Lecture 5:  
Part 1: Money  

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The Meaning of Money

- Money is the term used to describe the set of assets in the economy that people regularly use to buy goods and services from other people.
- Generally money is used to support transactions in the modern economy.
Three Functions of Money

① Medium of Exchange: anything that is readily acceptable as payment in transactions.

② Unit of Account: serves as a “yardstick” to help us compare the relative values of goods.

③ Store of Value: a means of keeping some of our wealth in a readily spendable form for future needs.
The Two Types of Money

- **Commodity Money:** something that performs the function of money but has alternative, non-monetary uses.
  - Examples: Gold, silver, cigarettes

- **Fiat Money:** something that serves as money but has no other important uses.
  - Examples: Paper currency, check deposits (that bear no interest)
Requirements of any Good used as Money

- Whatever money good is chosen in an economy, it must be able to fulfill the functions of required of money.
  - Ice does not make a good money as it does not store value well
- Everyone must believe everyone else will accept money for transactions.
  - Especially fiat money.
Evolution of Money

- Money was developed to avoid the “transactions costs” incurred in a barter economy (the “double coincidence of wants” required in barter).
- Initially, commodity money (convertible money) was used.
- After W.W. II, the U.S. dollar was chosen as a reference currency.
  - All other currencies traded at a fixed exchange rate with the U.S. dollar.
Evolution of Money

- Since in the U.S. this paper money was convertible to gold (the Gold Standard), so too were all other currencies indirectly.
- The fixed exchange rate system was replaced by market determined exchange rates in the 1970’s.
- Eventually fiat money replaced commodity money when Nixon cancelled the convertibility of the U.S. dollar.
Money in the U.S. Economy

Different ways of measuring the money stock in the economy:
examples:

- C
- M1
- M2
- M3
- L
### Table 7-1

#### The Measures of Money

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Assets Included</th>
<th>Amount in April 1998 (billions of dollars)</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>Currency</td>
<td>434</td>
</tr>
<tr>
<td>M1</td>
<td>Currency plus demand deposits, traveler’s checks, and other checkable deposits</td>
<td>1,081</td>
</tr>
<tr>
<td>M2</td>
<td>M1 plus retail money market mutual fund balances, saving deposits (including money market deposit accounts), and small time deposits</td>
<td>4,165</td>
</tr>
<tr>
<td>M3</td>
<td>M2 plus large time deposits, repurchase agreements, Eurodollars, and institution-only money market mutual fund balances</td>
<td>5,574</td>
</tr>
<tr>
<td>L</td>
<td>M3 plus other liquid assets such as savings bonds and short-term Treasury securities</td>
<td>6,826</td>
</tr>
</tbody>
</table>

*Source: Federal Reserve.*
Where is All The Currency in the U.S.?

- In 1996 there was about $380 billion of U.S. currency ($1,900 in currency per person) printed.
- Recall avg. GDP/person is $25,000.
- Location of outstanding currency may include:
  - Currency held abroad
  - Currency held by illegal entities
  - Currency held firms and households for transaction purposes
The Federal Reserve

- The Fed is run by its *Board of Governors*.
  - Seven members appointed by the President of the United States.
  - The Chairman of the Board presides, directs, and testifies about Fed policy.
Three Primary Functions of the Fed

① *Regulation:* The private banking industry must follow federal laws intended to promote sound banking practices, ensuring the financial system does not break down.

② Act as a *banker’s bank*, making loans to other banks as a “lender of last resort”. If banks require funds on a short term basis to cover withdrawals they can borrow money for a short time only paying interest set by the “discount rate”.

③ Control of the supply of money (*Monetary Policy*) decided by the *Federal Open-Market Committee*. 
Money Supply Changes by the Fed

- **Open-Market Operations:** The primary way the Fed changes the money supply: purchase and sale of U.S. government bonds (T-bills) with newly printed money. The Fed also sets the interest rate on these bonds.

  - To *increase the money supply*, the Fed buys government bonds from the public, paying them new money.
  - To *decrease the money supply*, the Fed sells government bonds to the public, collecting people’s money in exchange for the bonds.
Banks and The Money Supply

- The behaviour of banks can influence the quantity of demand deposits in the economy and therefore, the money supply (recall M1 includes the amount of money in such deposits).

- *Fractional Reserve Banking System:* The practice of holding a fraction of money deposited as reserves and lending out the rest.
The Money Multiplier

- When one bank loans money, that money is generally deposited into another or the same bank thus creating more deposits and more reserves to be lent out.
- The *Money Multiplier* is the amount of money that the banking system generates with each dollar of reserves.
What determines the size of the money multiplier?

- The money multiplier is the reciprocal of the reserve ratio.
- Assumes
  - households deposit in banks
  - banks keep minimum reserves
  - With a reserve requirement (R) of 10% or 1/10...
  - The multiplier will be 10.

\[ M = \frac{1}{R} \]
The Fed has three instruments of monetary control:

- **Open-Market Operations:**
  - Buying and selling bonds.

- **Changing the Reserve Ratio (R):**
  - Increasing or decreasing the ratio.

- **Changing the Discount Rate:**
  - The interest rate the Fed charges other banks for loans. The higher the rate, the more banks want to avoid borrowing and the more they hold in reserve above $R$. 
Summary

- Money fulfills three functions: store of value, medium of exchange and unit of account.
- Two types of money: commodity and fiat.
- The money supply is measured in a variety of ways depending on what is included as money.
- The Federal Reserve is the bank’s bank, regulating the financial system, controlling the money supply and making loans to private banks.
- Money supply is controlled by open market operations, regulating the reserves private banks must hold, and by setting the discount rate.
- The money multiplier describes how private banks can affect the money supply by lending out their deposits.