Chapter 10: Inflation

1. What caused the hyper-inflation in Germany during between 1922 and 1923?

2. What caused the hyper-inflations in several South American countries during the 1980s?

3. Use the equation of exchange to explain how changes in money supply growth, the velocity of money, or the growth rate in real GDP would affect the inflation rate.

4a. How would the introduction of electronic phone transfers likely affect the velocity of money? How would the increased acceptability of credit cards affect velocity? 

b. How will the above changes affect the level of inflation?

5. In what sense can a person have “too much money”?

6. What is the cost of holding money?

7. What is a currency reform? Why do countries sometimes implement such reforms?

8a. What is the difference between the real and nominal interest rate?

b. If expected inflation increases 10%, what is likely to happen to nominal interest rates? real interest rates?

9. If inflation over the next years turns out to be higher than expected, how are debtors (borrowers) and creditors (lenders) affected?

10. Explain how inflation could cause government tax revenues to increase by more than the inflation rate and thus increase in real terms.

b. How was the federal income tax system changed during the 1980s to reduce the effect of inflation on government tax revenues?

11. Government bonds indexed to inflation have recently been introduced. As discussed in class, this is how they would work:

An investor buys an inflation-indexed bond for $1,000, paying 4%. That would mean a first-year interest payment of $40. Suppose inflation during the year is 3%. At the end of the year, the value of the bond would be "marked up" to reflect inflation, so the face value of the bond would be raised by 3% to $1,030. From then to the bond's maturity, the 4% interest would be paid on the higher principal amount. The 4% interest rate would remain the same. But because the principal amount has risen from $1,000 to $1,030, the interest payment would rise from $40 to $41.20 (a 3 percent increase).

a. Based on the above description, what are the real and nominal rates of return (yields) on a one year indexed bond paying 4% if inflation is 0%? 10%? (Assume that $1000 is paid for the bond either way).

b. If the above bond were not indexed but had a 4% coupon rate, what would the real and nominal rates of return be if inflation over the next year turned out to be 0%? 10%? (Again, assume that $1000 is paid for the bond either way.)

c. If inflation expectations rise, what will happen to the price of non-indexed bonds? the nominal yield on those bonds? what will happen to the price people are willing to pay for indexed bonds?

d. Based on your answer to c, explain how indexed bonds can be used to derive an estimate of financial markets’ expectations regarding future inflation.

12. An adjustable rate mortgage (ARM) adjusts the interest rate that is charged on a home loan over time. Explain why banks generally are willing to accept a lower interest rate for an ARM than a fixed rate mortgage.
13. What are “menu costs”?

Chapter 11: Money supply and financial intermediaries.

1. What are the three functions of money?

2. What is commodity money? What are some of the problems with commodity money?

3. What is a pure gold standard? a gold exchange standard?

4. What is fiat money?

5. In early U.S. history, there was a bi-metallic standard. One dollar was equal to 24.75 grams of gold and 371.25 grains of silver. Prior to 1834, 24.75 grams of gold was worth more than 371.25 grains of silver in the open market. After 1834, the reverse was true. As a consequence, only silver coins circulated prior to 1834 (i.e. a silver standard), and only gold coins circulated after 1834 (i.e. a gold standard). Explain why.

6. Under a pure gold standard, if there was a huge new discovery of gold, what would happen to prices in the economy?

7. Describe how banking evolved from safekeeping to “money creators”.

8a. What is fractional reserve banking?
   b. What is the risk of keeping a very low fraction of liabilities on reserve?
   c. Why don't banks keep all of their liabilities on reserve?

9a. What is a "bank run" and what type of news could cause one?
   b. When was the Fed established and what problems was it designed to address?
   c. What did the Fed do (or fail to do) at the beginning of the Great Depression that could have worsened banking problems?
   d. Explain how the stock market crash in 1929 helped create problems for the U.S. banking system.
   e. Explain why the establishment of FDIC in 1933 helped reduce bank runs.
   f. Why was there a "bank run" in Ohio associated with the bad loans made by Home State Savings even though Home State depositors were insured?

10. Describe the basic structure of the Federal Reserve and its functions (Board of Governors, District Banks, Open Market Committee).

12a. What are the 3 major policy tools of the Fed for controlling the money supply?
   b. Explain how each of the 3 tools would be used to increase the money supply.
MONEY CREATION AND THE FED

To answer the questions that follow, assume that the banking system starts with the following "base case" balance sheet and that
* the public initially holds $10 billion of cash outside the bank.
* the reserve ratio is 10%
* banks always loan out excess reserves.

BALANCE SHEET (All figures are in billions of $)

<table>
<thead>
<tr>
<th></th>
<th>Cash</th>
<th>Deposits at Fed</th>
<th>Loans</th>
<th>Govt. Secur.’s</th>
<th>Demand Dep.’s</th>
<th>Owner’s Equity</th>
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1. Starting with the base case balance sheet, why can't the bank system create any additional money (or loans)?

2. Starting with the base case balance sheet,
   a. how much are banks required to hold on reserve?
   b. how much do banks have on reserve?
   c. what is the monetary base?
   d. what is M1?

3. Starting with the base case balance sheet, if the public deposits $100 b. of cash in the bank and holds it as demand deposits instead of as cash,
   a. what will required reserves be?
   b. what is the maximum increase in the money supply that can occur?
   c. how does this growth in the money supply occur (i.e. what entries will change in the balance sheet to reflect the growth in the money supply?)
   d. how would your answer differ if people decreased demand deposits by $100 to hold an additional $100 of cash outside the bank?

4. Starting with the base case balance sheet, if the Fed buys $10 b. of government securities from the bank system
   a. what is the maximum increase in the money supply that can occur?
   b. how does this growth in the money supply occur (i.e. what entries will change in the balance sheet to reflect the growth in the money supply?)
   c. how would your answer differ if the Fed sold $10 b. of government securities?

5. Starting with the base case balance sheet, if the Fed increases the reserve ratio from 10 to 20 percent
   a. how much must the money supply decrease?
   b. how does this decrease in the money supply occur (i.e. what entries will change in the balance sheet to reflect the change?)
   c. how would your answer differ if the Fed lowered the reserve ratio to 5%?