

Name: \_\_\_\_\_

**Cosumnes River College**  
**Principles of Macroeconomics**  
**Problem Set 7**  
**Due May 1, 2017**

Spring 2017

Prof. Dowell

**Instructions: Write the answers clearly and concisely on these sheets in the spaces provided. Do not attach extra sheets.**

1. Answer briefly:
  - a. What three roles does money play in the economy?
  
  
  
  
  
  
  
  
  
  
  - b. What is the difference between commodity money and fiat money?
  
  
  
  
  
  
  
  
  
  
2. The first Tennessee Bank has \$1.5 million in total reserves and \$4 million in checking account balances. What is the bank's reserve position if the required reserve ratio ( $r_D$ ) is 20%? (*i.e.*, What is the level of required reserves and the level of excess reserves?)
  
  
  
  
  
  
  
  
  
  
3. Suppose the commercial banking system in the U.S currently has \$300 billion in checking deposits and the required reserve ratio is 10%. Assume that there are no excess reserves.
  - a. Calculate the required reserves held by the commercial banking system and the amount of funds loaned to the public. (Hint: Think about the banking system's balance sheet.)

- b. If an additional \$50 billion is deposited into the commercial banking system, what will be the final level of checking deposits, the final level of required reserves and the final level of loans within the system continuing to assume that banks hold no excess reserves?

4. Use t-accounts to illustrate what happens to commercial banks' balance sheets when each of the following transactions occurs. (Don't worry about the Fed's balance sheet for this question.)

- a. You withdraw \$500 from your checking account at the Sacramento Country bank to buy overpriced Sacramento Kings tickets.

<b>Sacramento Country Bank</b>	
Assets	Liabilities

- b. Sam finds a \$100 bill on the sidewalk and deposits it into his checking account at the Sacramento Country Bank.

<b>Sacramento Country Bank</b>	
Assets	Liabilities

- c. Mary Q. Contrary withdraws \$1,000 in cash from her checking account at the Sacramento Country Bank, carries it to San Francisco and deposits it into her account at the San Francisco City Bank.

<b>Sacramento Country Bank</b>	
Assets	Liabilities

<b>San Francisco City Bank</b>	
Assets	Liabilities

- d. Using the simplified money (or deposit) multiplier, what will be the effect of each of the above transactions on the money supply if the required reserve ratio is 12.5% and excess reserves are zero?

- e. Using the simplified money (or deposit) multiplier, what will be the effect of each of the above transactions on the money supply if the required reserve ratio is 15% and excess reserves are zero?
5. Suppose there is \$120 billion of cash, and that half of that is held in bank vaults as required reserves (that is, banks hold no excess reserves).
- How large will the money supply be if the required reserve ratio is 10 percent?
  - How large will the money supply be if the required reserve ratio is 12.5 percent?
  - How large will the money supply be if the required reserve ratio is 16.67 percent?
6. List and explain the tools the Federal Reserve has to control the money supply.



9. Suppose that you own a \$1000 bond which earns 5% interest. Furthermore, assume that interest rates on newly issued bonds rise to 10%. Explain why no one would be willing to buy your bond for a \$1000. In addition, calculate the price that you could reasonably expect to receive for your bond.
10. Suppose that you own a \$1000 bond which earns 20% interest. Now assume that interest rates on newly issued bonds fall to 10%. How much could you reasonably expect to receive for your bond if you were to sell it?
11. Explain the transaction and speculation motives for holding money.
12. Explain why both business investment and purchases of new homes decline when interest rates rise.
13. Explain what a \$50 billion increase in the money supply will do to real GDP given the following assumptions.
- Each \$10 billion increase in the money supply reduces the rate of interest by 0.5 percentage points.
  - Each one percentage point decline in the interest rate stimulates \$30 billion worth of new investment.
  - The expenditure multiplier (on investment) is 2.
  - The aggregate supply curve is so flat that prices do not rise noticeably when aggregate demand increases.