CH.13 FAQ’s

12) The most frequently used tool of the Fed’s monetary policy is
   A) controlling bank loans through moral suasion. B) buying and selling government securities.
   C) controlling the discount rate. D) controlling the reserve requirements.

Answer: according to the book, the required reserve ratios are changed infrequently. *The open market operations are used more frequently than the discount rate and the required reserve ratios* (p. 311 6th edition).

13) Open market purchases by the Federal Reserve System (the Fed)
   A) increase bank reserves. B) do not change the required reserve ratio.
   C) increase the monetary base. D) All of the above answers are correct.

Answer: to change the nation’s quantity of money, the Fed has 3 tools: required reserve ratios, discount rate, and open market operations. This question only focuses on the use of open market operations (OMOs). Discount rate and required reserve ratios do not change as by product of OMOs. When the Fed does open market purchases, it can buy the U.S. government securities from commercial banks or from the public. When it buys from the banks, the Fed gets the securities from the banks and pays for the securities by crediting the banks’ deposit accounts at the Fed. Because of this increase in the banks’ accounts at the Fed, the banks have additional reserves to loan out and the quantity of money would eventually increase. On the other hand, if the Fed buys from the public, it gets securities from the public and pays for securities with the checks drawn on itself, which to be deposited in the public’s accounts at the commercial banks. The commercial banks with the deposited checks from the public go the Fed to cash the checks. The Fed then credits the banks’ accounts at the Fed. Again, the banks have additional excess reserves to loan out and the quantity of money increases. Therefore, *open market purchases by the Fed increase banks’ reserves and monetary base*. Note that monetary base is the sum of the Federal Reserve notes, coins, and banks’ deposits at the Fed (p.312 6th edition).

14) The Fed buys $1 million in U.S. government securities. A bond dealer sells the securities and deposits its check into Bank ABC. Prior to the transaction, Bank ABC had zero excess reserves. If the required reserve ratio is 20 percent, the bank now has
   A) $1 million more in total reserves and $800,000 more in excess reserves.
   B) $800,000 more in total reserves with excess reserves unchanged.
   C) $1 million more in both total and excess reserves.
   D) $800,000 more in both total and excess reserves.

Answer: here, the Fed buys $1 million in U.S. government securities from a bond dealer who then deposits the check from the Fed at Bank ABC. So deposits at Bank ABC go up by $1 million (this is on the liabilities side of Bank ABC’s balance sheet). With $1 million more, the total reserves at Bank ABC increases by the same amount (this is on the assets side of Bank ABC’s balance sheet). Of that $1 million more in total reserves, 20%
is kept as required reserves and 80% is left as excess reserves. And because Bank ABC had zero excess reserves prior to this transaction, the excess reserves are now $800,000.

15) If the Federal Reserve increases the monetary base by $10 million, eventually the quantity of money will
   A) decrease by more than $10 million.                                   B) increase by $10 million.
   C) decrease by $10 million.                                             D) increase by more than $10 million.

Answer: again, the Fed can increase the monetary base using the 3 tools: required reserves, discount ratio, and open market operations. Let’s say the Fed uses open market purchases as in question 13) and 14). Then the banks’ reserves increase. These new reserves can be used to make loans, bank deposits and currency held outside the banks increase and the money creation process unfolds. The amount of money that banks can create from a given increase in the monetary base is determined by the money multiplier, which is the amount by which a change in the monetary base is multiplied to determine the resulting change in the quantity of money (p. 313 6th edition).

22) Bond prices
   A) vary inversely with interest rates.                                   B) vary directly with interest rates.
   C) are unaffected by the Fed’s actions.                                 D) are unaffected by interest rate changes.

23) When the interest rate increases,
   A) real national income will increase.                                  B) the market price of bonds will fall.
   C) investment in money increases.                                       D) the demand for money will increase.

24) Suppose that the price of a bond last week was $750 but this week its price is $700. Between last week and this week interest rates
   A) have stayed the same if inflation is roughly the same.              B) have risen.
   C) have fallen.                                                        D) are unaffected by bond prices.

Answer: from the book, the higher the price of a financial security, other things remaining the same, the lower is the interest rate. For instance, if one has a bond with the face value of $100 that would mature in a year and promises to pay also $10 a year from now, the price of the bond can be computed as follows: a year from now, person holding that bond would get $100 (face value) + $10 (that the bond promises to pay). The present value of that whole thing would be \((100 + 10)/(1 + i)\), where \(i\) is the prevailing interest rate. This present value is the price of that bond. Therefore, if \(i\) goes up, \((1 + i) \uparrow\) while \((100 + 10)\) stays put. The price of the bond \({(100 + 10)/(1 + i)}\) \downarrow. The intuition is as follows: the bond in this case only pays 10% of its face value, i.e. $10 of $100. If the prevailing interest rate is also 10%, then the price of bond is \((100 + 10)/(1 + 0.1) = $100\). However, if the prevailing interest rate goes up to 20%, people with these bonds (paying 10% of face value) would want to sell the bonds and deposit the obtained money into the bank to get 20% interest rate instead of 10% from the bond, making the price of the bond go down. With this 20% prevailing interest rate, the price of the bond \((100 + 10)/(1 + 0.2) = $91.67\).
28) The Fed engages in open market operations and sells government securities. The result is
A) interest rates remain unchanged because bond prices did not change.
B) higher interest rates.
C) uncertain as far as what happens to the interest rate because more information is needed.
D) lower interest rates.

**Answer:** here, the Fed engages in open market sales. The commercial banks and/or the public buy U.S. government securities from the Fed. For the commercial banks, their accounts at the Fed are debited. With that, the banks have less reserves, can lend less money, the monetary base goes down, the money supply goes down. For the public, the public pays for securities by the checks drawn on their accounts at the commercial banks. The Fed gets the checks and goes debit those banks' accounts at the Fed. Again, monetary base goes down, money supply goes down. *Therefore, with open market sales, the money supply goes down. With less supply of money, the interest rate goes up.*

29) Bond prices decrease. A possible cause is the Fed
A) selling bonds in the open market.
B) decreasing the discount rate, resulting in other interest rates decreasing and bond prices falling.
C) decreasing the reserve requirement ratio.
D) buying bonds in the open market.

**Answer:** because of the inverse relationship between bond prices and interest rate, when the bond prices decrease, it must be that the interest rate increases. So one needs actions by the Fed that would lead to higher interest rate. *Those actions could be open market sales, increasing the discount rate, increasing required reserve ratios. All of which would lead to decrease in money supply. And with decrease in money supply, interest rate goes up and bond prices go down.*

30) The Fed increases the quantity of money. A mechanism through which aggregate demand increases is that an increase in the quantity of money
A) decreases the interest rate, which increases investment demand, thereby increasing aggregate demand.
B) increases the interest rate, which decreases investment demand, thereby increasing aggregate demand.
C) raises the value of the dollar on foreign exchange markets so that net exports decrease, which increases investment demand, thereby increasing aggregate demand.
D) decreases the interest rate, which decreases investment demand, thereby increasing aggregate demand.

31) An increase in the quantity of money will lead to
A) an increase in exports.
B) a decrease in the value of the dollar.
C) a decrease in interest rates.
D) All of the above answers are correct.

**Answer:** the Fed increases money supply. With more money supply, interest rate goes down, investment and consumption go up. Aggregate demand goes up. Also when interest rate goes down in relative to interest rates in other countries, the investors move their funds abroad. However, before being able to invest their funds abroad, they need to exchange their dollars into some other currencies. Demand for dollars goes down. The value of dollars goes down. Export goes up and import goes down.
32) In the above figure, suppose the economy was initially in an equilibrium at point A. In the short run, where would the economy move if the Fed makes an open market purchase of bonds?

A) A, that is, the economy would not change its equilibrium.
B) B
C) C
D) D

33) In the above figure, suppose the economy is at a short run equilibrium at point B. Which of the following policy options for the Fed will move the economy toward its LAS?

A) open market sale of bonds
B) lowering the discount rate
C) lowering the required reserve ratio
D) None of the above policy options will move the economy toward its LAS.

**Answer:** open market purchases by the Fed increase the money supply. With more money supply, interest rate goes down. With lower interest rate, investment and consumption go up. Aggregate demand goes up from $AD_0$ to $AD_1$. So in the short run, the economy ends up at B (note that there is no change in short run aggregate supply from open market purchases by the Fed). The policy by the Fed only affects aggregate demand. So if one is now at point B, to get back to LAS, it must be the case that the Fed has to take some actions so that $AD_1$ shifts back to $AD_0$. To decrease aggregate demand, the Fed needs to decrease investment and consumption. The Fed could do so by decreasing the quantity of money so that the interest rate goes up. The actions by the Fed could be open market sales, increasing discount rate, or increasing required reserve ratios.