Macroeconomics
&
Global Economics

Presentation 10

Barbara Annicchiarico

Sources:

- **Blanchard, Amighini and Giavazzi, Macroeconomics: A European Perspective**
- **Baldwin and Wyplosz, The Economics of European Integration.**

‘If these things were so large, how come everyone missed them?’
Question asked by Her Majesty The Queen to the LSE professors
during a visit to the School in November 2008

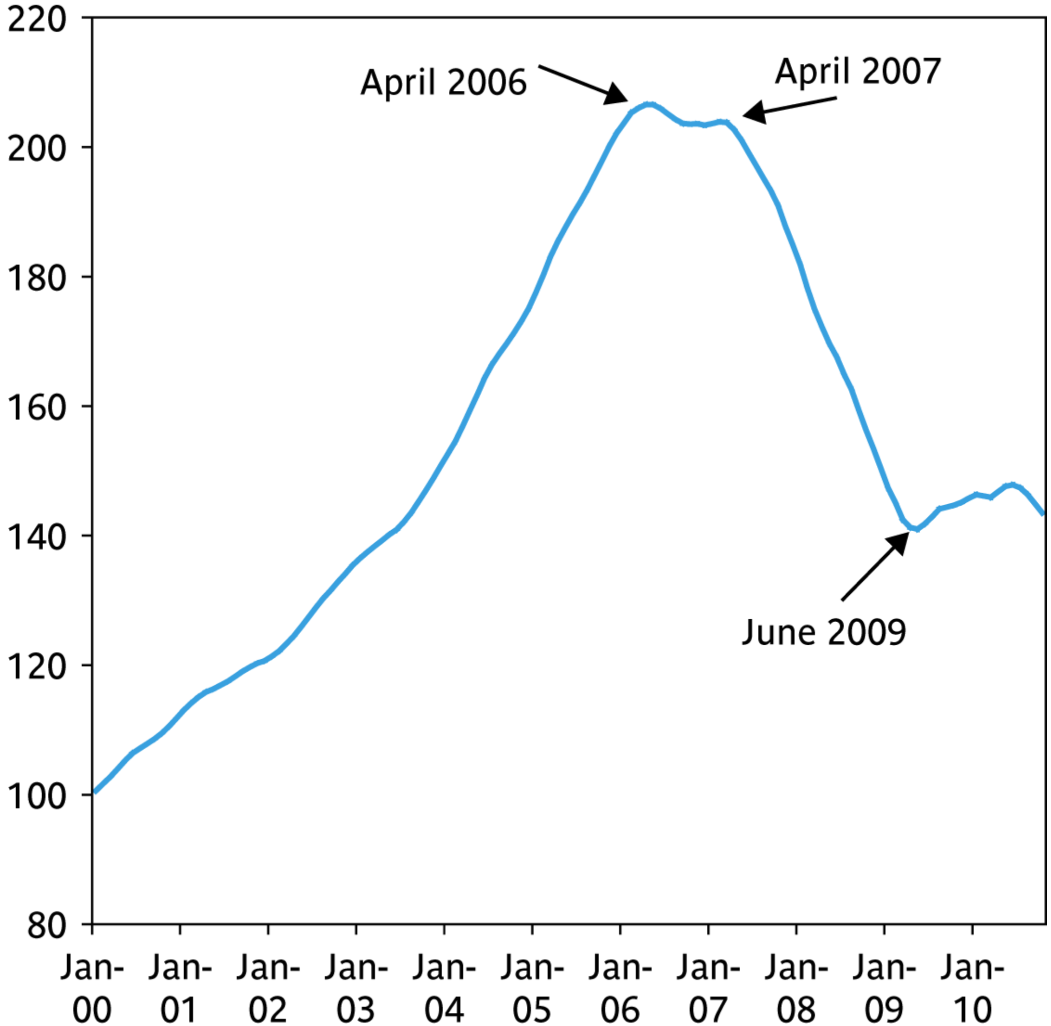
We knew that a storm was brewing but, admittedly, we did not know exactly where. Neither did we know what would trigger it, or when it would come.
Jean-Claude Trichet, President of the ECB. Keynote address in 2009.

Interviewer: *When you were first told that the Lehman Brothers was going to get bankrupt?*
Christine Lagarde: *After the fact.*
Interviewer: *Wow! OK, and what was your reaction when you learned of it?*
Christine Lagarde: *Holy cow!*
From “Inside Job” by C.H. Ferguson
C. Lagarde, MD IMF (2007-2011)

Within our mandate, the ECB is ready to do whatever it takes to preserve the euro. And believe me, it will be enough.
Mario Draghi, President of the European Central Bank at the Global Investment Conference in London 26 July 2012.

From a housing problem to a financial crisis

Housing prices in the USA (Case-Shiller Index: January 2000 = 100):



From a housing problem to a financial crisis

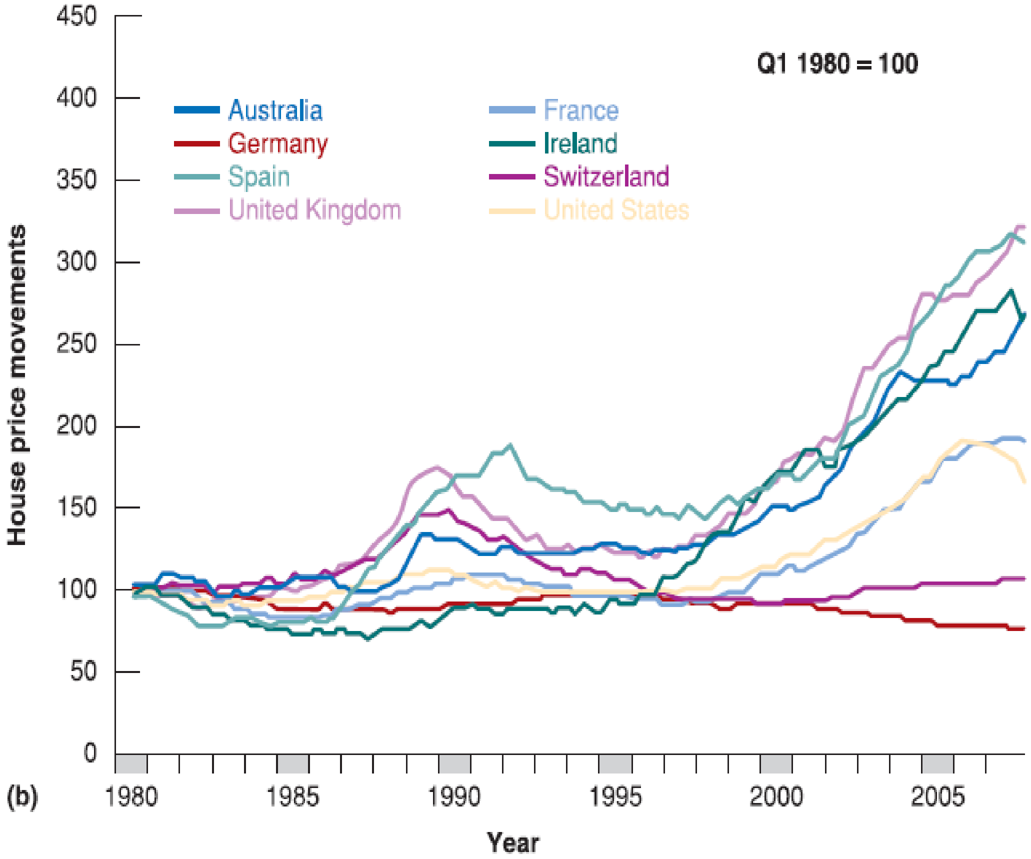


Figure 20.1

House price movements

(a) The price of US houses since 1890 adjusted for inflation.

(b) House prices adjusted for inflation in eight countries since 1980.

Sources: (a) Standard & Poor's, Case-Schiller Index; (b) Bank for International Settlement.

From a housing problem to a financial crisis

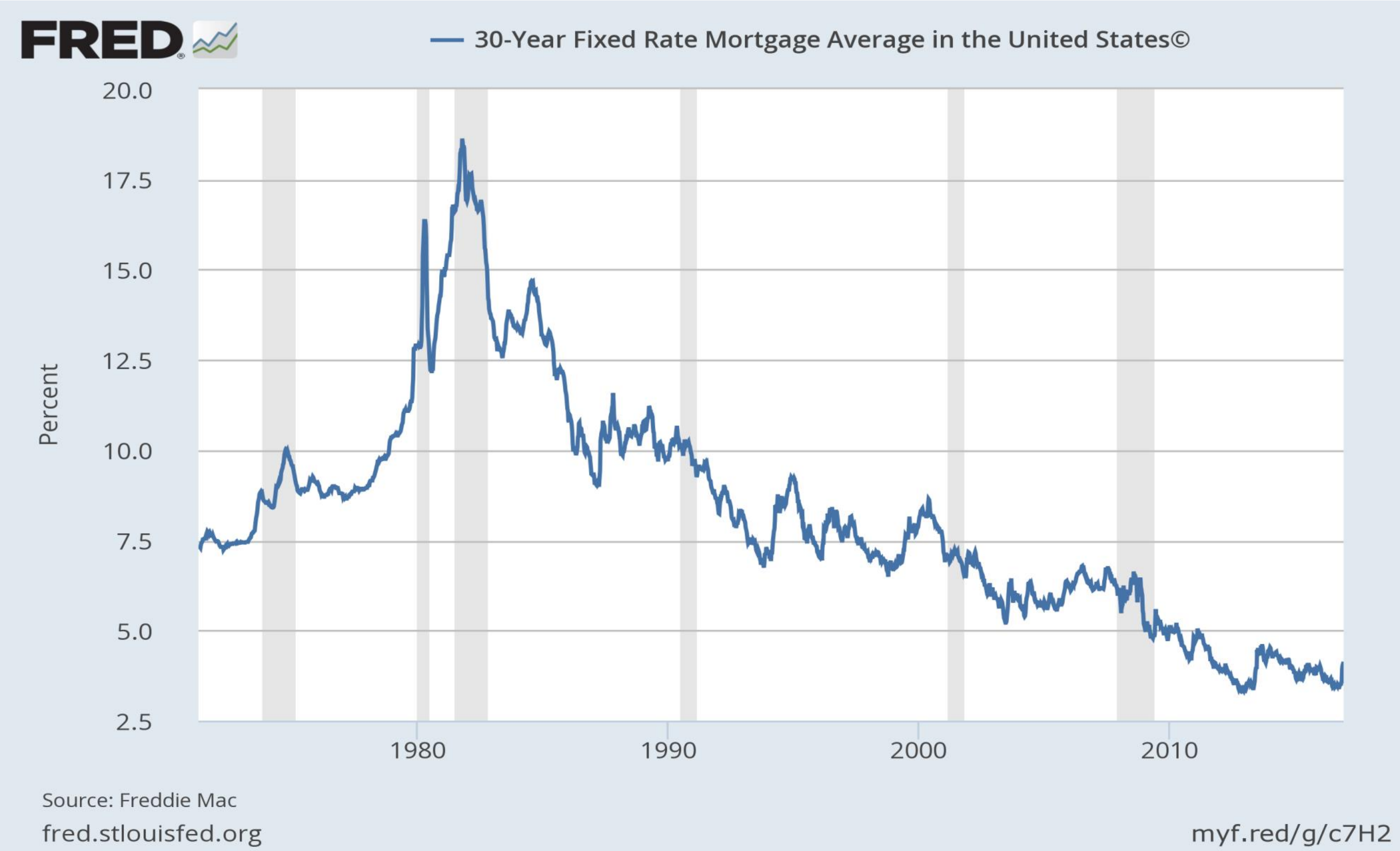
What do we observe?

- Sharp increase in prices from 2000 to 2006

How is this sharp increase justified?

1. The 2000s were a period of very **low interest rates**, therefore mortgage rates were very low, increasing the demand for housing and thus pushing up prices!

The 2000s were a period of very low interest rates.....



The 2000s were a period of very low interest rates…..

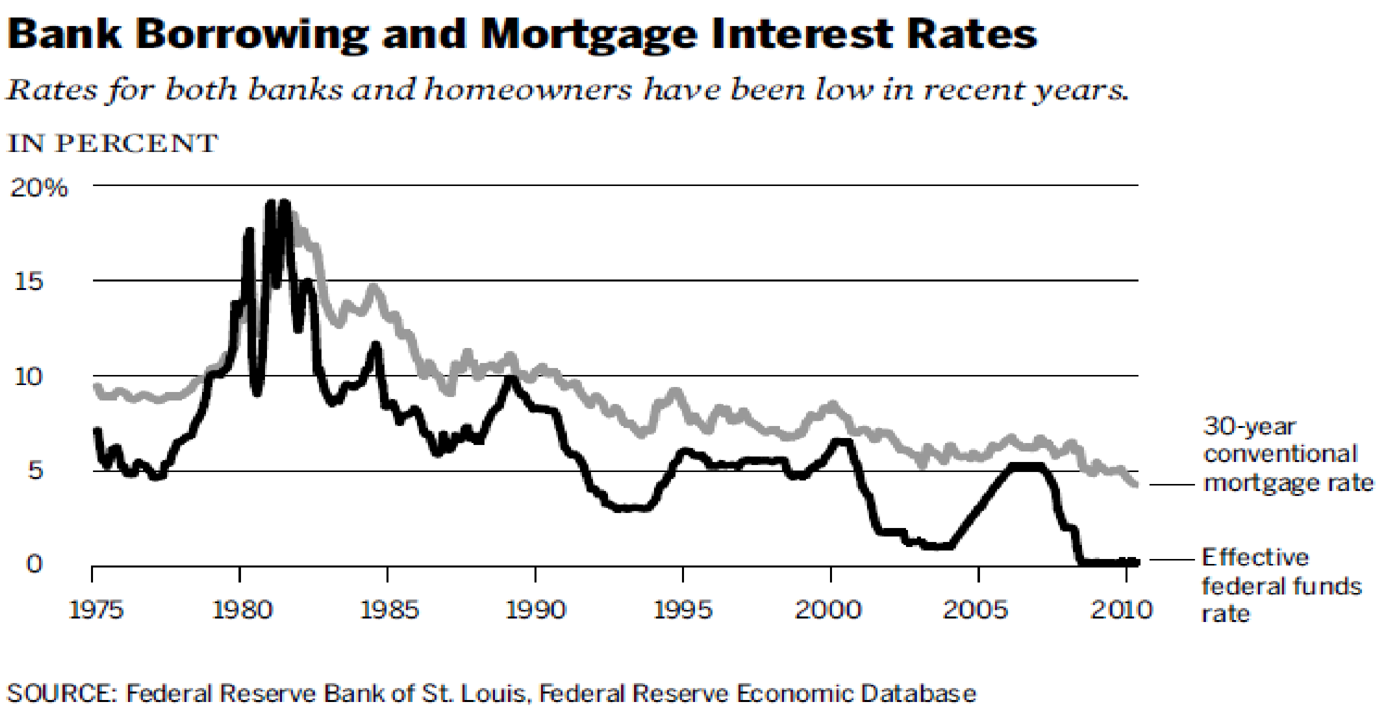


Figure 6.1

Source: Financial Crisis Inquiry Commission Report p.86

From a housing problem to a financial crisis

2. Mortgage lenders became increasingly willing to make loans to more **risky borrowers** (NINJA loans…No Income, No Job & Assets).

Mortgages to borrowers with low credit ratings are called **SUB-PRIME MORTGAGES**.

See https://research.stlouisfed.org/publications/es/07/ES0713.pdf


SUB PRIME MORTGAGES
TCH. LOOK AT THAT BUM. NO JOB, NO INITIATIVE, NO FUTURE.
HE'S ALSO OUR BEST CUSTOMER.

“Borrow 50p? Sorry, I’m staying out of
the sub-prime lending market.”

From a housing problem to a financial crisis

<u>**Yes, but how was that possible?**</u>

- Following Great Depression, strict regulation was designed to limit risk-taking by banks and financial institutions.
- The **deregulation** phase started in the 1980s, followed by a rapid expansion of financial sectors in the USA and Europe:

- banks became active investors
- banks took major risks (implicitly borne by their governments)

From a housing problem to a financial crisis

As a result the **leverage ratio** (ASSETS/CAPITAL) of banks increased sharply exposing them to major risk of default.

On the one hand, increasing housing prices improve the prospects of profits for banks, on the other hand, the deregulation occurred in the previous decades, allowed them to increase their leverage. **Sharp increase in the leverage of banks!!!!**

These loans were sold to banks, which sold them to other bank and so on… (i.e., securitization*).

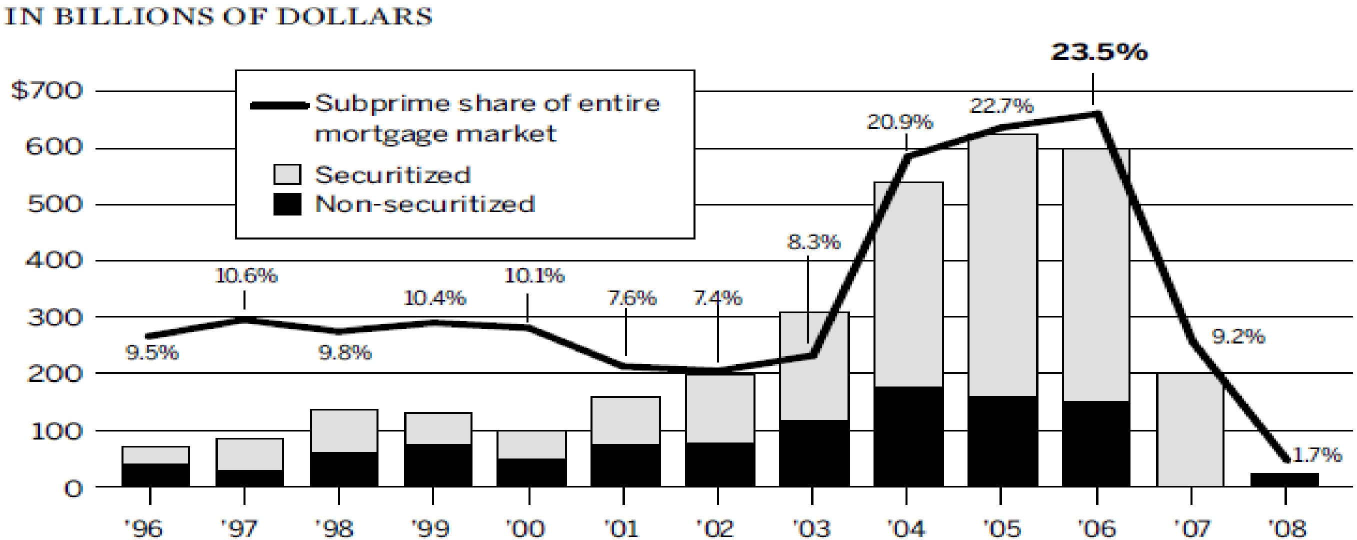
*Securitization: creation of a security based on a bundle of assets… in this case a bundle of mortgages and sub-prime mortgages.

From a housing problem to a financial crisis

- **Securitization** of sub-prime mortgages into mortgage-backed securities (MBS)….
- Risky loans are then pooled together into a new "security"….
- Sub-prime MBS were attractive to investors since they paid higher interest rates.
- These financial products often received high ratings from credit agencies.
- As usual….Tranches of these *weird* securities were sold to unsuspecting investors and small savers , who very often were not aware of the risk associated with them.

Subprime Mortgage Originations

In 2006, $600 billion of subprime loans were originated, most of which were securitized. That year, subprime lending accounted for 23.5% of all mortgage originations.



NOTE: Percent securitized is defined as subprime securities issued divided by originations in a given year. In 2007, securities issued exceeded originations.

SOURCE: Inside Mortgage Finance

Figure 5.2

Source: Financial Crisis Inquiry Commission Report p. 70

From a housing problem to a financial crisis

<u>What about the borrowers?</u>

Well, as long as housing prices were increasing, borrowers, found themselves in a situation where the value of their house exceeded the mortgage they owned …

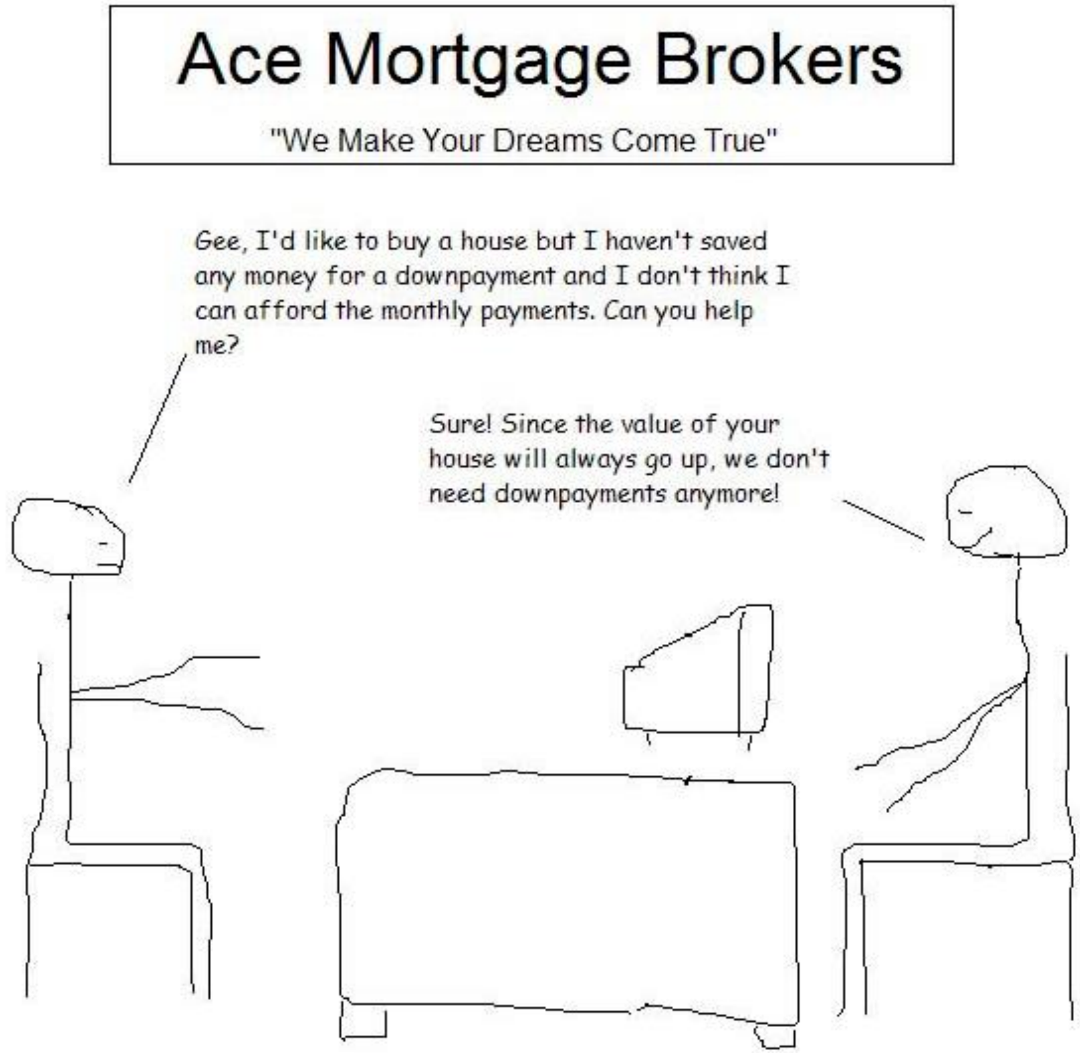
Two implications…..

From a housing problem to a financial crisis

Two implications:

1) Despite the higher prices, the prospect of even further higher prices and the easy access to mortgage pushed demand for housing upward;

2) Cool! Therefore, borrowers could use their house as a collateral to get extra loans! Homeowners assisted to the rising value of their home equity… as long as these homeowners are a credit-constrained or simply are jobless, then house price appreciation may induce households to borrow more!!!! **Sharp increase in the leverage of households!!!!**


Ace Mortgage Brokers
"We Make Your Dreams Come True"
Gee, I'd like to buy a house but I haven't saved any money for a downpayment and I don't think I can afford the monthly payments. Can you help me?
Sure! Since the value of your house will always go up, we don't need downpayments anymore!

From a housing problem to a financial crisis: Summing up

Following Great Depression, strict regulation was designed to limit risk-taking by banks and financial institutions.

1. The **deregulation** phase started in the 1980s, followed by a rapid expansion of financial sectors in the USA and Europe:

- banks became active investors
- banks took major risks, implicitly borne by their governments;

2. **Low interest rates**, high demand for housing

- house mortgages in the US to risky people: sub-prime mortgages, which relied on ever increasing house prices. These loans were sold to banks, which sold them to other banks (i.e., securitization)
- **Increasing level of debt of banks**
- **Increasing level of debt of households**
- **Wealth losses for savers**

From a housing problem to a financial crisis: Summing up

As long as house prices have been growing…. Everybody was happy…

…. But several famous economists were skeptical… See Shiller, just to quote one… As well as some less famous economists at Tor Vergata…

GM: This is insane… A small flat in the outskirt of Rome for 250,000 euros! Come on, house prices cannot grow forever…

BA: Homeowners will probably end up having the bricks of their houses for lunch.

From a housing problem to a financial crisis: recall the steps of a bubble

- **1. Displacement:** A displacement takes place when investors get bewitched by a new paradigm, such as interest rates that are extraordinarily low
- **2. Boom:** Following a displacement at early stages prices increase slowly… Later on more participants enter the market, triggering the boom phase.
- **3. Euphoria:** in this phase caution and wisdom are fully abandoned and the housing prices skyrocket.

From a housing problem to a financial crisis: recall the steps of a bubble

- **4. Profit Taking:** In this phase, the smart money (anticipating the warning signs) starts to sell out positions and make profits. Of course, the exact time of the bubble burst is unknown and difficult to anticipate. Sometimes, very minor events can be the warning sign of the collapse.

From a housing problem to a financial crisis: recall the steps of a bubble

- **5. Panic:** In the panic stage, the price of the asset in question reverses course and collapses rapidly. Investors and speculators now are willing to liquidate the asset on the spot and at any price. As supply exceeds demand, housing prices fall sharply.

The global financial crisis

When house prices stopped rising, securities lost their ratings and many of the world's largest banks (especially in US, UK, France, Germany) faced heavy losses.

- April 2007: New Century Financial Corporation (one of the largest US mortgage lenders) declared bankruptcy;
- July 2007: bank Bears Stearns announced that it would stop honouring its commitments;

  → banks grew suspicious of one another and stopped their mutual lending that makes up the interbank market.

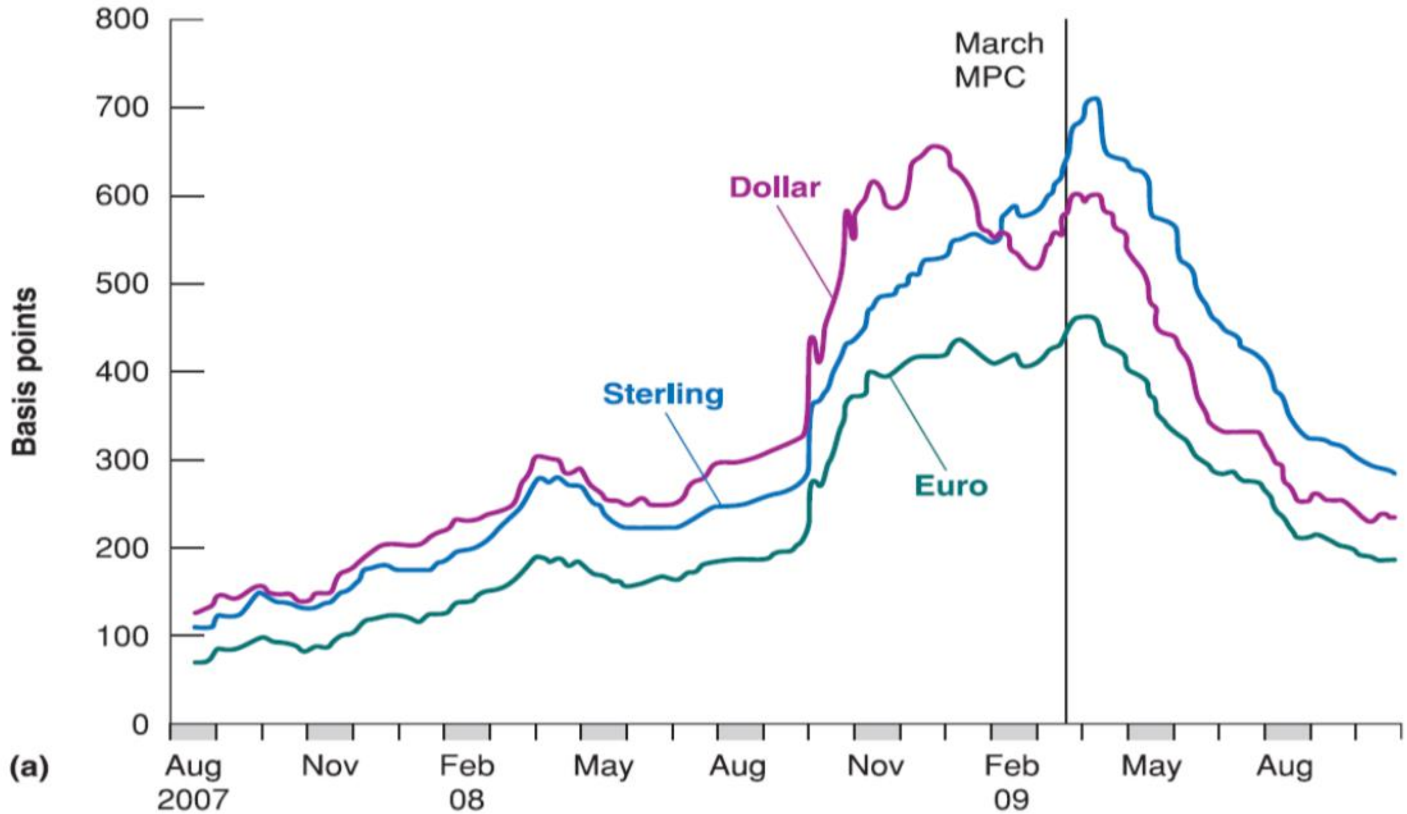
  → central banks provided liquidity directly to their banks.
- September 2007 – Spring of 2008: several major banks failed;
- **15 September 2008: failure of Lehman Brothers triggered the worst financial crisis since 1929.**

The global financial crisis: Immediate effects

1. **Large increase in the interest rates at which households and firms could borrow**: Spreads increase (the difference between the interest rates on interbank loans and on short-term government debt)
2. **Collapse of investment expenditure**
3. **Dramatic decrease in confidence**

The global financial crisis: Immediate effects

1. Spreads increase (the difference between the interest rates on interbank loans and on short-term government debt)



The global financial crisis: Immediate effects

2. Collapse of investment expenditure

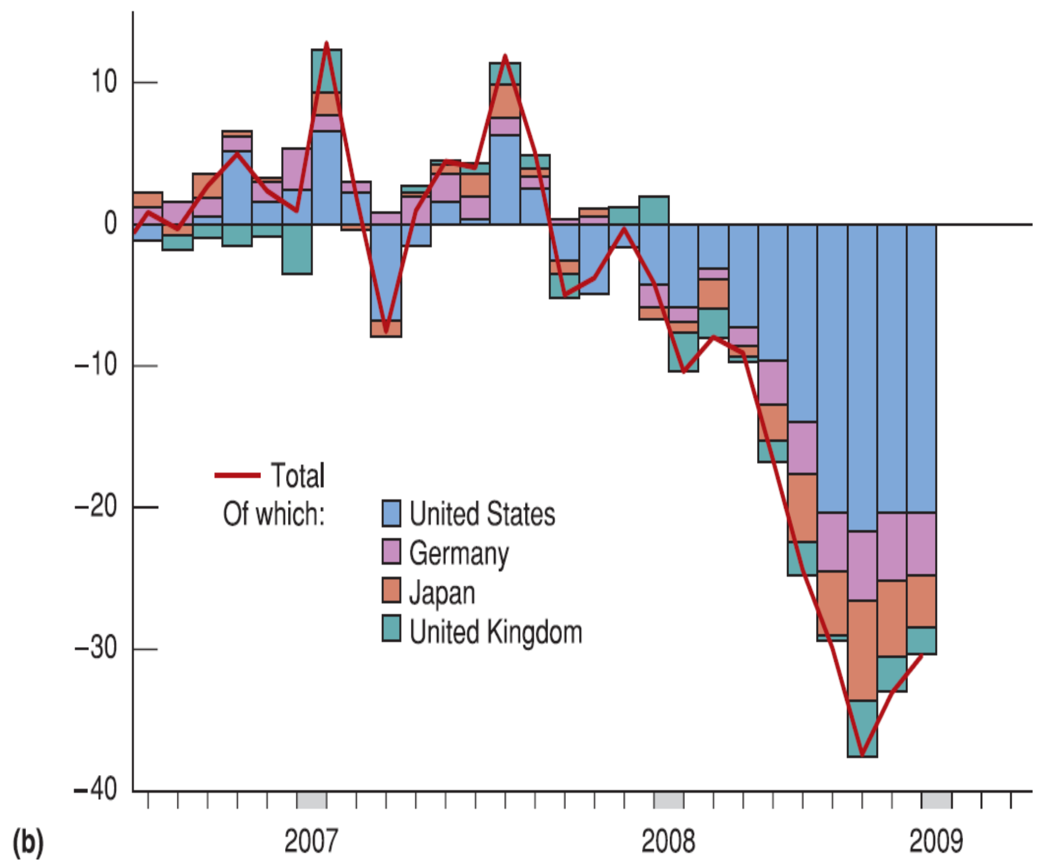
Figure 20.7

The external finance premium and the collapse of investment expenditure

(a) Corporate bonds (investment grade): spreads in the euro area, the UK and the USA.

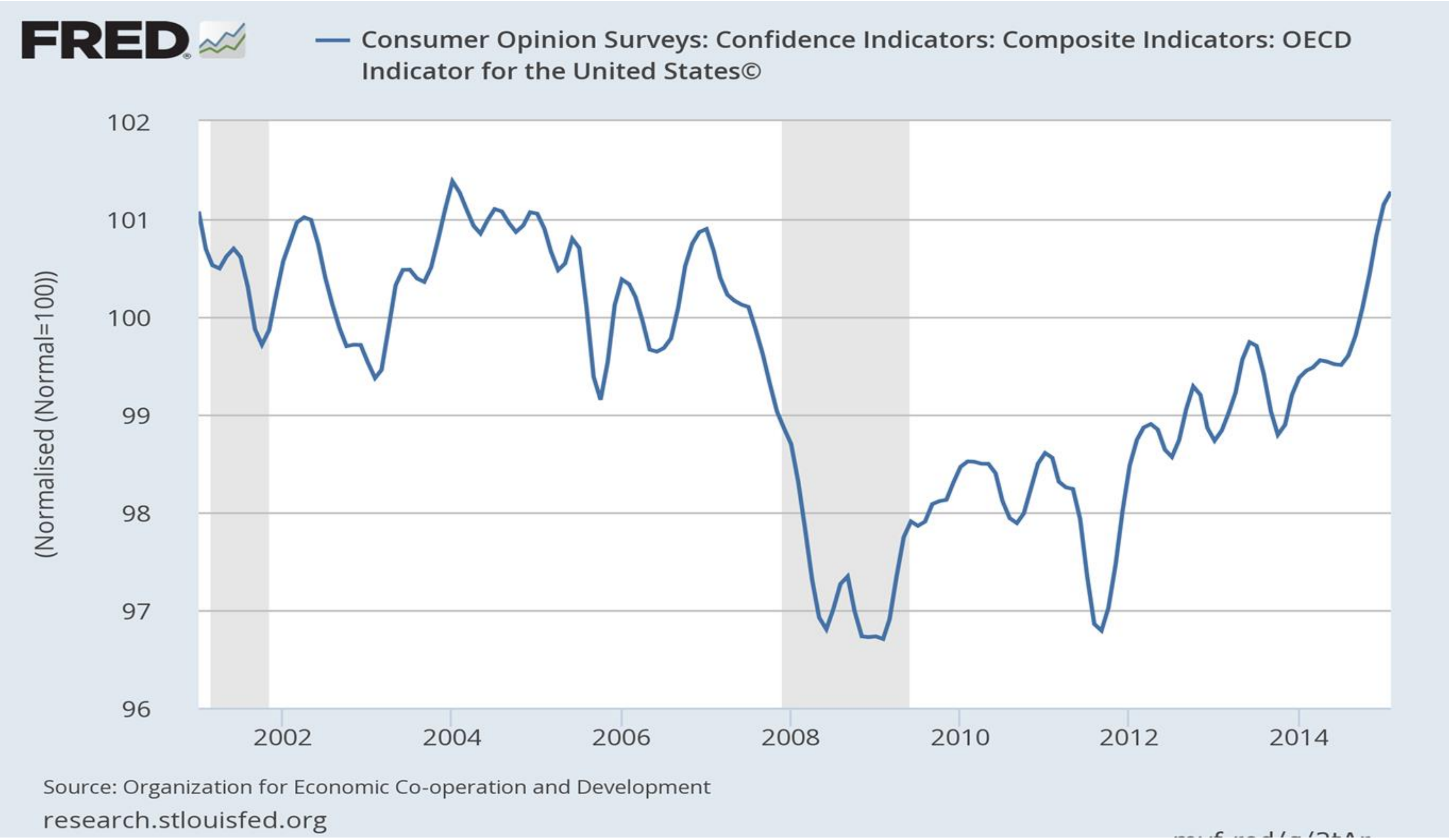
(b) Capital goods orders.

Sources: IMF and Bank for International Settlements, 2009 Annual Report.



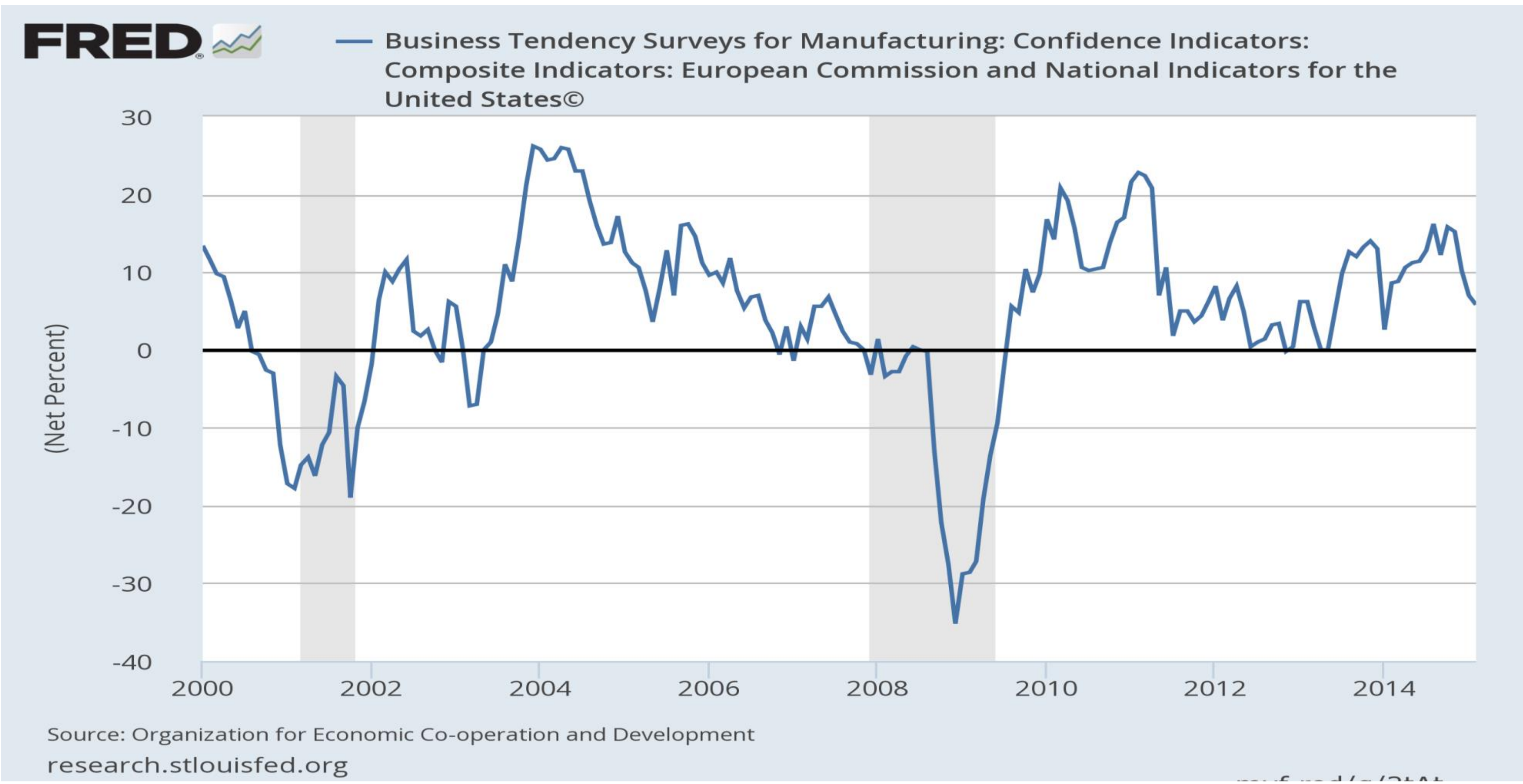
The global financial crisis: Immediate effects

3. Dramatic decrease in confidence - consumption



The global financial crisis: Immediate effects

3. Dramatic decrease in confidence - business



The global financial crisis: International spillovers

The sharp contraction of the US economy rapidly translated to the rest of the world… along with all the above three effects!!!!!

Channels of transmission:

(i) Some European Banks were directly exposed to the US housing market having bought those "toxic" securities whose underlying were US housing mortgages

(ii) Contraction of trade flows

(iii) The increase in US interest rates translated to European interest rates

The global financial crisis: International spillovers
Collapse of US Imports

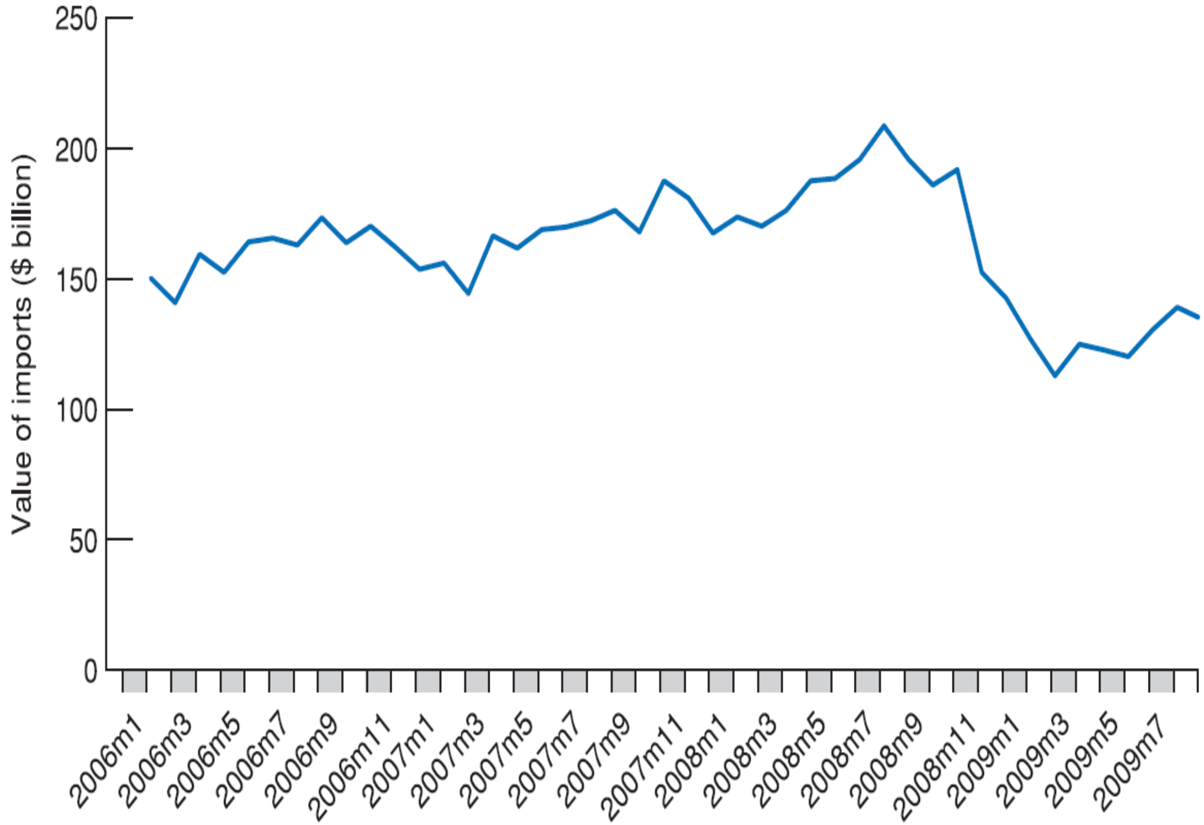
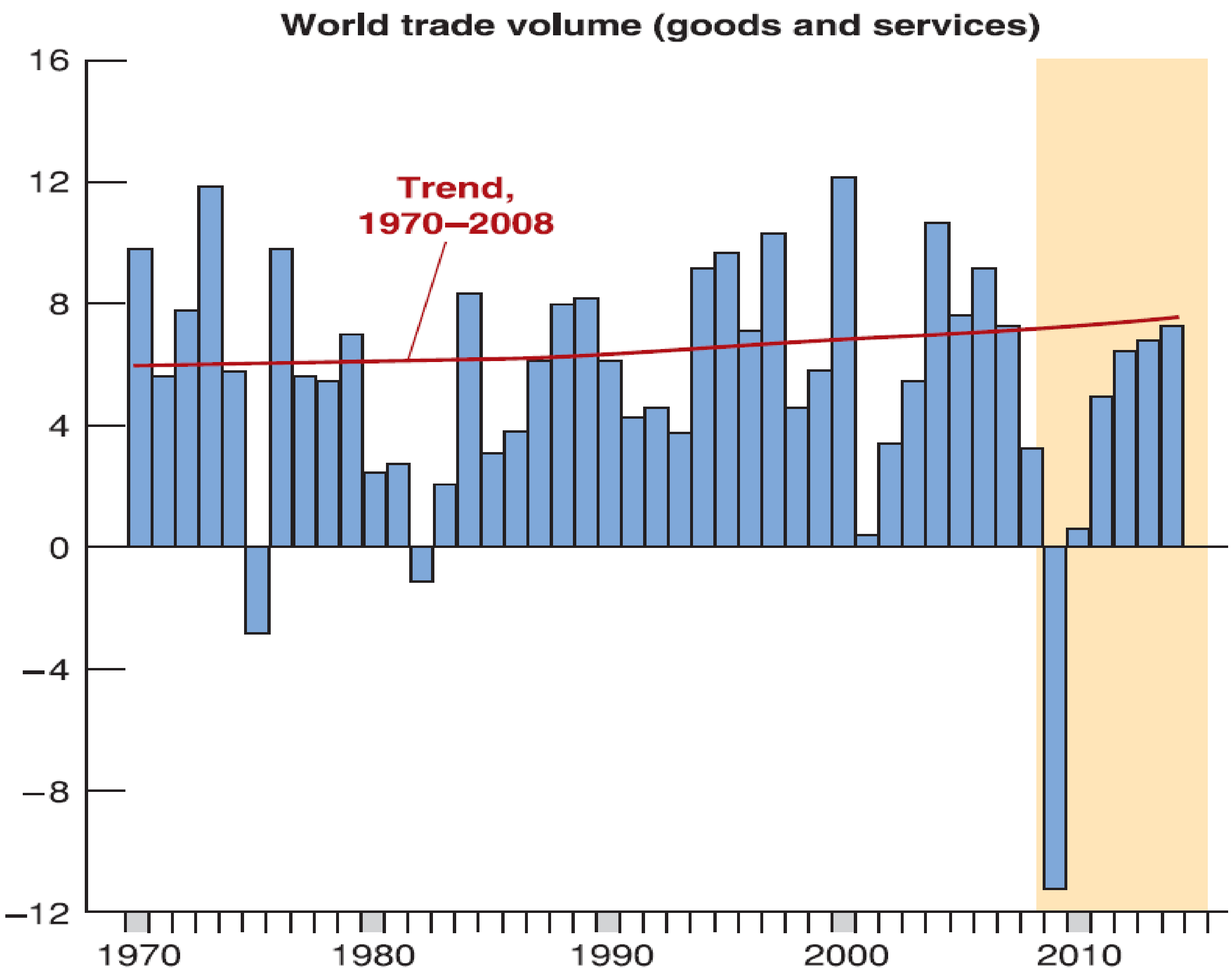


Figure 20.8

The collapse of US merchandise imports in 2009

Source: WTO, Short-term merchandise trade statistics, available at www.wto.org.

The global financial crisis: International spillovers
Collapse of World Trade



The global financial crisis: International spillovers

- Contagion was larger in countries relatively more dependent on foreign trade and in those economies with stronger trade ties with the USA: e.g. Canada and Mexico above all, but also the EU and China.
- Magnified effects of contagion in UK and Ireland where domestic banks suffered problems similar to those of US banks.

The global financial crisis: The policy reaction

Policy makers (governments and central banks) followed the lessons learned from the Great Depression: deep distress in the financial system is soon followed by a profound and long-lasting recession

The global financial crisis: The policy reaction

Therefore in the US

- To prevent **bank runs** by depositors the Federal deposit insurance was increased from \$100,000 to \$250,000.
- The US government bailed out banks and other financial institutions (rescue large financial institutions);
- The FED provided liquidity to the financial system and adopted sharply expansionary policies

The aim of these interventions was to provide liquidity to financial institutions avoiding unnecessary further bankruptcies and allowing the financial system to function again

The global financial crisis: The policy reaction

Therefore in the EUROPE,

the ECB responded to the crisis undertaking a mix of conventional and non-conventional monetary policy.

Conventional monetary policies: sharp cut in the main refinancing rate from 4.25% to 1% in 6 months

The global financial crisis: The policy reaction

Non-conventional monetary policies:

(i) European banks benefited from unlimited liquidity at a fixed interest rate at maturities up to a year;

(ii) In exchange of liquidity banks can transfer assets they own (temporary transfer… in order to avoid permeant changes in the stock of money); to this purpose other assets besides government bonds are accepted (bank loans as well);

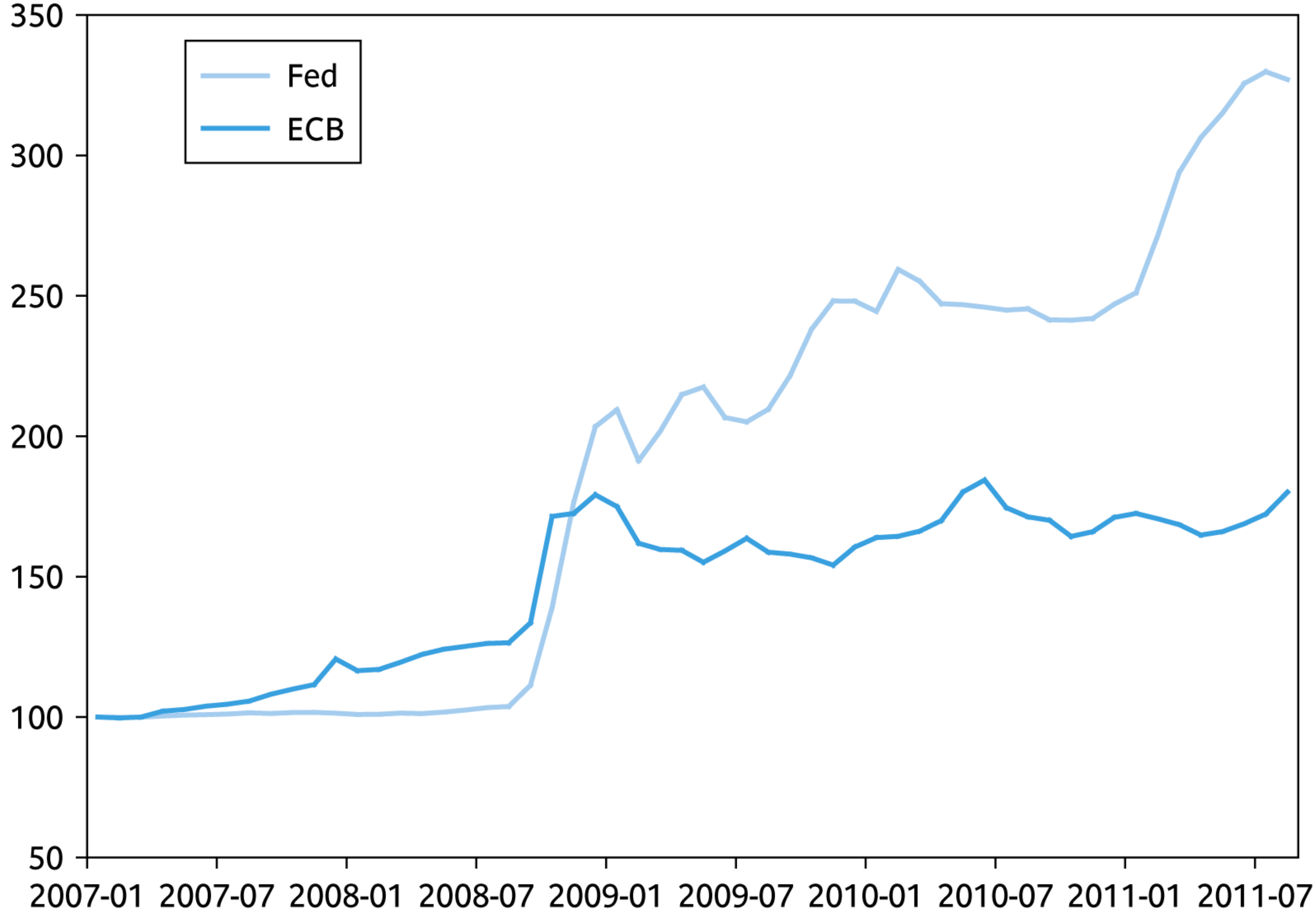
(iii) the ECB also provided liquidity to banks buying “covered bonds”. that is bonds issued by bank and guaranteed by a flow of interest payments the bank will receive… also from housing mortgages.

Covered bonds

- “Covered bonds are bonds issued by credit institutions which are secured by a protected pool of high-quality assets (such as mortgage loans or public sector debt). Covered bonds grant the holder privileged claims on the pool of cover assets upon default of the issuer. They therefore offer a double-recourse protection against issuer default which other instruments – such as securitisations - do not enjoy. In particular, this double recourse is underpinned by a dedicated legal framework and public supervision. The obverse of this is that covered bonds are sometimes seen as “ring-fencing” certain bank assets in the case of bank insolvency/resolution (referred to in jargon as “asset encumbrance”).” Source: http://ec.europa.eu/finance/bank/covered-bonds/index_en.htm

The global financial crisis: The policy reaction

Assets of central banks (Index: January 2007 = 100):



The global financial crisis: The policy reaction

The London G20 Summit in 2009 called upon all governments to urgently adopt expansionary policies: in these circumstances governments must use fiscal policy to prevent a vicious cycle of recession and large budget deficits.

The global financial crisis: The policy reaction

As a result: STRONG fiscal action !

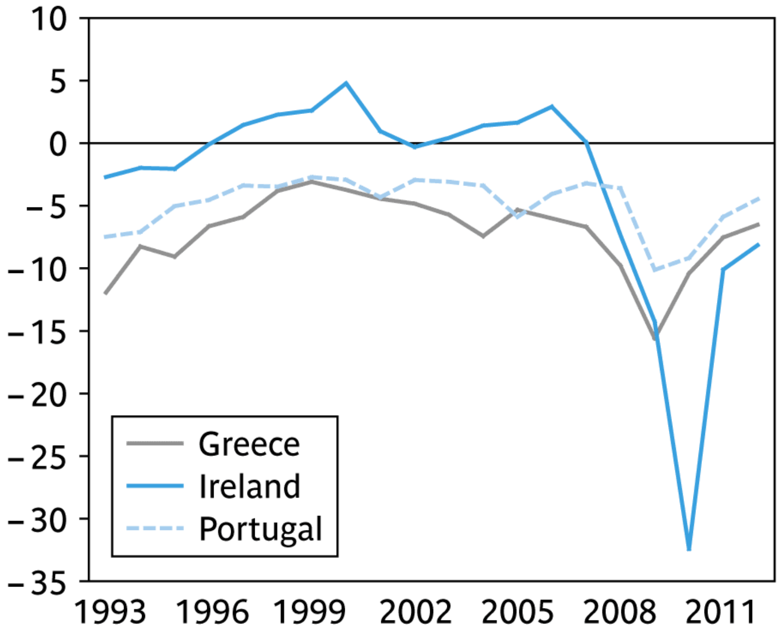
Combination of tax cuts and increase in public spending…..

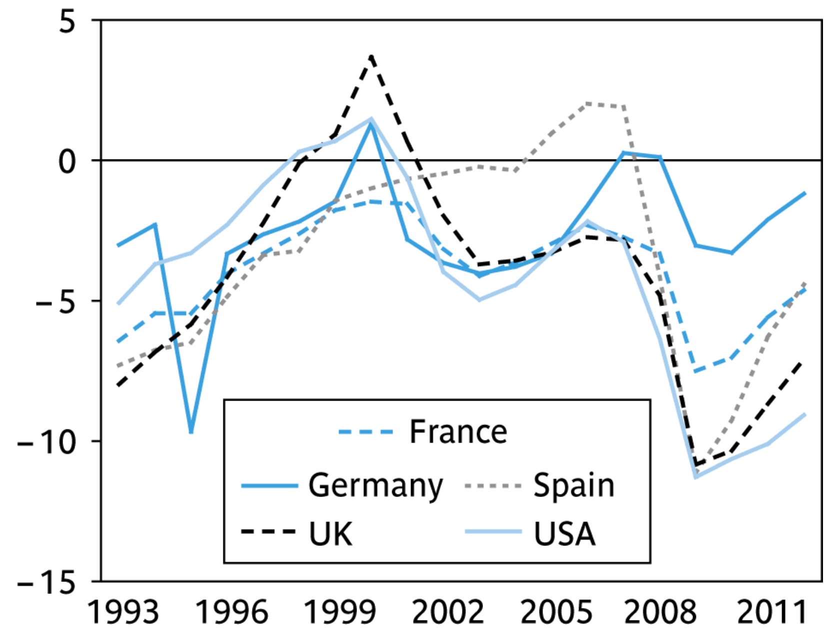
Illustration by KAL

The global financial crisis: The policy reaction

These actions had dramatic impacts on budget deficits (e.g., in 2010, Irish government spent almost 30% of its GDP on bank bailouts).

Budget balances 1993–2012 (% of GDP):





The limits of policy

- Since 2008 interest rates had fallen to zero.
- Economies fell in a LIQUIDITY TRAP (see chapter 5 - BAG).
- In this case conventional monetary policy (such as open market operations) does not work…
- **Quantitative easing** is an option in this case: purchases of gilts (government bonds which promises payment over 10 or 30 years) or bank loans… with the aim of reducing interest rates on financial activities with long maturity!
- The idea is the following: since the economy is in a liquidity trap and the central banks cannot affect short-term interest rates /which are already close to zero or zero), **quantitative easing** envisages the purchase of assets with longer maturity in the attempt to reduce interest rates on assets with longer maturity, trying in this way to give a kick to the economy! (**Use the revised IS-LM model with expectations to understand the mechanism and revise the Focus pp. 412-413)**

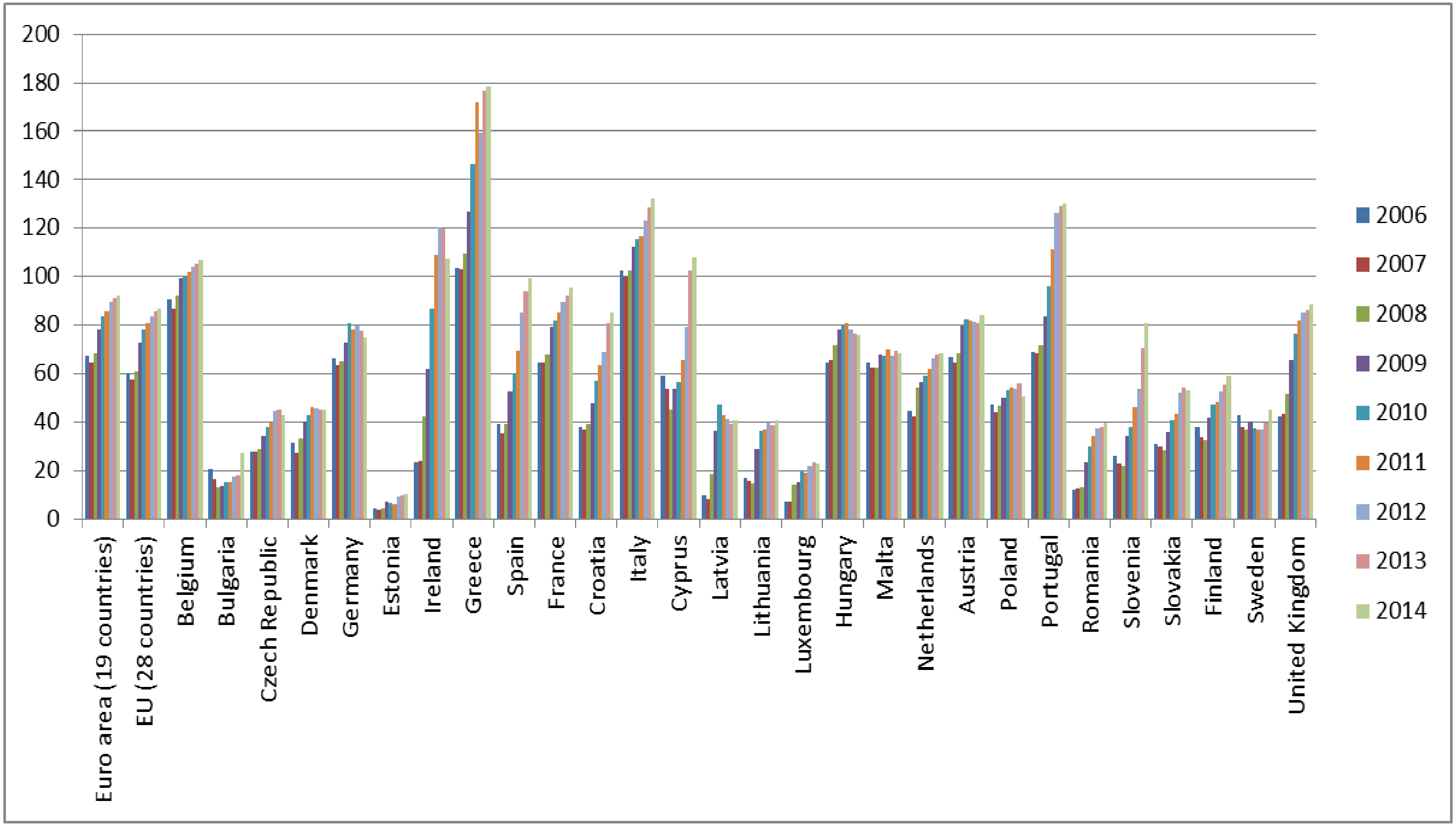
The limits of policy

- Does **quantitative easing** work? The evidence is still mixed. You really need the purchase of a large amount of gilts to affect long-term interest rates.
- On the other hand, more money is created by this channel… An higher expectations of future inflation reduce expected future real interest rate… this reduction in real rates may boost investment and consumption! **(See again chapters 17 and 18 and the revised IS-LM model with expectations to understand the mechanism)**

The limits of policy

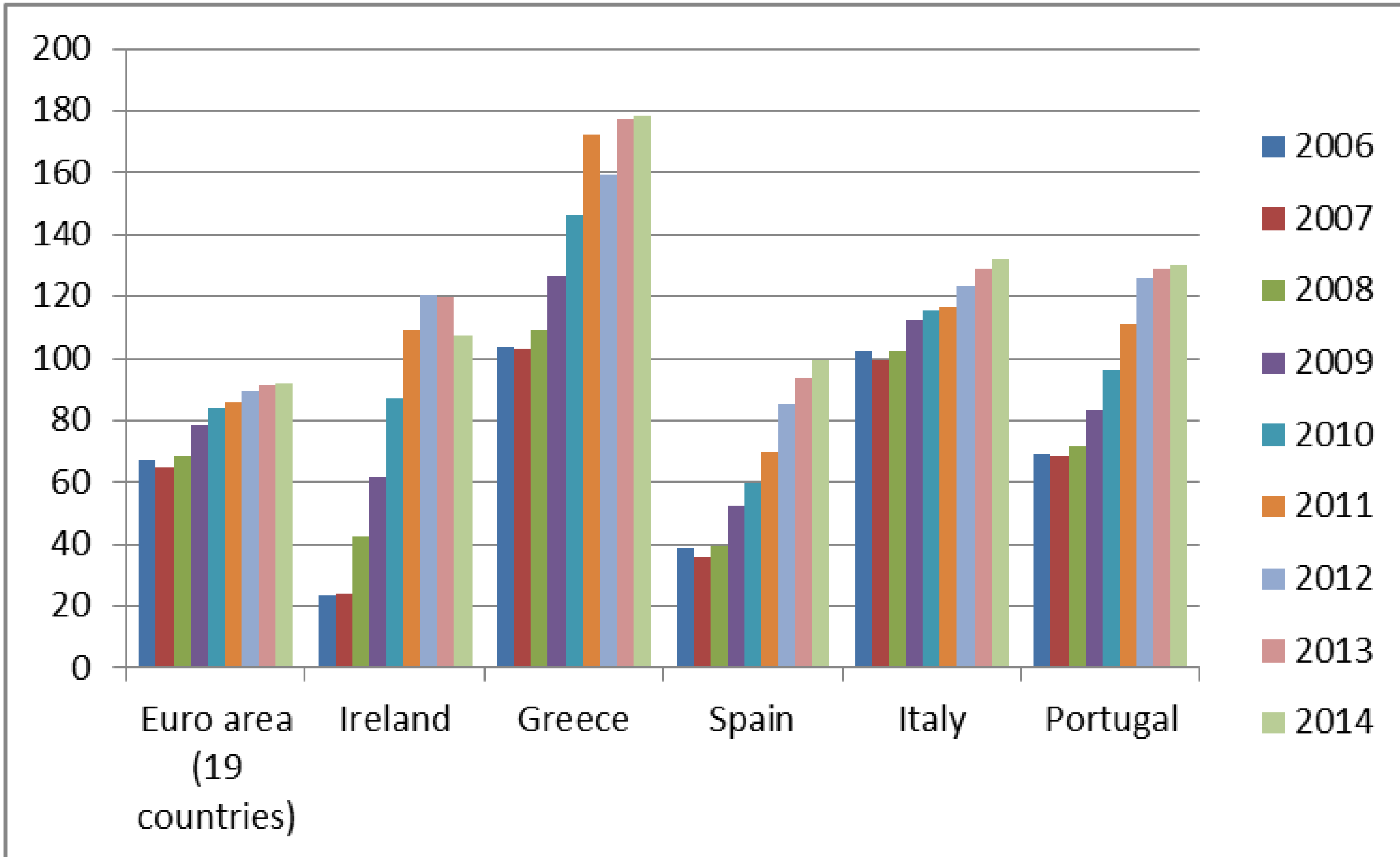
- What about fiscal policy?
- Well, there is a limit in the use of fiscal expansion… continuing large deficits may lead to steadily higher government debt (see chapter 21!!!) Therefore there is a limit in the use of it….Especially in European countries…….

General government gross debt - annual data
Percentage of gross domestic product (GDP)



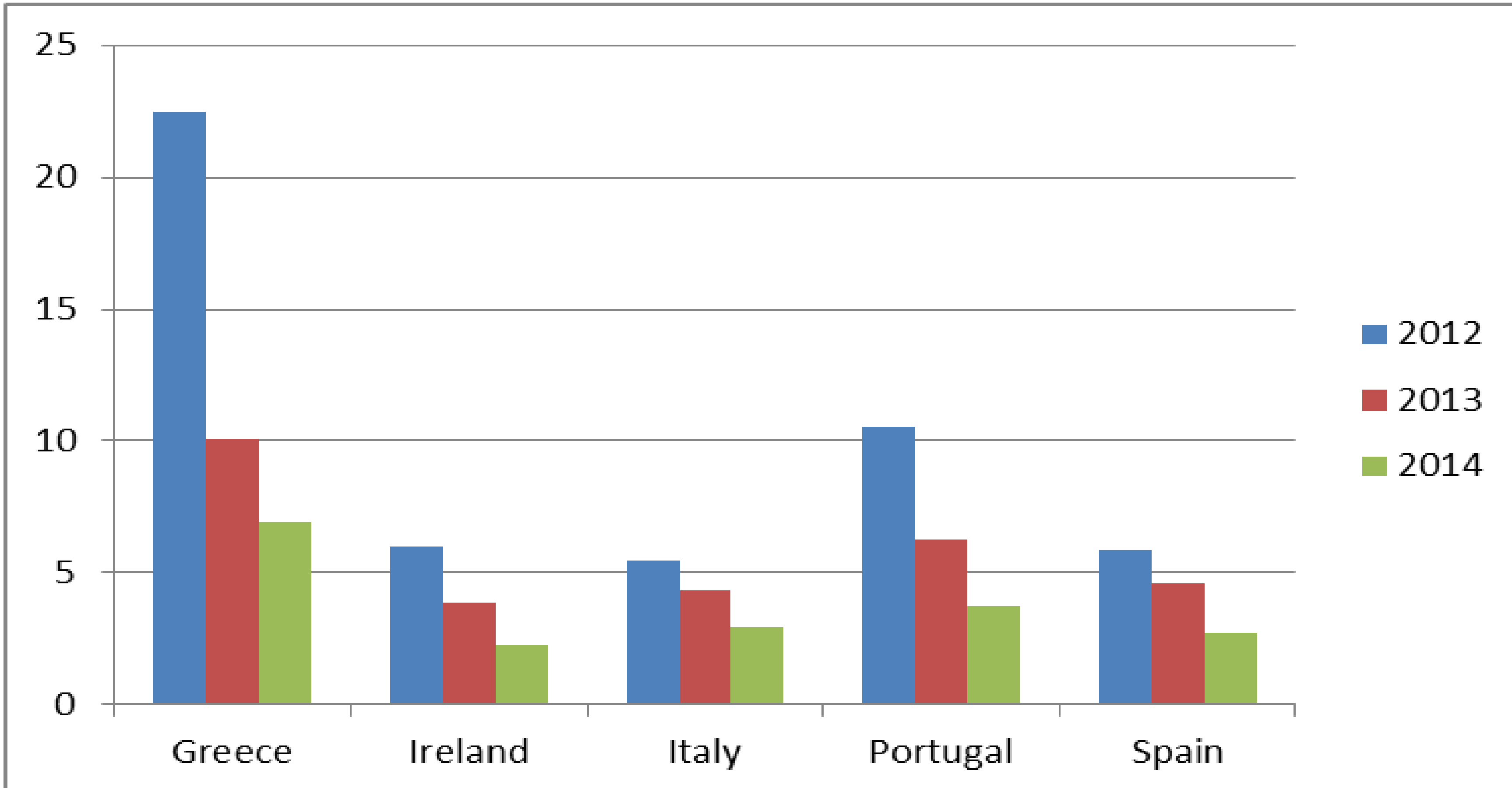
Source: Eurostat

General government gross debt - annual data
Percentage of gross domestic product (GDP)



Source: Eurostat

Interest rates - PIIGS

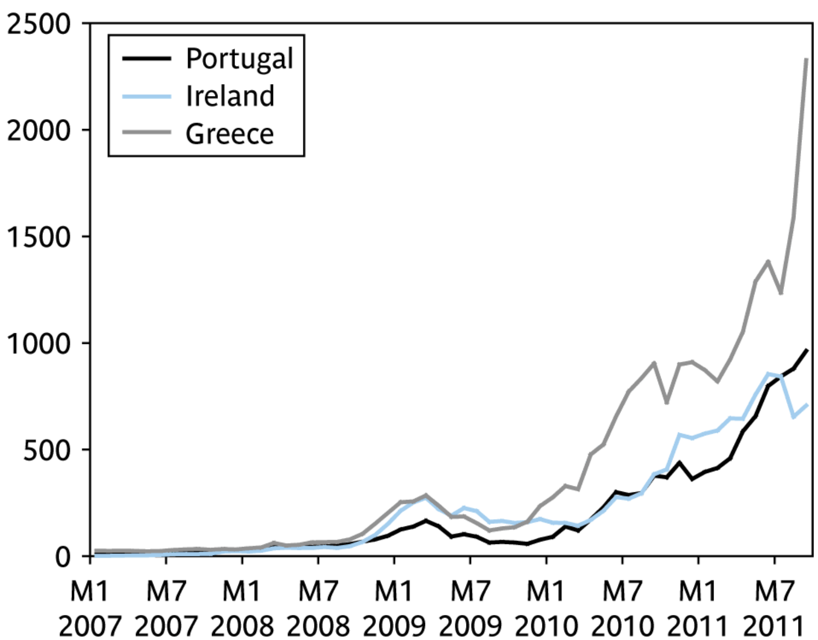


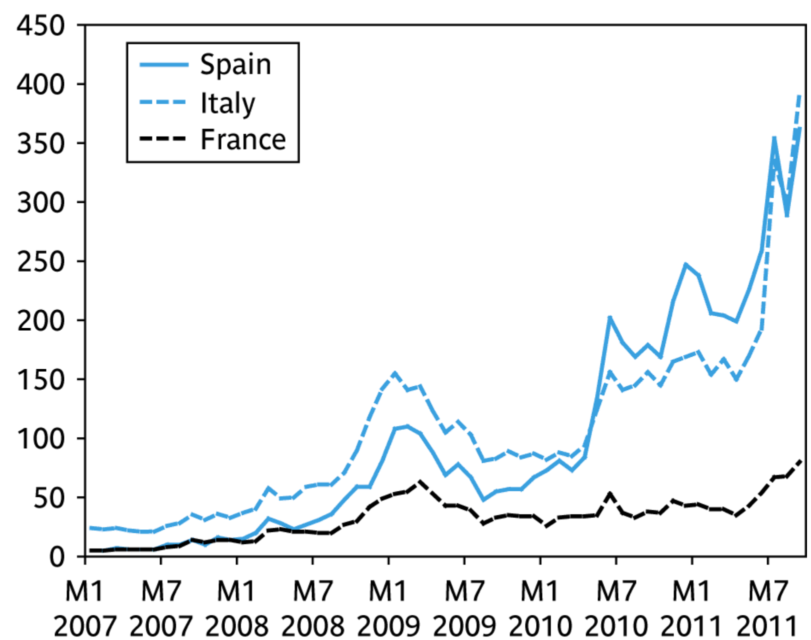
Source: ECB

Short-term policy responses

Step increases in interest spreads (below) is due to policy decisions that markets perceived as ‘too little, too late’

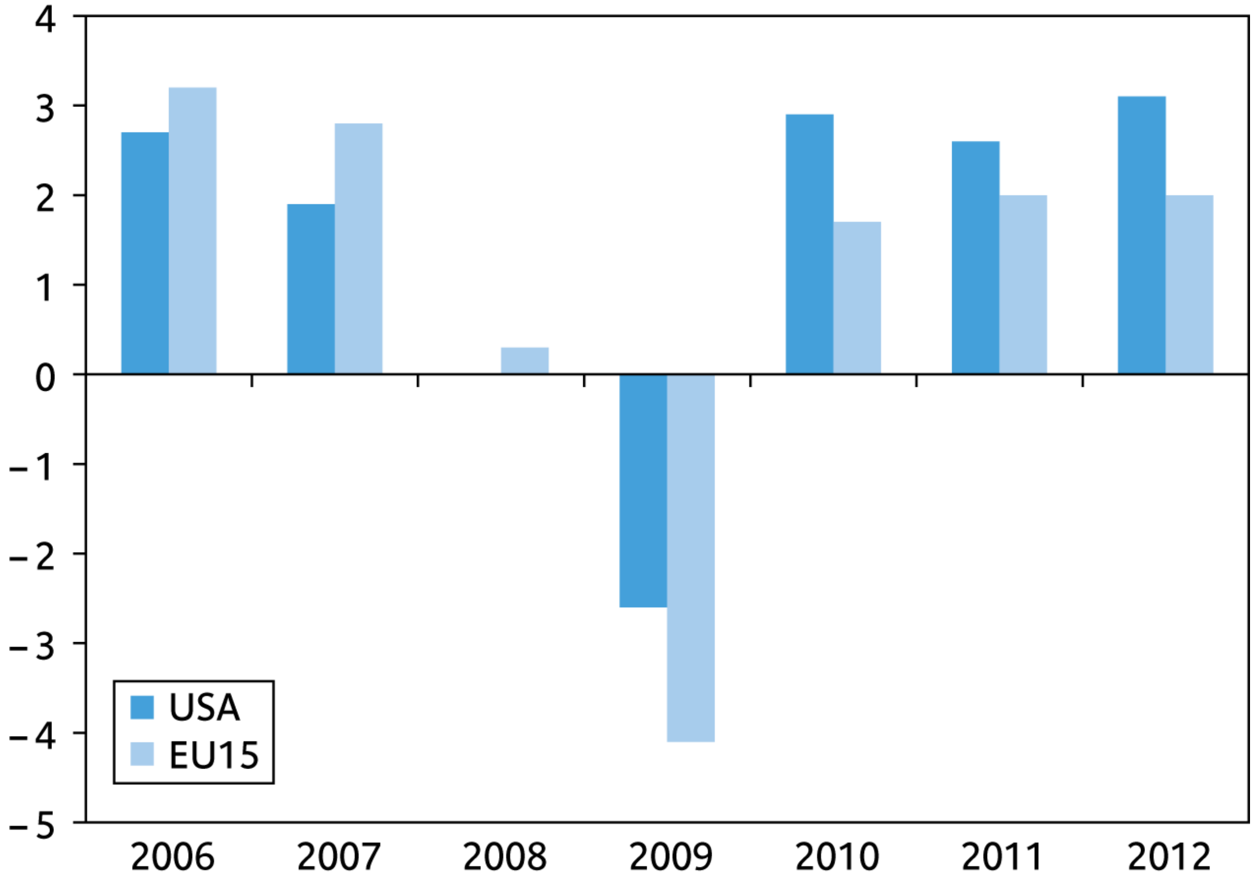
Interest rate spreads (basis points):





The recession has been deep but relatively short-lived.. Still full recovering, is slow…

GDP growth 2006–12:



Slow recovery? Why?

- The bank system has been severely damaged… less productive, less efficient in transmitting resources from savers to investors.. (**credit crunch)**
- Very low housing investment.
- Deferral of consumption and investment which implies low demand.

Will eventually the economy fully recover?

- Probably yes.
- Pent-up demand (demand which does not place today implies higher demand in the future)
- The banking system can recover

- More specifically…. What about Europe?

Anemic growth in Europe…
What is the problem with Europe?????

Negative growth and large budget deficits have led to a fast increase in public debts:

- financial crisis has led governments to run budget deficits;
- deficits have led financial markets to worry about the sustainability of public finances… This provoked a deep recession!
- On the one hand: banks hold bonds issued by the governments and they are exchanged in the interbank markets with the central banks… Therefore in the case of government defaults banks will suffer big losses.

Rescue Mechanism

- *The European Financial Stability Facility (EFSF) was created as a **temporary crisis resolution mechanism** by the euro area Member States in June 2010. The EFSF has provided financial assistance to **Ireland, Portugal and Greece**. The assistance was financed by the EFSF through the issuance of bonds and other debt instruments on capital markets.
- A **permanent rescue mechanism**, the European Stability Mechanism (ESM) started its operations on 8 October 2012. The **ESM** is currently **the sole mechanism** for responding to new requests for financial assistance by euro area Member States. It has provided loans to **Spain, Cyprus and Greece**
- See here: https://www.esm.europa.eu/assistance/lending-toolkit

Rescue Mechanism

Financial assistance programmes EFSF-ESM

- Ireland 2010-2013
- Greece 2012- ongoing
- Portugal 2011-2014
- Spain 2012-2013
- Cyprus 2013-2016

See here https://www.esm.europa.eu/financial-assistance

Rescue Mechanism

Pros and Cons

- Rationale: to avoid contagion…. Banks hold sizeable amounts of government's debt: doubts about any government's debt translate into doubts about health of banks
- BUT: in exchange austerity and structural reforms… Austerity is source of recession, while structural reforms take time to materialize….

Rescue Mechanism
Pros and Cons

Contagion within the Eurozone is highly troubling since public indebtedness is not enough to explain why these countries, and not others, have faced the wrath of the financial markets.

Possible explanations:

- **membership of a monetary union may be a weakness (national central banks cannot help governments);**
- **The ESM may spread contagion, instead of preventing it, by signaling willingness to bail out countries subject to market pressure.**

Short-term policy responses

- Unconventional monetary policy…. Read carefully the latest press conference

https://www.ecb.europa.eu/press/pressconf/2016/html/is161208.en.html

- Fiscal policy strategy: fiscal austerity (?)

- ESM: resources in case of contagion.

Banks hold sizeable amounts of government's debt: doubts about any government's debt translate into doubts about health of banks.

How to stop the crisis? Crisis has two components:

- public debt crisis: it requires debt restructuring (as Greece did);
- banking crisis: it requires bank recapitalization.

Long-run solutions

Crisis has exposed key weaknesses of the Eurozone construction.

Fiscal discipline:

- favoring more integration: less sovereignty and Eurobonds;
- favoring institutional channel: formally requiring that Eurozone membership be subject to the adoption of adequate fiscal institutions tailored to each country's own political traditions.

Bank regulation and supervision:

- eventually, regulation and supervision will have to be replaced by, or put under the authority of, Eurozone authorities.


The name's Bond...
Euro Bond.
mosedale

Long-run solutions

ECB as lender of last resort:

- no-bailout clause (largely ignored) rules out ECB interventions when states are unable to pay;
- rethinking of role and actions of ECB.

Governance of the Eurozone:

- *de facto* management of crisis by France and Germany, while the Commission has been largely passive;
- **Eurozone needs its own system of governance**.

Will the Eurozone break up?

Yes if

- failure to trigger a virtuous cycle of growth and fiscal sustainability
- widening gap between well-functioning North and badly wounded South;
- increasing inequalities within and between countries
- many international investors do not believe that the euro can survive (self-fulfilling process)

Will the Eurozone break up?

In case….

- breakup could have catastrophic implications;
- new currency would have to be printed and reintroduced;
- no legal procedure for a country to leave the Eurozone
- need for temporary capital controls and for extraordinary measures to avoid the collapse of the bank system
- strong devaluation could lead to high inflation
- beggar-thy-neighbor policies, autarkic attitude would lead to the **break up** of the **European Union** as well

→ No clear-cut economic gain.


EU
CARTOON MOVEMENT

What about Italy?

- Italy is one of the largest European countries… but is the weakest P
- Public debt to GDP ratio: 135% of GDP;
- Very low growth rates for long time
- Very low productivity growth
- Weak banking system: banks burdened by about €360 billion of loans (about 1/5 of the country’s GDP).

What about Italy?

- In the last months the value of Italy’s biggest banks has fallen (in particular of the Monte dei Paschi di Siena, the world’s oldest bank)
- Urgent need for a big bank clean-up
- Injection of government money is prohibited by the new euro-zone “bailing in” rules… banks cannot be bailed out by the government unless their bondholders take losses first

What about Italy?

- The principle of “bailing in” is not so bad… in principle the risk stays on creditors and not on taxpayers!
- BUT: “bailing in” is not so disruptive as long as bank bonds are held by big institutional investors who diversify their risk… On the contrary when bank bonds are held by retail investors, then the consequence of the “bailing in” can be dramatic…. In Italy about the share of bank bonds held by retail investors is huge!!!!! (€200 billion)

Italy is in a real fix…

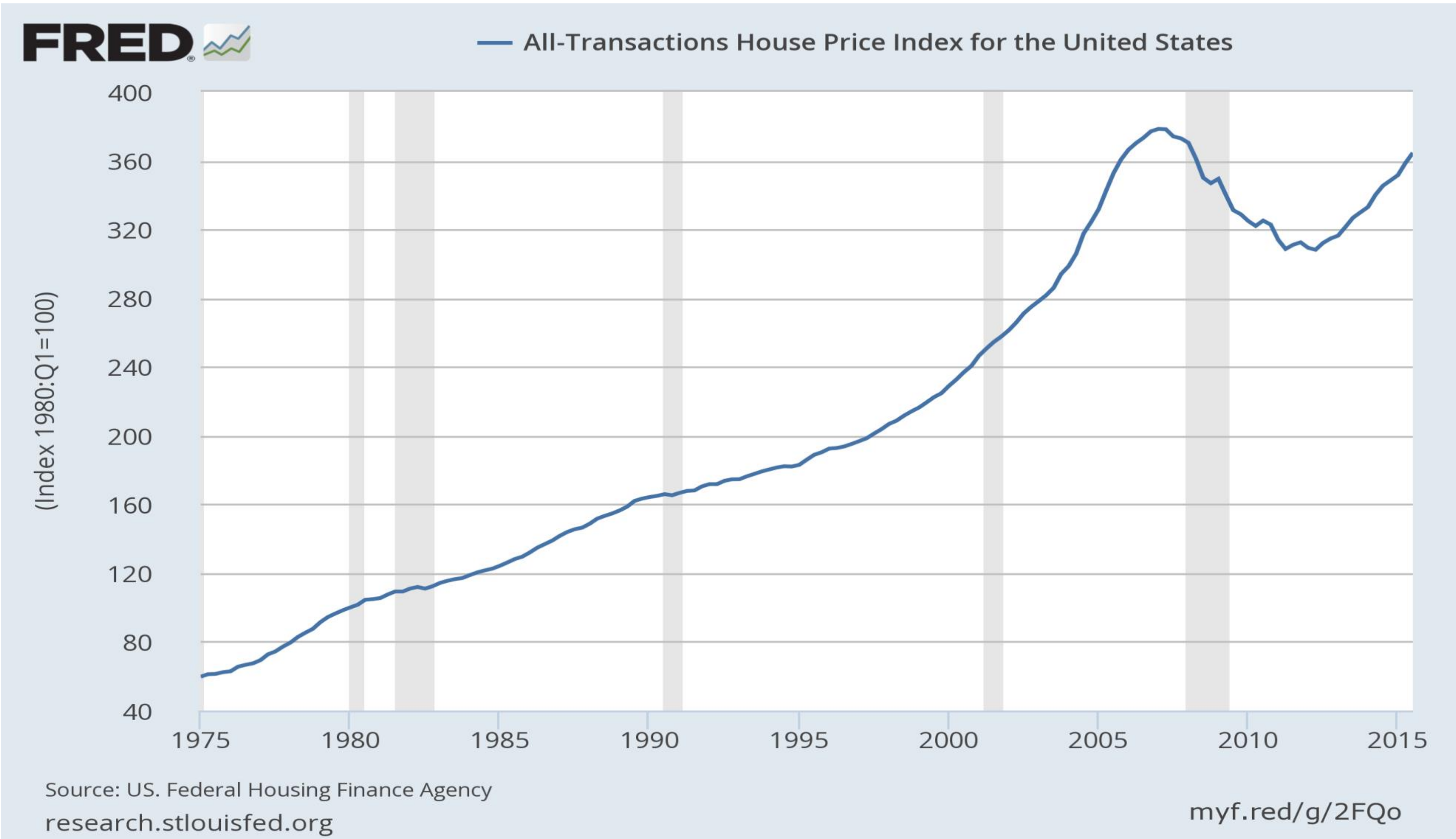
- Can we hope for an act of “clemency” and “forget” about the bail-in rule for a while on the grounds that other countries of the Eurozone had bailed out their banks before these “new rules” were set???
- Will Italy manage to get the green light from Brussels to compensate small bondholders?
- Will confidence of foreign investors be restored alleviating the pressure on banks?

Italy is in a real fix…

- Two *nice* articles:

- https://www.theguardian.com/business/2016/dec/11/monte-dei-paschi-siena-emergency-cash-injection-european-central-bank
- http://www.economist.com/news/leaders/21701756-italys-teetering-banks-will-be-europes-next-crisis-italian-job

What about the housing market?



FRED
All-Transactions House Price Index for the United States
(Index 1980:Q1=100)
400
360
320
280
240
200
160
120
80
40
1975
1980
1985
1990
1995
2000
2005
2010
2015
Source: US. Federal Housing Finance Agency
research.stlouisfed.org
myf.red/g/2FQo


UP
AGAIN
SPECULATORS
HOUSING
PRICES
2013
2008
2012