
B) the federal funds rate.
C) the growth rate of the monetary base.
D) the growth rate of M2.

[Q5] In the market for reserves, an open market sale _____ the _____ of reserves, causing the federal funds rate to increase, everything else held constant.

A) increases; supply
B) increases; demand
C) decreases; supply
D) decreases; demand

[Q6] Everything else held constant, in the market for reserves, when the federal funds rate is 3%, raising the discount rate from 5% to 6%

A) lowers the federal funds rate.
B) raises the federal funds rate.
C) has no effect on the federal funds rate.
D) has an indeterminate effect on the federal funds rate.

[Q7] In the market for reserves, a _____ in the reserve requirement _____ the demand for reserves, raising the federal funds interest rate, everything else held constant.

A) rise; decreases
B) rise; increases
C) decline; increases
D) decline; decreases

[Q8] (Fall 2010) In the market for reserves, a decline in the reserve requirement_____the_____ curve of reserves and causes the federal funds interest rate to fall, everything else held constant.

A) increases; demand
B) increases; supply
C) decreases; supply
D) decreases; demand

[Q9] (Fall 2010) Suppose on any given day the prevailing equilibrium federal funds rate is below the Federal Reserve's federal funds target rate. If the Federal Reserve wishes for the federal funds rate to be at their target level, then the appropriate action for the Federal Reserve to take is a _____open market _____, everything else held constant.

A) defensive; sale
B) dynamic; purchase
C) dynamic; sale
D) defensive; purchase

[Q10] (Fall 2010) The Federal Reserve will engage in a repurchase agreement when it wants to_____ reserves_____ in the banking system.

A) decrease; temporarily
B) decrease; permanently
C) increase; permanently
D) increase; temporarily