Chapter 14

The three players in the money supply process included, the central bank, banks, and Depositors

The two liability on the balance sheet, currency in circulation and reserves, are often referred to as the monetary liabilities of the Fed.

The sum of the Fed’s monetary liabilities (currency in circulation and reserves) and the U.S. Treasury’s monetary liabilities (Treasury currency in circulation, primarily coins) is called the monetary base (also called high-powered money).

Currency in circulation, the Fed issues currency, in circulation is the amount of currency in the hands of the public. Currency help by depositor institutions is also liability of the Fed, but is counted as part of the reserves.

Reserves, consists of deposits at the Fed plus currency that is physically help by bank(called vault cash b/c it is stored in bank vaults). Reserves are assets for the banks but liabilities for the Fed, b/c the banks can demand payment on them at any time and the Fed is require to satisfy its obligation by paying Federal Reserve notes.

An increase in reserves leads to an increase in the level of deposits and hence in the monetary supply.

Total reserves can be divided into two categories: reserves that the Fed requires banks to hold (required reserves) and into any additional reserves the banks choose to hold (excess reserves)

Fed might require that for every dollar of deposits at a depository institution, a certain fraction must be held as reserve. This fraction is called the required reserve ratio.

The two assets on the Fed’s balance sheet are important for two reasons, First, changes in the asset items lead to change in reserves and the monetary base, and consequently to changes in the money supply. Second, b/c these assets (government securities and Fed loans) earn higher interest rates than the liabilities (currency in circulation, which pays no interest, and reserves); its asset earn income, and its liabilities cost practically nothing.

Securities, assets covers the Fed’s holding of securities issued by the U.S. Treasury and, circumstance other securities.

Loans of financial institutions, referred to as discount loans, as borrowing from the Fed or as borrowed reserves.

An increase in loans to financial institutions can also be the source of an increase in the money supply. The interest rate charged to banks for these loans is called the discount rate.

The monetary base equals currency in circulation C plus the total reserves in banking system R. The monetary base MB can be expressed as .

The Federal Reserve exercises control over the monetary base through its purchases or sales of securities in the open market, called open market operations, and through its extension of discount loans to banks.

A purchases of bonds by the Fed is called an open market purchases, and a sale of bonds by the Fed is called an open market sale. Federal Reserve purchases and sales of bonds are always done through primary dealers, government securities dealers who operate out of private banking institutions.

The net effect on the monetary liabilities of the Fed is a wash; the monetary base in unaffected by the public’s increased desire for cash. But reserves are affected. Random fluctuations of reserves can occur as a result of random shifts into currency and out of deposits, and vice versa.

Two important items that affect the monetary base, but are not controlled by the Fed, are float and Treasury deposit at the Fed.

When the Fed clears checks for banks, it often credits the amount of the check to a bank that has deposited it (increases the bank’s reserves) before it debits (decrease the reserves of) the bank on which the check is drawn.

The resulting temporary net increase in the total amount of reserves in the banking system (and hence in the monetary base) caused by the Fed’s check-clearing process is called float.

When the U.S. Treasury moves deposits from commercial banks to its account at the Fed, leading to an increase in Treasury deposits at the Fed, it cause reserves in the banking system and the monetary base to decrease. Thus float (affected by random events such as the weather, which influences how quickly checks are presented for payment) and Treasury deposits at the Fed (determined by the U.S. Treasury’s actions) both affect the monetary base but are not controlled by the Fed at all

Two primary features determine the monetary base: open market operation and lending to financial institutions.

The Federal Reserves sets the discount rate (interest rate on loans to banks), and then banks make decisions about whether to borrow. The amount of lending, though influenced by the Fed’s setting of the discount rate, is not completely controlled by the Fed; banks’ decision play a role, too.

Split the monetary base into two components: one that the Fed can control completely, and another that is less tightly controlled. The less tightly controlled component is the amount of the base that is created by loan from the Fed. The remainder of the base (called the nonborrowed monetary base) is under the Fed’s control b/c it result primarily from open market operations. The nonborrowed monetary base is formally defined as the monetary base minus borrowings from the Fed, which are referred to as borrowed reserves: , —nonborrowed monetary base, —monetary base, BR – borrowed reserves from the Fed.

Factors not controlled at all by the Fed (for example, float and treasure deposites with the Fed) undergo substantial short-run variations and can be important sources of fluctuations in the monetary base over time periods as short as a week. Float and treasury deposits with the Fed undergo substantial short-run fluctuations, which complicate control of the monetary base, they do not prevent the Fed from accurately controlling it.

When the Fed supplies the banking system with $1 of additional reserves, deposits increase by a multiple of this amount – a process called multiple despite creation.

As a result, a bank cannot safely make a loan for an amount greater than the excess reserves that it has before it makes the loan.

Whether a bank choose to use its excess reserves to make loans or to purchase securities, the effect on deposit expansion is the same.

The multiple increase in deposits generated from an increase in the banking system’s reserves is called the simple deposit multiplier. More generally, the simple deposit multiplier equals the reciprocal of the required reserve ratio, express as a fraction, . change in total checkable deposits in the banking system, rr = required reserve ratio (0.10 in the example), change in reserves for the banking

Holding all other variables constants, an increase in arising from an open market purchases raises the amount of the monetary base and reserves so that multiple deposit creation occurs and monetary supply increases.

The money supply is positively related to the nonborrowed monetary base MB\_n.

The monetary supply is positively relative to the level of borrowed reserves, BR, from the Fed.

The monetary supply is negative relative to the required reserve ratio rr.

The monetary supply is negative relative to the amount of excess reserves.

Holding excess reserve constant, the money supply is negatively related to currency holdings.

Money multiplier, denoted by m, which tells us how much the money supply changes for a given change in the monetary base.

The money multiplier m tells us what multiple of the monetary base is transformed into the money supply.

MR = R + C, M = D + (c \times D) = (1 + c) \time D

D = \frac{1}{rr+e+c} \times MB

M = \frac{1+c}{rr + e + c} \times MB

m = \frac{1+c}{rr+e+c}

deposits undergo multiple expansion, currency does not.

Any increase in the monetary base and deposits leads to higher excess reserves.

M = m \times (MB\_n + BR)