MACROECONOMICS I

Class 10. Financial Crises

May 9th, 2014

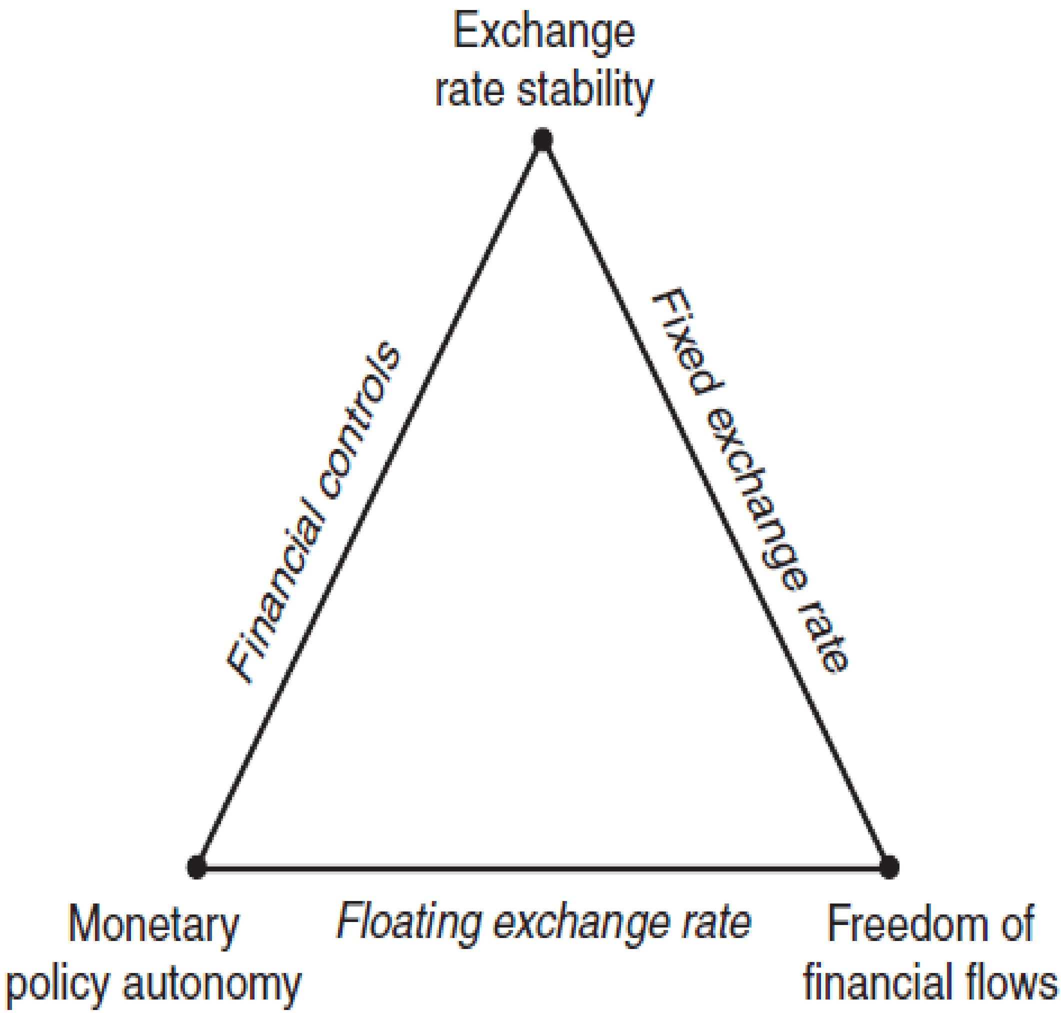
Announcements

- **Final Exam** date
- **HW Assignment #4** is due: May 16th, 2014
- Need to schedule our missed class
- **Project deadline**: Before exam

N!B! Project is an **individual**, not a group assignment

Impossible Trinity

- Three desirable objectives that impossible to achieve simultaneously
  - ✓Fixed exchange rate regime
  - ✓Full capital mobility
  - ✓Monetary policy autonomy



Only 2 objectives out of three

Can be achieved simultaneously

Impossible Trinity: Case 1

- Fixed exchange rate regime + perfect capital mobility

TE The central bank of Argentina maintains a fixed exchange rate for peso against the USD and allow for perfect capital mobility.

✓ *What effect would the expansionary monetary policy have on the economy?*

$M^s \uparrow$ => $i \downarrow$ => Withdrawal / Inflow of foreign investment =>

To preserve the exchange rate => Foreign exchange interventions => $M^s \downarrow$

Supply of the USD

N!B! A central bank loses control over Ms and, in general, over the monetary policy

Impossible Trinity: Case 2

- Monetary autonomy + perfect capital mobility

TE The U.S. Fed as a strong monetary authority

✓*What effect would the expansionary monetary supply have on the economy?*

$M^s \uparrow$ => $i \downarrow$ => Withdrawal / Inflow of foreign investment =>

=> the USD depreciates / appreciates

N!B! Sacrificing the exchange rate stability

Impossible Trinity: Case 3

- Monetary autonomy + fixed exchange rate

TE The Bank of China maintains a fixed exchange rate of Yuan against the USD.

✓ *What effect would the expansionary monetary policy have on the economy?*

$M^s \uparrow$ => $i \downarrow$ => Withdrawal / Inflow of foreign investment =>

=> the USD depreciates / appreciates

N!B! Control over the capital outflow

Defining Financial Crisis

• A rapid financial *disintermediation* caused by financial panic

Financial sector: Banks + Stock market

Key function: financial intermediation – transfer of savings to productive investment

•Bank = Illiquid assets (loans) + Liquid liabilities (deposits)

Bank run: savers liquidate their assets in financial institutions due to prospective

risks

• Depositors lose faith in the quality of assets held by a bank

• Self-fulfilling nature (psychology)

Defining Financial Crisis

- Financial crisis manifests itself in the following ways:

• Banks’ failure

• Stock market crushes

• Currency crisis (sharp depreciation)

Problems in the banking sector, as a rule, precede the currency crisis

N!B! Crisis originates when the flow of financial capital **suddenly stops and reverses**

Financial Crises in 1990s

- Mexico in 1995
- Thailand, Indonesia, and South Korea in 1997-1998
- Russia in 1998
- Brazil in 1998 –1999

- **Major prerequisites**
  - Fiscal deficits
  - Capital overshooting
  - Excess leverage
  - Inefficient supervision of financial systems
- **Major consequences**
  - Large swings in Current Account
  - Depreciation of currency
  - Drop in output (6- 8 %)

International contagion

Asian Financial Crises in 1990s

Thailand, Indonesia, South Korea, Philippines, and Malaysia in 1997-1998

- **Financial liberalization** + Fast growth => Massive inflow of foreign capital
- Short-term loans to the banks from foreign investors
- "Sudden stop" in 1997

▪ Reasons

Risky lending practices ("relationship lending")

Poor supervision of the financial system

Liquidity crisis

Speculative attacks on exchange rates

Financial Crisis of 2008-2009

Prelude: Housing bubble

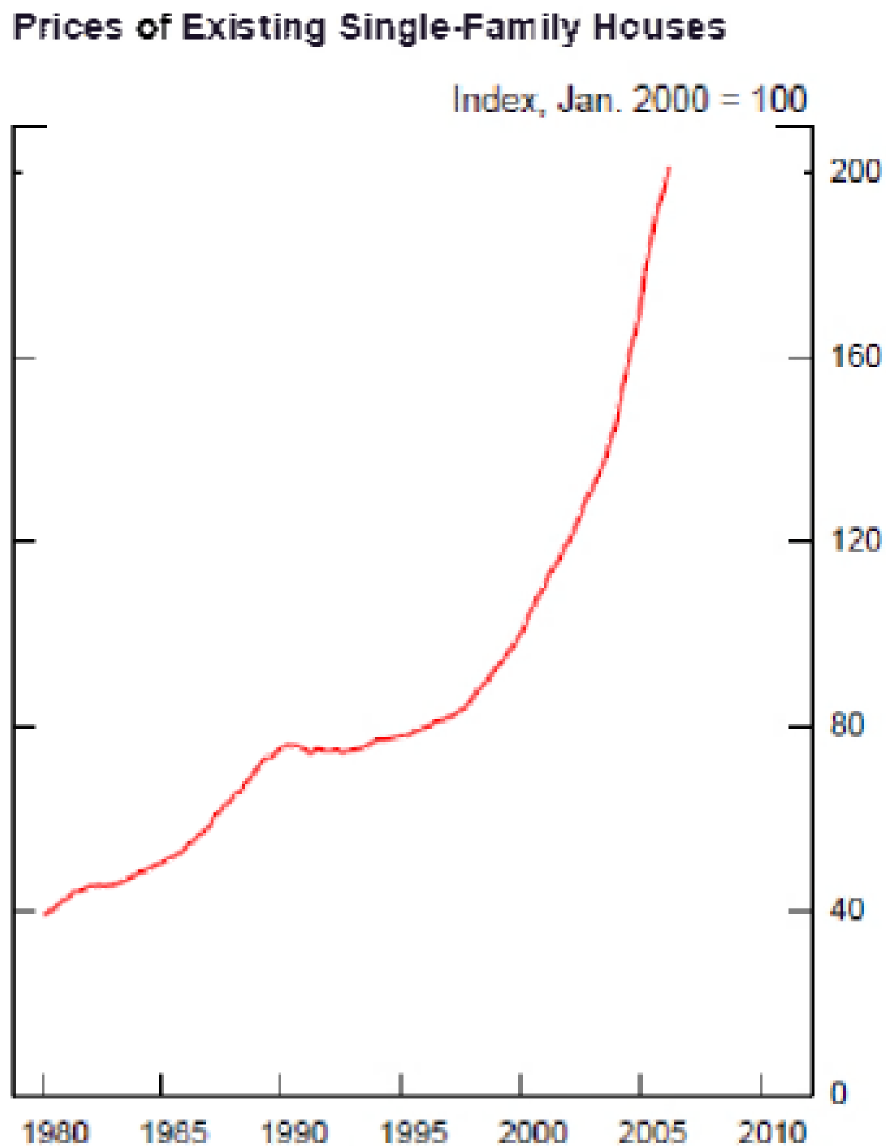
Bubble - a surge in the market caused by speculation

• explosion of activity in this market causing overinflated prices

• high prices are not sustainable and the prices eventually crush =>

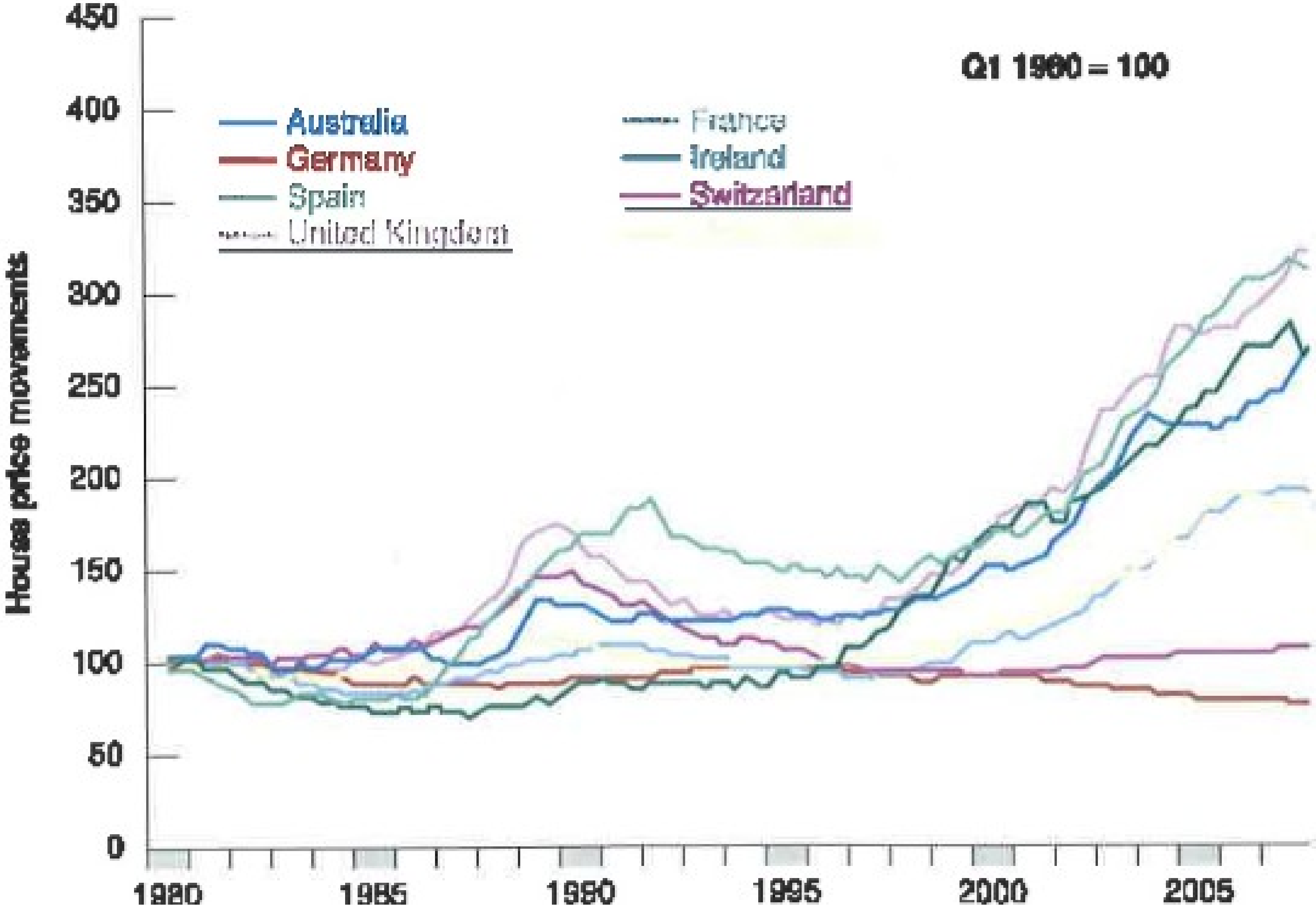
⇒bubble bursts

TE From the late 1990s till 2006, house prices in the US increased by 130 %



Source: www.federalreserve.gov

Housing Prices in Other Countries



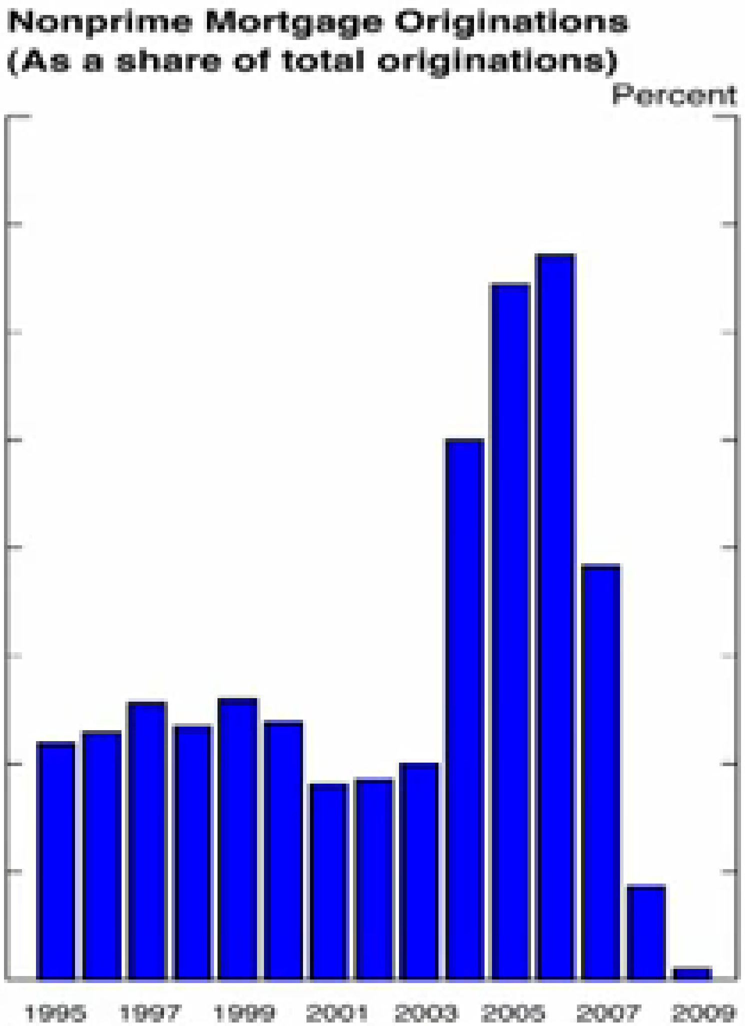
Source: Blanchard et al, 2011

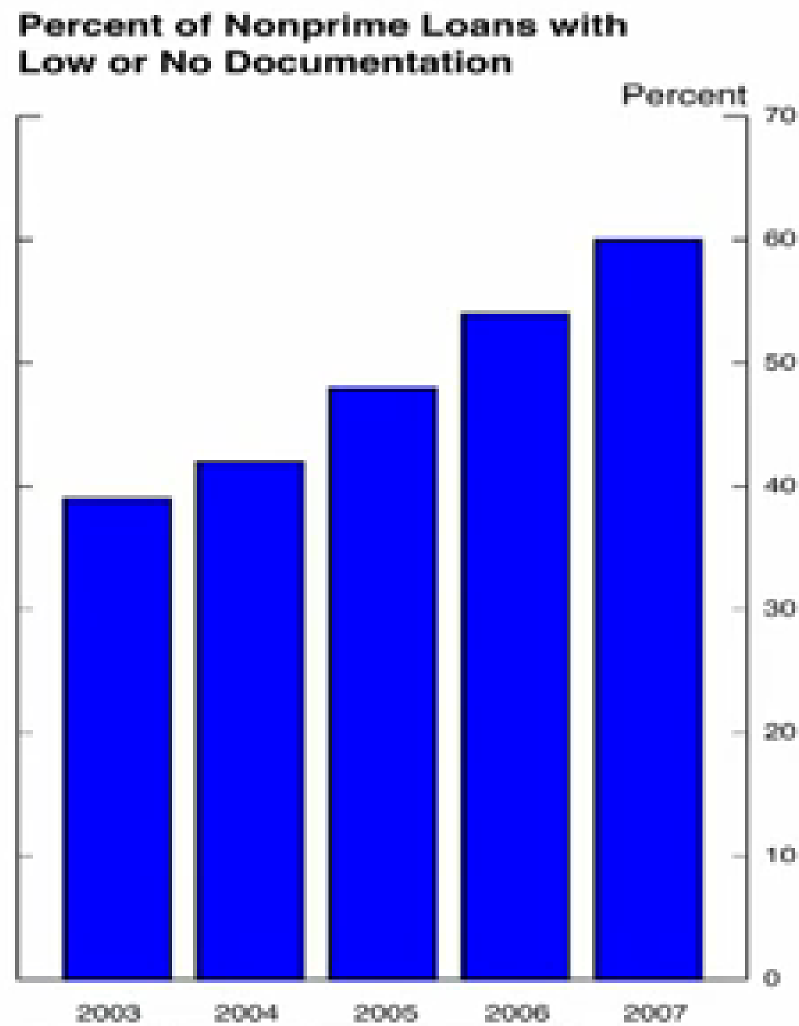
The Housing Bubble

- House prices were driven by
  - ✓ **Psychology**: housing prices will be rising in the future
  - ✓ Low interest rates (Great moderation)
- The US inflation was low => low interest rate
- House prices are not part of CPI
  - ✓ Deterioration of lending standards
- Increasing share of sub-prime mortgages (no down payment and no documentation)

More people are attracted to the mortgage market => house prices rise

Deterioration of Mortgage Loan Standards





Source: www.federalreserve.gov

Securitization

Banks do not bear higher risks

- Mortgages do not remain on the balance of banks

- Pooling mortgages and selling them as financial securities

Mortgage-backed securities (MBS)

- Selling future streams of income for a lump-sum amount today

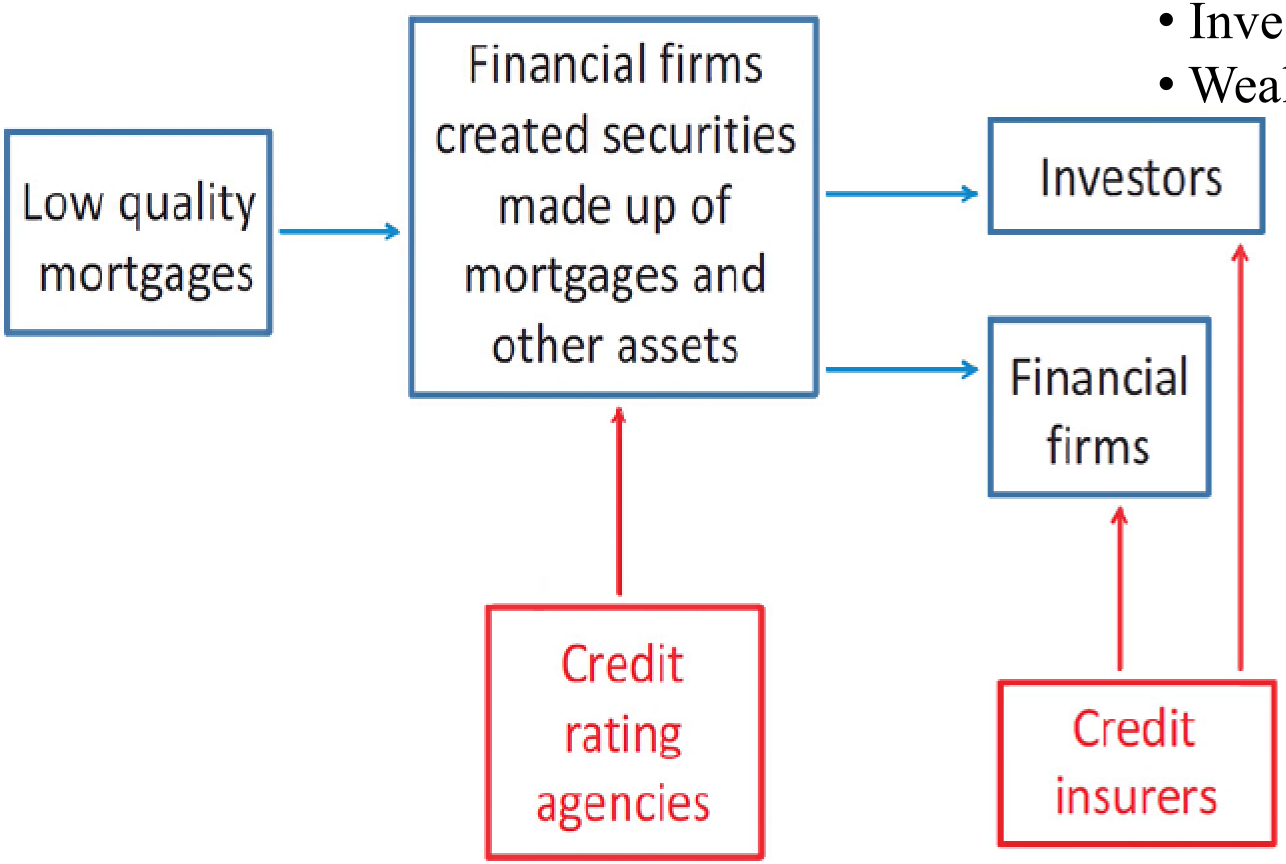
- Investors cannot check the quality of every mortgage in the financial instrument

- Rely on the assessment of *rating agencies*

=> **Weaker quality control**

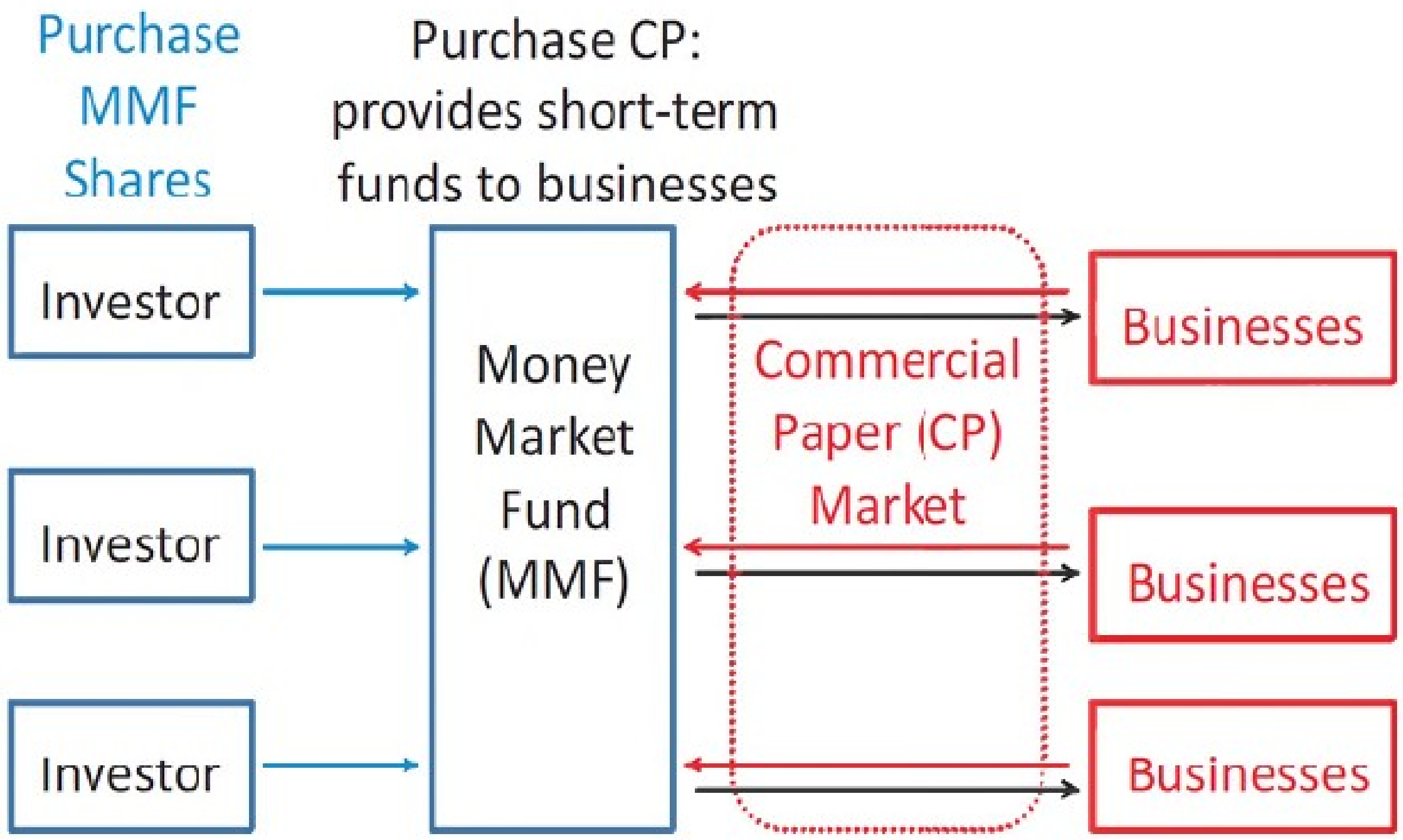
Securitization (Cont.)

- Foreign banks
- Pension Funds
- Investment Companies
- Wealthy individuals



Securitization (Cont.)

Money Markets funds and the commercial paper market



The Consequences of the Bubble Burst

TE The US prices of existing single-family houses

• 30 % drop in house prices

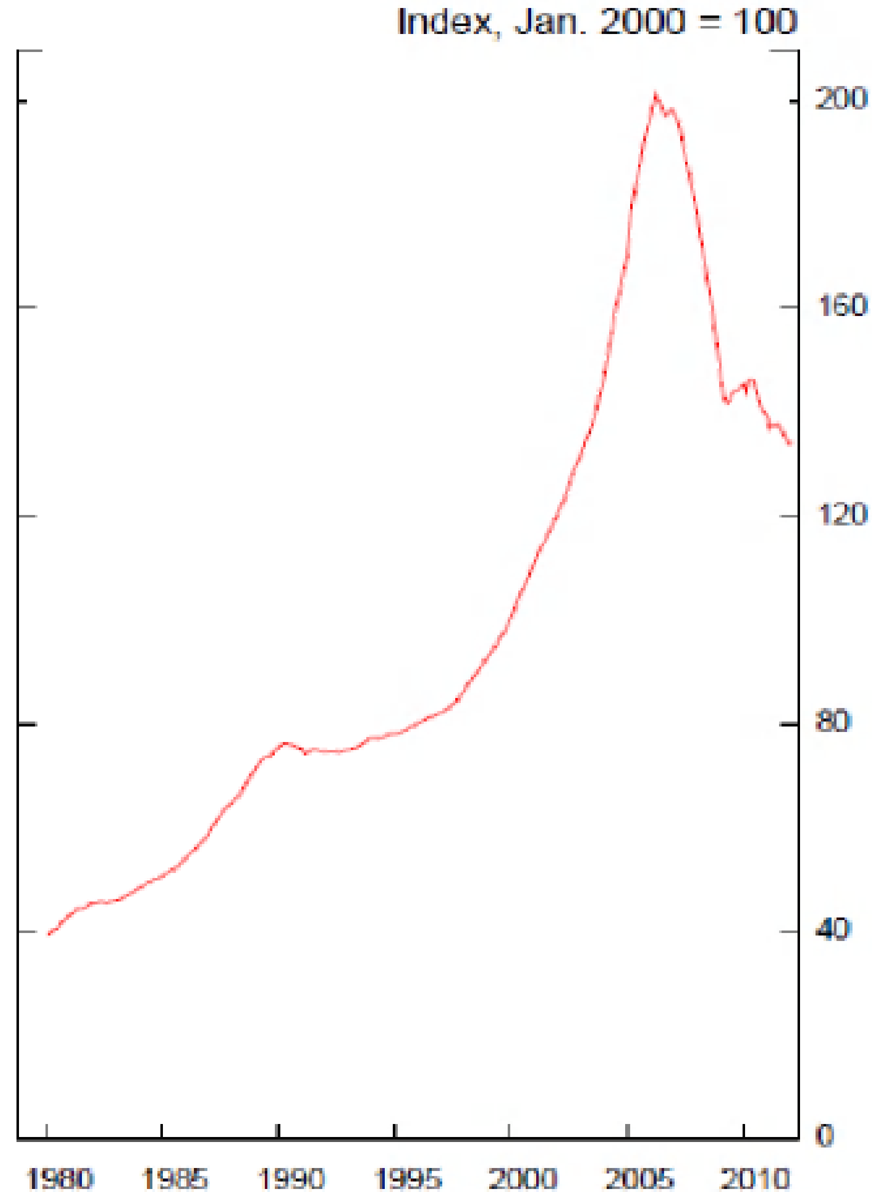
• Households "under water"

• Negative wealth from 12 million mortgages out of 55 million

• 5 million mortgages' defaults

• All mortgage-related securities' holders suffered losses

But: 30 % drop in house prices could not trigger such massive crisis



Source: www.federalreserve.gov

Vulnerability of the Financial System

- Too much leverage (excessive debt)

Leverage ratio = Assets / Own Capital

Bank	Assets	Liabilities	Capital	Leverage
Bank 1	100	80	20	5
Bank 2	100	95	5	20

What happens if the value of assets increases by 20 %?

Returns on assets: 100 % for Bank 1; 400 % for bank 2

- Complex financial instruments
- Banks' failure to monitor and manage
- Short-term funding (commercial papers)
- Gaps in the regulatory structure (no control over important financial firms and investment banks, government sponsored enterprises)

The Crisis Unfolds

Drop in house prices => Mortgage defaults => Losses for securities' holders

- Complex nature of mortgage-backed securities
- Spread all over the financial system and the world

N!B! No one knew **where** to expect losses from

⇒ Great uncertainty in financial markets

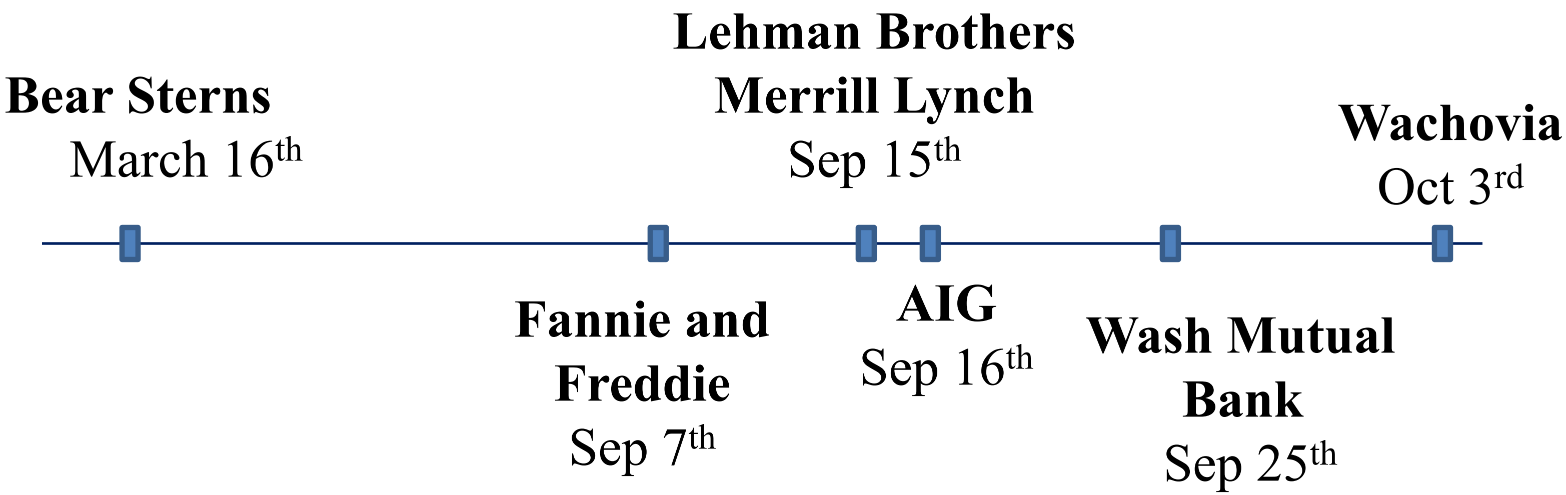
⇒ Beginning of runs on major **financial companies:** investors pulling funds from everywhere

- Financial companies faces the problems with liquidity

Two possible solutions: file for bankruptcy or search for additional capital inflows

Large Financial Firms Under Pressure

Timeline (2008)



Broker-dealer firms

Insurance companies

Government-sponsored enterprises

Next class: Inflation

N!B! Homework assignment # 4 is on the way

Deadline: May 23rd, before the class