



FIN 312

Investments



Financial systems, asset classes, and
financial instruments

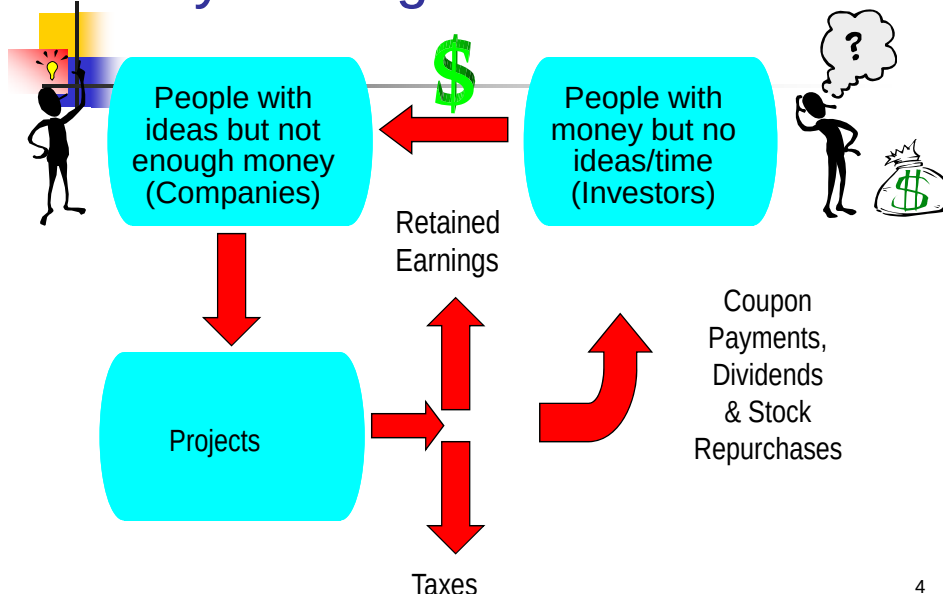
Dr. Anchada Charoenrook

Accounting, Economics and Finance

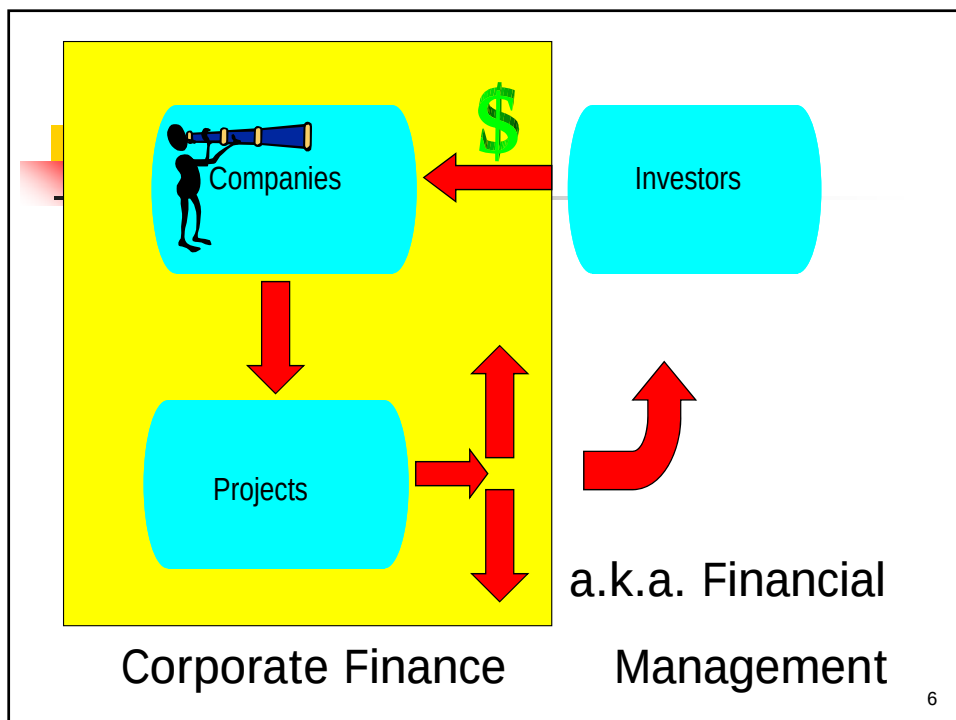
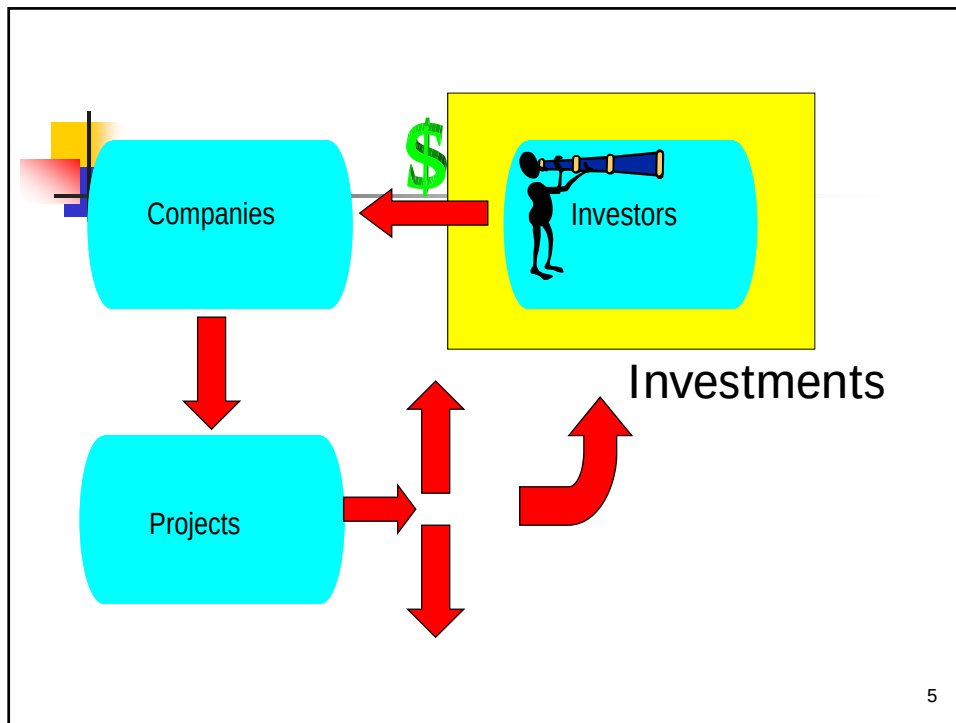
- What exactly is Finance?
- Finance is a branch of economics
- Both finance and accounting are concerned with a firm's assets and liabilities, but at different points in time
 - Accounting: Emphasis on past-what has happened
 - Finance: Emphasis on future-what will happen

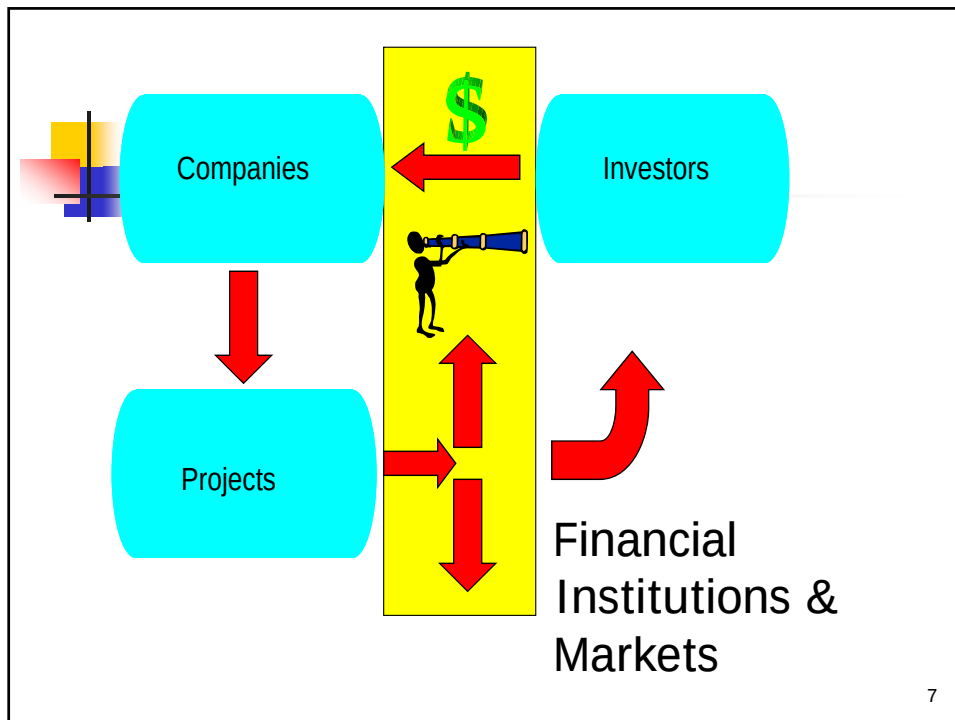
3

Money-Making Process



4





Finance

- Often categorized as follows:
 - Corporate Finance
 - Investments/Markets
 - Financial Institutions/Intermediaries
- The three are inextricably intertwined
 - Concepts of each are useful and necessary to comprehend the others
 - E.g., need some understanding of markets and institutions to understand investments

8

Investments

- Is the management and allocation of money to different financial or real assets in order to make profits
- What are some of the possible investments
 - Stock market
 - Bonds
 - Real estate
 - Many others such as derivative or foreign currency
- When investing, investors try to lower risk and maximize profits

9



10



Outline

- Firms: assets and liabilities
- Financial systems and firms
- Asset classes and financial instruments
 - Money markets
 - Capital markets

11



Firms

- Assets are what a firm owns
 - Real assets are the land, buildings, machines, and knowledge that can be used to produce good and services
 - Financial assets such as stock and bonds are ownerships of promissory contracts deliver some financial instruments (including money) in the future
- Liabilities are what a firm owes the investors in the firm
 - Debt: the firm owes fixed interest rate for borrowing using debt
 - Stock: residual claim of the rest of the value of the firm

12

Balance sheet of a commercial bank

Assets	\$ Billion	% Total	Liabilities and Net Worth	\$ Billion	% Total
Real assets			Liabilities		
Equipment and premises	\$ 100.7	1.0%	Deposits	\$ 6,865.3	65.9%
Other real estate	6.8	0.1	Borrowed funds	1,242.5	11.9
Total real assets	\$ 107.5	1.0%	Subordinated debt	161.3	1.5
			Federal funds and repurchase agreements	771.4	7.4
			Other	320.8	3.1
Financial assets			Total liabilities	\$ 9,361.3	89.9%
Cash	\$ 457.5	4.4%			
Investment securities	2,180.0	20.9			
Loans and leases	6,089.3	58.5			
Other financial assets	822.3	7.9			
Total financial assets	\$ 9,549.1	91.7%			
Other assets					
Intangible assets	\$ 379.2	3.6%			
Other	375.1	3.6			
Total other assets	\$ 754.3	7.2%	Net worth	\$ 1,049.6	10.1%
Total	\$ 10,410.9	100.0%		\$10,410.9	100.0%

TABLE 1.3

Balance sheet of commercial banks, 2007

Note: Column sums may differ from total because of rounding error.

Source: Federal Deposit Insurance Corporation, www.fdic.gov, September 2007.

13

Major Classes of Financial Assets or Securities

- The characteristics of a financial instruments that are most important to investors are:
 - risk or uncertainty of the returns
 - the average returns of investing in the instrument
 - what does the price or return of the instrument depend on

14



Major Classes of Financial Assets or Securities

- Classification of different financial instruments
 - Money market
 - Bond market
 - Equity Securities
 - Indexes
 - Derivative markets: options and futures

15



The Money Market

- This class of financial asset is often referred to as “cash equivalent” which means it can be (almost) used as cash
- It is liquid which means it can be converted into cash (sold) easily without much loss of value
- There is usually minimal risk investing in this class of asset
- But the return or profit from investing is also lower than a riskier asset

16



The Money Market

- Treasury bills:
 - Issued by the US government
 - Maturity (how long will it take the government to give back the money it borrows) is less than 1 year
 - Very small risk and liquid asset but low return (profit)
- For example: US Treasury maturing in 6 months has a face value of \$10,000. It is being sold at 9877.25.
- This means an investor can buy this security at 9877.25 and get 10,000 from the US government in 6 months. What is the earning for investing in this security?
- Earnings = $(10,000 - 9,877.25) / 9877.25 = 0.01240 = 1.24\%$

17



The Money Market

- Certificate of deposits or CD
 - Time deposit with a bank
 - Usually cannot be withdrawn before maturity without penalty
 - Safe investment because it is FDIC insured up to \$100,000
 - The interest rates are higher than a current account deposit
- Commercial paper
 - Short-term borrowing notes issued by large corporations
 - In the US they have a maturity less than 270 days

18



Bonds

- Long-term borrowing debt instrument
- Bond characteristics
 - Maturity: how long is the money being borrowed
 - Face value: the amount which will be paid back at maturity
 - Interest rate
 - How often the interest rate is going to be paid
 - Issuer of the bond (who is borrowing)

19



Bonds

- Treasury notes and bonds
 - Government issued debt
 - Treasury notes have maturity between 2 and 10 years at issue
 - Treasury bonds have maturity between 10 to 30 years at maturities
- Treasury Inflation Protected Treasury Bonds (TIPS)
 - Government issued bonds whose face value (what the government gives back) at maturity depends on an inflation index
 - The interest from these bonds also depend on an inflation index
 - So if inflation goes up investors get paid more

20



Bonds

- Corporate bonds
 - Debt issued by corporations to raise money
 - It pays investors back the face value and interest
 - The riskiness of corporate bonds depends on each corporation's financial situation
 - The interest on these bonds will vary depending on risk
- Municipal bonds
 - Issued by state or municipalities.
 - Differs from corporate bonds due to tax treatment

21



Bonds

- International bonds
 - Corporations can issue bonds in other countries to borrow money
 - It can be issued in the other countries currency.
 - Yankee bonds refer to bonds issued by foreign companies in US dollars
 - Samurai bonds refer to bonds issued by foreign companies in Yen
 - Bonds that are issued in other countries but in the currency of the company's country are called "Eurobond"

22



Equity securities

- Equity
 - Is a residual claim to the company after the company pays back the investors of the debt securities
 - Private company such as Limited ownership: equity is held privately and not traded
 - Public company: equity is held by large number of investors and it is traded on the security markets
- Equity securities or stocks are equity of publicly traded companies
 - Common stock
 - Preferred stock

23



Equity securities

- Characteristics of common stock
 - Residual claim of the firm's assets
 - Have voting rights: have a say on how the company is run through the election of the board of directors
 - Limited liability
 - Note: Owners of private companies that are not LLC just partnership have no limited liability
 - Investors of common stock gets paid dividend payment last

24

Equity securities

■ Characteristics of preferred stocks

- Is a security that has some characteristics of common stock and debt
- It is similar to an infinite-maturity bond: Investors in preferred stocks have rights to dividend payment of a certain amount from the firm for ever as long as the firm is still viable (not bankrupted and gone)
- The dividends are cumulative
- Investors of preferred stocks do not have voting rights

25

Figure 2.8 Listing of Stocks Traded on the NYSE

NAME	SYMBOL	CLOSE	NET CHG	VOLUME	52 WK HIGH	52 WK LOW	DIV	YIELD	P/E	YTD% CHG
GenCorp	GY	13.59	-0.29	491,300	20.75	12.02	---	---	dd	-3.1
Genentech	DNA	83.68	-0.35	3,986,300	94.46	75.58	---	---	49	3.1
General Cable	BGC	42.67	-1.11	679,700	45.41	20.3	---	---	23	-2.4
General Dynamics	GD	74.59	0.17	1,497,300	77.98	56.68	0.92	1.2	16	0.3
General Electric	GE	37.56	-0.19	26,907,700	38.49	32.06	1.12	3	23	0.9
General Growth Prop	GGP	51.51	-0.8	1,308,200	56.14	41.92	1.8	3.5	215	-1.4
General Maritime	GMR	34.56	-0.83	597,400	40.64	30.34	4.8	13.9	5	-1.8
General Mills	GIS	56.97	-0.42	1,355,600	59.23	47.05	1.48	2.6	18	-1.1
General Motors	GM	30.24	0.6	10,477,600	36.56	19	1	3.3	dd	-1.6
Genesco Inc	GCO	36.75	-0.9	127,900	43.72	25.5	---	---	15	-1.5
Genesee & Wyoming	GWR	25.86	-0.5	364,500	36.75	21	---	---	9	-1.4
Genesis Lease	GLS	23.6	0.1	298,500	24.4	23	---	---	---	0.4
Genuine Parts co.	GPC	46.86	-0.51	384,400	48.34	40	1.35	2.9	17	-1.2
Genworth Financial	GNW	33.79	-0.32	1,414,900	36.47	31	0.36	1.1	13	-1.2
Geo Group Inc	GEO	37.57	-1.53	157,500	40.3	14.69	---	---	35	0.1
Georgia Gulf	GGC	18.69	-0.38	479,000	34.65	18.36	0.32	1.7	6	-3.2
Gerber Scientific	GRB	12.32	-0.07	243,200	16.8	9	---	---	27	-1.9
Gerber Ameristeel	GNA	8.59	-0.04	446,200	11.02	5.85	0.08	0.9	7	-3.7
Gerdau S.A. Ads	GG8	15.57	-0.56	1,729,100	18.16	11.27	0.58	3.7	---	-2.7

FIGURE 2.8 Listing of stocks traded on the New York Stock Exchange

Source: Compiled from data from The Wall Street Journal Online, January 9, 2007.

26



Stock Market Indexes

- Indexes are used to identify the performance of a group of stocks
- Dow Jones Industrial Average (DJIA) is used to identify the performance of a portfolio of 30 stocks
 - It is often used to gauge the performance of the overall US stock market
 - The popularity of DJIA is partly due to historical significance. It has been used since 1896.
 - The stocks in the DJIA changes over time to reflect the overall stock market
 - Price-weighted averages

27



Example 2.2 Price-Weighted Average

Portfolio: Initial value $\$25 + \$100 = \$125$

Final value $\$30 + \$90 = \$120$

Percentage change in portfolio value

$$= 5/125 = -.04 = -4\%$$

Index: Initial index value $(25+100)/2 = 62.5$

Final index value $(30 + 90)/2 = 60$

Percentage change in index $-2.5/62.5$

$$= -.04 = -4\%$$

28



Stock Market Indexes

- The Nasdaq
 - Is used to identify the performance of the of the stock listed on the Nasdaq stock exchange
 - The majority of Nasdaq-traded stocks are technology stocks
- The Standard & Poors (S&P) 500
 - Represents a broad-based group of 500 stocks
 - It is a value-weight average

29



Value weighted indexes

- Note from Table 2.3 that the total market capitalization of the portfolio consisting of XYZ and ABC increase from 600 to 690
 - Use a starting arbitrary value or 100
 - The value weighted index of this portfolio is $690/600=115$
 - The portfolio increased by 15%
- The value-weighted index is unaffected by stock splits

30

Foreign and International Stock Market Indexes

- Nikkei (Japan)
- FTSE (Financial Times of London)
- Dax (Germany)
- MSCI (Morgan Stanley Capital International)
- Hang Seng (Hong Kong)
- TSX (Canada)
- SET (Thailand)

31

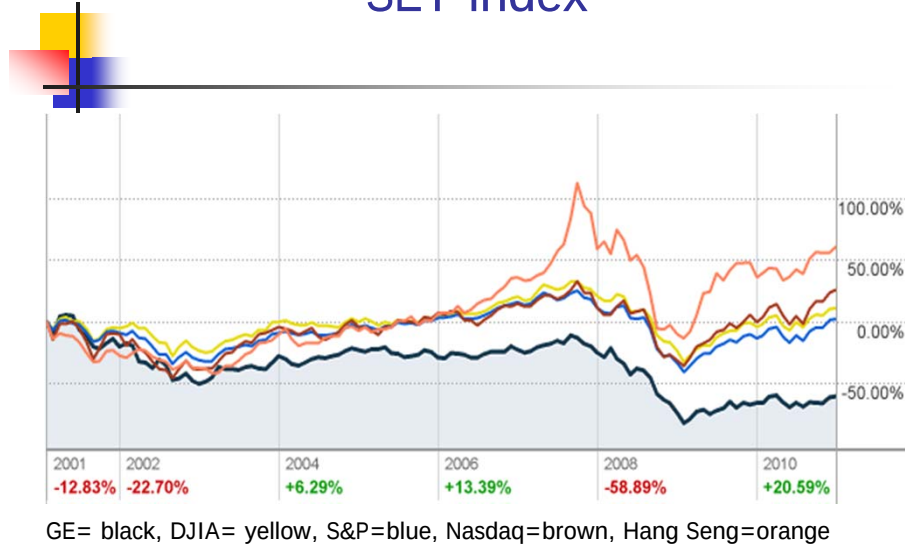
Foreign and International Stock Market Indexes



GE= black, DJIA= yellow, S&P=blue, Nasdaq=brown, Hang Seng=orange

32

SET index



33

Derivative assets

- Derivative assets are financial instruments whose payoffs depend on the values of other assets such as indexes, commodity prices, exchange rates
- Derivatives are also called contingent claims
- Two common derivatives
 - Futures
 - Options

34



Futures

- A future contract calls for the delivery of an underlying asset (or cash) at maturity
- The price to be paid (futures price) is fixed when the contract is entered into
- “long” positive agrees to buy
- “short” positive agrees to sell

35



Futures

- Party A agrees to buy 1000 barrels of jet fuel at \$70/barrel in three months
- Party B agrees to sell 1000 barrels of jet fuel at \$70/barrel in three months
- In three months oil price increases to \$75. Who benefits from the contract?
- Party A can buy at \$70 and sell in the market for \$75 making \$5/barrel
- Party B could have sold in the market for \$75 but has to sell for \$70
- Profit for A $\$5 \times 1000 = \5000
- Loss for B $\$5 \times 1000 = \5000

36



Futures

- Long position benefits from price increase
- Short position benefits from price decrease
- Futures can be used to speculate on other asset's price
- Futures can be used to hedge against change in asset's price

37



Futures contracts in Thailand

- Long position benefits from price increase
- Short position benefits from price decrease
- Futures can be used to speculate on other asset's price
- Futures can be used to hedge against change in asset's price

38



Options

- A “call option” is a contract that the “long” has the OPTION and NOT an obligation to buy an asset at maturity (sometimes earlier) at a pre-specified fixed price
- The pre-specified price is called the exercise price or the strike price
- The “short” party in an option contract agrees to sell IF the long party wants to buy
- The short party has the obligation to do what the long party wants
- The long party in a call option is better off than the long party in a futures contract so the long party in a call option is going to pay a premium

39



Options

- Example: A call option to buy GE stocks at a strike price of \$35 with a maturity of six months
- If in six months GE stock is trading at \$37 dollars, should the long position exercise this option?
- If in six months GE stock is trading at \$30 dollars, should the long position exercise this option?

40



Options

- If in six months GE stock is trading at \$37 dollars, should the long position exercise this option?
- If in six months GE stock is trading at \$30 dollars, should the long position exercise this option?
- In the first case, the long position makes \$2 per stock
- In the second case, the long position should not exercise and makes no money
- The long position in an option contract pays a premium to enter into the contract while the short position does not

41



Derivative warrants (DW)

- If in six months GE stock is trading at \$37 dollars, should the long position exercise this option?
- If in six months GE stock is trading at \$30 dollars, should the long position exercise this option?
- In the first case, the long position makes \$2 per stock
- In the second case, the long position should not exercise and makes no money
- The long position in an option contract pays a premium to enter into the contract while the short position does not

42

Summary

- What is investment
- Classification of different financial instruments
 - Money market
 - Bond market
 - Equity Securities
 - Indexes
 - Derivative markets: options and futures

43



44