The Financial Environment: Markets, Institutions, and Interest Rates

What is a market?

A market is a venue where goods and services are exchanged. A financial market is a place where individuals and organizations wanting to borrow funds are brought together with those having a surplus of funds.

Types of financial markets

1. Physical assets vs. Financial assets

- **Physical asset markets** (also called "tangible" or "real" asset market): includes products as wheat, autos, real estate, computers, and machinery
- **Financial asset markets**: deal with stocks, bonds, notes, and mortgages as well as with *derivative securities* whose values are derived from changes in the prices of other assets

2. Money vs. Capital Markets

- **Money markets**: the markets for short-term highly liquid debt securities, i.e. the New York, London, and Tokyo money market
- **Capital markets**: the markets for intermediate- or long-term dept and corporate stocks, i.e. the New York Stock Exchange

3. Primary vs. Secondary Markets

- **Primary markets**: the markets in which corporations raise new capital. If Microsoft sales a new issue of common stock to raise capital, this would be a primary market transaction
- **Secondary markets**: markets in which existing, already outstanding, securities are traded among investors. Thus, if Jane Doe decided to buy 1,000 shares of AT&T stock, the purchase would occur in the secondary market.

4. Spot vs. Futures Markets

- **Spot Markets**: the markets in which assets are bought or sold for "on-the-spot" delivery (literally, within a few days)
- **Futures markets**: the markets in which participants agree today to buy or sell an asset at some future date

5. Private vs. Public Markets

- **Private markets:** Markets in which transactions are worked out directly between two parties, i.e. bank loans
- **Public markets**: Markets in which standardized contracts are traded on organized exchanges, i.e. Securities issued in public markets (e.g., common stock and corporate bonds)

Types of financial intermediaries

1. Commercial Banks
"Department stores of finance" serves a wide variety of savers and borrowers and provides a wide range of services, including stock brokerage services and insurance.

2. Savings and Loan Associations (S&Ls)

Traditionally served individual savers and residential and commercial mortgage borrowers, take the funds of many small savers and then lend this money to home buyers and other types of borrowers. In the 1980s, the industry faced severe problems: interest rates on savings rose above the return on the mortgages held by S&Ls merge with stronger institutions or close their doors.

3. Mutual Savings Banks
Similar to S&Ls accept that savings primarily from individuals, and lend mainly on a long-term basis to home buyers and consumers.

4. Credit Unions

It is cooperative associations whose members are supposed to have a common bond, such as being employees of the same firm. Members' savings are loaned only to other members, generally for auto purchases, home improvement loans, and home mortgages. It is the cheapest source of funds available to individual borrowers.

5. Pension Funds

Retirement plans funded by corporations or government agencies for their workers.

6. Life Insurance

Take savings in the form of annual premiums; invest these funds in stocks, bonds, real estate, and mortgages; finally make payments to the beneficiaries of the insured parties.

7. Mutual Funds

Corporations that accept money from savers and then use these funds to buy stocks, long-term bonds, or short-term debt instruments issued by business or government units. It is managed by an investment company. Different funds are designed to meet the objectives of different types of savers

8. The Stock Market

- **The Physical Location Stock Exchanges**: Formal organizations having tangible physical locations that conduct auction markets in designated ("listed") securities. Members are said to have "seats" which are bought and sold, give the holder the right to trade on the exchange. The example is NYSE.

- **The Over-the-Counter**: A large collection of brokers and dealers, connected electronically by telephones and computers, that provides for trading in unlisted securities. This type of market consists of:
    - *Dealers* are people who hold inventories of these securities and who are said to "make a market"
    - *Brokers* are those who act as agents in bringing the dealers together with investors
    - *The computers, terminals, and electronic networks*

The cost of money

- The price, or cost, of debt capital is the interest rate.
- The price, or cost, of equity capital is the required return. The required return investors expect is composed of compensation in the form of dividends and capital gains.

Interest Rates

Interest rates are the price you pay for borrowing money. It is often expressed as an annual percentage of the principal (original deposit). Interest rates often change as a result of inflation and Federal Reserve Board policies.

It is calculated by dividing the amount of interest by the amount of principal. For example, if a lender (such as a bank) charges a customer $90 in a year on a loan of $1,000, then the interest rate would be (90/1,000)*100 = 9%

From a consumer's perspective, the interest rate is expressed as annual percentage yield (APY) when the interested is earned, for example, from a savings account. When the interest is paid, for instance, for a credit card, a mortgage, or a loan, the interest rate is expressed as annual percentage rate (APR).

<u>Nominal vs. Real interest rates</u>

- **The nominal rate**: an interest rate calculated without any adjustment for inflation or for the full effect of compounding.
  <u>Example of nominal rate</u>:
  If you purchase a bond for one year that pays 6% interest at the end of the 12 months, a $100 investment would return [($100*6%)+$100 = $106. Therefore, the nominal interest rate is ($106-$100)/100 *100 = 6%
- **The real interest rate**: includes compensation for value lost through inflation.
  <u>Example of real interest rate</u>
  Imagine investing in the same bond and accounting for a 3% inflation rate for the year. If we then invest the $100 into the 6% bond for one year, we lose $3 to inflation. This means the real interest rate of the bond is actually 3%
- **The effective interest rate** is a rate that takes account of the impact of compounding (interest that is applied to interest over a period of time).

Example for Effective interest rate

Imagine investing the same $100 into the bond over 12 months. At 6%, your money would return $106 ($100*6%+100) after one year. However, if interest is compounded every six month, after six months you would earn $3 interest. At half of the second year, the bond will pay 3% of your new investment total of $103 or the interest of $3.09 ($103*3%). For the end of second year, your investment would then return ($103+$3.09) = $106.09 over a year. Therefore, the effective annual rate is 6.09% ($106.09-$100)/100*100, which is slightly higher than the nominal interest rate of 6%

How the interest work in practice

- ☐ The difference between real and nominal interest rates is simply expressed as:

Real interest rate = Nominal rate – Inflation

Week 4 Exercise
Effective Interest Rates

You are investing $2,000 to purchase a bond for two years at 8% nominal interest rate. Given that the inflation is 3%. Answers these questions:

1. How much the return for $2,000 for the first year is?

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2. How much you will earn for the second year if interest is compounded every six months?

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3. What is the effective interest rate?

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4. What is the real interest rate?

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