Economics
Chapter 10: MONEY, BANKING and the FEDERAL RESERVE SYSTEM

SECTION 1
The Origins of Money

What’s It Like Living in a Barter Economy?
- A barter economy is an economy in which people ________ goods and services instead of ________.
- Living in a barter economy is ____________ because many of the people you want to trade with don’t want to trade with you. This situation makes trade ________ consuming.
- Transaction costs are any costs associated with the ________ and ________ needed to search out, negotiate, and complete an exchange. Reducing transaction costs would make trading ____________.

How and Why Did Money Come to Exist?
- Money is a good that most people will ___________ in exchange for goods and services and in the repayment of ________.
- Historically, money has included gold, silver, copper, rocks, cattle, shells, and more.
- Cash, and any other good considered money, has ________ because of its general acceptability. You can use it to get what you want because other people will accept it in exchange for what they have.

Are You Better Off Living in a Money Economy?
- The transaction costs of exchange are ________ in a money economy than in a barter economy. The use of money frees up more ________ for production, or leisure. Therefore, the residents of money economies are richer in ________.
- Residents of money economies are also more ____________. They do not need to conduct multiple transactions to obtain goods, so they tend to produce what they want to produce and purchase everything else. In a barter economy, trade is so difficult that people are likely to try to produce most of the things they need, which means that they tend to develop ____________ skills.

What Are the Three Functions of Money?
- Money has three major functions. (See Transparency 10-1.)
  - Money functions as a medium of exchange. A medium of exchange is anything that is generally ___________ in exchange for goods and services.
  - Money functions as a unit of account. A unit of account is a common ___________ used to express values. In the United States, many goods and services are expressed in ________.
  - Money also serves as a store of value. A store of value is something that has the ability to hold value over ________. A dollar will likely have the same value one week from now as it currently holds. Rising prices gradually ___________ the stored value of money.

Who Were the Early Bankers?
- ___________ was an early form of money. The ___________ of gold made it difficult, and unsafe, to transport. For this reason, goldsmiths became the first bankers. They took in other people’s gold and ________ it for them.
- Goldsmiths issued warehouse receipts to their customers; these receipts stated the amount _________. Soon, people began trading the warehouse ________ as a form of money. The warehouse receipts represented gold held with the goldsmith, and were considered ___________ by the gold.
- Some goldsmiths began ___________ out receipts and collecting ________ on the loans. They could do this because depositors rarely turned in their warehouse receipts and asked for their gold back.
- When a goldsmith gave a borrower a receipt for an amount of gold, the depositor still held a receipt for the same amount. This meant that ________ receipts for the ________ amount of gold were now circulating in the money supply. Thus, by issuing a loan, the goldsmith effectively ________ the money.
- This process was the beginning of ___________ reserve banking. This is a banking arrangement in which banks ________ only a fraction of their deposits and ________ the remainder.
SECTION 2
The Money Supply

What Are the Components of the Money Supply?

A money supply is the total supply of money in ________________. It is composed of currency, checking accounts, and traveler’s checks. (See Transparency 10-2.) The most basic money supply is known as ___________.

- **Currency** consists of __________ issued by the U.S. Treasury and __________ ___________ issued by the Federal Reserve System. The paper money issued by the Federal Reserve system is called Federal Reserve ___________. Our dollar bill is an example of a Federal Reserve note.

- The second component of the money supply is ___________ ___________. Checking accounts are also referred to as demand deposits. Funds are deposited into the accounts. Then the owners of the accounts can ___________ the funds in currency, or write a check to transfer the funds to a third party.

- The third component of the M1 money supply is ________________ ______________. Traveler’s checks are issued by a bank and sold to _______________ who wishes to buy them.

Is a Savings Account Money?

- A savings account is an ____________-_____________ account. A savings account that allows for check-writing privileges is considered a ____________ account.

- A nonchecking savings account is __________ considered money because it is not widely accepted for purposes of exchange. __________-__________ is any asset, such as a nonchecking savings account, that can be ____________ and ___________ turned into money.

Are Credit Cards Money?

- A credit card is ________ considered money. Money must be acceptable as a form of payment and repayment; a credit card cannot be used to ____________ _____________. The use of a credit card places a person in debt, which he or she then has to repay with money.

Borrowing, Lending, and Interest Rates

- Why do interest rates rise and fall? Interest rates are determined in the ________________ ________________, which is a market for loans. There is a ___________ for loans (stemming from borrowers) and a ___________ of loans (from lenders). Through the interaction of the demand for and supply of loans, the ____________ __________ is determined.

- Sometimes a distinction is made between ____________-__________ interest rates and _________-__________ interest rates. In general, a short-term rate applies to any loan that is to be repaid in less than __________ year. Any loan that is for one year or more, such as a 30-year home mortgage, has a long-term interest rate.
SECTION 3
The Federal Reserve System

What Is the Federal Reserve System?

- In _______, Congress passed the Federal Reserve Act. This act established the Federal Reserve System, which is also known as “__________.” The Fed is the __________ __________ of the United States.
- The Board of Governors of the Federal Reserve System is the governing body of the Federal Reserve System.
- The United States is broken up into _______ Federal Reserve districts. (See Transparency 10-3.)
- The major policy-making group within the Fed is the __________ ____________ (FOMC). This 12-member policy-making group has the authority to conduct open market operations.

What Does the Fed Do?

- The Fed has six major responsibilities:
  1. Control the money _______.
  2. Supply the economy with __________ and __________, or Federal Reserve notes. Federal Reserve notes are printed at the Bureau of ___________ and ___________ in Washington, D.C.
  3. Hold bank ____________. Each bank that is a member of the Federal Reserve System is required to keep a reserve account with its district bank. Reserve accounts are similar to ___________ accounts.
  4. Provide __________-__________ services. (See Transparency 10-4.)
    A. For example, suppose that Harry writes a $1,000 check and sends it to Ursula.
    B. Ursula receives the check, takes it to her local bank, and deposits it into her checking account. The balance in her account rises by $1,000.
    C. Ursula’s bank sends the check to its Federal Reserve district bank. The reserve bank increases the reserve account of Ursula’s bank by $1,000 and decreases the reserve account of Harry’s bank by $1,000.
    D. The reserve bank sends the check to Harry’s bank, which then reduces the balance in Harry’s checking account by $1,000.
  5. __________ member banks. If the Fed finds that a bank has not followed established banking standards, it can pressure the bank to do so.
  6. Serve as the lender of ____________ for banks suffering cash management problems.
SECTION 4
The Money Creation Process

Different Types of Reserves
- Banks have three types of reserves: total, required, and excess. (See Transparency 10-5.)
  - A bank’s reserves are the sum of the bank’s deposits in its reserve account at the plus its cash. For example, if a bank has $10 million in its reserve account and $5 million cash in its vault, its total reserves are $15 million.
  - Total reserves = Deposits at the Fed + Vault cash
    **Example:** Deposits in reserve account + $10 million
                 Vault cash = $5 million
                 Total reserves = $15 million
  - Total reserves can be divided into two types: required and excess.
    - **Required reserves** are the amount of reserves a bank must hold against its deposits as mandated by the Fed. A reserve requirement is a Fed regulation, requiring a bank to keep a certain percentage of its deposits in its reserve account with the Fed or in its vault as vault cash. For example, if the Fed requires a bank to hold 20 percent of its deposits in reserve, and the bank has $50 million in deposits, the required reserves are $10 million.
      - Required reserves = Reserve requirement x Checking account deposits
      **Example:** Reserve requirement = 20%
                    Checking account deposits = $50 million
                    Required reserves = $10 million
    - **Excess reserves** are any reserves held more than the required amount. For example, if a bank has $15 million in total reserves and the Fed requires that it keep $10 million in required reserves, the bank has $5 million in excess reserves.
      - Excess reserves = Total reserves – Required reserves
      **Example:** Total reserves = $15 million
                    Required reserves = $10 million
                    Excess reserves = $5 million

How Banks Increase the Money Supply
- Banks are not allowed to print currency. However, banks can create checking account deposits.
- When a customer deposits money in a checking account, that deposit increases the amount of money that the bank has on hand in its vault.
- If the bank pays out less in withdrawals than it accepts in deposits during the day, the bank will have excess reserves at the end of the day. These excess reserves can then be lent out in the form of loans.
- These loans are deposited in other accounts, or other banks, continuing the process and creating more money.
- For example, a $5,000 deposit in a checking account could allow the banking system to create an additional $25,000 in the money supply.

\[
\text{Change in money supply} = \frac{1}{\text{Reserve requirement} \%} \times \text{Change in bank reserves}
\]

\[
\text{Change in money supply} = \frac{1}{0.20 (20\%)} \times \$5,000
\]

\[
= \$25,000
\]
SECTION 5
Fed Tools for Changing the Money Supply

Changing the Federal Reserve Requirement
  - The Fed has three ________ that it can use to raise or lower the money supply. (See Transparency 10-7.)
    - the reserve requirement
    - open market operations
    - the discount rate

Changing the Reserve Requirement
  - The Fed can increase or decrease the money supply by changing the reserve requirement.
    - Lower reserve requirement = Increase in money supply.
    - Higher reserve requirement = Decrease in money supply.

Conducting Open Market Operations
  - The Federal Open Market Committee (FOMC) conducts open market operations by buying and selling ________________ ________________.
    - When the FOMC makes an open market purchase, it ________________ the money supply. When an open market _________ is made, the money supply _________.

Changing the Discount Rate
  - The federal funds rate is the interest rate one bank ____________ another for a ________.
  - The discount rate is the interest rate the ________ charges a bank for a loan.
  - When the discount rate is ________________, the money supply ________. When the discount rate is ___________, the money supply _______.

<table>
<thead>
<tr>
<th>Monetary tool</th>
<th>Effect on money supply</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reserve requirement</td>
<td></td>
</tr>
<tr>
<td>Raise the reserve requirement</td>
<td>↓</td>
</tr>
<tr>
<td>Lower the reserve requirement</td>
<td>↑</td>
</tr>
<tr>
<td>Open market operations</td>
<td></td>
</tr>
<tr>
<td>Buy government securities</td>
<td>↑</td>
</tr>
<tr>
<td>Sell government securities</td>
<td>↓</td>
</tr>
<tr>
<td>Discount rate</td>
<td></td>
</tr>
<tr>
<td>Raise the discount rate</td>
<td>↓</td>
</tr>
<tr>
<td>Lower the discount rate</td>
<td>↑</td>
</tr>
</tbody>
</table>
INTEREST RATES: GOING BACK TO SUPPLY AND DEMAND (Section 2)

In each of following situations, an event has occurred that will affect demand or supply in the loanable funds market. On the graph, illustrate the shift in the supply curve or the demand curve as a result of the event. Then fill in the blanks in the statement below the graph with the correct answers.

1. The demand for loans rises.
   The ______________ curve shifts to the ______________ and the interest rate ______________.

2. The demand for loans falls.
   The ______________ curve shifts to the ______________ and the interest rate ______________.

3. The supply of loans rises.
   The ______________ curve shifts to the ______________ and the interest rate ______________.

4. The supply of loans falls.
   The ______________ curve shifts to the ______________ and the interest rate ______________.
THE FEDERAL RESERVE SYSTEM (Section 3)

The Principal Components of the Fed

5. What is the purpose of the Board of Governors of the Federal Reserve System?
____________________________________________________________________________________
____________________________________________________________________________________

6. What is the structure of the Board of Governors of the Federal Reserve System?
____________________________________________________________________________________
____________________________________________________________________________________

7. What is the FOMC and what does it do?
____________________________________________________________________________________
____________________________________________________________________________________

8. What is the structure of the FOMC?
____________________________________________________________________________________
____________________________________________________________________________________

List the Major Responsibilities of the Fed

9. __________________________________________________________

10. _________________________________________________________

11. _________________________________________________________

12. _________________________________________________________

13. _________________________________________________________

14. _________________________________________________________

Answer the following questions

15. What government agency prints paper money and how does it reach the public?

16. What is a reserve account?

17. Supposed Olivia writes a check payable to Matt and gives it to him. What happens to the check?
Complete the following formulas…

18. Total Reserves = __________________________ + __________________________

19. Required Reserves = __________________________ x __________________________

20. Excess Reserves = __________________________ - __________________________

21. Change in money supply = __________________________ x __________________________

Use the formulas to fill in the missing values in the following table. The reserve requirement is 10%, and all dollar amounts in the table are in millions. (5 points for a completed chart)

<table>
<thead>
<tr>
<th>Deposits in the reserve account at the Fed</th>
<th>Vaults cash</th>
<th>Checking account deposits</th>
<th>Total reserves</th>
<th>Required reserves</th>
<th>Excess reserves</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bank A</td>
<td>______</td>
<td>______</td>
<td>______</td>
<td>______</td>
<td>______</td>
</tr>
<tr>
<td>Bank B</td>
<td>$10</td>
<td>______</td>
<td>______</td>
<td>______</td>
<td>______</td>
</tr>
<tr>
<td>Bank C</td>
<td>______</td>
<td>______</td>
<td>______</td>
<td>______</td>
<td>______</td>
</tr>
<tr>
<td>Bank D</td>
<td>$16</td>
<td>______</td>
<td>______</td>
<td>______</td>
<td>______</td>
</tr>
</tbody>
</table>

Use the formulas from questions 18-21 and the table to answer the following questions.

27. If the vault cash at bank C decreased $1 million, the excess reserves in the bank would __________________________ (increase or decrease) to __________________________ (amount).

28. If the Fed increased the reserve requirements to 15%, the required reserves in bank B would __________________________ (increase or decrease) to __________________________ (amount) and the bank’s excess reserves would __________________________ (increase or decrease) to __________________________ (amount).

29. If the Fed decreased the reserve requirements to 5%, the required reserves in bank D would __________________________ (increase or decrease) to __________________________ (amount) and the bank’s excess reserves would __________________________ (increase or decrease) to __________________________ (amount).

30. Suppose checking account deposits at bank A increased $1 million through a cash deposit by a new account holder. Vault cash at the bank would __________________________ (increase or decrease) to __________________________ (amount), total reserves would __________________________ (increase or decrease) to __________________________ (amount), and excess reserves would __________________________ (increase or decrease) to __________________________ (amount).
1. Where is our paper money printed in the United States?
2. Where are our coins created in the United States?
3. Explain how Wayne Victor Dennis almost got away with his counterfeiting plan.
4. How was he ultimately caught?
5. What material is used to make paper money?
6. What are some of the efforts made to challenge counterfeiters in our modern money?
7. How did some employees try to steal gold from the U.S. Mint in the past?
8. Which government agency is responsible for investigating counterfeiters?
9. When is the U.S. money supply at its most vulnerable?
10. How long does an average bill circulate and how are bills removed from circulation?