



BACHELOR of ECONOMICS
International Program

Thammasat University | Thailand

FN 312

Investments



Financial systems, asset classes, and
financial instruments

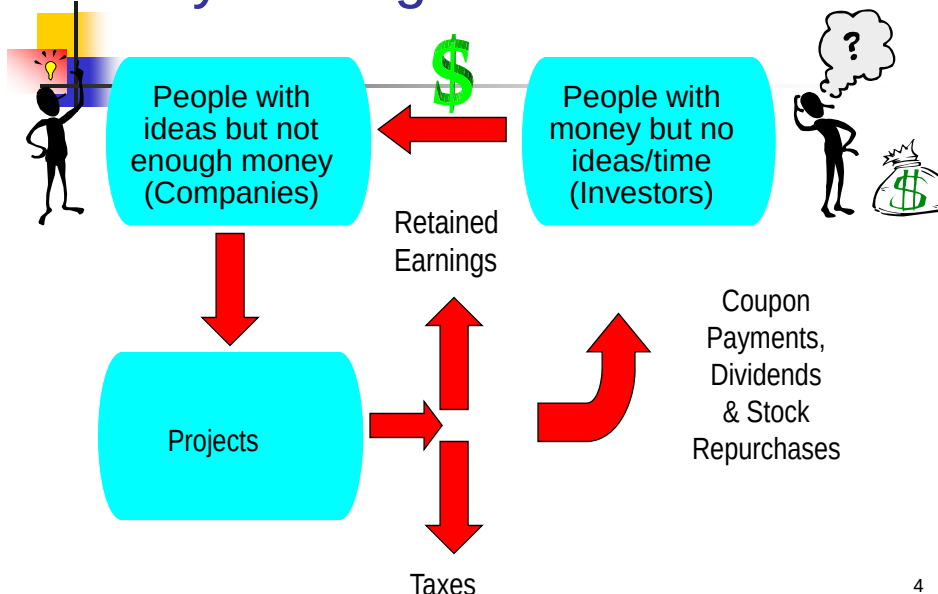
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Accounting, Economics and Finance

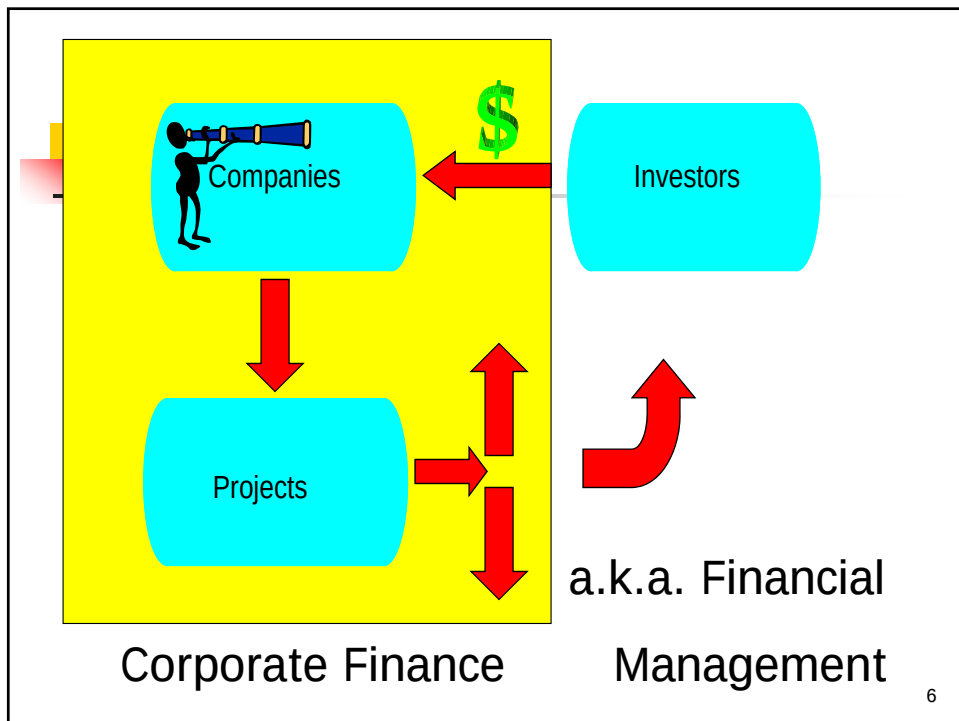
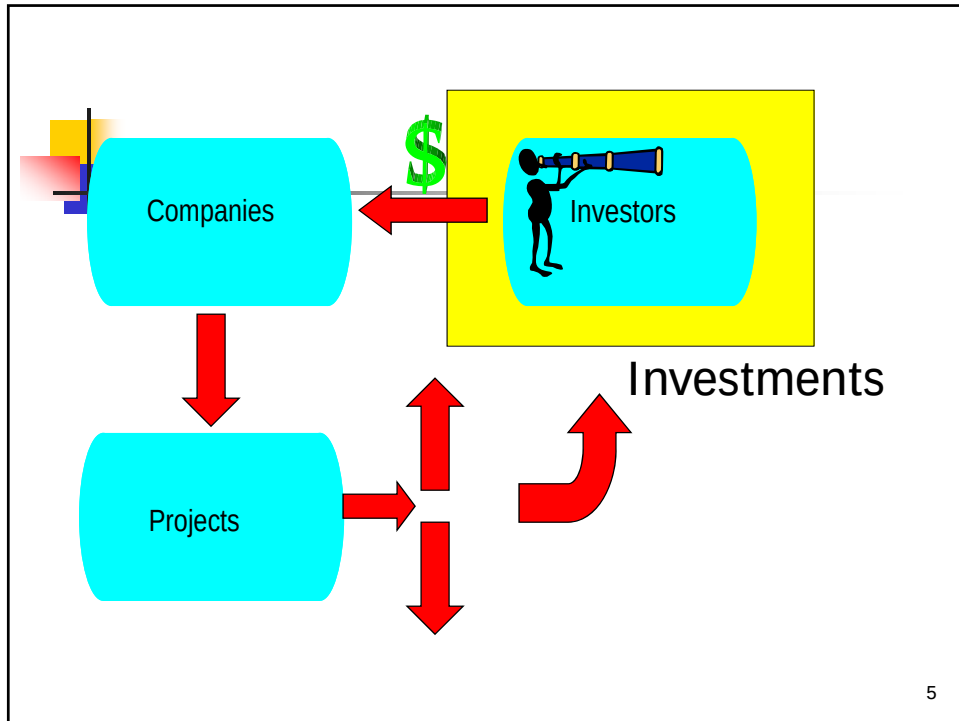
- What exactly is Finance?
- Finance is a branch of economics
- Both finance and accounting are concerned with a firm's assets and liabilities, but at different points in time
 - Accounting: Emphasis on past-what has happened
 - Finance: Emphasis on future-what will happen

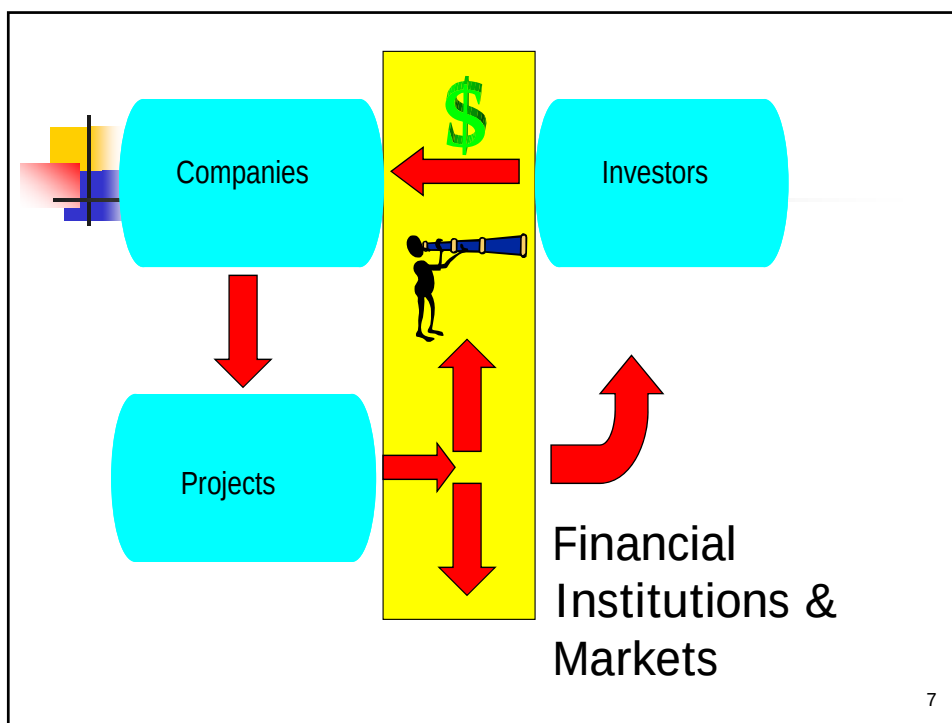
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Money-Making Process



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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

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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

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Financial markets and the economy

- The informational role of financial market
 - Aggregate information from many investors
- Consumption timing
 - smooth consumption today and in the future using investments
- Allocation of risk
 - Allocate risk to the appropriate investors and financial instruments allows for easy risk management
- Separation of ownership and management
- Corporate governance and ethics

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Investments



Outline

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

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

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Balance sheet of a commercial bank

Assets			Liabilities and Net Worth		
	\$ Billion	% Total		\$ 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
			Total liabilities	\$ 9,361.3	89.9%
Financial assets					
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.

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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

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Major Classes of Financial Assets or Securities

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

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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

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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?
- $\text{Earnings} = (10,000 - 9,877.25) / 9877.25 = 0.01240 = 1.24\%$

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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

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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)

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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

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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

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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"

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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

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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

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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

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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	83.88	-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	26.75	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	242,200	16.8	9	---	---	27	-1.9
Gerdau Ameristeel	GNA	8.59	-0.04	446,200	11.02	5.85	0.08	0.9	7	-3.7
Gerdau S.A. Ads	GGB	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.

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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 are in the DJIA changes over time to reflect the overall stock market
 - Price-weighted averages

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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 $-2.5/62.5$

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

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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

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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

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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)

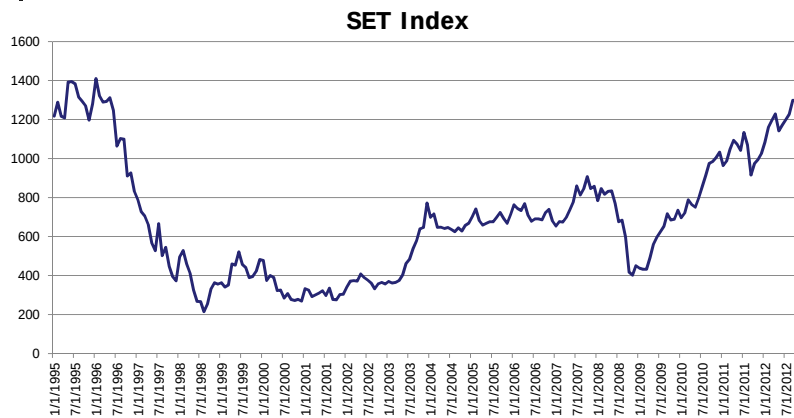
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Foreign and International Stock Market Indexes



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SET index



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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
- Major market in the US: <http://www.cmegroup.com/>

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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” position agrees to buy
- “short” position agrees to sell

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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

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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

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Futures contracts in Thailand

- Agricultural futures in Thailand (AFET)
 - Rubber,
 - Rice,
 - Canned pineapple,
 - Tapioca
- <http://www.afet.or.th/v081/english/>
- Other futures contracts (TFEX)
- Index futures, sector futures, stock futures, gold& silver futures, USD futures, Oil futures
- <http://www.tfex.co.th/en/products/products.html>

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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

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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?

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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

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Summary

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

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A photograph of a large, multi-story yellow building with a dark, tiered roof, likely a university building. The building has several windows and a central entrance. In front of the building, there is a statue on a pedestal and a set of stairs leading up to the entrance. The sky is overcast.

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