Financial Markets and Trading

Financial Instruments

Secondary Markets

Stock Market Indexes

Orders

Margin

Short Sale

1. Financial instruments

A. Money Market Instruments

Treasury bills,Certificate deposit, Commercial paper..

Called Cash because of their liquidity and safety

B. Government Fixed Income Securities

Federal Bond, Provincial Bond,

C. Corporate Fixed Income Securities

Corporate bond, International Bond,

Mortgage backed securities, Preferred stock..

D. Common Stocks

- They are thousands of publicly traded common stocks available in the market,

  <u>One classification</u> could be based on
- Size (called also <u>market capitalization</u>)
  - Large Cap stocks : $10 bln and up

    (stable, lower growth potential because of the size)
  - Mid Cap stocks : between $2bln and $10 bln
  - Small Cap stocks : less than $2bln

- Style
  - “Growth" company

  _Ex Tech companies ..
  - “Value” company

    Ex McDonalds, Pepsi…
  - “Cyclical" company

    Sensitive to business cycle

    Ex Auto manufacturing, home-building..etc

- Sector
  - Standard & Poor's breaks stocks into

    10 sectors (consumer, health care, technology, financials, utilities..)

    Health care and technology ►fastest growing sectors

    Consumer, financials, and utilities ► more stable with moderate growth.

    The other sectors tend to be cyclical

    expanding in good times and contracting during recessions

E. Derivatives

- Basic Positions
  - Call : Long vs Short
  - Put : Long vs Short
- Terms
  - Exercise (Strike) Price (pre-determined price)
  - Expiration Date (maturity)
  - Underlying Assets (stock, bond, currency…)

2.Classification of stock markets

A. Primary Market

B. Secondary Markets Types

First Market – Organized exchange :

Central location, auction, large firms,Listing requirements

Ex NYSE 1st Tier Stocks - Bleu chips (Old and elite firms)

Note: not all stocks are bleu chips

Large capitalization, top quality in terms of stablilty…

Ex Toronto Stock Exchange (TSX)

Order Flow- buy a share of GM - NYSE

Customer → Acct Rep →

Round lot **Odd lot**

= 100 shares < 100 shares

Commission broker
(Partner to broker)

Specialist

GM

Floor broker
(Free lance broker)

Floor traders -
registered competitive traders

Duties of a specialist

- 1 specialist per 1 stock/many stocks
- Maintain a book of all unexecuted orders and publish Bid-Ask (spread of specialist)

  {Highest purchase price – Lowest selling price }

  Ex Bid: $30 Ask : $32
- Act as market maker (Dealer) in a given stock
- Act as broker

  ► Purpose is to maintain stability and continuity in the market…

2^{ND} MARKET- Dealer Market

Dealers purchase assets for their own accounts, and sell them for a profit from their inventory

NASDAQ

(computer linked network)

Trade

- Second tier stocks
- Emerging stocks

(young firm w/high potential but high risk)

- Penny Stocks (speculative but not solid)

The Top Ten Stock Exchanges in the World

By Market Capitalization (in millions USD)				
Exchange	End of Dec. 2012	End of Dec. 2013	% Change in USD	% Change in Local Currency
NYSE Euronext (US)	14,085,944.1	17,949,883.8	27.4%	27.4%
NASDAQ OMX	4,582,389.1	6,084,969.7	32.8%	32.8%
Japan Exchange Group—Tokyo	1,179,419.5	4,543,169.1	30.6%	58.7%
NYSE Euronext (Europe)	242,764.9	3,583,899.7	26.5%	21.1%
Hong Kong Exchanges	428,222.6	3,100,777.2	9.5%	9.5%
Shanghai SE	1,150,172.3	2,496,989.9	−2.0%	−4.7%
TMX Group	2,058,838.7	2,113,821.8	2.7%	9.6%
Deutsche Börse	59,182.0	1,936,106.3	30.3%	24.6%
SIX Swiss Exchange	161,855.5	1,540,699.8	24.9%	21.4%
Shenzhen SE	765,078.0	1,452,153.6	26.3%	22.7%

Flow of Orders

Differences with Organized

- No central location
- Negotiated market
- Dealer's market (no specialist)
- Can have more than 1 dealer per 1 stock

Dealer

GM → Dealer1
GM → Dealer2
GM → Dealer3

Organized

Specialist → GM

Costs of Trading

Broker commission *plus* Bid-Ask spread

- Commission: fee paid to broker for making the transaction
  - Full service broker

  Execution+ Additional services such as advice, research..etc
  - Discount broker
- Spread: cost of trading with dealer
  - Bid: price dealer will buy from you
  - Ask: price dealer will sell to you
  - Spread: ask - bid

Example

- Buy and sell 100 shares of XYZ firm

XYZ firm : [bid = $49.75 ask = $50]
commission = $15

► Buy:

► Sell:

► Trading cost :

Pricing terminology

- **Tick:** unit of trading
  - ►1/8 of a dollar prior to 2001 in US: e.g. 22 $^{1/8}$
  - ►.01 since then: e.g. 22.01 vs 22.02 vs 22.07
- **Closing prices:** last prices prior to closing of the exchange
- **Opening prices:** first prices at opening of the day

3rd market

trade listed stocks (first market) on NASDAQ (2nd Market

Ex : ATT

4th market

trade directly w/out brokers

Ex Instinet

3. Stock Market Indexes

Measure the return of a basket of securities

Why important?

- Measure general performance of the economy (Indicator in advance)
- Bench mark for portfolio managers

  Comparing performance of managers
- Assess the direction of the market (speculation)
- Used to estimate beta, σ…etc (modeling)
- Base of derivatives

Constructing an Index

- **Price weighted Average**

Ex Dow Jones Industrial Average

Price weighted average of 30 blue chip sks …out of more than 3000 stocks

$$DJIA = \sum P / D$$

D is adjusted for stock split, stock dividend

►Sensitive to higher price stock

Market Value index

TSX, SP 500, NYSE Index, NASDAQ

Style Indexes such as small cap indexes RUSSELL 2000 , WILSHIRE 1750 …etc

Ex $\quad SP\ 500 = \sum P\ Q\ /(Base)$

Sensitive to higher value stock

4.Types of Orders

Market order : buy/sell at the best current price

Market buy : buy at the **lowest** ask price

Market Sell : Sell at the **highest** bid price

Limit orders (set condition)

limit buy : order to **buy** at a specified price or better (P*or lower)

limit sell : order to **sell** at a specified price or better (P* or higher)

Example

- Suppose that the highest limit-buy order for a stock is $30 while the lower limit-sell order is at $32.
- When a market buy order comes in, it is matched to the best limit- sell at $32.

A market sell order would be matched to the best limit- buy at $30.

- As market buys and sells come to the floor randomly, the stock price would fluctuate between $30 and $32.

- **Stop orders (special orders)**

  Order that specifies a given price at which point it becomes a market order

  Stop Loss : order to sell if stock price hits a specified price P* or lower

  Stop buy : order to buy if stock price hits a specified price P* or higher

Types of Orders

	CONDITION	
ACTION	If Price ≤ P*	If Price ≥ P*
Buy	------------------------	------------------------
Sell	------------------------	------------------------

Example

- if you own stock ABC, which currently trades at $20, and you place a stop order to sell (stop loss) it at $15

- you bought stock XYZ at $10 per share and now the stock is trading at $20 per share. You place a stop order to sell (stop loss) at $15 if you want to buy stock ABC, which is trading at $12, you can set a limit buy for $10..

you own stock ABC and it is trading at $12, you could place a limit sell at $15

5. Buy on Margin

- Buy (long) securities with borrowed money..

  Why?   Bullish
- Investor borrows part of the purchase from the broker at a rate called margin interest rate
- Equity investment could be cash or securities
- Securities bought on margin are left with brokers as collateral-"Acct in Street Form"
- Regulators set limits on buying on margin .i.e limit the margin to which stock purchases can be financed via margin (=Equity/Securities)

  Initial Margin = 50%

  Maintenance Margin = 30%

Example

P_0 = \$100, buy 100 shares financed with 40% of the value of securities at r_B = 10%

Acct with broker

Initial Margin =

Maintenance Margin = 30%

End of year → If stock price = $120

With margin

Income =

Return =

Without margin

Income =

Return =

End of year ► if stock price = $50

Brokers do daily marked to market to find out margin call

Acct with broker

Sk	Loan
	Equity

Margin =

Question

How far could the stock price fall before you receive a margin call?

6. Short Sale

- Investors borrows the stocks and sell them..

  Why? Bearish
- Proceeds from sales must be kept with the broker as collateral
- Provide collateral to cover any loss
- Cover (offset) the short position

  i.e. repurchase the share and give it back to the original owner (and pay any dividend, if any)
- Margin requirements (same as margin)

  Initial Margin

  Maintenance Margin

Example

P_0 = \$100, shortsell 1000 shares,
provide collateral = \$50K of T-bills

Acct with broker

Initial Margin =
Maintenance Margin = 30%

End of year ► if stock price = 80,

Dividend paid out = $1/share

Profit =

Return =

End of year ► if stock price = 120

Loss =

Return =

Hedge against price increase using order?

Question

How far could the stock price …… before you receive a margin call?