Boğaziçi University  
Department of Economics  
Spring 2016  
EC 102 PRINCIPLES of MACROECONOMICS  
Problem Set 6 – Answer Key

1. Any item that people can use to transfer purchasing power from the present to the future is called  
a. a medium of exchange.  
b. a unit of account.  
c. a store of value.  
d. None of the above is correct.  

ANSWER: c

2. Which of the following best illustrates the concept of a store of value?  
a. You are a precious-metals dealer, and you are always aware of how many ounces of platinum trade for  
an ounce of gold.  
b. You sell items on eBay, and your prices are stated in terms of dollars.  
c. You keep 6 ounces of gold in your safe-deposit box at the bank for emergencies.  
d. None of the above is correct.  

ANSWER: c

3. When we measure and record economic value, we use money as the  
a. liquid asset.  
b. medium of exchange.  
c. unit of account.  
d. store of value.  

ANSWER: c

4. Imagine an economy in which: (1) pieces of paper called dollars are the only thing that buyers give to sellers  
when they buy goods and services, so it would be common to use, say, 50 dollars to buy a pair of shoes; (2)  
prices are posted in terms of yardsticks, so you might walk into a grocery store and see that, today, an apple  
is worth 2 yardsticks; and (3) yardsticks disintegrate overnight, so no yardstick has any value for more than  
24 hours. In this economy,  
a. the yardstick is a medium of exchange but it cannot serve as a unit of account.  
b. the yardstick is a unit of account but it cannot serve as a store of value.  
c. the yardstick is a medium of exchange but it cannot serve as a store of value, and the yollar is a unit of  
account.  
d. the yollar is a unit of account, but it is not a medium of exchange and it is not a liquid asset.  

ANSWER: b

5. If an economy uses silver as money, then that economy’s money  
a. serves as a store of value but not as a medium of exchange.  
b. serves as a medium of exchange but not as a unit of account.  
c. is commodity money.  
d. has no intrinsic value.  

ANSWER: c
6. The primary difference between commodity money and fiat money is that
   a. commodity money is a medium of exchange but fiat money is not.
   b. fiat money is a medium of exchange but commodity money is not.
   c. commodity money has intrinsic value but fiat money does not.
   d. fiat money has intrinsic value but commodity money does not.

   ANSWER: c

7. Which of the following is not included in M1?
   a. currency
   b. demand deposits
   c. savings deposits
   d. traveler's checks

   ANSWER: c

8. Which of the following statements is correct?
   a. All items that are included in M1 are included also in M2.
   b. All items that are included in M2 are included also in M1.
   c. Credit cards are included in both M1 and M2.
   d. Savings deposits are included in both M1 and M2.

   ANSWER: a

9. Money market mutual funds are included in
   a. M1 but not M2.
   b. M1 and M2.
   c. M2 but not M1.
   d. neither M1 nor M2.

   ANSWER: c

10. An open-market purchase
    a. increases the number of dollars and the number of bonds in the hands of the public.
    b. increases the number of dollars in the hands of the public and decreases the number of bonds in the hands of the public.
    c. decreases the number of dollars and the number of bonds in the hands of the public.
    d. decreases the number of dollars in the hands of the public and increases the number of bonds in the hands of the public.

   ANSWER: b

11. In a system of 100-percent-reserve banking,
    a. banks do not accept deposits.
    b. banks do not influence the supply of money.
    c. loans are the only asset item for banks.
    d. All of the above are correct.

   ANSWER: b
12. Banks are able to create money only when
   a. interest rates are above 2%.
   b. the Fed sells U.S. government bonds.
   c. the reserve ratio is 100%.
   d. only a fraction of deposits are held in reserve.

   ANSWER: d

13. Suppose the banking system currently has $400 billion in reserves, the reserve requirement is 8 percent, and excess reserves amount to $5 billion. What is the level of deposits?
   a. $5,000 billion
   b. $4,937.5 billion
   c. $5,062.5 billion
   d. $4,995 billion

   ANSWER: b

14. If a bank that desires to hold no excess reserves and has just enough reserves to meet the required reserve ratio of 15 percent receives a deposit of $600, it has a
   a. $600 increase in excess reserves and no increase in required reserves.
   b. $600 increase in required reserves and no increase in excess reserves.
   c. $510 increase in excess reserves and a $90 increase in required reserves.
   d. $90 increase in excess reserves and a $510 increase in required reserves.

   ANSWER: c

15. A bank has an 8 percent reserve requirement, $10,000 in deposits, and has loaned out all it can given the reserve requirement.
   a. It has $80 in reserves and $9,920 in loans.
   b. It has $800 in reserves and $9,200 in loans.
   c. It has $1,250 in reserves and $8,750 in loans.
   d. None of the above is correct.

   ANSWER: b

16. The manager of the bank where you work tells you that your bank has $6 million in excess reserves. She also tells you that the bank has $400 million in deposits and $362 million dollars in loans. Given this information you find that the reserve requirement must be
   a. 44/400.
   b. 6/362.
   c. 38/400.
   d. 32/400.

   ANSWER: d

17. Suppose the banking system currently has $300 billion in reserves, the reserve requirement is 5 percent, and excess reserves are $30 billion. What is the level of loans?
   a. $270 billion
   b. $5,400 billion
   c. $6,000 billion
   d. $5,100 billion

   ANSWER: b
18. If the reserve requirement is 12 percent and banks desire to hold no excess reserves, when a bank receives a new deposit of $1,000,
   a. it must increase its required reserves by more than $150.
   b. its total reserves initially increase by $120.
   c. it will be able to make new loans up to a maximum of $880.
   d. None of the above is correct.

   **ANSWER:** c

19. Suppose the Fed requires banks to hold 9 percent of their deposits as reserves. A bank has $18,000 of excess reserves and then sells the Fed a Treasury bill for $9,000. How much does this bank now have to lend out if it decides to hold only required reserves?
   a. $27,000
   b. $27,190
   c. $26,190
   d. $9,000

   **ANSWER:** a

20. The money multiplier equals
   a. 1/R, where R represents the quantity of reserves in the economy.
   b. 1/R, where R represents the reserve ratio for all banks in the economy.
   c. 1/(1+R), where R represents the quantity of reserves in the economy.
   d. 1/(1+R), where R represents the reserve ratio for all banks in the economy.

   **ANSWER:** b

21. Which of the following statements is correct? In the special case of the 100-percent reserve banking the money multiplier is
   a. 0 and banks create money.
   b. 0 and banks do not create money.
   c. 1 and banks create money
   d. 1 and banks do not create money.

   **ANSWER:** d

22. If the reserve ratio is 5 percent, then $500 of additional reserves can create up to
   a. $10,500 of new money.
   b. $10,000 of new money.
   c. $9,500 of new money.
   d. $2,500 of new money.

   **ANSWER:** b

23. If the reserve ratio is 20 percent, then $100 of new reserves can generate
   a. $60 of new money in the economy.
   b. $250 of new money in the economy.
   c. $500 of new money in the economy.
   d. $2,000 of new money in the economy.

   **ANSWER:** c
24. If the reserve ratio is 4 percent, then $81,250 of new money can be generated by
   a. $325 of new reserves.
   b. $3,250 of new reserves.
   c. $20,312.50 of new reserves.
   d. $2,031,250 of new reserves.
   
   \textit{ANSWER:} \quad b

25. In the nation of Wiknam, the money supply is $80,000 and reserves are $18,000. Assuming that people hold
   only deposits and no currency, and that banks hold no excess reserves, then the reserve requirement is
   a. 29 percent.
   b. 22.5 percent.
   c. 16 percent.
   d. None of the above is correct.
   
   \textit{ANSWER:} \quad b

\textbf{Table 1.}

<table>
<thead>
<tr>
<th>Bank of Pleasantville</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td>\textbf{Assets}</td>
</tr>
<tr>
<td>Reserves $3,000</td>
</tr>
<tr>
<td>Loans 47,000</td>
</tr>
</tbody>
</table>

26. \textbf{Refer to Table 1.} From the table it follows that the Bank of Pleasantville operates in a
   a. fractional-reserve banking system, since its reserves are less than its deposits.
   b. fractional-reserve banking system, since its reserves are less than its loans.
   c. 100-percent-reserve banking system, since its assets are equal to its liabilities.
   d. 100-percent-reserve banking system if the Fed’s reserve requirement is 10 percent; otherwise, it
      operates in a fractional-reserve banking system.
   
   \textit{ANSWER:} \quad a

27. \textbf{Refer to Table 1.} The Bank of Pleasantville’s reserve ratio is
   a. 6.4 percent.
   b. 16.7 percent.
   c. 6.0 percent.
   d. 15.7 percent.
   
   \textit{ANSWER:} \quad c

28. \textbf{Refer to Table 1.} Assume there is a reserve requirement and the Bank of Pleasantville is exactly in
    compliance with that requirement. Assume the same is true for all other banks. Lastly, assume people hold only
    deposits and no currency. What is the money multiplier?
   a. 6
   b. 16.7
   c. 15.6
   d. 6.4
ANSWER: b

29. Refer to Table 1. If the Fed’s reserve requirement is 5 percent, then what quantity of excess reserves does the Bank of Pleasantville now hold?
   a. $500
   b. $250
   c. $2,000
   d. $3,600

   ANSWER: a

30. Refer to Table 1. Assume the Fed’s reserve requirement is 5 percent and all banks besides the Bank of Pleasantville are exactly in compliance with the 5 percent requirement. Further assume that people hold only deposits and no currency. Starting from the situation as depicted by the T-account, if the Bank of Pleasantville decides to make new loans so as to end up with no excess reserves, then by how much does the money supply eventually increase?
   a. $10,833.33.
   b. $13,000.
   c. $8,333.33.
   d. $10,000.

   ANSWER: d

31. If the CB sells government bonds to the public, then reserves
   a. increase and the money supply increases.
   b. increase and the money supply decreases.
   c. decrease and the money supply increases.
   d. decrease and the money supply decreases.

   ANSWER: d

32. When the Fed purchases $1000 worth of government bonds from the public, the U.S. money supply eventually increases by
   a. more than $1000.
   b. exactly $1000.
   c. less than $1000.
   d. None of the above are correct.

   ANSWER: a

33. If the money multiplier is 3 and the Fed buys $50,000 worth of bonds, what happens to the money supply?
   a. it increases by $100,000
   b. it increases by $150,000
   c. it decreases by $100,000
   d. it decreases by $200,000

   ANSWER: b

34. When the Fed decreases the discount rate, banks will
   a. borrow more from the Fed and lend more to the public. The money supply increases.
   b. borrow more from the Fed and lend less to the public. The money supply decreases.
   c. borrow less from the Fed and lend more to the public. The money supply increases.
   d. borrow less from the Fed and lend less to the public. The money supply decreases.
35. Reserves increase if the Federal Reserve
   a. raises the discount rate or auctions more credit.
   b. raises the discount rate but not if it auctions more credit.
   c. lowers the discount rate or auctions more credit.
   d. lowers the discount rate but not if it auctions more credit.

   ANSWER: c

36. Which of the following both increase the money supply?
   a. an increase in the discount rate and an increase in the interest rate on reserves
   b. an increase in the discount rate and a decrease in the interest rate on reserves
   c. a decrease in the discount rate and an increase in the interest rate on reserves
   d. a decrease in the discount rate and a decrease in the interest rate on reserves

   ANSWER: d

37. In a fractional-reserve banking system, an increase in reserve requirements
   a. increases both the money multiplier and the money supply.
   b. decreases both the money multiplier and the money supply.
   c. increases the money multiplier, but decreases the money supply.
   d. decreases the money multiplier, but increases the money supply.

   ANSWER: b

38. Other things the same, if reserve requirements are increased, the reserve ratio
   a. increases, the money multiplier increases, and the money supply increases.
   b. increases, the money multiplier decreases, and the money supply decreases.
   c. decreases, the money multiplier increases, and the money supply increases.
   d. decreases, the money multiplier decreases, and the money supply increases.

   ANSWER: b

39. The manager of the bank where you work tells you that the bank has $300 million in deposits and $255 million dollars in loans. If the reserve requirement is 8.5 percent, how much is the bank holding in excess reserves?
   a. $15 million
   b. $19.5 million
   c. $25.5 million
   d. $0 million

   ANSWER: b

40. The money supply decreases if the Fed
   a. sells Treasury bonds. The larger the reserve requirement, the larger the decrease will be.
   b. sells Treasury bonds. The smaller the reserve requirement, the larger the decrease will be.
   c. buys Treasury bonds. The larger the reserve requirement, the larger the decrease will be.
   d. buys Treasury bonds. The smaller the reserve requirement, the larger the decrease will be.

   ANSWER: b

41. When the price level rises, the number of dollars needed to buy a representative basket of goods
a. increases, and so the value of money rises.
b. increases, and so the value of money falls.
c. decreases, and so the value of money rises.
d. decreases, and so the value of money falls

**ANSWER:** b

42. When inflation rises people will
   a. demand more money so the price level rises.
   b. demand more money so the price level falls.
   c. demand less money so the price level rises.
   d. demand less money so the price level falls.

**ANSWER:** c

43. If \( P \) denotes the price of goods and services measured in terms of money, then
   a. \( 1/P \) represents the value of money measured in terms of goods and services.
   b. \( P \) can be regarded as the “overall price level.”
   c. an increase in the value of money is associated with a decrease in \( P \).
   d. All of the above are correct.

**ANSWER:** d

44. The supply of money increases when
   a. the price level falls.
   b. the interest rate increases.
   c. the CB makes open-market purchases.
   d. money demand increases.

**ANSWER:** c

45. As the price level decreases, the value of money
   a. increases, so people must hold less money to purchase goods and services.
   b. increases, so people must hold more money to purchase goods and services.
   c. decreases, so people must hold more money to purchase goods and services.
   d. decreases, so people must hold less money to purchase goods and services.

**ANSWER:** a

46. When the money market is drawn with the value of money on the vertical axis, as the price level increases, the value of money
   a. increases, so the quantity of money demanded increases.
   b. increases, so the quantity of money demanded decreases.
   c. decreases, so the quantity of money demanded decreases.
   d. decreases, so the quantity of money demanded increases.

**ANSWER:** d

47. When the money market is drawn with the value of money on the vertical axis, if the price level is below the equilibrium level, there is an
   a. excess demand for money, so the price level will rise.
b. excess demand for money, so the price level will fall.
c. excess supply of money, so the price level will rise.
d. excess supply of money, so the price level will fall.

 ANSWER: c

48. A decrease in the money supply creates an excess
   a. supply of money that is eliminated by rising prices.
b. supply of money that is eliminated by falling prices.
c. demand for money that is eliminated by rising prices.
d. demand for money that is eliminated by falling prices.

 ANSWER: d

49. When the money market is drawn with the value of money on the vertical axis, if the Federal Reserve buys bonds, then the money supply curve
   a. shifts rightward, causing the value of money measured in terms of goods and services to rise.
b. shifts rightward, causing the value of money measured in terms of goods and services to fall.
c. shifts leftward, causing the value of money measured in terms of goods and services to rise.
d. shifts leftward, causing the value of money measured in terms of goods and services to fall.

 ANSWER: b

50. On a given morning, Franco sold 40 pairs of shoes for a total of $80 at his shoe store.
   a. The $80 is a real variable. The quantity of shoes is a nominal variable.
b. The $80 is a nominal variable. The quantity of shoes is a real variable.
c. Both the $80 and the quantity of shoes are nominal variables.
d. Both the $80 and the quantity of shoes are real variables.

 ANSWER: b

51. When shopping you notice that a pair of jeans costs $20 and that a tee-shirt costs $10. You compute the price of jeans relative to tee-shirts.
   a. The dollar price of jeans and the relative price of jeans are both nominal variables.
b. The dollar price of jeans and the relative price of jeans are both real variables.
c. The dollar price of jeans is a nominal variable; the relative price of jeans is a real variable.
d. The dollar price of jeans is a real variable; the relative price of jeans is a nominal variable.

 ANSWER: c

52. Your nominal wage increases from $12 per hour to $13 per hour. At the same time, the price level increases from 140 to 147. As a result,
   a. The number of dollars you receive increases and the purchasing power of the dollars you receive increases.
b. The number of dollars you receive increases and the purchasing power of the dollars you receive decreases.
c. The number of dollars you receive decreases and the purchasing power of the dollars you receive increases.
d. The number of dollars you receive decreases and the purchasing power of the dollars you receive decreases.
53. Changes in nominal variables are determined mostly by the quantity of money and the monetary system according to
   a. both the classical dichotomy and the quantity theory of money.
   b. the classical dichotomy, but not the quantity theory of money.
   c. the quantity theory of money, but not the classical dichotomy.
   d. neither the classical dichotomy nor the quantity theory of money.

   ANSWER: a

54. The velocity of money is
   a. the rate at which the Fed puts money into the economy.
   b. the same thing as the long-term growth rate of the money supply.
   c. the money supply divided by nominal GDP.
   d. the average number of times per year a dollar is spent.

   ANSWER: d

55. If \( M = 3,000 \), \( P = 2 \), and \( Y = 6,000 \), what is velocity?
   a. \( 1/4 \)
   b. 2
   c. 4
   d. 1

   ANSWER: c

56. If \( M = 12,000 \), \( P = 3 \), and \( Y = 32,000 \), then velocity =
   a. 1.125. Velocity will rise if money changes hands more frequently.
   b. 1.125. Velocity will rise if money changes hands less frequently.
   c. 8. Velocity will rise if money changes hands more frequently.
   d. 8. Velocity will rise if money changes hands less frequently.

   ANSWER: c

57. If velocity = 4, the quantity of money = 20,000, and the price level = 2.5, then the real value of output is
   a. 2,000.
   b. 200,000.
   c. 12,500.
   d. 32,000.

   ANSWER: d

58. According to the assumptions of the quantity theory of money, if the money supply increases by 5 percent, then
   a. nominal and real GDP would rise by 5 percent.
   b. nominal GDP would rise by 5 percent; real GDP would be unchanged.
   c. nominal GDP would be unchanged; real GDP would rise by 5 percent.
   d. neither nominal GDP nor real GDP would change.
59. The money supply in Muckland is $100 billion. Nominal GDP is $800 billion and real GDP is $200 billion. What are the price level and velocity in Muckland?
   a. The price level and velocity are both 8.
   b. The price level is 2 and velocity is 8.
   c. The price level and velocity are both 4.
   d. The price level is 4 and velocity is 8.

   ANSWER: d

60. Other things the same, a decrease in velocity means that
   a. the rate at which money changes hands falls, so the price level rises.
   b. the rate at which money changes hands falls, so the price level falls.
   c. the rate at which money changes hands rises, so the price level rises.
   d. the rate at which money changes hands rises, so the price level falls.

   ANSWER: b

61. Suppose the money supply tripled, but at the same time velocity doubled and real GDP was unchanged. According to the quantity equation the price level
   a. is 1.5 times its old value.
   b. is 3 times its old value.
   c. is 6 times its old value.
   d. is the same as its old value.

   ANSWER: c

62. Which of the following is not implied by the quantity equation?
   a. If velocity is stable and money is neutral, an increase in the money supply creates a proportional increase in nominal output.
   b. If velocity is stable and money is neutral, an increase in the money supply creates a proportional increase in the price level.
   c. With constant money supply and output, an increase in velocity creates an increase in the price level.
   d. With constant money supply and velocity, an increase in output creates a proportional increase in the price level.

   ANSWER: d

63. The claim that increases in the growth rate of the money supply increase nominal interest rates but not real interest rates is known as the
   a. Friedman Effect.
   b. Hume Effect.
   c. Fisher Effect.
   d. the inflation tax.

   ANSWER: c

64. The inflation tax
   a. is an alternative to income taxes and government borrowing.
   b. taxes most those who hold the most money.
   c. is the revenue created when the government prints money.
d. All of the above are correct.

ANSWER: d

65. Under the assumptions of the Fisher effect and monetary neutrality, if the money supply growth rate falls, then
   a. both the nominal and the real interest rate fall.
   b. neither the nominal nor the real interest rate fall.
   c. the nominal interest rate falls, but the real interest rate does not.
   d. the real interest rate falls, but the nominal interest rate does not.

ANSWER: c

66. Suppose that monetary neutrality and the Fisher effect both hold. An increase in the money supply growth rate increases
   a. the inflation rate and growth of real GDP.
   b. the inflation rate but not the growth rate of real GDP.
   c. the growth rate of real GDP, but not the inflation rate.
   d. neither the inflation rate nor the growth rate of real GDP.

ANSWER: b