Capital market

9th October 2008

Capital market

- Organized capital market exists in the form of
  - Stock exchange (stock market)
  - Off-exchange stock (off-exchange stock market)

Stock Exchange

- Stock exchange is
  - Organized
  - Secondary market
- It is the place where is trading
  - with special product in the form of investment instrument
  - according to exactly defined conditions
- These conditions determines
  - Subjects that have an entry to the stock exchange
  - Type and characteristics of trading instruments
  - Rules, procedures and technique of trading
  - Place and time of trading

Historic outline of stock exchanges

- The origin of stock exchange is related with 12th – 13th century in Italian cities – Genoa, Venice or Milan.
- There were organized informal, irregular meetings of Italian traders.
- There were trading with securities in the form of bill of exchange and later with debenture bonds and there was possible to exchange coins of particular currency to another.
- In the 15^{th} and 16^{th} after discovery of America and voyages in East India the stock exchange moved to Brugg and later in Antwerp.

Historic outline of stock exchanges

- As the initial point of modern stock exchange trading is consider establishing of Antwerp Stock Exchange (1531).
- During 16^{th} – 17^{th} century are establishing stock exchanges in
  - France
  - Holland (Amsterdam 1608)
  - England (London 1564-1567)
  - Germany

Historic outline of stock exchanges

- The Stock Exchanges were open only for limited number of person.
- There were established clubs – limitation of entry to stock exchange
- Stock Exchange clubs draw up charger
  - membership
  - information about rate of Exchange
  - entrance to Stock Exchange
- Traders organized in clubs established exact rules of trading.
- The financial instruments trading in Stock Exchanges were
  - Bill of exchange, debenture bonds and coins.
  - since the beginning of the 17th century there were trading first stocks.

Historic outline of stock exchanges

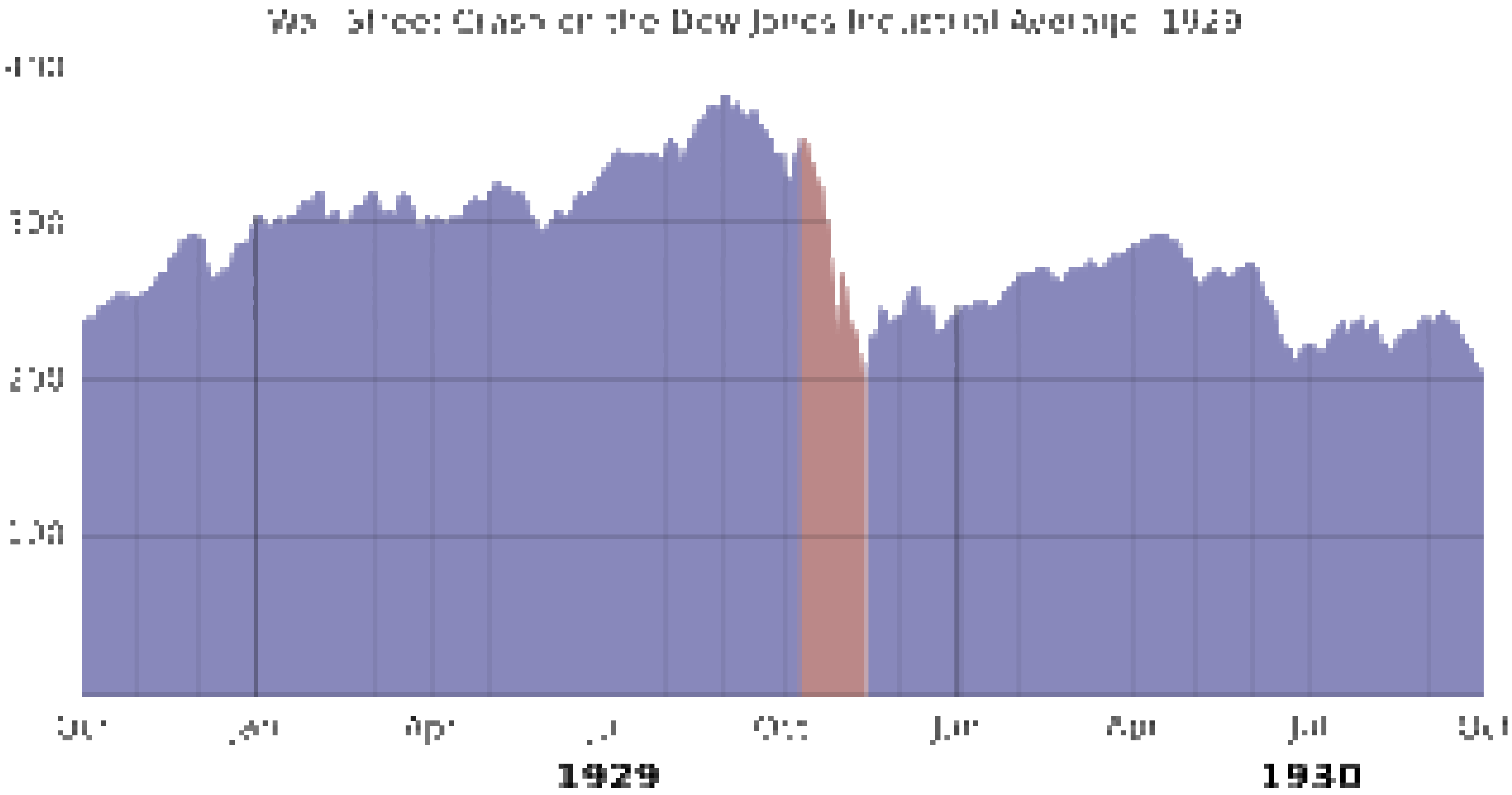
- In that time are founded in Holland first joint-stock companies sea-traded with long-distance areas in Asia.
- Ship construction and sailing was very costly but also offer height profit that was also related with height risk.
- These joint-stock companies need capital and as a confirmation of provided capital issued certificates labeled as a stocks.

Historic outline of stock exchanges

- In 1608 was established Amsterdam Stock Exchange that was trading with stocks of
  - East India Company that had the monopoly for trading with East India
- The trading with stocks in Amsterdam Stock Exchange establishing stock speculation and speculative trading.
- At the beginning there were mostly short-term contracts later were added also deposit contracts.
- All stock exchanges were developed separately there was a problem with communication – difficulties with delivery of correspondence.
- The break point - 19th century and invention of telegraph.
  - The easier and quicker moving of information helped to establish international financial market.

Historic outline of stock exchanges

- During 19th century are stabilized classic stock exchange markets.
- The interest of investors about stocks is rising.
- Stocks are dynamically developing and there are the object of speculative trading. This is related with rising risk in stock exchange market.
- Capitals markets are developed cyclically and are suffered by some crisis every 7-8 years.
- The development of Stocks Exchange is interrupted by WWI.
- Interwar period boom in stock trading that was interrupted by October 1929 and NYSE crash and economic crisis in 1929-32.
- Situation in financial market was solved by
  - strong, restrictive interventions in operation of financial market,
  - changing of legislation,
  - limitation of risk and speculative transactions by government.


1929
1930

Historic outline of stock exchanges

- Till WWII the world stock exchanges recovered only partially.
- During WWII were trading in Stock Exchanges interrupted.
- After WWII there were 3 ways of development
  - In countries with central planned economy (the Czech Republic, Poland, Hungary, SSSR)
    - Stock Exchange has not existed till the 1990's.
    - There existed only some commodity exchanges with marginal interest e.g. Poland or SSSR
  - In one group of market oriented countries (France, Austria, Finland or Sweden)
    - there was apply economic policy base on state interventions that limited market mechanism in these countries.
    - the Stock Exchanges existed but played marginal role in allocation and distribution of financial resources till the 1980's.
  - In second group of market oriented countries (USA, GB, Canada)
    - The stock Exchanged continued in prewar development.
    - Stock Exchanges operated in market principles under strong regulation but it fulfilled its function in market economy.

Historic outline of stock exchanges

- In the 1980's started changes in world stock exchanges.
- Reasons
  - Changes in applied economic policies a system of regulations
  - Swing to liberalism and independent market competitions
  - Privatization of state companies
  - End of central planned economics in central and east Europe
  - Increase to competitions and increase of financial risks.

Typical development trends

- Electronization of stock exchange markets
  - Traders do not meet on the SE parquet
  - Automatic dealing through computer system\
- Deregulation
  - Strong regulation tools are replace by market and liberal methods.
  - Regulation authorities limited its interventions in financial market.
- Establishing of new SEs
  - As a reason of transformation process in former central planned economic.

Typical development trends

- Securitization
  - Process in which is
    - reducing of financial resources allocated by bank loan and
    - raising of financial resources allocated by securities.
  - The aim of securitization is transformed un-trading assets (bank loan) to trading assets (bonds).
  - The securitization started in 1970's as a reason of strong bank regulation e.g. capital adequacy (rate of own capital to risk weighted assets).
    - It mean the more risk assets bank has the more own capital must hold.
    - But own capital in this case is unused and bank loses possible profit from placing capital in financial market - decline profitability of own capital.
  - Banks are concentrated bank loans with similar characteristics (mortgages) in "packages" that sell to non-bank institutions that are not over strong regulation by government.
  - These non-bank institutions issued securities their underlying are future incomes from loans.
  - These securities are placed in financial market through investment banks.

Typical development trends

- The increase of number of trading instruments and volume of trading.
- New financial products
  - It is a reaction to increase of financial risks since the 1970’s.
  - Typical new financial products are several kinds of options, financial futures and debenture bonds innovations. That offer possibilities for investors to hedge against increasing risk.
  - Indirect effect of using these products for hedging were using them for speculations.
  - At the of 1990’s - investment certificates and ETFs (Exchange Traded Funds).

Typical development trends

- Institutionalization
  - the most of the stock exchange operations are realized by institutional investors (investment banks, insurance company, investment funds, etc.)
- Consolidation of financial institutions
  - the number of financial institutions is decrease but their large is increase.
  - Financial institutions exist in the form of “financial supermarket”
    - Different financial services deposit and withdraw, granting credits, trading with securities, insurance business, issuing of securities, contract hire, etc. over one roof.

Typical development trends

- Price integrations
  - Close price connection between particular capital markets and their segments.
  - It means that particular capital market are in stability.
  - There are no differences between price of the same financial instrument in different financial market.
  - IF some difference between price of same instrument in different market appears it will be immediately eliminated by activity of profit driven arbitragers.
- Internationalization and globalization of capital market
  - Gradually leads to creation of one world capital market.
  - Narrow connection between capital market brings increase of risk
    - Quick and easy spreading of nervosa, failure and crisis situations – Asia Crisis
    - Stronger dependence of mutual movements – limited diversification of risk

Typical development trends

- Cooperation of SE and creation of Stock Exchange alliances
  - EUREX 1998
  - NYSE Euronext 2007
  - The aim is limited transaction costs related with trading, increase of liquidity traded securities, offer new investment opportunities, diversify risks.
- Establishing of new financial centers
- Germany, GB, Japan, USA -> Russia, China, Indie, etc.

Stock Exchange (SE)

- Definition
  - Stock Exchange is organized meeting of subjects, that meet in determined place (attendance SE) or that are connected by computer network (electronic SE) and that trade with determined instruments (stocks, bonds, certificates) by determined rules in determined time.

Stock Exchange

- Organized market
  - Its operations are determined by SE laws, directions and rules that must be strictly keep.
  - Trading is available only with license from regulatory body.
  - SE are organized in member basis. The entrance to SE is available only for members. Nom-member must use services of members.
- Direct participants of trading are only members – members companies that are trading by their agent called exchange traders – pass a business and exchange mediator – help to pass a business.
- Exchange mediator is also known as a broker
  - His role is to gather bit and offer orders, to match them and set security rate.
  - He is a clerk of SE that care about technical side of trading.
- Exchange traders are known as a market makers
  - His role is to all the time set bid and offer prices in which he is ready to trade.
  - He can pass business on own account or for the third account.
  - He cares about liquidity of capital market
- As indirect SE participants can be labeled all investors that
  - Have an interest to buy and sell in stock exchange
  - Are not a members of SE
  - Trade in stock exchange they can only indirectly thought SE trader.

Stock Exchange

- Financial instruments trading in SE are
  - Convertible and fungible
    - Securities from same emission or money
  - To the instruments trading in SE meets this condition fungible is necessary to determine
    - Its characteristics and trading volume
- Instrument trading in SE is subject of standardization.
  - Securities issued by same issuer from same emission have same
    - Face-value
    - Numeric notation
    - Stockholder rights
    - Kinds and possibilities of trading
    - Minimal trading quantity (lot)
    - Determination of exchange rate, etc.
- For financial instruments trading in SE is typicall that are not in SE present.

Stock Exchange

- Trading rules
  - Determined by legislative, SE regulations, SE order and directions.
- Trading is determined in time
  - There is a schedule of trading days and hours in which the business can be passed.
  - SE also introduce of day schedule according to kind of trade and activities

Stock Exchange functions

- Liquidity function
  - In SE the owner of security has a right to sell it in price that is a result of meet supply and demand.
  - It is a basic function of SE
  - Liquid market is marked as a
    - Breadth
    - Resilient
    - Depth
    - Trustfulness and fair play

Stock Exchange functions

- Breadth market
  - Market where is a large number of selling and buying traders.
  - The volume of trades is high
  - Spread (difference between bid and offer) is lower
  - Liquidity is higher
  - Risk lower

Stock Exchange functions

- Resilient market
  - This market is characterized by quick and fluent supply of sell and buy order and reflecting it in price of financial instruments as a reaction to new information.
  - The flow of buy or sale orders on price change does not go down.
- Depth market
  - It is market where exchange rates are able to absorb larger volume of transaction without suffering of transactional volatility.
  - Depth market represent lower risk for market maker
  - Spreads between market makers quotations are nerrower.

Stock Exchange functions

- Trustfulness
  - It is market where illegal practices are limited
  - Distribution of quality, up-to-date information.
  - Effective system of taxation, etc.
- Fair-play market
  - Market of investors with equal rights, that have comparable conditions for investments.

Stock Exchange functions

- Informational function
  - The price that is result as a meet of supply and demand offer information.
  - The information is essential for trading off stock exchange.
  - Price for investors
    - Level of their profit
  - Possible investors
    - If is or is not profitable to invest in particular financial instruments
    - Level of attractive of particular instruments
  - Analytics
    - Price gives information if the financial instrument is over or under estimate
    - Timing

Stock Exchange functions

- Allocation function
  - Only if SE organized primary market (beside secondary market).
  - The SE cares about transformation of financial resources from deficit to surplus subjects under respect to risk, revenue and liquidity.
  - Speculation function
- Speculation function
  - Process to find and estimate of circumstances that will influence the price of particular financial instrument
  - There are two group of speculative investors
    - On bull
      - have optimistic expectation about further development in financial market
      - Buy to expect further rise in price
    - On bear
      - have pessimistic expectation about further development in financial market
      - sell to expect further decline in price
  - The speculation activities are considered to be useful for SE
    - Rise in volume of trades
    - Rise in liquidity
  - The afford of speculates to realize profit from short-time market movements they help to limited deviations market rate of exchanges from balance rate of exchange.
    - This activities help to liquidation and stabilization of financial markets.
  - Current opinion in role of speculator in market is positive but
    - In time of crisis or nonstandard situations – uncontrolled speculation, speculation without rational reason it can harm function of capital market.

Stock Exchange

- According to object of trading
  - Money exchange
  - Commodity exchange
  - Services exchange
- Money exchange
  - Stock exchange there is trading with securities like stocks, debenture bonds, mortgage certificates. There is trading in spot regime. Future business is provided in financial derivation exchanges.
  - Foreign exchange there is trading with currency bills. Nowadays a majority of foreign exchange is provided through off-stock exchange market or OTC market.

Stock Exchange

- Money exchange
  - Option exchange there is trading with option contracts. The development of option exchange started in the 1970's. Option is a instrument that represents right to sell or buy underlying for predefined price in or during determined time. (American or European type of option)
  - Financial future exchange there is trading with standardized financial futures. Financial futures is a agreement that represent obligation of buyer to buy underlying and obligation of seller to sell underlying in determined volume, for predetermined price in determined time. More popular underlying of financial futures are:
    - Interest rate
    - Stock indices
    - currency

Stock Exchange

- Commodity exchange
  - There is trading in spot or future regime. Usually with crops, minerals, metals, etc.
  - Spot regime – the main aim is to determine price of particular commodity that will be used in transactions with particular commodity.
  - Future regime – trading in the form of options or financial futures. The purpose of future contracts is
    - hedging (against price movements, price cycles or sudden decline in demand)
    - speculation

Trades

- In a lot of cases the exchanges are specialized in particular kind of trade
  - Stock exchange – stocks, debenture bonds
  - Option and future stock exchange – financial derivatives
- The volume of instruments in exchanges is standardized, it means that there is determined minimal trading volume call “lot (100 stocks = 1lot)”.
  - Sometime is possible trade in lover volume that is a volume of lot, in odd-lot but it is expensive usually used by retail investors that do not have financial resources to buy lot.
- According to aspect of time are trades divided in
  - Spot
  - Future

Spot trades

- As spot trades are transactions if the delivery of securities is realized in several days, usually 1-3 days.
- Spot trades are realized as
  - Automatic trades – electronic process of order
  - Block trades – with standardized number of financial instruments, cheaper than automatic trades

Future trades

- As future trades are transactions if the delivery of securities is realized in time horizon longer than 3 days (usually weeks or months).
- The principle of future trades is based on different expectations of both sides of contract.
- One side expect increase of particular parameter and other decrease in the same parameter. Both side part risk.
- In historic form the future trades were divided in
  - Fixed future trades
  - Premium future trades
- In the 1970's these kinds of trades were replaced by financial futures and options.

Future trades

- Fixed future trades
  - The seller must deliver and buyer must take and pay securities at day of performance.
  - Modern version of fixed future trades are financial futures.
- Premium future trades
  - One of participants of trade got right to withdraw from the agreement in particular day.
  - This right he must buy and pay a premium.
  - In the day of trade settlement if the development of underlying (e.g. interest rate) was contrary to expect he withdrawal from agreement to minimalist loses.
  - The total lose is in the value of premium.
  - If investor expectation fulfilled the trade was realized.
  - Modern version of premium future trades are options.

Trades

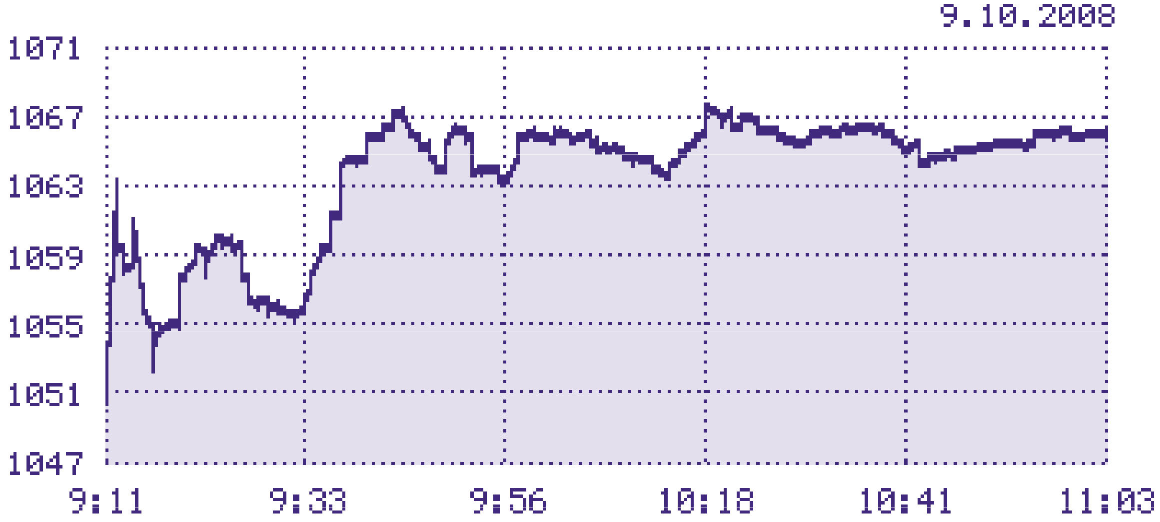
- According to settlement of trades
  - Direct trades
  - Trades per arrangement
- Direct trades
  - Settlement of claims and liabilities between sellers and buyers is direct by delivery of securities and payment.
  - Typical trades in spot markets
- Trades per arrangement
  - In this process the institutions that support settlement make all prescribed transaction for settlement of trade in particular time and by particular way. Buyers and sellers do not participate in settlement of trade.

Exchange indices

- Exchange index is a indicator that provides information about
  - Situation in market – market index
  - Situation in particular sector – sector index
- Indices provide information for
  - Technical analysis
  - Fundamental analysis
  - Performance of whole market – benchmark
- Benchmark is used as a basic criteria uses in compare development of pension funds, portfolios or investment strategies.

Exchange indices

- The value of indices are calculated during trading hours all the time.
- PX on 9th September 2008



Exchange indices

- There are two main possibilities how are indices calculated
  - Market average
    - Simple or weighted average from the price of selected stocks in the market.
    - There is used term index although it is an average of price.
    - Disadvantage is that the value of index is strongly depend on price of particular securities in index and index is sensitive to price changes of expensive securities.
    - The function of this index is limited and it is used sporadically although the best know index Dow Jones is calculated as a market average.

Exchange indices

- Market index
  - Index is constructed as a rate of particular values (data about market value).
  - Development of index generate time line that is developed from particular day in year.
  - This essential day is assigned determined number of point (100;1000 or 10) that is changing.
  - Examples S&P 500, British FT – SE, PX, SAX.

Exchange indices

- Indices have different predicative functions. That is influenced by several factors:
  - Number of securities in base of index
    - In the index should be securities represented whole market and there should be as much as possible securities.
    - The larger base is possible to more precisely reflect performance of whole market.
    - But the more securities the more complicate and expensive to calculate index.
  - Representative base
    - In the index should be chosen heterogeneous securities.
    - e.g. stocks of different sector, stocks of companies with different market capitalization.
    - Otherwise index is not possible to reflect whole market.
    - In DJIA there is only 30 large industrial companies and do not reflect development of small or middle sector

Exchange indices

- Determination of weights
  - Weights determine of predicative function of index
    - Weights according to rate of market value of particular security to total value of index.
    - All securities in index get same weights.
- Unit
  - Index must be expressed in simple, comprehensible units that are mutual comparable e.g. points.
- Information about index
  - Available with minimum costs
- Used average
  - Arithmetic or geometrical average

Thank you for your attention

Questions?