



BUSINESS

Finance For Non-Finance

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About The Instructor

Education

- B.Sc (Computer)
- M.Sc (Finance)
- PhD Candidate (Finance)

Experience and Interests

- Thomson Reuters, 2003-2011:
 - Jr/Sr Software Engineer + Trainer + BDDG
- Programming + Financial Research
- Training & Lecturing(TU,CMMU,CDTC)





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What's In It For You

This course **WILL**

- Give you a better understanding of **financial markets**, mainly Equity, Fixed-Income, FX and Money, and Derivatives markets
- Introduce you to **technical terms** frequently used in financial markets
- Introduce you to a **basic concept** of asset valuation & pricing , and financial modeling
- Give you a bridge between 2 worlds:
Com-Sci/Eng vs. Account/Finance/Econ

This course **WILL NOT**

- Give you any investment/stock picks ideas
- Exactly follows academic or CFA curriculums but rather cherry-picked topics that are most relevant



Course Objectives

After complete this course, you will be able to

- Explain the **characteristics** of securities in each markets: Stock, Bond, Option and etc..
- Explain **basic concept** of asset valuation, pricing, and financial modeling
- Explain **technical terms** that are frequently used in financial industry



Course Outlines(1/4)

Module 1: Introduction to Financial Markets

- The origin of financial markets and the overview of each markets
- Market Participants
- Market Mechanism

In Sum: This module will give you the **WHY**, the **WHO** and the **WHAT**

Who should attend: All are welcome



Course Outlines(2/4)

Module 2: Introduction to Equity Markets

- What is the characteristic of stock?
- Firm Valuation and Stock Valuation
- What is Risk and Return, Cost of Equity, Beta?
- Related **equity derivatives**

In Sum: This module will explain the concept of basic calculation regards valuation, pricing and modeling



Course Outlines(3/4)

Module 3: Introduction to Fixed-Income Markets

- What is the characteristic of Bill/Bond?
Government/Corporate?
- **Time Value of Money**
- Bond Pricing
- Related **bond derivatives**



In Sum: This module will explain the concept of bond pricing and the importance factor of its calculation



Course Outlines(4/4)

Module 4: Introduction to FX and Money Markets

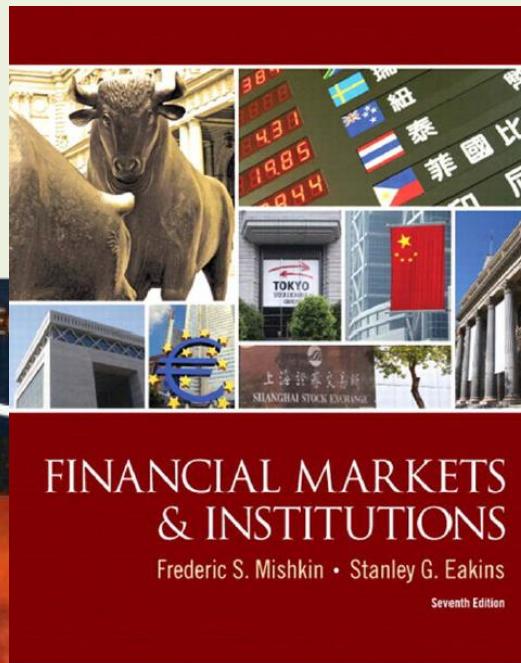
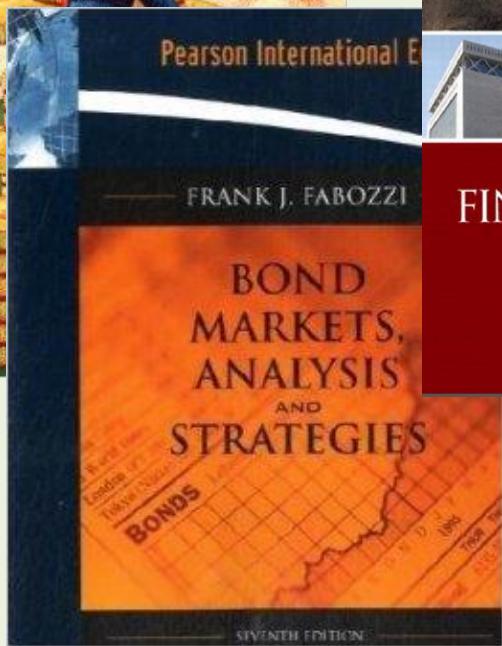
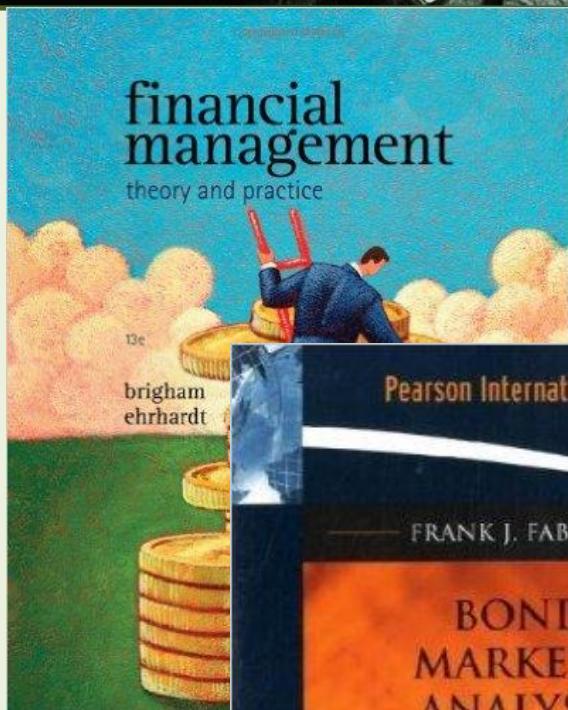
- What/Why Money Market?
- What/Why Foreign Exchange Markets?
- The Linkage between the two markets
- Related **MM&FX derivatives**

In Sum: This module will explain the concept of MM&FX trading and most important MM&FX derivative securities i.e. interest rate swap

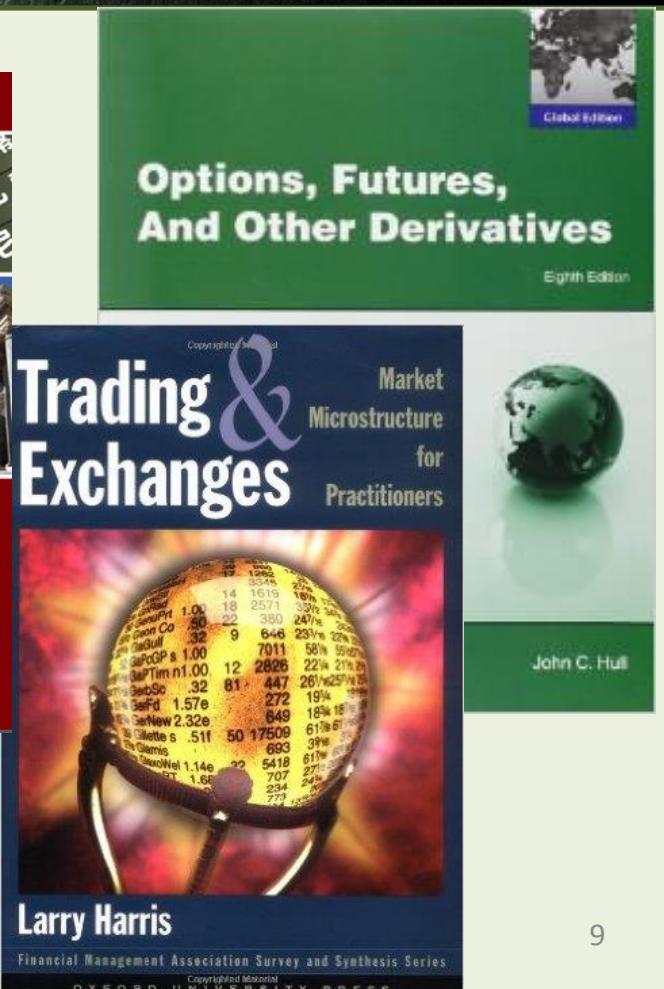


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..References..



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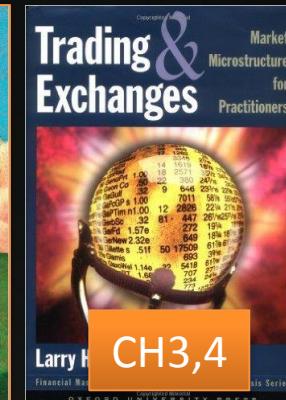
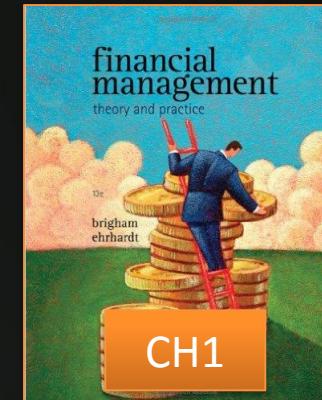


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Financial Management Association Survey and Synthesis Series
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Module 1

Introduction to Financial Markets

- The origin of financial markets and the overview of each markets
- Market Participants
- Market Mechanism





Preview..

“China's 'Black Monday' as stock market slides 8.5%”

- Fortune, August 24, 2015

“China’s Meltdown Goes Deeper Than the Stock Market”

-The Nation , August 27, 2015

“China Sells U.S. Treasuries to Support Yuan”

-Bloomberg, August 27, 2015



Why does
the WORLD so volatile these days

100 Years ago..

- Human/Factory drives the industry
- Business is almost 100% domestically located

Today..

- Technology and innovation
- Cross-border trades
- Massive International investment
- Enormous Foreign fund flows



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It's all about..

Debt Market
(Fixed-Income)

Equity Market

Financial
Markets

FX and Money
Market

Derivative
Market



Why do we need to study them?

Meet **Richie** and **Smart..**

- Mr.Smart **has a business idea**,
but he **doesn't have any money**
- Mr.Richie **has lots of money**,
but he **doesn't have any ideas**



If both can meet, a new business can start

- Both can **earn** more money
- Also, there'll be more **jobs offerings**

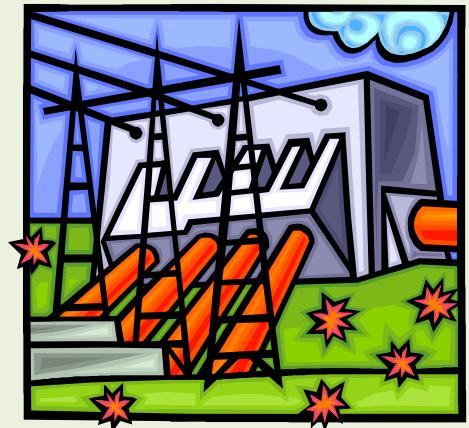


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Why do we need to study them?

The government and the households

- The government needs to build **new power plant**
- The households with surplus money want a **long term cash deposit**



If both party can meet, a new plant can start

- Both satisfy theirs needs
- Community will be better off



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Here is why..

WITHOUT financial markets

- Richie and Smart would never have met
- Government may need to prolong construction projects
- No **fund flows** from **savers** to **spenders**

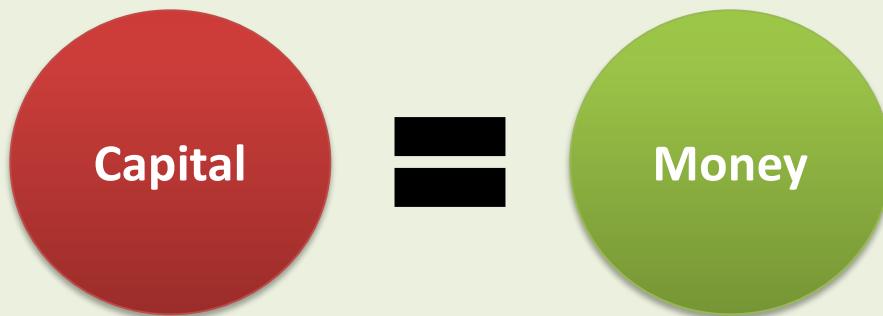
A WELL-FUNCTIONING financial markets offers

- Better goods and services
- Growth and sustainability
- Efficient allocation of capital
- Welfare of Society



What does a firm need?

A Firm needs **capital** to operate



- Office
- Factory
- Warehouse
- Human Resource
- Raw Materials



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There are Cost of Capital

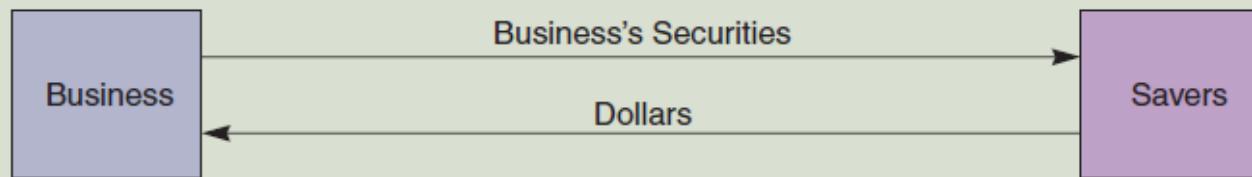
But wait! Business is not charity!





the Capital Allocation Process

1. Direct Transfers



2. Indirect Transfers through Investment Bankers



3. Indirect Transfers through a Financial Intermediary





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Transfer of Capital from Savers to Borrowers

Direct transfer

- **Example:** A corporation issues **commercial paper** to an insurance company.

Through an **investment banking house**

- **Example:** In an **IPO**, seasoned equity offering, or debt placement, company sells security to investment banking house, which then sells security to investor.

Through a **financial intermediary**

- **Example:** An individual deposits money in bank and gets certificate of deposit, bank makes commercial loan to a company (bank gets note from company).



Financial Intermediaries

Type of Intermediary	Primary Liabilities (Sources of Funds)	Primary Assets (Uses of Funds)
Depository Institutions(Banks)		
Commercial Banks	Deposits	Business and Consumer Loans, Mortgages, Government Securities and Municipal Bonds
Saving and Loan Associations	Deposits	Mortgages
Mutual Saving Banks	Deposits	Mortgages
Credit Union	Deposits	Consumer Loans
Contractual Savings Institutions		
Life Insurance Companies	Premiums	Corporate Bonds and Mortgage
Fire/Casualty Insurance Companies	Premiums	Municipal Bonds, Corporate Bonds, Stocks, Government Securities
Pension Funds, Government Retirement Funds	Employer/Employee Contributions	Corporate Bonds and Stock
Investment Intermediaries		
Financial Companies	Commercial Paper, Stock, Bonds	Business and Consumer Loans
Mutual Funds	Shares	Stocks, Bonds
Money Market Mutual Funds	Shares	Money Market Instruments



What is a Security?



A promise/contract between **borrowers(aka issuers)** and **lenders (aka investors or holders)**

- Usually means a promise to payback **principal + interest**
- Example of securities: stocks, bonds, notes, certificate of deposits,...etc..
- **Debt vs. Equity?**



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The Balance Sheet

Asset	Debt (Notes/Bond)	Equity (Stock)
<ul style="list-style-type: none">• Cash• Inventory• Plants/Land• Goodwill 	<ul style="list-style-type: none">• Type:<ul style="list-style-type: none">• Short term• Long term• Principal + Coupon• Creditor• Lower risk/return• Superior claims 	<ul style="list-style-type: none">• Type:<ul style="list-style-type: none">• Common Stock• Preferred Stock• Capital Gains + Dividend• Owner• Higher risk/return• Inferior claims



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Debt vs. Equity

Debt

- A promise to payback **principal + fixed interests**
- **Time limits (maturity)**
- Lower risk, lower return
- Holder is Creditor(no voting rights)
- First claim

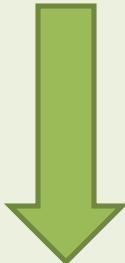
Equity(Preferred stock, Common Stock)

- **No promises!**
- No time limit(perpetual)
- Higher risk,
high **expected** return
- Holder is Owner(voting rights)
- Last claim

Debt Holder Claimants

Preferred Stock Claimants

Common Stock Claimants





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Financial Markets and Asset Classification

So, Financial Market *is*

- A **market** (either physical venue or via electronic network) where **investor/borrower** meets and **buy/sell** financial **securities(assets,instruments)**

Asset Classifications

- By Time of Investment
 - Short Term
 - Long Term
- By Product/Claims
 - Bill, Bond, Notes, Debenture, Loan
 - Preferred stock, Common stock
 - Forwards/Futures/Option

Trading Classification

- Over the counter (OTC)
- Exchange traded (Open Outcry)
- Electronic trading system



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Example of Financial Instruments

Foreign Exchange Instrument

- Spot FX, Forward Rate, FX Swap

Money Market Instrument

- Deposit, CD, Repo, Treasury Bills

Bond Market Instrument

- Domestic Bond, Foreign Bond, International Bond, Eurobond

Equity Market Instrument

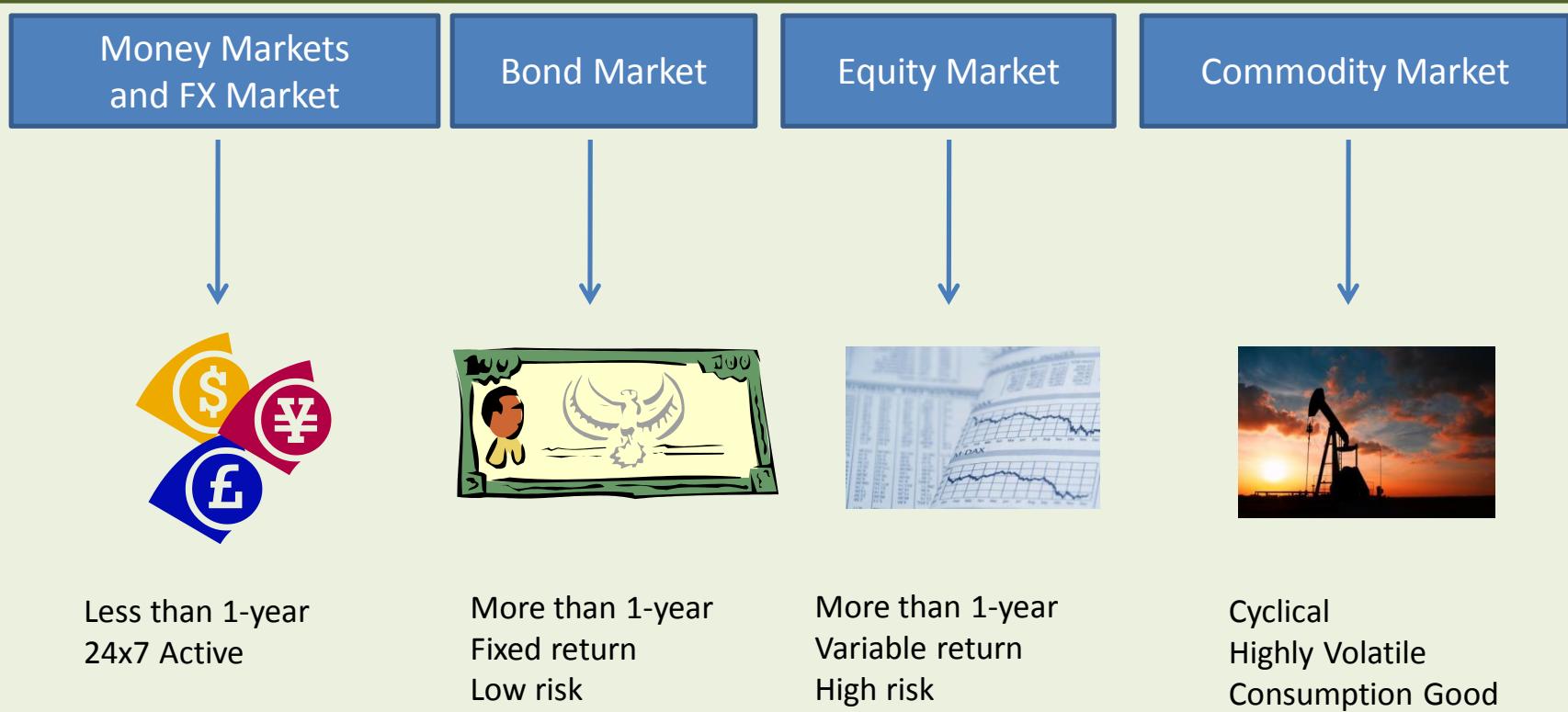
- Preferred stock, Common stock, Warrant, Unit Trust

Derivative Market Instrument

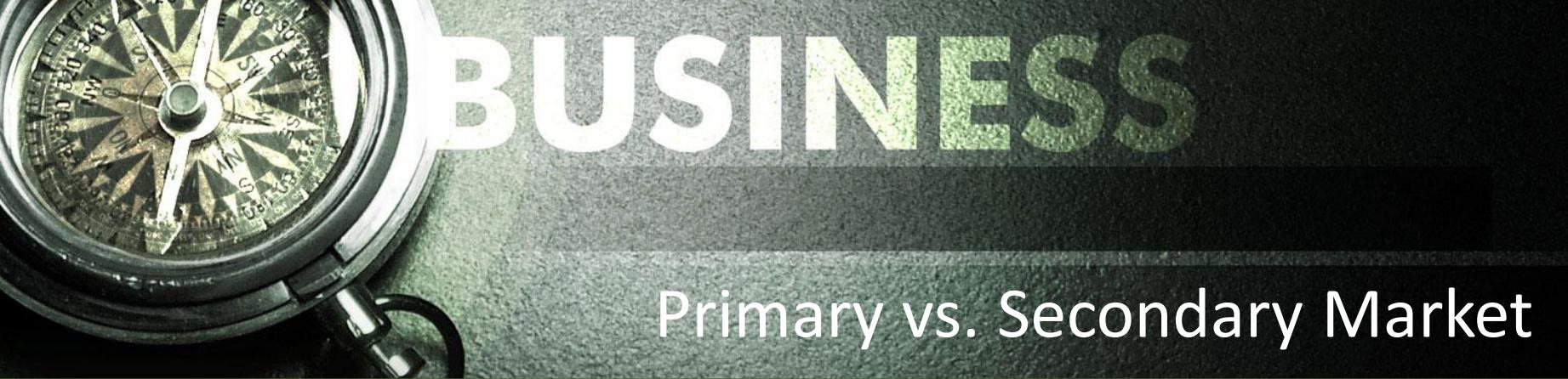
- Forward, Futures, Swap, Option, **CDS, CDO**



Financial Markets



**Capital Market?
Derivative Market?**



Primary vs. Secondary Market

Primary Markets

- The market where firms raise the funds by issuing new securities - **Initial Public Offering(IPO) and Seasoned equity offering(SEO)**

Secondary Markets

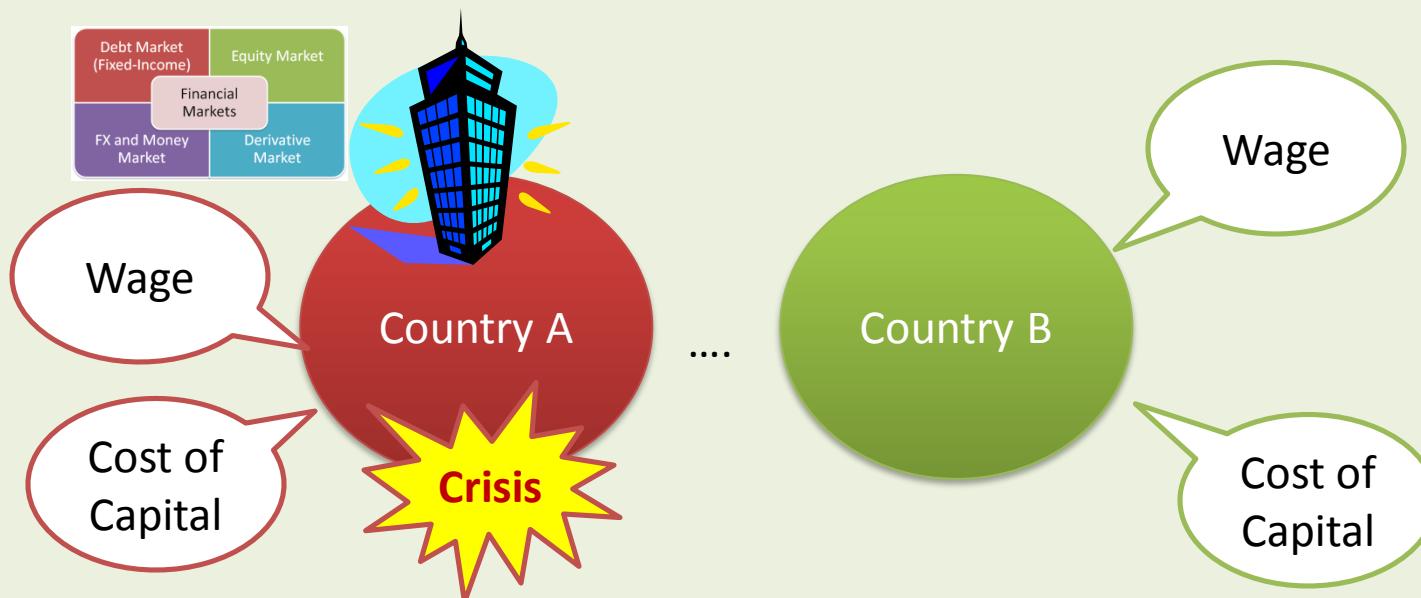
- The **subsequent trading after a primary market** issue. Fund are transferred from an investor to another with **no effect** on the cash flows of the issue firms



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Again, Why does
the WORLD so volatile these days

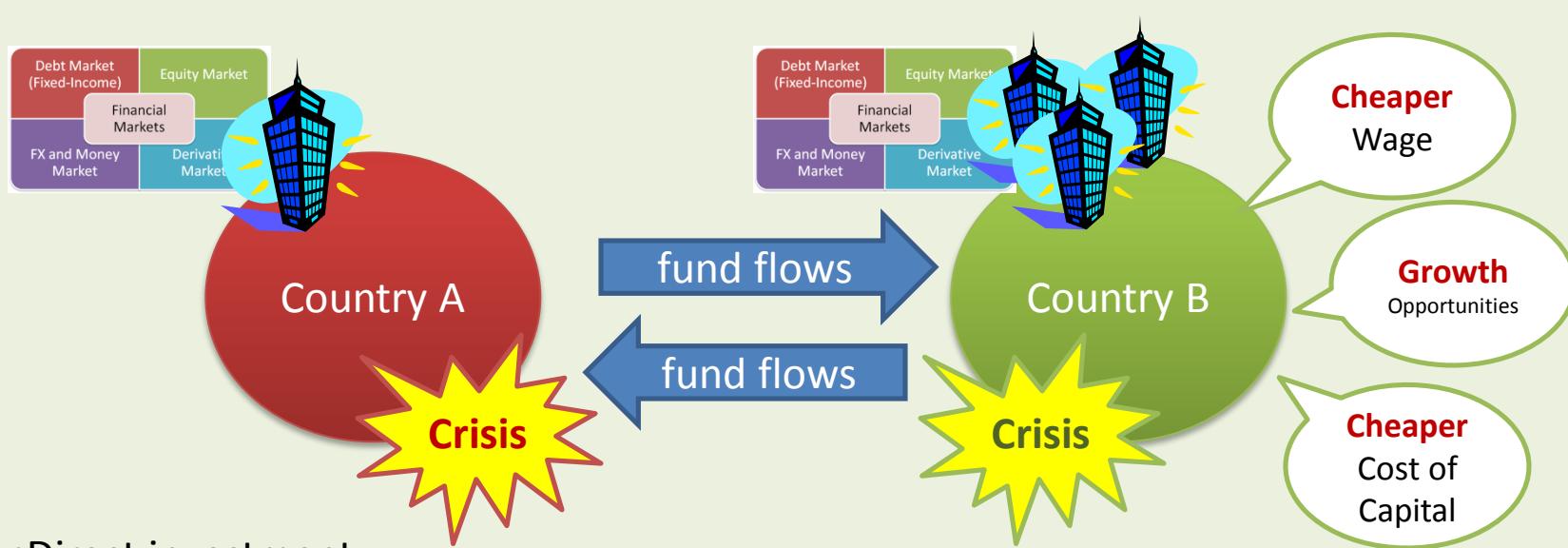
100 years ago..





Again, Why does
the WORLD so volatile these days

Today....



- Direct investment
- Indirect investment via **financial instruments** thru **investment banks** and **financial intermediaries**
- Does crisis **confine** in **one country, one financial market?**
- Can you guess which **region** is country A and country B?



Concept Checks!

What are the channels that fund transfer from **savers** to **borrowers**?



What is **Capital** and What is **Cost of Capital**?

What is **short term investment** and **long term investment**?

Does issue firm gain additional cash flows from secondary market?

Stock investor is the first claimant, true or false?



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Concept Checks!

Put these keywords in the boxes!

last claim

voting
rights

cost of
capital

default

coupon

commercial
paper



capital
gains

debenture

PE

Put Option

dividend

หุ้นบุกิมลิที

หุ้นสามัญ

หุ้นกู้

first claim

Call Option

Maturity

Principal

Beta

Debt

Equity



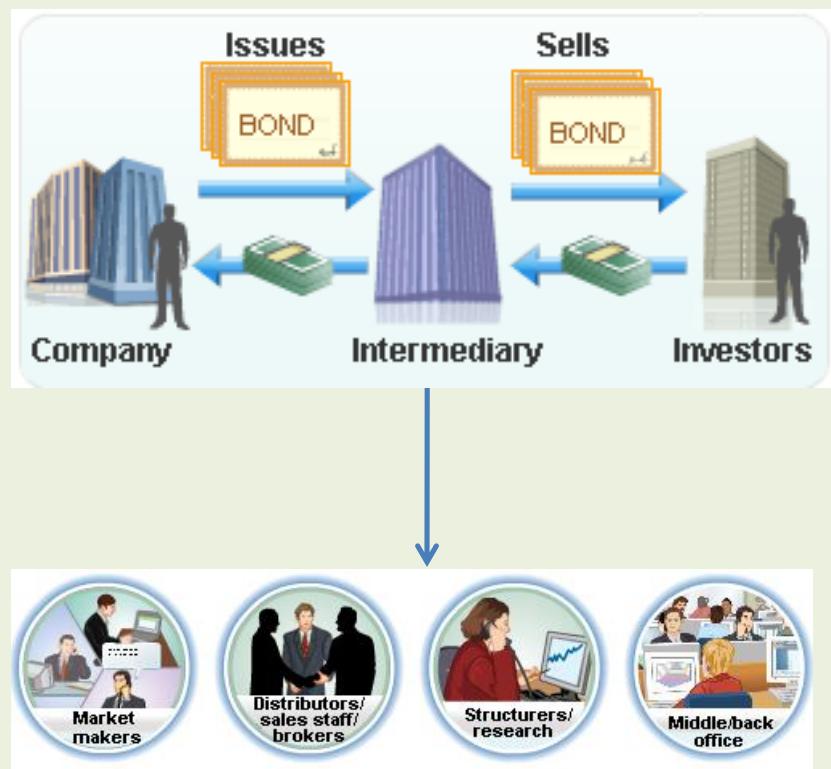
Market Participants and Market Mechanism

Saver/Lender/Investor

Borrower

Financial Intermediaries

- Market Maker/Dealer
- Broker/Sale
- Research
- Middle/Backend office





A Simple Scenario

John is an individual investor, John wants to buy **100 SHARES** of **XYZ** company. What does he need to do? Can he walk right up to the stock market and buy it?

- **NO**, only individuals with license can participate in buy/sell at the stock market
- John need to open an account with a broker, either **cash account** or **margin account**
- John submits **BUY ORDER** to his broker, the ORDER contains **[SYMBOL, QUANTITY, ORDER TYPE]**
- The **broker** then carry on John's order, usually T+3, and earns small commission



Technical Terms

Individual investor vs. Institutional investor

- Individual(Institutional) usually submit small(large) quantity order
- Large quantity order creates **price impact**. Price impact creates **volatility**

BUY ORDER, SELL ORDER, and ORDER TYPE

- If you wish to **BUY(SELL)**, you submit **BUY ORDER(SELL ORDER)**
- You usually specify the **QUANTITY** of shares to **BUY/SELL**
- You also specify **ORDER TYPE**, depends on the nature of immediacy
 - If you want to buy/sell **FAST**, you issue **MARKET ORDER**
 - You will transact at the **BEST** price available. **BEST**=Highest Ask(Offer) Price, Lowest Bid Price
 - That is, you will buy(sell) at the most expensive(cheapest) price
 - If you want to buy/sell at a **SPECIFIC PRICE** or **BETTER**, you issue **LIMIT ORDER**.
 - **BETTER**= buy at cheaper price, sell at higher price

MATCHED ORDER = when BUY ORDER matches SELL ORDER, both quantity and price.



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If you issue **MARKET BUY(SELL)**, you buy(sell) at 28(26)

If you issue **LIMIT BUY(SELL)**, your order will be prioritized by price/quantity in limit order book

Spread=Ask Price-Bid Price

Width=Spread, small(large) imply high(low) liquidity

Depth=The depth of the standing buy/sell order. Deep in both buy/sell means sufficient volume, least likely to incur market impact

Limit Order Book

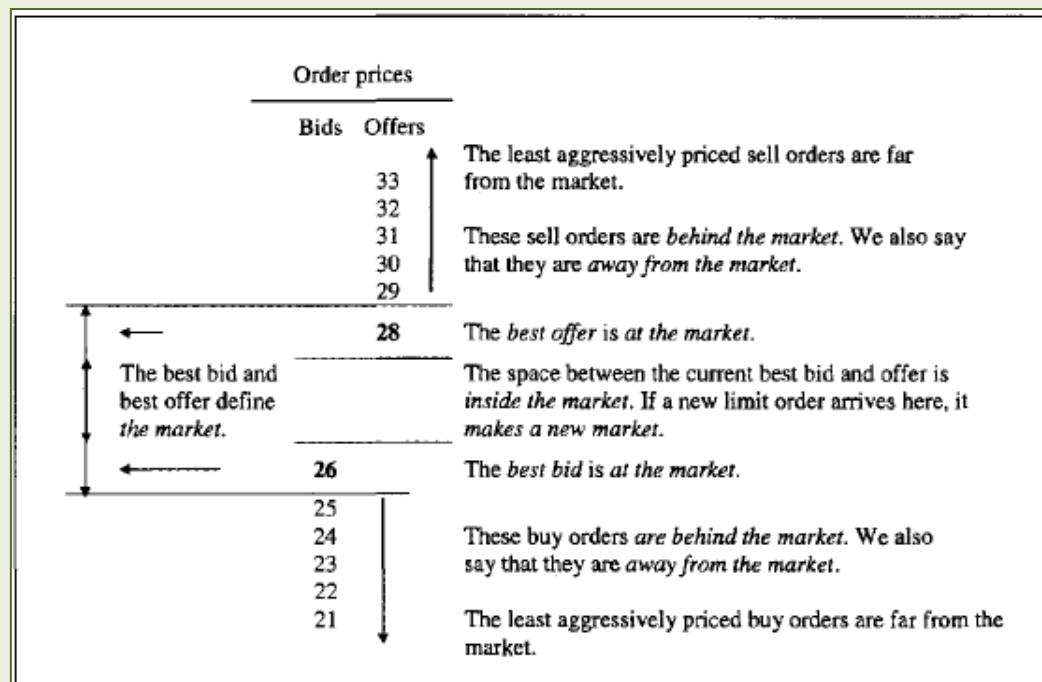


FIGURE 4-2.
Terms Traders Use to Describe Standing Limit Orders

High Liquidity + Deep Market = Sustainable Market



Level I vs. Level II vs. Level III Data Access

Level I

- Only current Bid/Ask
- Market Spread

Level II

- All Level I
- Who/Where/How Much/Which Price

Level III

- All Level II + Enter Information
- Limit only to Dealer/Market Maker

&DJI		11495.84	28.50	COMP		2279.70	0.17	NYA		8478.40	-21.34
Symbol	Name		Last Trade	% Change		Volume	10d Avg Vol	Day's Range	Hours to close		
WM	Washington Mutual Inc		5.49	0.18		97,702,966	117,901,520	4.70-5.80	1:02		
5.45	5.46	5.47	5.48 ↓	5.49	5.50	5.51	5.52 ↓	5.53	5.54		Trend Indicator
5000 ↑	8000 ↑	11875 ↑	16784 ↓	20500 ↑	14385 ↑	15500 ↑	12200 ↓	14800 ↓	5700 ↓		
MMID	Time	Size	Bid		MMID	Time	Size	Ask			Time & Sales
		20500	5.49				14385	5.50			
NSDQ	14:57:36	20500	5.49		NSDQ	14:58:48	14385	5.50		2700	14:58:45 ↓ 5.49
NSDQ	14:55:15	16784	5.48		NSDQ	12:17:39	12000	5.51		100	14:58:45 5.50
NSDQ	14:55:12	11600	5.47		UBSS	12:35:54	3500	5.51		100	14:58:45 5.50
UBSS	14:56:09	275	5.47		NSDQ	14:13:24	12100	5.52		100	14:58:45 5.50
NSDQ	14:53:33	8000	5.46		MADF	14:54:12	100	5.52		100	14:58:45 5.50
NSDQ	14:52:21	5000	5.45		UBSS	12:16:12	500	5.53		100	14:58:45 5.50
MADF	14:53:27	600	5.45		NSDQ	12:37:15	14300	5.53		600	14:58:45 5.50
NSDQ	14:43:54	4400	5.44		NSDQ	14:33:09	5700	5.54		100	14:58:45 5.50
NSDQ	14:43:03	1600	5.43		NSDQ	12:13:06	9400	5.55		100	14:58:45 5.50
NSDQ	14:42:39	15600	5.42		UBSS	12:19:03	5000	5.55		600	14:58:45 5.50
NSDQ	14:36:03	800	5.41		NSDQ	14:57:36	2100	5.56		200	14:58:45 5.50
NSDQ	14:28:57	14300	5.40		NSDQ	12:21:30	3200	5.57		100	14:58:45 5.50
NSDQ	14:28:06	7000	5.39		UBSS	14:35:57	500	5.57		500	14:58:45 5.50
NSDQ	14:22:54	300	5.38		NSDQ	14:55:21	600	5.58		600	14:58:45 5.50
NSDQ	14:22:39	800	5.37		NSDQ	12:11:03	8500	5.60		100	14:58:45 5.50
NSDQ	14:22:39	800	5.36		NSDQ	14:55:00	200	5.61		100	14:58:45 5.50
NSDQ	14:20:45	800	5.35		NSDQ	11:39:21	6000	5.62		500	14:58:45 5.50
NSDQ	14:20:45	200	5.34		NSDQ	14:57:57	200	5.63		400	14:58:45 5.50
MSCO	14:49:18	1100	5.34		MSCO	14:58:42	1100	5.63		400	14:58:45 5.50
NSDQ	14:20:15	500	5.33		NSDQ	14:58:33	400	5.64		400	14:58:45 5.50
NSDQ	14:11:15	20900	5.32		NSDQ	11:36:12	2000	5.65		100	14:58:45 5.50
NSDQ	14:10:51	200	5.31		UBSS	11:38:24	5500	5.65		115	14:58:45 5.50
NSDQ	14:10:12	2500	5.30		NSDQ	12:17:30	4246	5.68		1700	14:58:45 5.50
NSDQ	14:55:15	100	5.29		NSDQ	14:17:54	5700	5.69		200	14:58:45 5.50
NSDQ	14:09:39	75	5.28		NSDQ	11:32:18	3820	5.70		400	14:58:45 5.50
NSDQ	14:08:39	500	5.27		UBSS	12:13:24	500	5.71		300	14:58:45 5.50
NSDQ	14:08:18	500	5.26		NSDQ	11:32:06	11000	5.72		300	14:58:45 5.50



Technical Terms

- **Broker** are those who carry investors' order, broker **do not hold** inventory
- **Dealer/Market Maker/Specialist** hold inventory and provide liquidity to markets. They may also trade among themselves
 - Depends on which financial market, there may/may not be dealer/market maker/specialist on the floor
 - Profit=Buy Low and Sell High!



The Industry The Buy Side vs. The Sell Side

The Buy Side

- The buy side of the trading industry includes individuals, funds, firms, and governments that use the markets to help solve various problems they face
- Many buy-side institutions are pension funds, mutual funds, trusts, endowments, and foundations that invest money



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The Industry The Buy Side vs. The Sell Side

TABLE 3-1.
The Buy Side of the Trading Industry

TRADER TYPE	GENERIC EXAMPLES	WHY THEY TRADE	TYPICAL INSTRUMENTS
Investors	Individuals Corporate pension funds Insurance funds Charitable and legal trusts Endowments Mutual funds Money managers	To move wealth from the present to the future for themselves or for their clients	Stocks Bonds
Borrowers	Homeowners Students Corporations	To move wealth from the future to the present	Mortgages Bonds Notes
Hedgers	Farmers Manufacturers Miners Shippers Financial institutions	To reduce business operating risk	Futures contracts Forward contracts Swaps
Asset exchangers	International corporations Manufacturers Travelers	To acquire an asset that they value more than the asset that they tender	Currencies Commodities
Gamblers	Individuals	To entertain themselves	Various



The Industry The Buy Side vs. The Sell Side

The Sell Side

- The sell side of the trading industry includes dealers and brokers who provide exchange services to the buy side. Both types of traders help buy-side traders trade when they want to trade
 - Services: order handling, market research, financial advice and information



BANK OF THAILAND

Bank of Thailand Act

The BOT Act sets out the objectives, scope of working and organization structure of the Bank of Thailand in accordance with the international central banking standard in order to maintain the financial system, the financial institution system and the payment system stability and efficiency through the transparency and accountable procedure.

Currency Act

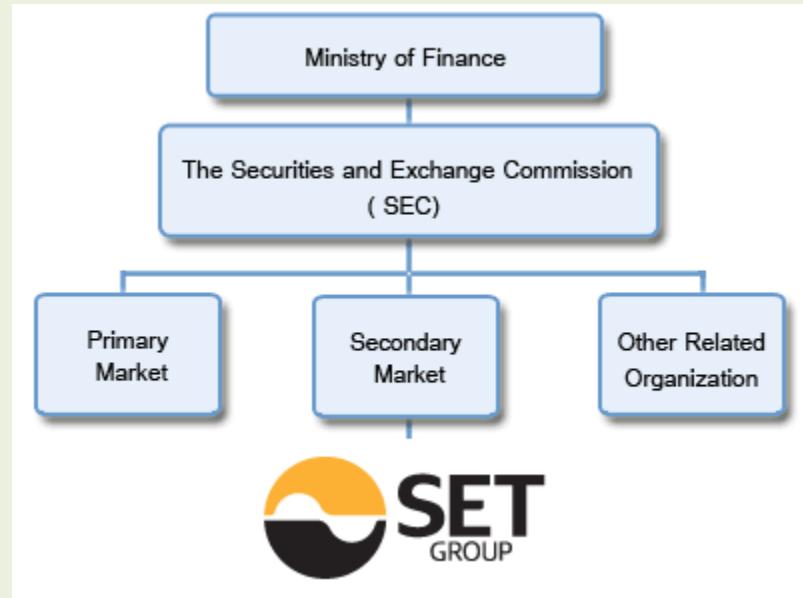
Under the act, the Bank of Thailand has the duty to manage international reserves and to maintain currency reserve in accordance with related laws to ensure the stability and confidence in the currency. Besides, the BOT also has the duty to design, print, issue, manage and oversee banknotes, in order to ensure that there are banknotes in an adequate circulating amount in line with demand by the economic system.

Financial Institutions Businesses Act

The objective of this act is to enhance the risk management measures of the financial institutions, to ensure the prudential and protect the damage which may result from the financial institutions undertaking. It also has the aim to maintain economic stability and entrust the depositors and the public by prescribing the good governance rules for any person who perform the duty of a director, a manager, an officer or a person with power of management of financial institutions.

Exchange Control Act

The legal basis for exchange control in Thailand is derived from the Exchange Control Act (B.E. 2485) and Ministerial Regulation No. 13 (B.E. 2497) issued under the Exchange Control Act (B.E. 2485). These laws set out the principles of controlling, restricting, or prohibiting the execution of all exchange or other operations in which foreign currency is concerned in whatever form.





Summary & QA

Summary of Module 1

- The WHO=
- The WHAT=
- The WHY=



...Next Stop...

Module 2: Introduction to Equity Markets

- What is the characteristic of stock?
- Firm Valuation and Stock Valuation
- What is Risk and Return, Cost of Equity, **Beta**?
- Related **equity derivatives – Put/Call Option, SET Index Future, Gold/Silver Future**

In Sum: This module will explain the concept of basic calculation regards valuation, pricing and modeling