Financial Crises and Aggregate Economic Activity

- Financial crisis
  - Major **disruptions** in financial markets that are characterized by **sharp declines** in asset prices and **failures** of many financial and non-financial institutions
  - Financial crisis occur when a disruption in the financial system causes such a sharp increase in **adverse selection** and **moral hazard** problems in financial markets that markets are unable to channel funds efficiently from savers to people with investment opportunities

Financial Crises and Speculative Bubbles

Factor Causing Financial Crises

- To understand why banking and financial crises occur and, more specifically, how they lead to contractions in economic activity, we need to examine the factors that cause them
  - Increases in interest rate
  - Increases in uncertainty
  - Asset market effects on balance sheets
  - Problems in banking sectors
  - Government fiscal imbalances

Increases in Interest Rates

- Individuals and firms with the riskiest investment projects are those who are willing to pay highest interest rates
- If market interest rates are driven up because of of increased demand fro credit or because of a decline in the money supply
  - Good credit risks are less likely to want to borrow
  - Bad credit risks are still willing to borrow
- Because of the resulting increase in adverse selection, lenders will no longer want to make loans
- The decline in lending will lead to a decline in investment and aggregate economic activity

Increases in Interest Rates

- An increase in interest rates also leads to higher interest payments and a decline in firms' cash-flow
  - The difference between its cash receipts and the cash it must pay out to cover its costs, including its borrowing
  - If it has sufficient cash flow, a firm can finance its projects internally, and there is no asymmetric information because it knows how good its own projects are
  - With less cash flow, the firm has fewer internal funds and must raise funds from an external source, e.g. bank, which does not know the firm as well as its owners or managers know it

Increases in Interest Rates

- Bank can not be sure if the firm will invest in safe projects or instead take on big risk and then unlikely to pay back the loan
- Because of increased adverse selection and moral hazard, the bank may choose not to lend even firms with good risks the money to undertake investments

- When cash flow drops as a result of an increase in interest rates, adverse selection and moral hazard problems become more severe, limited lending, investment and economic activity

Increase in Uncertainty

- A dramatic increase in uncertainty in financial markets, due perhaps to the failure of a prominent financial and nonfinancial institutions, a recession, or a stock market crash, makes it harder for lenders to screen good from bad credit risk
- The resulting makes lenders less willing to lend, which leads to a decline in lending, investment, and aggregate economic activity

Asset Market Effect in Balance Sheets

- A sharp decline in the stock market is one factor that can cause a serious deterioration in firms' balance sheets
  - A decline in the stock market means that that net worth of corporations has fallen, because share prices are the valuation of corporation's net worth
  - The net worth of corporations play similar role as a collateral
    - When the value of a collateral declines, it provides less protection to lenders
    - Because lenders are less protected, they decrease their lending, which in turn causes investment and aggregate output decline

Asset Market Effect in Balance Sheets

- In economies in which inflation has been moderate, which characterized most industrialized countries, many debt contracts are typically of fairly long maturity with fixed interest rates
  - In this institutional environment, unanticipated decline in the aggregate price level also decrease the net worth of firms
  - Because debt payments are contractually fixed in nominal terms, an unanticipated decline in the price level raise the real value of firms' liabilities in real terms
    - But does not raise the real value of firms' assets

Problems in Banking Sector

- Banks play a major role in financial markets because they provide information-producing activities
- The state of bank's balance sheet has an important effect on bank lending
  - If banks suffer a deterioration in their balance sheet and so have a contraction in their capital, they will have fewer resources to lend and bank lending will be decline
  - The contraction in lending then leads to a decline in investment spending, which slows economic activity

Problems in Banking Sector

- Banks will start to fail and fear can spread from one bank to another, causing even healthy banks to go under
  - The multiple bank failures that result are known as a **bank panic**
- In a panic, depositors, fearing for the safety of their deposits and not knowing the quality of banks' loan portfolios, withdraw their deposits to the point that the bank fail
- The failure of a large number of bank in a short time period means that there is a loss of information production in financial markets and a direct loss of bank's financial intermediations
- The decrease in bank lending during a financial crisis decreases the supply of funds available to borrowers, which leads to higher interest rates

Government Fiscal Imbalances

- In emerging market countries government fiscal imbalances may create fears of default on the government debts
- As a result, the government may have trouble getting people to buy its bonds and it might force banks to purchase them
  - If the debt then decline in price – which will occure if a government default is likely
    - Bank balance sheets will weaken and their lending will contract
  - Fears of default on government debt can also spark a foreign exchange crisis in which the value of domestic currency falls sharply because investors pull their money out of the country

Financial Crises in the United States

- The United States has a long history of banking and financial crises
  - Such crises occurred every 20 years in the 19th and early 20th century
  - 1819, 1837, 1857, 1884, 1893, 1907 and 1930 – 1933
- Most financial crises in the United States have begun with deterioration in banks’ balance sheets, sharp rise in interest rates and market decline
  - Increase in uncertainty resulting from a failure of major financial or non-financial firms
    - E.g. Bank of United States in 1930

Financial Crises in the United States

- Because of the worsening business conditions and uncertainty about bank's health depositors began to withdrew their funds from banks, which led to the bank panics
- Finally, there was a sorting out of firms that were insolvent – had a negative net worth
- Economic downturn let to sharp decline in prices, the recovery process was short-crcuited

Financial Crises in the United States

- Occurred a process called debt deflation
  - A decline in the price level set in, leading to a further deterioration in firms' net worth because on the increased burden of indebtedness
  - When debt deflation set in, problems continued to increase so that lending, investment spending, and aggregate economy activity remained depressed for a long time

Financial Crises in Emerging-Market Countries

- In recent years, many EM countries have experienced financial crisis
  - Mexico December 1994
  - East Asia crisis July 1997
  - Argentina 2001
- These crises showed how a developing country can shift from a path of high growth before a financial crisis to a sharp decline in economic activity

Financial Crises in Emerging-Market Countries

- An important factor leading up to the financial crises in Mexico and East Asia was the deterioration in banks' balance sheets because of increasing loan losses
- When financial markets in these countries were deregulated in the early 1990s, a lending boom followed
  - Bank granted credits to the private nonfinancial business sector
- Because of weak supervision by bank regulators and a lack of expertise in screening and monitoring
  - Losses on the loans began to mount
  - Decline the value of banks' capital
  - Banks had fewer resources to lend, and this lack of lending led to a contraction in economic activity

Financial Crises in Emerging-Market Countries

- Argentina had a well-supervised banking system and a lending boom did not occur before the crisis
- On the other hand in 1998 Argentina entered a recession that led to some loan losses
- Argentina was running fiscal deficit that could not be financed by foreign borrowing
  - Government enforced banks to absorb large amounts of government debt
  - When investors lost confidence in the ability of the Argentine government to repay debts the price of these bonds decreased and left big holes in banks' balance sheets

Financial Crises in Emerging-Market Countries

- The Mexican economy was hit by political shocks in 1994
  - Assassination of the ruling party's president candidate
  - An uprising in the southern state Chiapas
- It created uncertainty while the ongoing recession increased uncertainty in Argentina
- Result of a stock market decline increase asymmetric information problem
  - Harder to screen out good from bad borrowers

Financial Crises in Emerging-Market Countries

- At that time speculative attracts developed in the foreign exchange market
  - Mexico peso came under attach, Mexican central bank intervened in the foreign exchange market and raised interest rate sharply
  - Devalue peso in December 1994
  - Thailand led to a successful speculative attract that forces the Thai central bank to float Bath in July 1994, etc
- Because so many firms in these countries had debt denominated in foreign currencies kike dollar or yen, depreciation of domestic currencies led to increase in their indebtedness
  - Rise in actual and expected inflation in these countries
    - Around 100 % in Argentina and Mexico

Financial Crises in Emerging-Market Countries

- Following their crisis
  - Mexico began to recover in 1996
  - East Asia countries began their recovery in 1999, with strong recovery later
  - Argentina was still in a depression in 2003
- In all these countries unemployment rose sharply, increased poverty
  - Mexico City and Buenos Aires became crime-ridden
  - Indonesia experienced waves of ethic violence

Theory of speculative bubble

Theory of speculative bubble

- Prices of stocks, real estates or commodities tend to exaggerate growth without fundamental explanation for time and again.
- This strong and quick growth of a price is suddenly stopped and replaced by quick and strong decline.
- According to financial market theory these phenomenon occurs if
  - market value is significantly different from intrinsic value
- It situation is called a speculative bubble.

Theory of speculative bubble

- Speculative bubble definition
  - Quick growth of asset price
    - Initial growth is powered by expected future growth that is attractive for new buyers especially speculators that are attracted by quick profit.
    - Strong decline of assets price very often leads to financial crisis.

Three explanations of financial crisis

- Mass psychology
- Theory of noise traders
- Ineffective market

Three explanations of financial crisis

- Mass Psychology
  - Speculative bubble is started by some important event
  - This event is over- or under- valuate by investors that reacts exaggeratedly.
  - Investors start to mass sale or mass buy and thus push prices more down or up.
  - Bubble growths till investors believe in asset investment.

Three explanations of financial crisis

- Noise traders
  - Theory according this fluctuation of security prices from intrinsic value is evoked by existence of two kinds of investors.
  - Sophisticate investors
    - Accession to information
    - Skills and knowledge to sort out information in
      - Relevant
      - Irrelevant
    - Investors are know as smart money

Three explanations of financial crisis

- Noise traders
  - Lack of relevant information
  - Lack of investment skills and knowledge
- Activities of noise traders divert prices of assets from their intrinsic value.

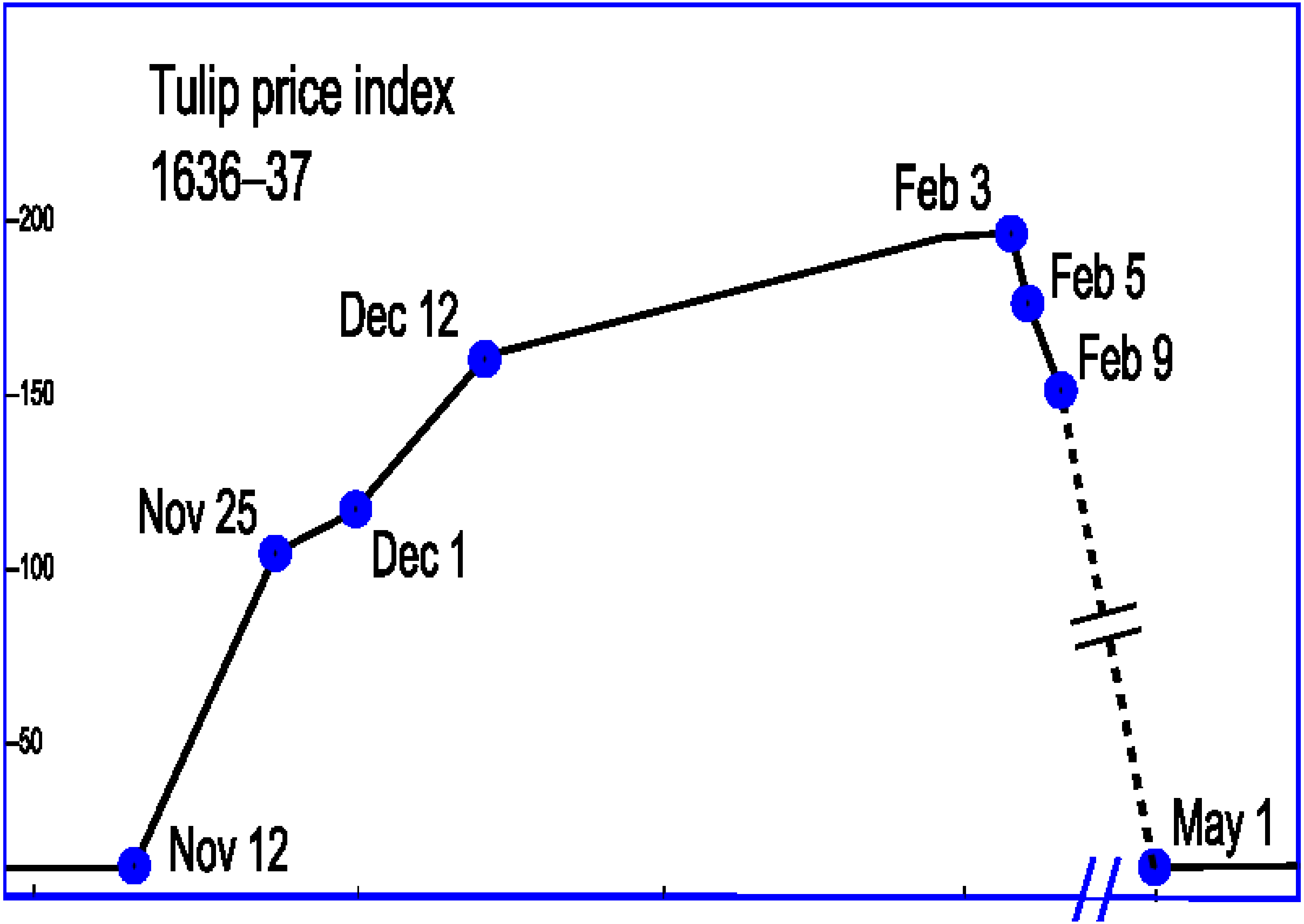
Tulip Madness

- One of the most known and historically oldest speculative bubble in commodity market.
- Tulips were unknown commodities till 1554 when were imported in Holland from South-East.
- During 100 years became fashion article.
- Tulip prices were pushed up by speculation achieved significantly high level.
- Prices of tulips grew from 1634.
- As suddenly as tulip prices grow they collapsed in February 1637.
- Optimistic expectation of investors about price growth disappeared and speculation bubble burst out.

Tulip Madness

- Value of all forward contracts for sale or buy of tulips were abandoned and investors lost their money.
- In summer 1637 tulips traded in prices of 5-10 % of 1637 prices.

An allegory of tulip mania by Hendrik Gerritsz Pot, circa 1640.


Tulip price index
1636–37
200
150
100
50
Nov 12
Nov 25
Dec 1
Dec 12
Feb 3
Feb 5
Feb 9
May 1

The South Sea bubble

- South Sea Bubble is the oldest bubble that came up and burst out in stock market
- England, 1720
- Initial impulse was established South Sea Company (SSC) to get financial resources for settlements debts from England-Spain war.
- Later SSC overtook part of the British budget debt.

The South Sea bubble

- Interest of investors about subscribing for SSC shares was huge.
- Shareholders capital of SSC grew about 1,7 million pounds since 1719.
- Part of capital were used for debt settlement in exchange for license for trading with West and East cost of South America, Spain part of India and Spain colonies in America.

The South Sea bubble

- Enthusiasm and faith of investors grew and asset demand grew as well.
- Price of one stocks grew about hundreds of pounds.
- High profit of first investors in SSC attracted another investors.
- Speculation pushed stock prices up at 1050 pounds and 1100 pounds from 126 pounds.
- In level 1100 pounds per stock psychological barrier was reached and bubble burst out.

The South Sea bubble

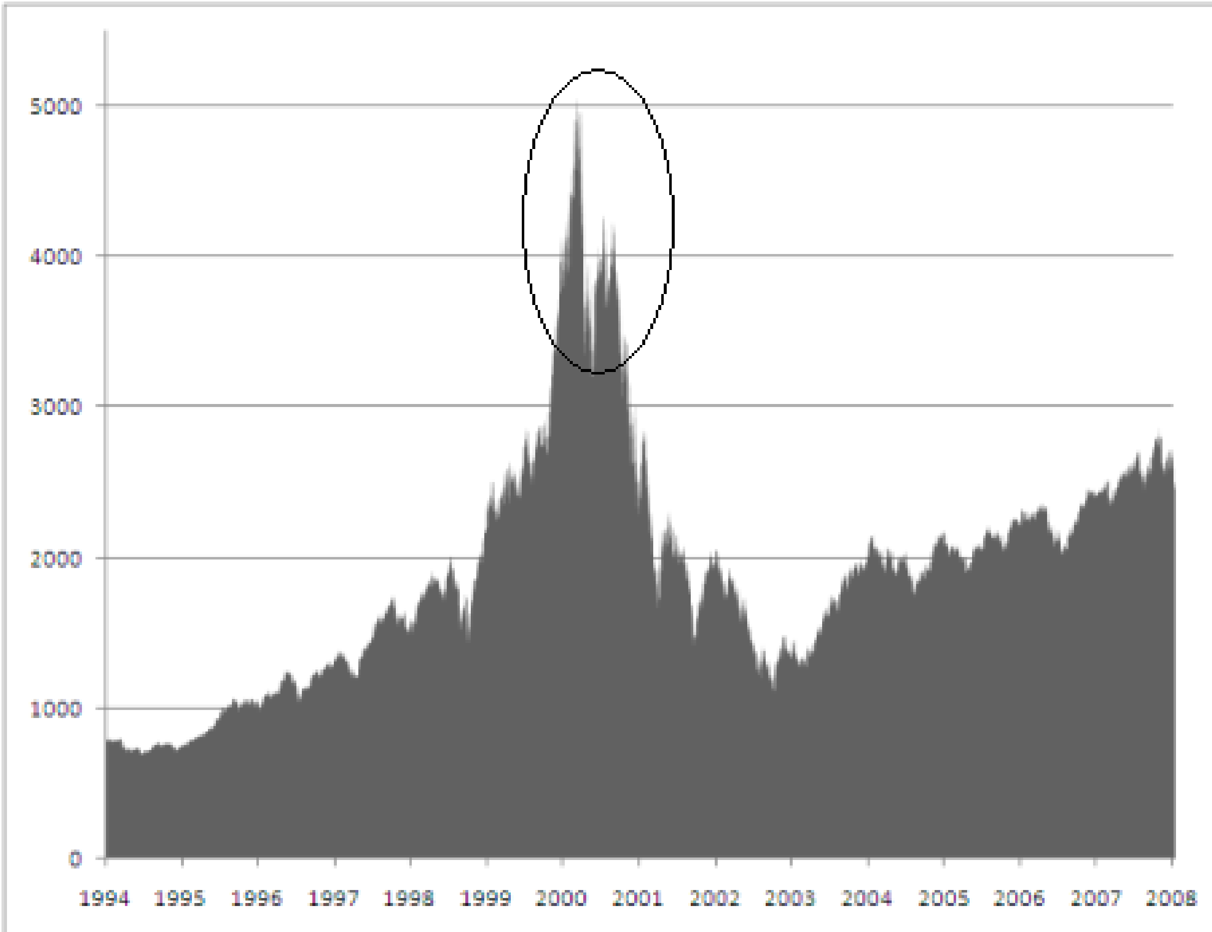
- From price 1100 pounds per share number and interest of investors started decline.
- From September 1720 prices of SSC declined from 1000 to 175 pounds. And bubble burst out.

"South Sea Bubble", by Edward Matthew Ward

Dot-com bubble

- For development of U.S. stock market and next world stocks market was typical
    - Growth of the U.S. economy: 3,2 %
  - Strong growth of IT companies stocks since the end of the 1990’s
- The value of Nasdaq Composite index reached the value of 5000 point at the end of 1999.
- At the end of 1999 first consideration about overvaluation of the market.
- Peak of index 5049 points was reached in April 2000.
  - Annual reports of IT companies shows bed economic results in April 2000.
- Whole IT sector was suffered by skepticisms that spread in other sectors and branches.
- Dot-com bubble burst out.

NASDAQ Composite 1973 - 2007



How many dollars are investors will to pay for one net unit of profit.

Market	Year	P/E ratio
NYSE	1929	21
NYSE	1969	18
NASDAQ	2000	200

Explanation of dot-com bubble

- Mass behavior of investors
- New growing IT sector attracted investors and they were able to gain high profit.
- Dot-com bubble was growing till companies satisfied investor by their economic results.
  - Profit form IT companies was extreme compared with other sectors.
- Dot com bubble existed till company results satisfied optimistic expectation of investors.

Explanation of dot-com bubble

- In the spring 2000 dot-com bubble burst out.
- Doc-com stock demand decline and the sale of dot-com stock started.

Thank you for attention