The Great Recession: European Sovereign Debt Crisis

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Overview

- Background
- Origins of the crisis
  - Greece
  - Spain
  - Why the crisis seems never end?
- Policy responses
  - What have been done?
  - Recent proposals

The European Union

- Though with a significant economic dimension, …
  - On the road to the EU
    - Treaty of Paris (1951)
      - European Coal and Steel Community (ECSC)
    - Treaty of Rome (1957)
      - European Economic Community (EEC)
    - Maastricht Treaty (1992)
      - The treaty created the European Union (EU) and the euro (€).

The European Union

- … the European Union is a political project.

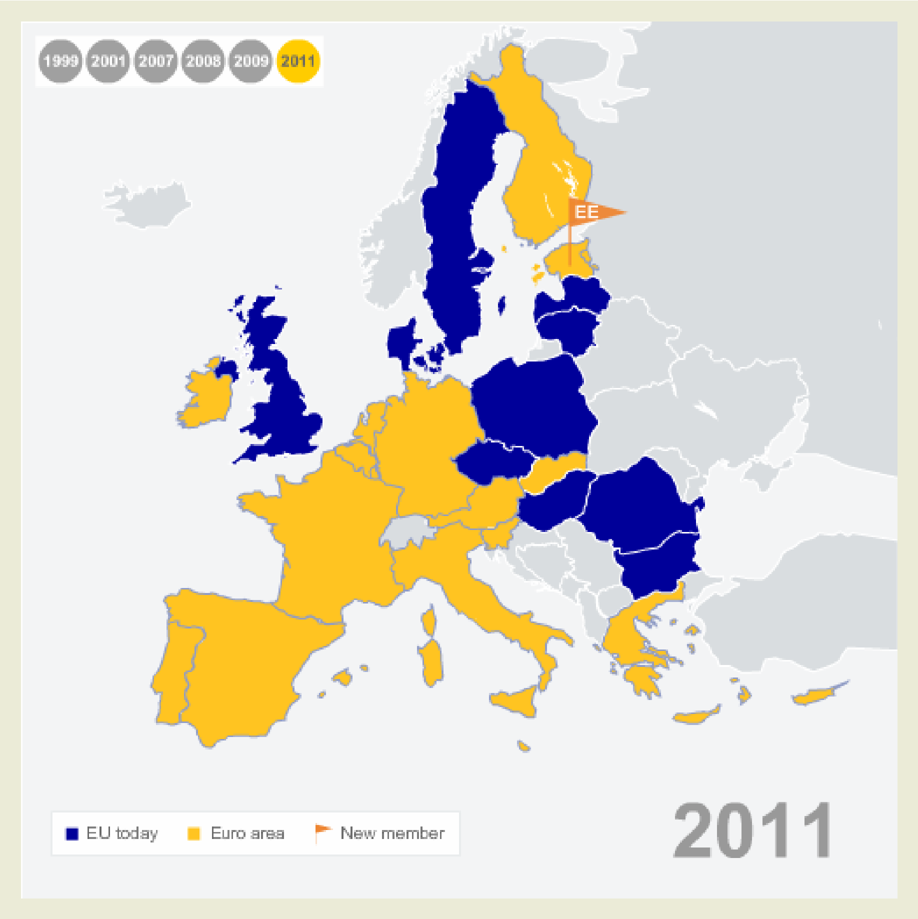
  “The European Union is set up with the aim of ending the frequent and bloody wars between neighbours, which culminated in the Second World War, […] to unite European countries economically and politically in order to secure lasting peace. ”

Source: European Union (2012) http://europa.eu/about-eu/eu-history/index_en.htm

The Euro

- EU

  ≠ Euro area



Source: European Central Bank (2012) http://www.ecb.int/euro/intro/html/map.en.html

The Euro

- 27 EU member states
- 17 euro area member states
  - Austria, Belgium, Cyprus, Estonia, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Malta, the Netherlands, Portugal, Slovakia, Slovenia, and Spain

The Euro

- Reasons / advantages for a single currency
  - Complement to the single market to improve efficiency
  - Eliminate currency exchange costs and facilitate international trade

Source: European Union (2012) http://ec.europa.eu/economy_finance/euro/index_en.htm

The Euro

- Reasons / advantages for a single currency
  - Protect the euro area from external economic shocks given the size and strength of the euro area

Source: European Union (2012) http://ec.europa.eu/economy_finance/euro/index_en.htm

The Euro

- Reasons / advantages for a single currency
  - Create a mechanism for a low inflation and low interest rates and encourage sound public finances

Source: European Union (2012) http://ec.europa.eu/economy_finance/euro/index_en.htm

The Euro

- Reasons / advantages for a single currency
  - Give the EU a more powerful voice in the world
  - Give a tangible symbol of their European identity

Source: European Union (2012) http://ec.europa.eu/economy_finance/euro/index_en.htm

The Euro

- Shortcomings
  - One monetary policy for economies with dissimilar structures
  - National governments lost the monetary instruments

The Euro

- Convergence Criteria in the EU Treaty (Details in Appendix)
  - Economic convergence
    - The ratio of government deficit to GDP must not exceed 3%
    - The ratio of government debt to GDP must not exceed 60%

Source: Scheller, H.K. (2006) *The European Central Bank: History, Role and Functions*. Revised 2nd ed. Frankfurt: European Central Bank.

The Case of Greece

Sovereign Debt Crisis

- Sovereign Debt
  - Debt of the government
  - Debt (stock) vs. Deficit (flow)
  - Deficit = Revenue – Expenditure
  - Debt = cumulative sum of deficits

Source: Reinhart, C.M. & Rogoff, K. (2009) *This Time Is Different: Eight Centuries of Financial Folly*. Princeton, NJ: Princeton University Press.

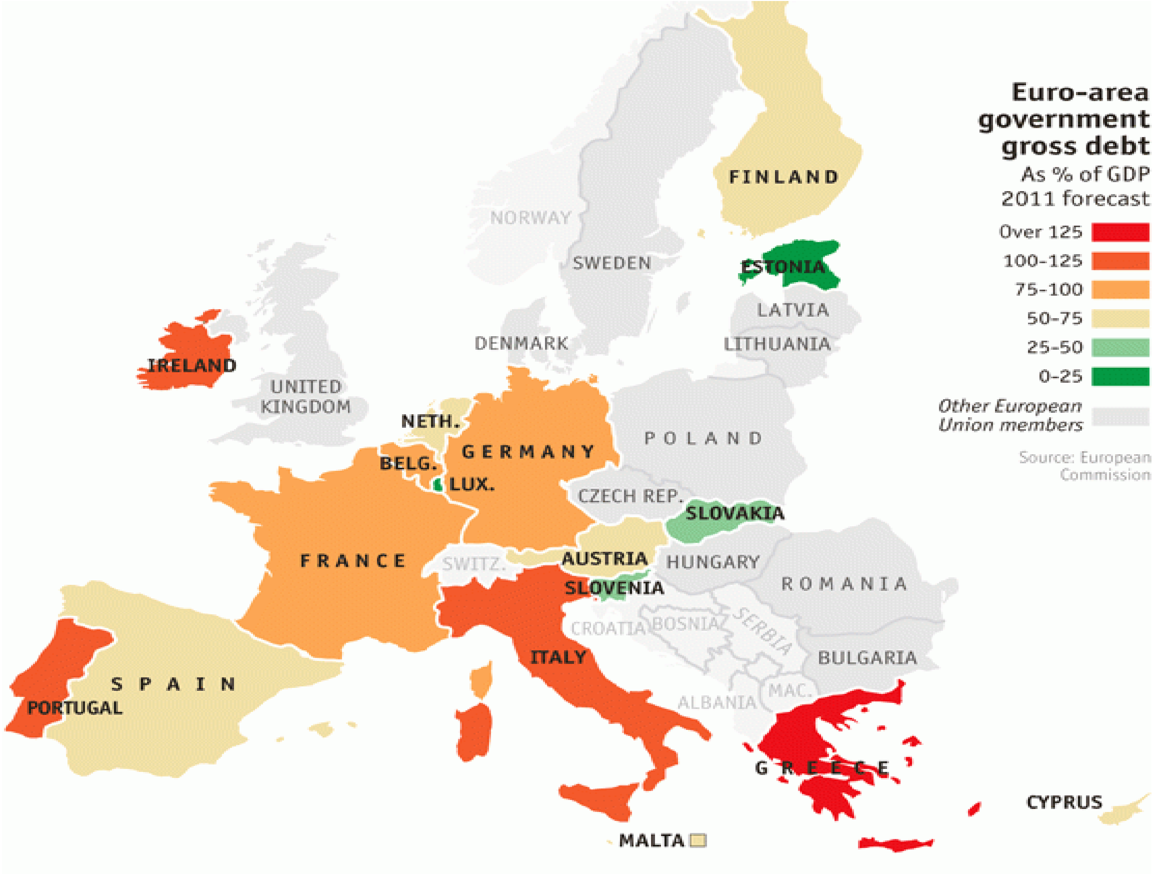
Sovereign Debt Crisis

- Crisis
  - Alerting signal
  - Rising doubt on the ability to repay
  - Increased risk of default
  - Confidence crisis
- Shredding market confidence
  - Decrease in demand for bond
  - Bond price decreases
  - Yield increase to cover the risk
- Debt perceived to be even more unsustainable

Source: Reinhart, C.M. & Rogoff, K. (2009) *This Time Is Different: Eight Centuries of Financial Folly*. Princeton, NJ: Princeton University Press.

Trigger

1. High debt level



Source: The Economist (12 Nov 2011) A very short history of the crisis (http://www.economist.com/node/21536871).

Trigger

2. Bad signal from the Greek government
   - On 23 April 2010, the prime minister formally requested about $53 billion in financial aid from the EU and the IMF to repay its maturing debt obligations

Source: Smith, Aaron (23 Apr 2010) Greek debt fears ease after EU aid request. CNN Money.

Prospects - Overview

- Structural deficit → swelling debt
  - Expenditures (Long term burden)
    - Wage burden
    - Public investment
    - Pension
  - Revenue
    - Shadow economy (tax evasion)
- Economic health → generate income to repay
  - Economic structure
  - Labor market

Prospects – Structural Deficits

- Wage burden of the Greek government
  - Many people work in the public sector
  - Relatively high wage in the public sector

Country	Employee Share (%)	Wage Ratio
Austria	21	1.12
Belgium	38	0.95
France	31	1.05
Germany	19	1.18
Greece	29	1.27
Ireland	29	1.17
Italy	27	1.22
Spain	23	1.26
Portugal	25	1.46

Source: Giordano, R. (2011) The Public Sector Pay Gap in a Selection of Euro Area Countries. ECB Working Paper No. 1406. Frankfurt: ECB.

Prospects – Structural Deficits

- Relatively high public investment
  - For example, the 2004 Athens Olympics
    - €3 bn on construction of sporting facilities
    - €4.2 bn on transportation
    - €1.2 bn on communication
    - €1.1 bn on security
    - €0.7 bn on other infrastructure

Public Investment to GDP Ratio 2006-2010 (Period Average)

Country	% of GDP
Greece	3.28
Germany	1.58
Italy	2.30
Spain	4.01
United Kingdom	2.24
South Korea	5.23

Sources: IMF (2012) *World Economic Outlook: Growth Resuming, Dangers Remain*. Washington, DC: IMF.
Kasimati, E. & Dawson, P. (2009) Assessing the impact of the 2004 Olympic Games on the Greek economy: A small macroeconometric model. *Economic Modelling* 26(1): 139-146.
OECD (2012) OECD.StatExtracts. http://stats.oecd.org/Index.aspx?DatasetCode=SNA_TABLE1

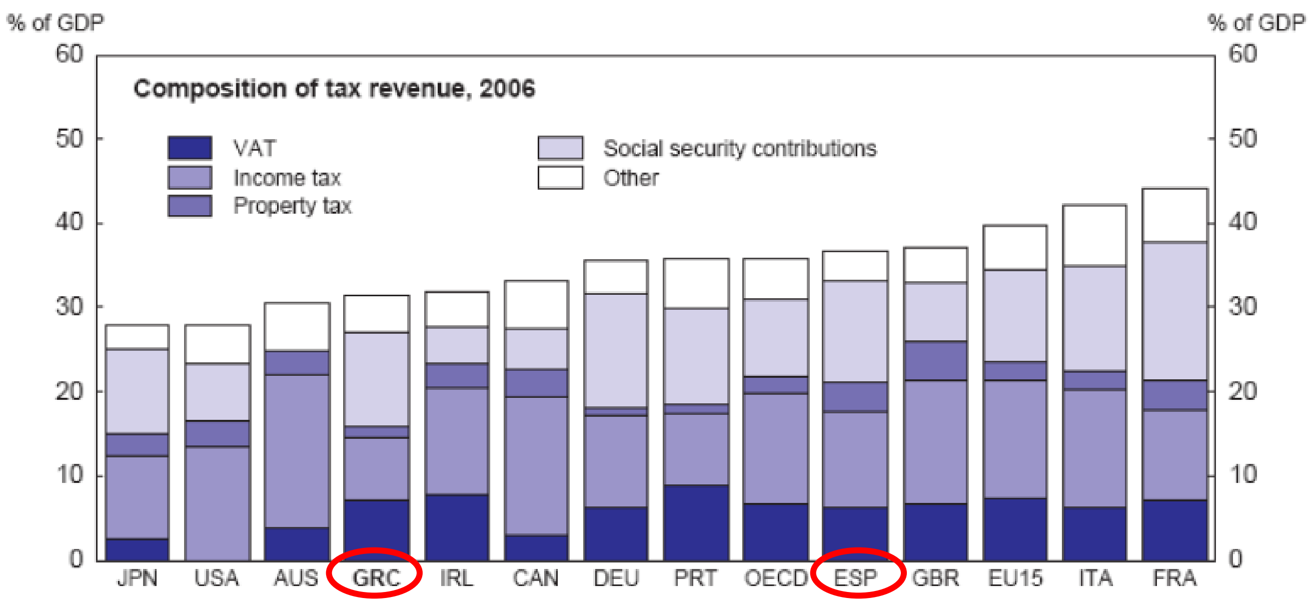
Prospects – Structural Deficits

- Pension system in Greece
  a. Pension expenditures = 11.5% of GDP
     - Highest in the OCED (average 7.2%)
  b. Rapid ageing
     - 29.1% aged over 65 (vs 23.6% in OECD)
  c. Poor incentives design
     - Contribution period for full pension: 35 years
       - 40 years (Canada, France); 44 years (Japan)
     - Reference period for benefits: last 5 years
       - Canada (best 34 years)
       - France (best 25 years)
       - Japan (whole career)

Sources: OECD (2010) *Greece at a Glance: Policies for a Sustainable Recovery*. Paris: OECD.
OECD (2011) *Pensions at a Glance*. Paris: OCED, Chapter 2.

Prospects – Structural Deficits

1. Low tax-to-GDP ratio (32%)
2. Major sources of government revenues: VAT & social security contribution
   - As the economy worsens and unemployment mounts, revenues declines

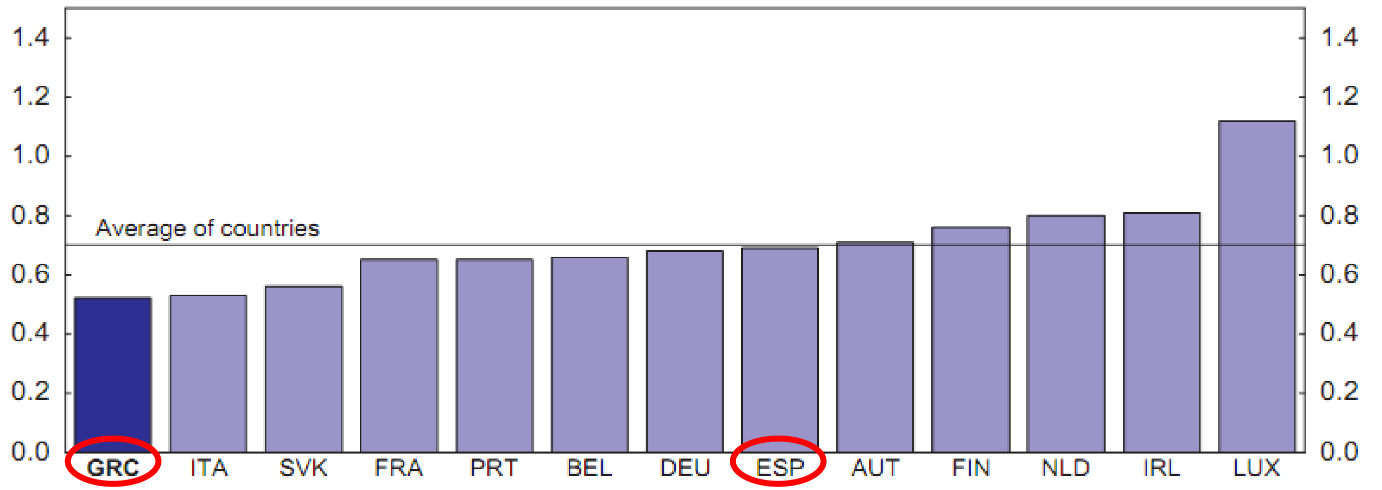


Source: OECD (2010) *Greece at a Glance: Policies for a Sustainable Recovery*. Paris: OECD.

Prospects – Structural Deficits

3. Low tax collection efficiency

Efficiency of VAT collection[1]
2006, in percentage



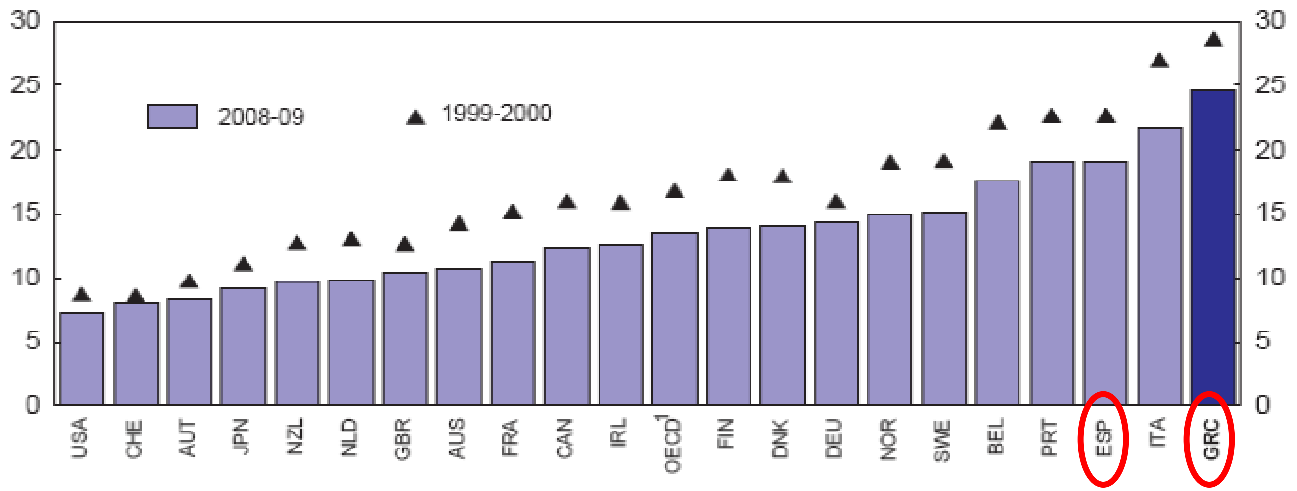
Tax efficiency is calculated as the ratio between effective (revenue from value added taxes to private consumption) and statutory rates.

Source: OECD (2010) *Greece at a Glance: Policies for a Sustainable Recovery*. Paris: OECD.

Prospects – Structural Deficits

4. Tax evasion
   - Large size of informal economy

Figure 2.2. **The size of shadow economy: An international comparison**
In per cent of GDP



Source: OECD (2010) *Greece at a Glance: Policies for a Sustainable Recovery*. Paris: OECD.

Prospects – Economic Health

1. Economic structure
   - Public sector: 40% of GDP
     - Provision of public goods: 23% of GDP (2009)
   - Tourism: 15% of GDP
     - Sensitive to external demand
   - R&D expenditures: 0.59% of GDP (2007)
     - Low growth potential

- Ability to repay: doubtful

Sources: CIA (2012) The World Factbook: Greece.
OECD (2012) Country statistical profile: Greece 2011-2012. Paris: OECD.
OECD (2011) *Government at a Glance 2011*. Paris: OECD.

Prospects – Economic Health

2. Labor market
   - Unemployment rate
     - 23.1% (May, 2012); 12.6% (2010); 9.5% (2009)
   - Long term unemployment
     - 45% (2010); 40.8% (2009)
   - Youth (15-24) unemployment rate
     - 25.3% (2009 Q3)
   - Youths 15-19 not in education nor employment
     - 18.2% (2010)
   - Youths 20-24 not in education nor employment
     - 7.9% (2010)

Sources: OECD (2012) Country statistical profile: Greece 2011-2012. Paris: OECD.
OECD (2010) *Greece at a Glance: Policies for a Sustainable Recovery*. Paris: OECD.

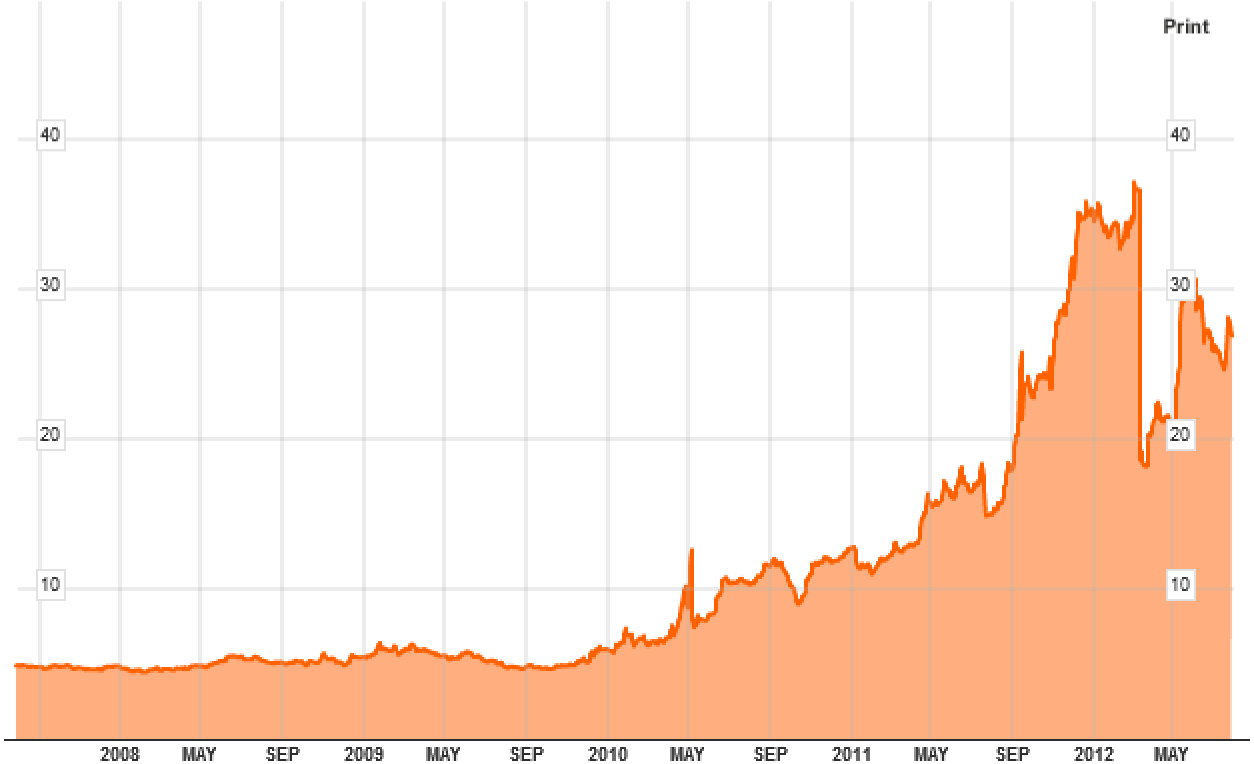
Confidence

- Diminished confidence & reinforced fear
  - One day before Greece's request, Eurostat, the EU's statistical authority, reported that Greece's 2009 deficit is equal to 13.6% of its GDP, a figure higher than what Greece claimed (12.7%)
  - Rating agency Moody's downgraded Greece's rating to A3 and citing it "significant risk"; Standard and Poor's downgraded Greece's credit rating to junk status

Sources: Smith, Aaron (23 Apr 2010) Greek debt fears ease after EU aid request. CNN Money.
Reuters (20 May 2010) Timeline- Greece debt's crisis.

Confidence

- Greece Government Bond Yield (10 Years)



Source: Bloomberg (30 Jul 2012) http://www.bloomberg.com/quote/GGGB10YR:IND/chart

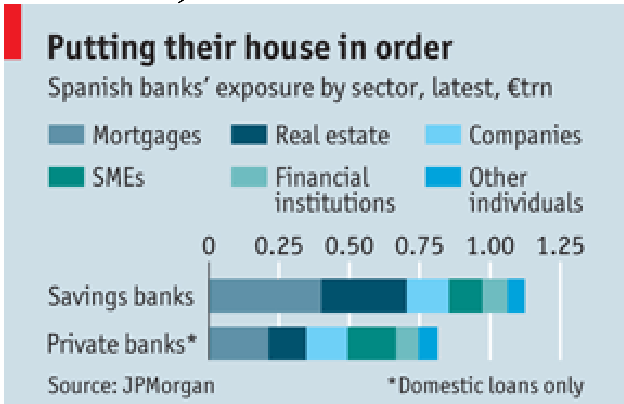
The Case of Spain

Overview

- A different crisis in Spain
  - Burst of housing bubbles following the global financial crisis
  - The burst of bubble hurts the households, affects consumption and investment

Overview

- The bubbles also hurts the banking sector and affects business
  - After the clash, banks became the owners of the newly built houses
  - But the worth of those houses decreased following the crisis
  - Banks can't meet the capital requirement, hence stringent credits to business

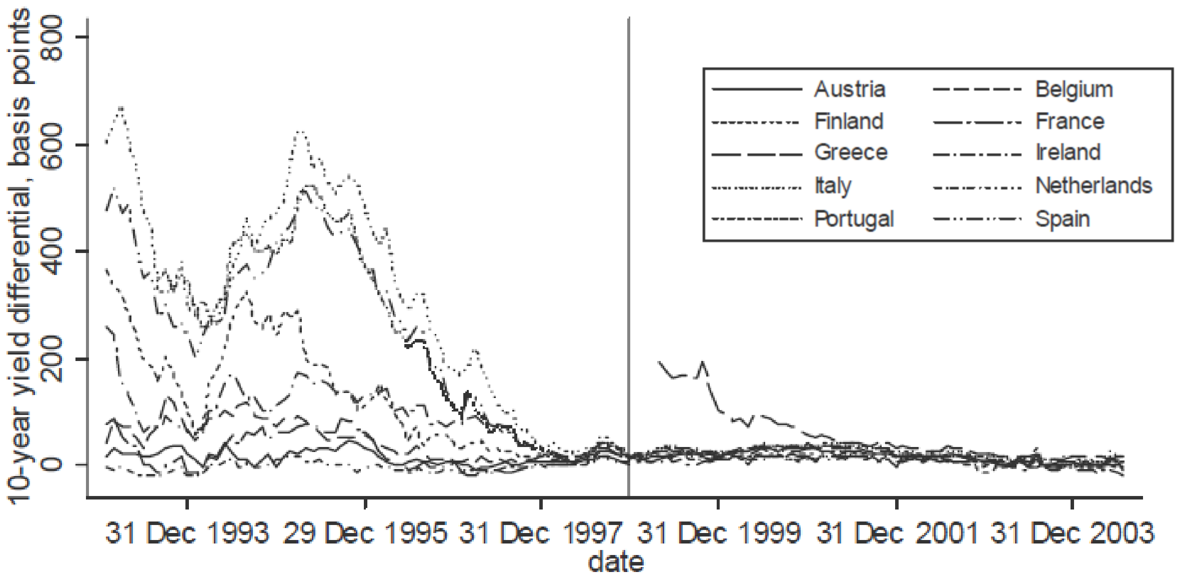


Source: The Economist (3 Feb 2011) Roll up, roll up.

Trigger

- Single currency
  - Low borrowing costs for all
  - Over-investment

10-year Benchmark Bond Yield Spreads, January 1993 – July 2004

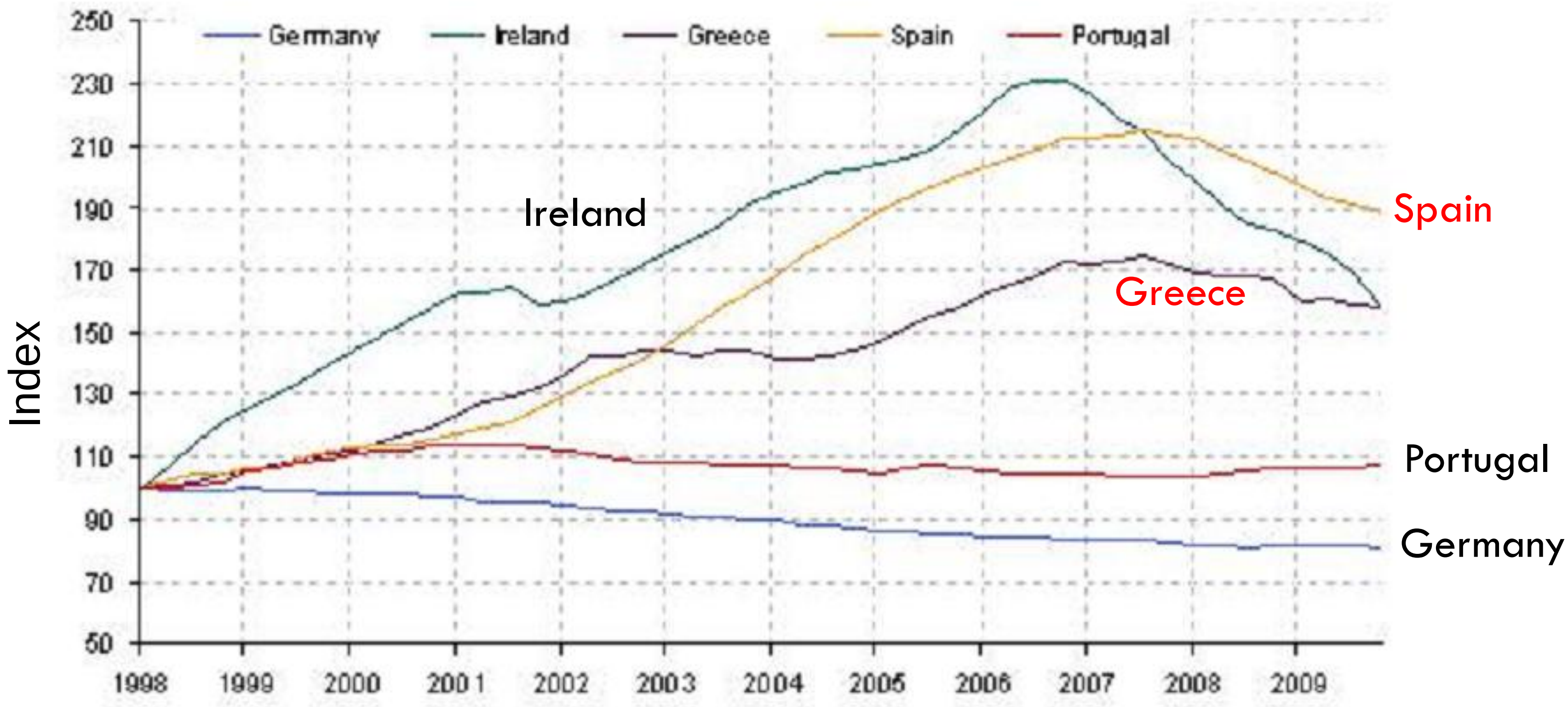


Benchmark: German 10-year benchmark bonds

Source: Pagano, M. & E. von Thadden (2004) The European Bond Markets under EMU. *Oxford Review of Economic Policy* 20(4): 531-554.

Trigger

Real residential property prices in selected euro area countries



Note: Quarterly; 1998Q1=100.

Source: L.B. Smaghi (2011) Eurozone, European crisis and policy response. Speech at Global Macro Conference – Asia 2011, Hong Kong.

Prospects – Fiscal Health

- Fiscal health now deteriorates
  - Government bailouts to and nationalizaion of banks would increase sovereign debts
  - *Cajas* (savings banks that accounted for 50% market share in credits and in deposits in Spain), in 2011 received €15 billion injection from the government. An extra €20 billion would be required according to some estimates
  - *Bankia*, the third largest bank of Spain, was nationalized by the government in May 2012
  - Later, additional €19 billion was pumped into the bank

Sources:

1. Bjork, C. et. al. (25 May 2012) Spain Pours Billions Into Bank. *Wall Street Journal*.
2. The Economist (3 Feb 2011) Roll up, roll up.
3. Cristóbal, F.H. (2008) The role of the "cajas" in Spanish regions economic development. Paper presented at the 10th European Conference on Savings Banks History. Brussels: 11 October 2008.

Prospects – Banking System

- Bank bailed-out or nationalised by the central government, another debt crisis?
  - Structural problems similar to Greece's
    - Unemployment (21.7% in 2011)
    - Pension system, large informal economy
    - But better on the revenue side

Sources:

1. BBC News (18 Nov 2011) "Eurozone debt web: Who owes what to whom?"
2. CIA World Factbook (2012) Spain.

Prospects – Banking System

- Bank bailed-out or nationalised by the central government, another debt crisis?
  - On top of that
    - Economy of larger size
    - Spain owes large amounts to Germany (€132 bn) and France (€112 bn)

Sources:

1. BBC News (18 Nov 2011) "Eurozone debt web: Who owes what to whom?"
2. CIA World Factbook (2012) Spain.

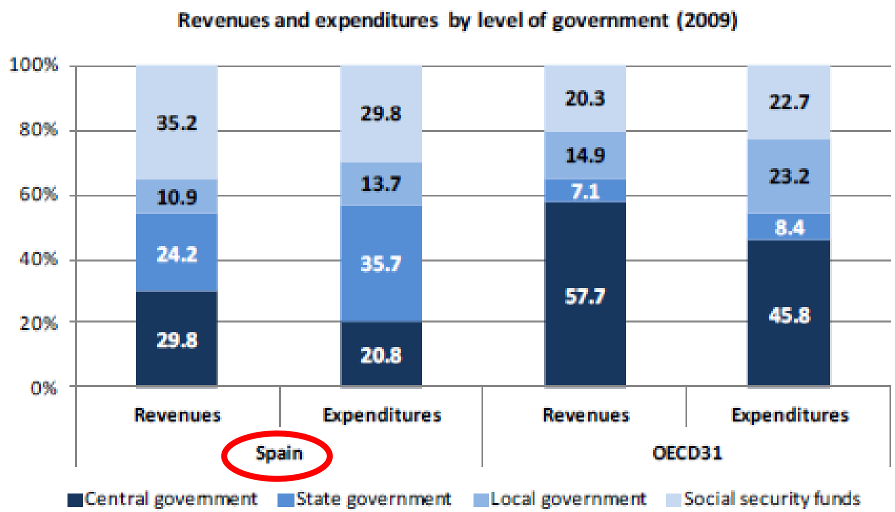
Confidence

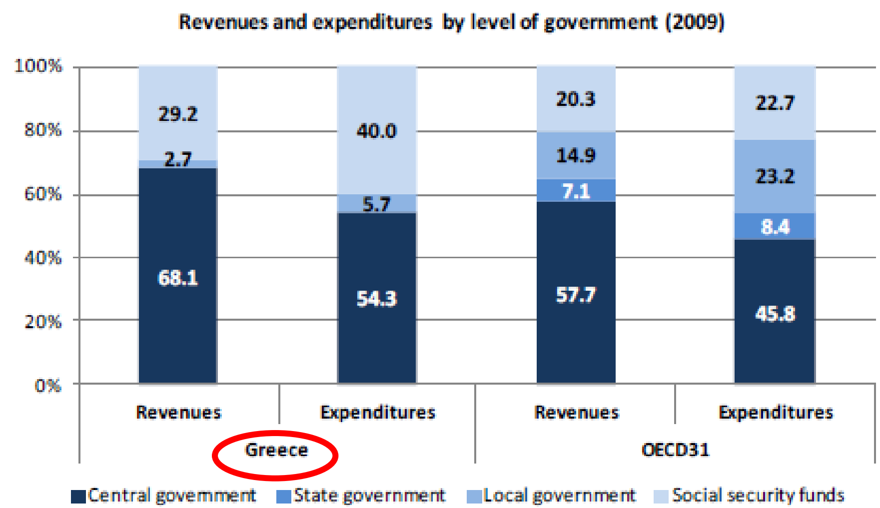
- Another sovereign debt crisis?
  - Spain Government Bond Yield (10 Years)

Source: Bloomberg (31 Jul 2012) http://www.bloomberg.com/quote/GSPG10YR:IND/chart

What's Next?

- Liquidity problem resolved?
  - A regional debt problem (cf. China)?
    - Devil in the details: government expenditures are highly decentralised

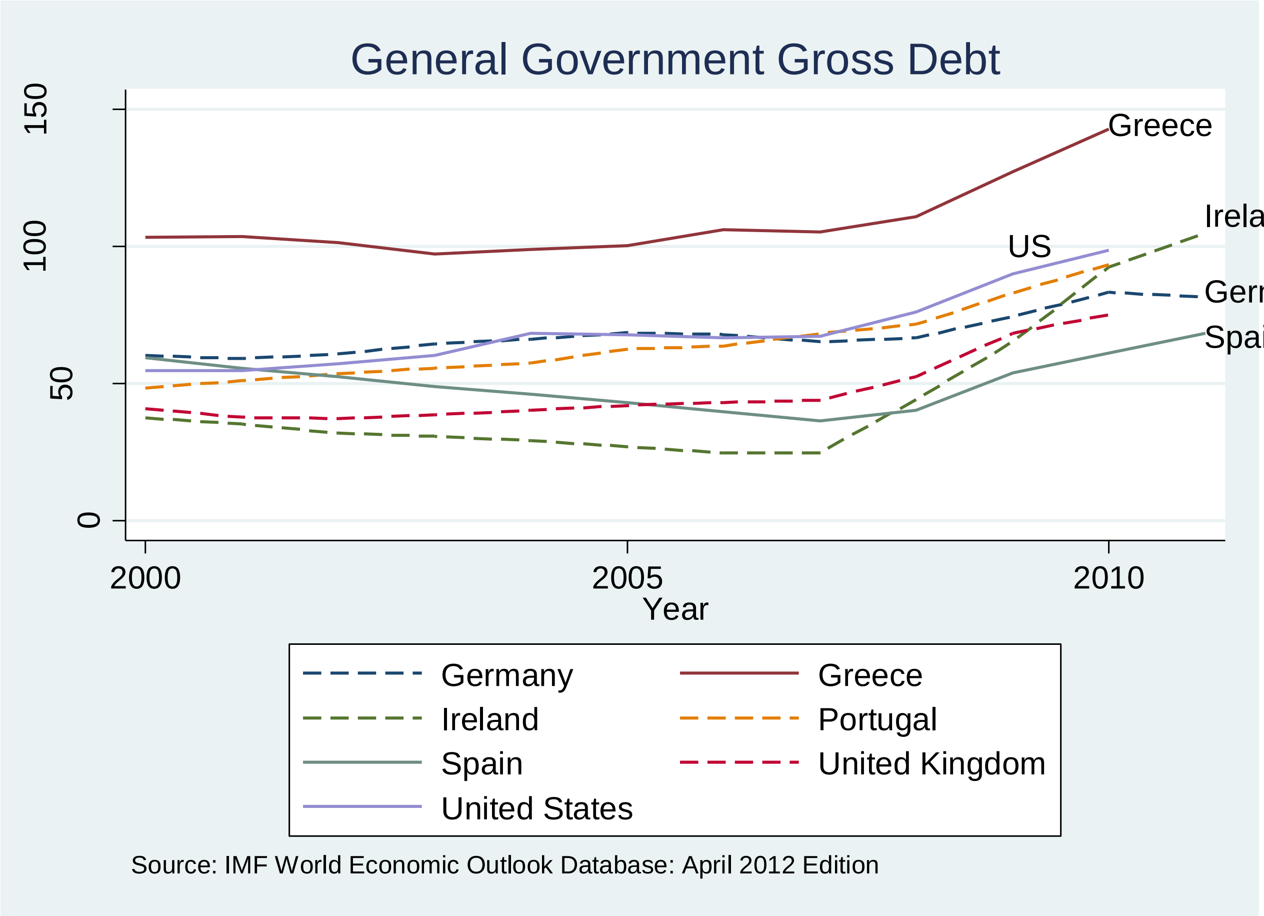




Source: OECD (2011) *Government at a Glance 2011*. OECD: Paris.

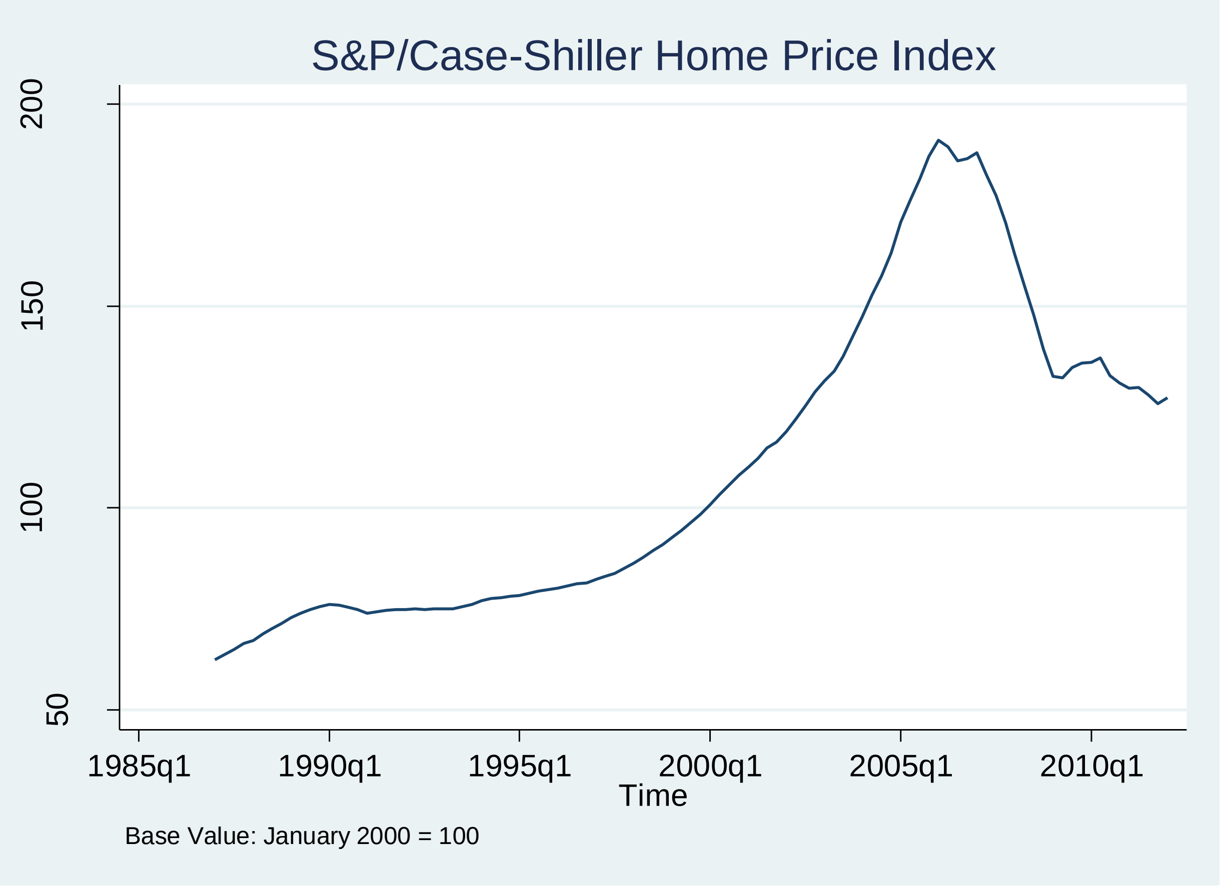
Debt Level

- Like Greece, high debt level in the US



Real Estate Bubbles

- Like Spain, housing bubbles in the US



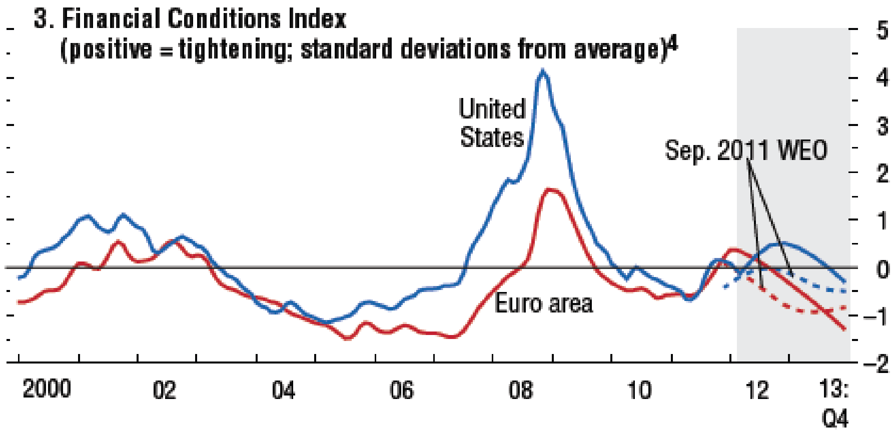
Source: Standard and Poor's (June 2012) S&P/Case-Shiller Home Price Indices
http://www.standardandpoors.com/indices/sp-case-shiller-home-price-indices/en/us/?indexId=spusa-cashpidff--p-us----

Europe and US Compared

- Similar problems
  - High public debt
  - Housing bubbles
  - Hit by 2007 financial crisis
- Two questions
  - Does the US manage the crisis better?
  - Why no sovereign debt crisis in the US?

Any Differences?

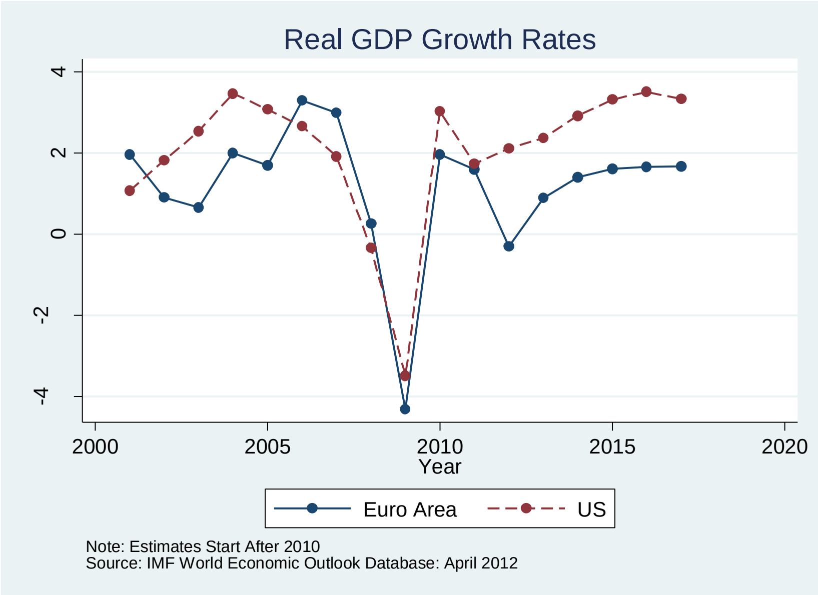
- Asking the right question?
  - Situations is more asymmetric in the euro area (Germany, the Netherlands vs Greece, Spain).
  - A public-private sector crisis in the euro area versus a private sector "crisis" in the US.
  - Crisis situation started earlier (but deeper) in the US



Source: IMF (2012) *World Economic Outlook: Growth Resuming, Dangers Remain*. Washington, DC: IMF.

Any Differences?

- When making a comparison based on growth performance, US used to perform better
  - Euroscleros is
- Technically, 2 blows in Europe (1 in the US)
  - No sovereign debt crisis in the US as it didn't say "help".



Why the Differences?

- Why the differences?
  1. Different nature, different policy responses
  2. Institutional constraints
     a. Problem of the many
     b. No-bailout clause and different monetary tools
     c. Mandate of the ECB and the first response to crisis

Nature

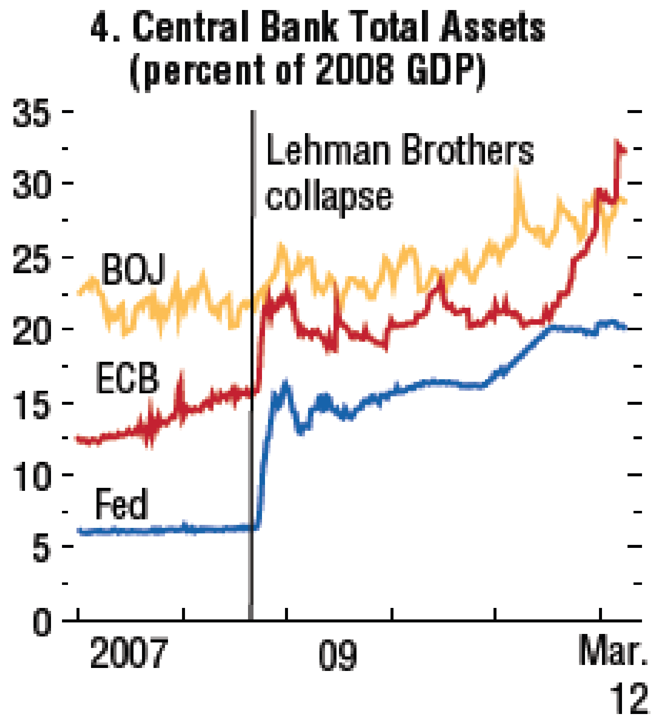
- Different financial crises?
  - Financial crisis impedes the way how non-financial corporations and households access to external financing
  - Financial system in the euro area is more “bank-based” (i.e. firms more dependent to banks to get financing

% of GDP (2007 observation)		Euro Area	US
How the private sector financed?			
Bank-financing	Bank loans	145	63
Market -financing	Bond market	81	168
	Stock market	85	144

Source: ECB (April 2009) *Monthly Bulletin*. Frankfurt: ECB.

Policy Responses

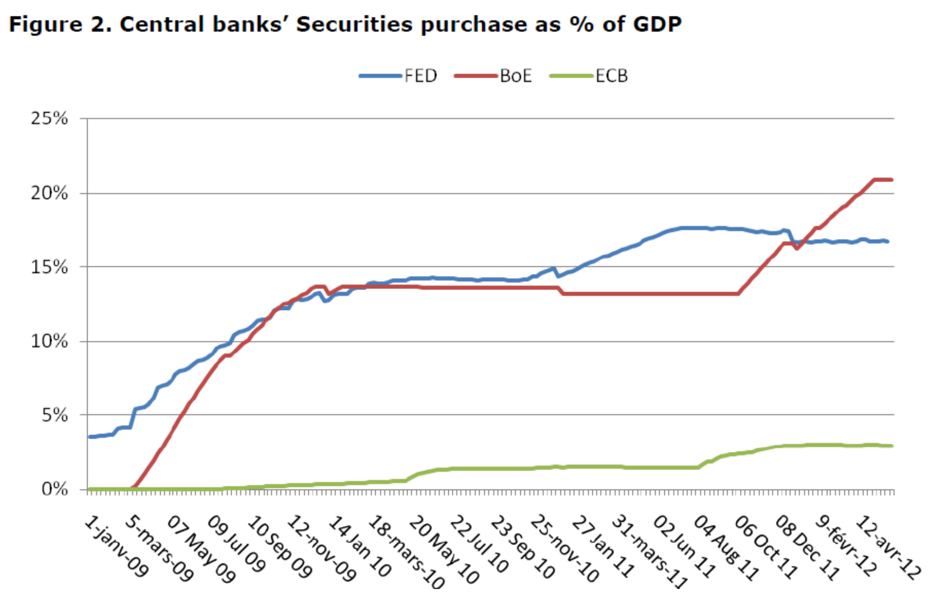
- ECB: A bolder central bank?
  - Target
  - Scale
  - Timing



Source: IMF (2012) *World Economic Outlook: Growth Resuming, Dangers Remain*. Washington, DC: IMF.

Responses – Target & Scale

- Target and Scale
  - US: all market participants
  - Euro area: mainly banks (through OMOs)



Source: Gros, D. et al (2012) Central Banks in Times of Crisis: The FED versus the ECB. Brussels: European Union.

Responses – Scale

	Euro Area	US
GDP (2007)	€ 8,372 billion ($11,477 billion)	$ 13,206 billion
The size of capital markets related to the private sector (2007)	311% of GDP $ 35,693 billion	375% of GDP $ 49,522 billion
Central bank balance sheet (total assets)	€ 1,253 (Aug 07) € 3,080 (Jul 12)	$ 869 billion (Aug 07) $ 2,849 billion (Jul 12)
Difference	€ 1,827 billion ($ 2,505 billion)	$1,980 billion
Scale wrt. market size	5%	4%
Expansion (2007 / 2012)	146%	228%

Sources:
Bloomberg (2012) ECB Balance Sheet All Assets. http://www.bloomberg.com/quote/EBBSTOTA:IND
IMF (2012) *World Economic Outlook Database April 2012*.
ECB (April 2009) *Monthly Bulletin*. Frankfurt: ECB.
Fed Reserve Bank of St. Louis. (2012) U.S. / Euro Foreign Exchange Rate. http://research.stlouisfed.org/fred2/data/EXUSEU.txt

Institutional Constraint #1

- Problem of the many
  - Same bed, different dreams
    - 27 EU member states, not all eurozone members
    - Among 17 eurozone member states, there are Greece, Germany, Luxemburg, Cyprus, Estonia, Slovakia, Finland …
    - Different governments accountable to disjoint sets of citizens (i.e. different national interests)
    - There is only one objective function in the case of the US
  - Moral hazard
    - When there is more than one player
    - Should US save US this time? (Though time consistency problem)
    - Should Germany save Greece this time? (Moral hazard + (two) time consistency problems)

Institutional Constraint #2

- ECB can't bailout the member state governments, …
  - EU (Article 125(1) of the Treaty)
    - "The Union shall not be liable for or assume the commitments of central governments… A Member State shall not be liable for or assume the commitments of central governments … of another Member State."
  - ECB (Article 123 of the Treaty)
    - "Overdrafts or any other type of credit facility with the ECB or with the national central banks in favour of … central governments … shall be prohibited, as shall the purchase directly from them by the ECB or national central banks of debt instruments."

Institutional Constraint #2

- … but it is part of the monetary policy in the States
  - Fed may suppress bond yield through the open market operations. ECB has no such option

Sources: Cecchetti, S.G., & O'Sullivan R. (2003) The European Central Bank and the Federal Reserve. *Oxford Review of Economic Policy* 19(1): 30-43.

Institutional Constraint #3

- Different first response to the crisis
  - US: policy interest rates adjusted downward
  - Europe: policy interest rates adjusted upward or unchanged. Only adjusted downward in the Spanish crisis

Institutional Constraint #3

- Historical Changes of the Target Federal funds rate

  (Jan 07 – Jul 12)
  - Housing bubble: Sep 07
  - Lehman Bro: 15 Sep 08

Date	Change	Level (%)
18 Sep 07	- 0.50	4.75
31 Oct 07	- 0.25	4.50
11 Dec 07	- 0.25	4.25
22 Jan 08	- 0.75	3.50
30 Jan 08	- 0.50	3.00
18 Mar 08	- 0.75	2.25
30 Apr 08	- 0.25	2.00
8 Oct 08	- 0.50	1.50
29 Oct 08	- 0.50	1.00
16 Dec 08	-1.00 to - 0.75	0.00 – 0.25

Source: Federal Reserve Bank of New York (2012) Historical Changes of the Target Federal Funds and Discount Rates. http://www.newyorkfed.org/markets/statistics/dlyrates/fedrate.html

Institutional Constraint #3

- Key interest rates: MRO rates
  - Fixed rate for fixed rate tenders
  - Minimum bid rate for variable rate tenders
- Historical change of MRO rates
  - GR: 23 Apr 10
  - ES: 11 Jul 11

Date	Fixed	Variable
14 Mar 07		3.75
13 Jun 07	Stock market clash Sep 07	4.00
9 Jul 08		4.25
15 Oct 08	3.75	Fixed rate down from 4.25
12 Nov 08	3.25	
10 Dec 08	2.50	
21 Jan 09	2.00	
11 Mar 09	1.50	
8 Apr 09	1.25	
13 May 09	1.00	Greece
13 Apr 11	1.25	
13 Jul 11	1.50	Spain
9 Nov 11	1.25	
14 Dec 11	1.00	
11 Jul 12	0.75	

Source: ECB (2012) Key ECB interest rates. http://www.ecb.int/stats/monetary/rates/html/index.en.html

Institutional Constraint #3

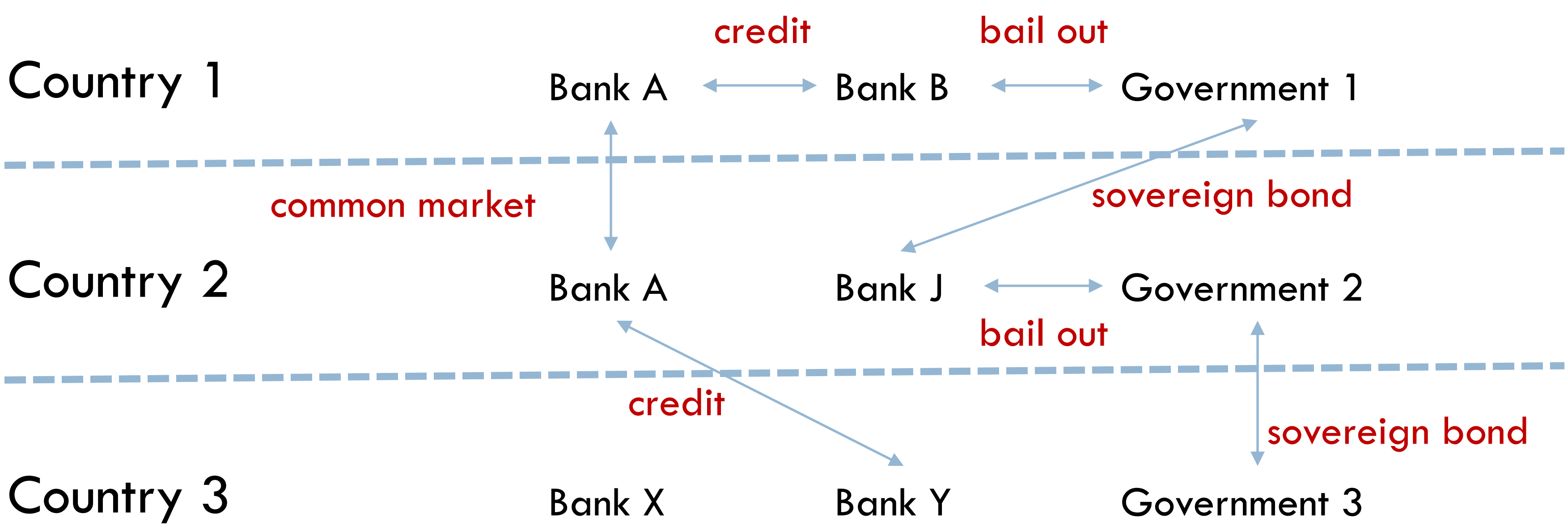
- Why the "strategy"?
- Different mandates

	ECB	Federal Reserve	Bank of Japan	Bank of England
Mandate	Price stability	Price stability Growth Employment	Price stability Development	Price stability Growth Employment Financial stability

Source: Richter, F. & Wahl, P. (2011) The Role of the European Central Bank in the Financial Crash and the Crisis of the Euro-Zone.

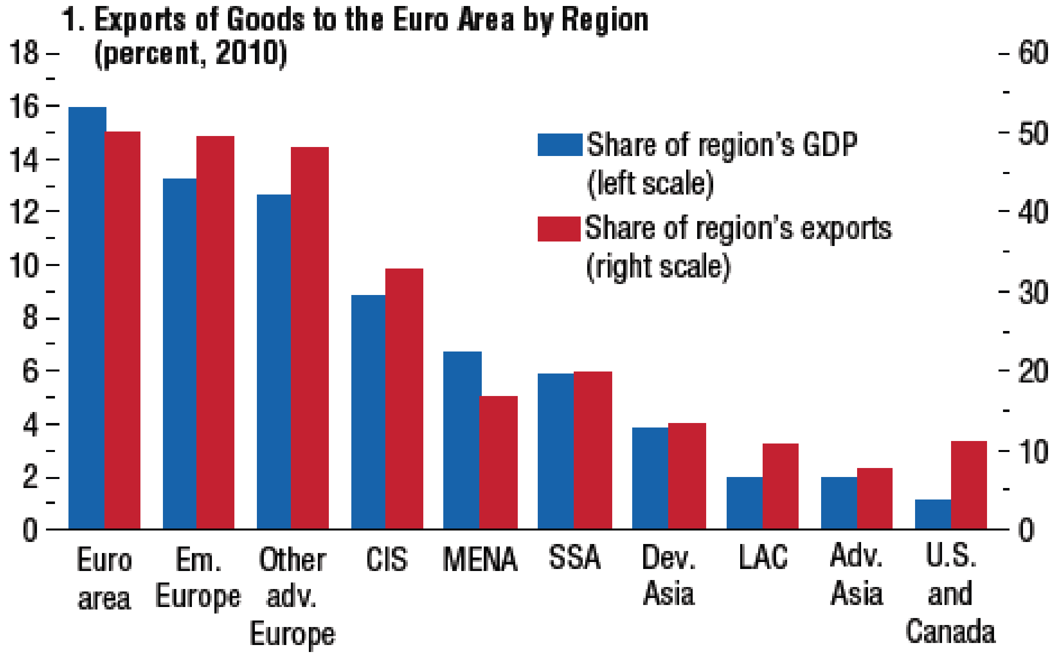
Bad Neighbours

- Systemic Risk
  - Domino effect
  - Inter- and Intra-country



Bad Neighbours

- Intra-regional trade plays a significant role in the EU
  - The exit of exports-led recovery is blocked



Source: IMF (2012) *World Economic Outlook: Growth Resuming, Dangers Remain*. Washington, DC: IMF.

Bad Neighbours

Bilateral Trade Balance of Selected European Countries
(% of GDP of the Home Country)

		Foreign						
		Germany	France	Portugal	Ireland	Italy	Greece	Spain
Home	Germany		0.811	0.061	-0.426	0.641	0.155	0.631
	France	-1.092		-0.026	-0.206	-0.160	0.110	0.269
	Portugal	-0.895	0.285		-0.151	-1.015	0.011	-4.683
	Ireland	6.801	2.363	0.149		1.868	0.216	1.433
	Italy	-1.025	0.192	0.109	-0.195		0.249	0.341
	Greece	-1.942	-1.012	-0.009	-0.177	-1.915		-0.565
	Spain	-1.701	-0.543	0.849	-0.255	-0.558	0.122	

Notes: Period average (2000 – 2007), except for Germany (2000 – 2006); trade deficit in red.

Source: Barbieri, K. & O. Keshk (2012) Correlates of War Project Trade Data Set, Version 3.0. http://correlatesofwar.org.

Attempts

Do the policies work?

Upcoming

Attempts – Overview

- Start of the debt crisis: May 2010
- Local level
  - Fiscal consolidation
- The EU
  - Greek Loan Facility (May 2010)
  - EFSM (Jan 2011)
  - EFSF (May 2010)
  - ESM, to succeed EFSF and EFSM (expected in force July 2013)
  - Fiscal Compact (Treaty signed in 2012; expected in force Jan 2013)
- The ECB
  - “Special” LTRO (May 2010; June 2010; Dec 2011; Feb 2012)
  - OMT (Sept 2012)

General Strategy

- Debt Problem (Greece)
  - EU level solution
- Liquidity Problem (Spain, may become a debt problem)
  - ECB level solution
  - Mandate of ECB disallows ECB to bailout government
  - Politically difficult to use taxpayers' money to bailout private enterprises
- Key is to quench the cycle by sending market a positive signal
  - Short-term measures
    - Ease liquidity
  - Long-term measures (i.e. new commitment devices)
    - Contain debt (e.g. austerity measures, Fiscal Compact)
    - Improve economic health (e.g. Euro Plus Pact – a series of economic reforms in pension systems, labor market, product market to enhance competitiveness of the EU. Won't be discussed here)

Attempts by Local Government

- Fiscal consolidation to put deficit under control
- In Greece
  - Salary freeze of public employees
  - Public employee bonus and allowance cut
  - Trimming administration structure
  - Cutting minimum wage
  - Spending cut in health and defence
  - Pension reform (e.g. rise in retirement age, pension cuts)
  - Rise in VAT (and other taxes)
  - Privatization of the gas companies
- Also, to reduce tax evasion
  - Informal economy in Greece: about 25% of GDP in 2011 (Schneider 2011)
  - Tax evasion: €41 billion in Greece (Artavanis et al. 2012)
- Controversial
  - Massive strikes
  - Austerity is a form of contractionary fiscal policy

Sources: Artavanis, N., Morse, A. & Tsoutsoura, M. (2012) Tax Evasion Across Industries: Soft Credit Evidence from Greece. Working Paper. University of Chicago.

Schneider, F. (2011) Estimates of the Shadow Economy in OECD Countries 2003–2011. *CESifo DICE Report* 3/2011, p.89.

European Financial Stability Facility (EFSF)

- Background
  - created by the euro area member states
  - EFSF is a Luxembourg-registered company owned by the euro area member states
  - Rating: Aaa (Moody’s); AA+ (Standard & Poor’s)
  - With a tenure of 3 years
- Objective
  - to safeguard financial stability in Europe by providing financial assistance to euro area member states
- Instruments
  - Provide loans to country in financial difficulties
  - Intervene in the debt markets in the time of exceptional financial market circumstances and risks to financial stability
  - Finance recapitalisations of financial institutions through loans to governments
- Scale
  - €780 billion from the euro area member states, lending capacity of €440 billion
- Beneficiary (as at 17 July 2012)
  - Ireland: €17.7 billion
  - Portugal: €26 billion
  - Greece: €179.6 billion

Source: European Financial Stability Facility (2012) http://www.efsf.europa.eu/about/index.htm

European Financial Stabilisation Mechanism (EFSM)

- Background
  - created by the EU member states
  - European Commission is allowed to borrow up to a total of € 60 billion in financial markets on behalf of the EU to the beneficiary member state. The EU budget guarantees the repayment of the bonds.
  - Rating: EU enjoys an AAA credit rating from major rating agencies
- Objective
  - provides financial assistance to EU Member States in financial difficulties.
- Instruments
  - Provide loans or credit to country in financial difficulties
  - Request by the member state has to include (i) an assessment of financial needs and (ii) an economic and financial adjustment programme describing the various measures to be taken to restore financial stability
- Scale
  - €60 billion
  - The cap (by far) for Ireland is € 22.5 billion; for Protugal is €26 billion.
- Beneficiary (as at 3 July 2012)
  - Ireland (totaling to € 20.7 billion over 1.5 year)
  - Portugal (totaling to € 20.1 billion over 1 year)

Sources: European Commission (2012) http://ec.europa.eu/economy_finance/eu_borrower/efsm/index_en.htm
European Central Bank (Jul 2011) "The European Stability Mechanism", *Monthly Bulletin*. Frankfurt: ECB, pp.71-84

European Stability Mechanism (ESM)

- Background
  - It is an amendment of the “no bailout to government” clause in the ECB mandate (Article 125)
  - ESM Treaty was signed in 2 Feb 2012, yet to be ratified by individual euro area member states
  - A permanent fund to succeed EFSF and EFSM, starting from 1 July 2013 (expected)
  - ESM will be an intergovernmental organisation. It could invest in financial market, borrow on the capital markets from banks, financial institutions or other institutions. (Article 21 and 22)
- Objective
  - To safeguard the financial stability of the euro area as a whole and of its Member States
- Instruments
  - Loan to ESM member, purchase of bond of an ESM member from the primary and secondary market
  - Support from ESM is subjected to strict conditionality (incl. macro-economic adjustment programme)
- Scale
  - Capital: €700 billion from euro area member states
  - Lending Capacity: €500 billion (subjected to revision)
- Eligibility (request for assistance)
  - ESM Member (i.e. governments of the euro area member states)
- Beneficiary
  - “The Board of Governors may decide to grant financial assistance through loans to an ESM Member for the specific purpose of re-capitalising the financial institutions of that ESM Member.” (Article 15(1))

Sources: European Commission (2012) http://ec.europa.eu/economy_finance/eu_borrower/efsm/index_en.htm
European Central Bank (Jul 2011) “The European Stability Mechanism”, *Monthly Bulletin*. Frankfurt: ECB, pp.71-84

Fiscal Compact

- Treaty signed on 2 Mar 2012 but subjected to be ratified by individual member state (expected in force Jan 2013)
- Apply to countries using euro (now and in the future)
- Contents
  - Government deficit does not exceed 0.5% of nominal GDP (vs previously 3%)
  - Debt to nominal GDP ratio below 60% (re-stated)
    - Over half of the member states have breached the term with no serious consequences
  - Automatic correction mechanism for deviated countries. That includes a budgetary and structural adjustment program assessed and monitored by the Council and the Commission, and a fine below 0.1% of GDP payable to ESM

Source: European Council (Mar 2012) Treaty on stability, coordination and governance in the economic and monetary union. http://european-council.europa.eu/media/639235/st00tscg26_en12.pdf

Attempts by the ECB

- Aim at the liquidity problem - Longer Term Refinancing Operations (LTROs)

- Aim at the sovereign debt problem – Outright Monetary Transactions (OMTs)

Longer Term Refinancing Operations (LTROs)

- Repo auctions
  - Provide liquidity to the banking sector to fulfill capital requirements
- Long been a monetary policy instrument in euro area
  - Weekly auction (MROs)
    - Maturity – 1 or 2 week(s)
  - Monthly auction (LTROs)
    - Maturity – 3 months
    - Accounted for 20% of overall liquidity by ECB in 2003
- During the crisis
  - LTRO with 6-month and 36-month maturity (vs 3-month)
    - Announced 10 May 2010 - 1 round: May 2010 (6-month maturity)
    - Announced 8 Dec 2011 - 2 rounds: Dec 2011 & Feb 2012 (36-month maturity)
  - Fixed rate tender with full allotment (vs. variable rate or fixed rate without full allotment)

Sources:

1. Linzert, T., D. Nautz & U. Bindseil (2004) The Longer Term Refinancing Operations of the ECB. ECB Working Paper Series No. 359.
2. ECB (10 May 2010) ECB decides on measures to address severe tensions in financial markets. Press Release
3. ECB (8 Dec 2011) ECB announces measures to support bank lending and money market activity. Press Release

Outright Monetary Transactions (OMTs)

- Transactions in secondary sovereign bond markets that aim at safeguarding an appropriate monetary policy transmission and the singleness of the monetary policy.
- A necessary condition for Outright Monetary Transactions is strict and effective conditionality attached to an appropriate European Financial Stability Facility/European Stability Mechanism (EFSF/ESM) programme.
- Transactions will be focused on the shorter part of the yield curve, and in particular on sovereign bonds with a maturity of between one and three years.
- No ex ante quantitative limits are set on the size of Outright Monetary Transactions.
- The liquidity created through Outright Monetary Transactions will be fully sterilised.

Sources:

1. ECB Press Release: Technical Features of Outright Monetary Transactions

Debt Level and Rescue Packages Compared

- Overall debt level in the banking sector is still high relative to the package

Debt Level and Rescue Packages Compared					
in € billion (USD 1 = EUR 0.829)					
	Greece	**Ireland**	**Portugal**	**Spain**	**Italy**
As at	2012 Q1	2011 Q4	2012 Q1	2012 Q1	2012 Q1
Gross External Debt	429	1804	420	1970	2074
Of which					
Banks (Total)	97	397	138	725	619
Banks (Short-term)	80	255	61	421	212
SMP (Eurozone wide)					211
CBPP (Eurozone wide)					40
LTRO (Eurozone wide)					~1000

Source: World Bank Quarterly External Debt Statistics (2012)

Add-on for ESM

- Proposed in the Euro Area Summit in June 2012
  - ESM may recapitalise banks directly
  - This is not possible under current EU law as the ECB would need to take additional role on euro-zone wide bank supervision
- Implications
  - Banks rescued
  - Impact on public debt would be released
- Progress
  - Expected end of 2012 or early 2013

Sources: European Union (29 Jun 2012) Euro Area Summit Statement. http://www.consilium.europa.eu/uedocs/cms_Data/docs/pressdata/en/ec/131359.pdf
Reuters (29 Jun 2012) Spain to switch to direct bank recapitalization when ESM has that capability-official.

Euro Exit?

- Currently no legal mechanism to leave the euro area, though legally a country could leave the EU according to the Article 50 of the Lisbon Treaty.
- To exit euro zone, Greece has to leave the EU first. That involves negotiation of terms agreed by the majority of the EU member states.

- Costs of Greece leaving the euro
  - Economic disaster and chaos for the "new" economy with the "new" currency (e.g. redenomination of assets, devaluation, capital flight, inflation, etc.)
  - Political cost: future relationship with the EU

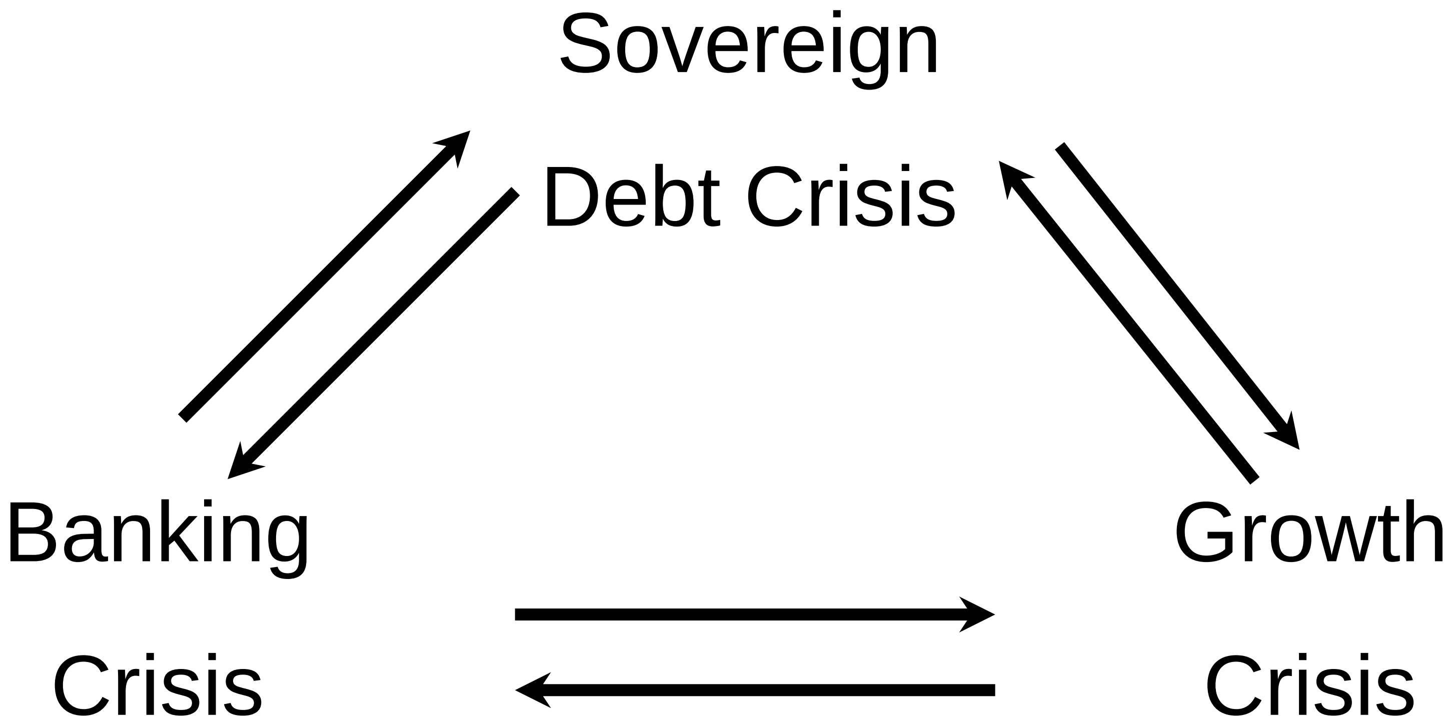
- Costs of Germany leaving the euro
  - Lost of its advantages in international trade

- Costs of EU kicking Greece out
  - Outside the euro zone: investor's confidence to euro and peripheral countries (who's the next?)
  - Inside the euro zone: capital flight, bank run

Sources:

1. Chibber, Kabir (9 May 2012) How would Greece leave the euro? BBC News.
2. Taylor, Paul (23 Jul 2012) Analysis: Euro exit talk risks self-fulfilling prophecy. Reuters.
3. Jahncke, Red (10 Jun 2012) Germany, Not Greece, Should Exit the Euro. Bloomberg.

Policy Dilemma



Convergence Criteria

- Convergence Criteria in the EU Treaty
  - Economic and legal preconditions necessary for the adoption of the euro
  - Economic convergence
    - Price developments
    - Fiscal developments
    - Exchange rate developments
    - Long term interest rate developments
  - Legal convergence
    - Independence of the national central bank (NCB)
    - Legal integration of the NCB into the European System of Central Banks (ESCB)

Source: Scheller, H.K. (2006) *The European Central Bank: History, Role and Functions*. Revised 2nd ed. Frankfurt: European Central Bank.

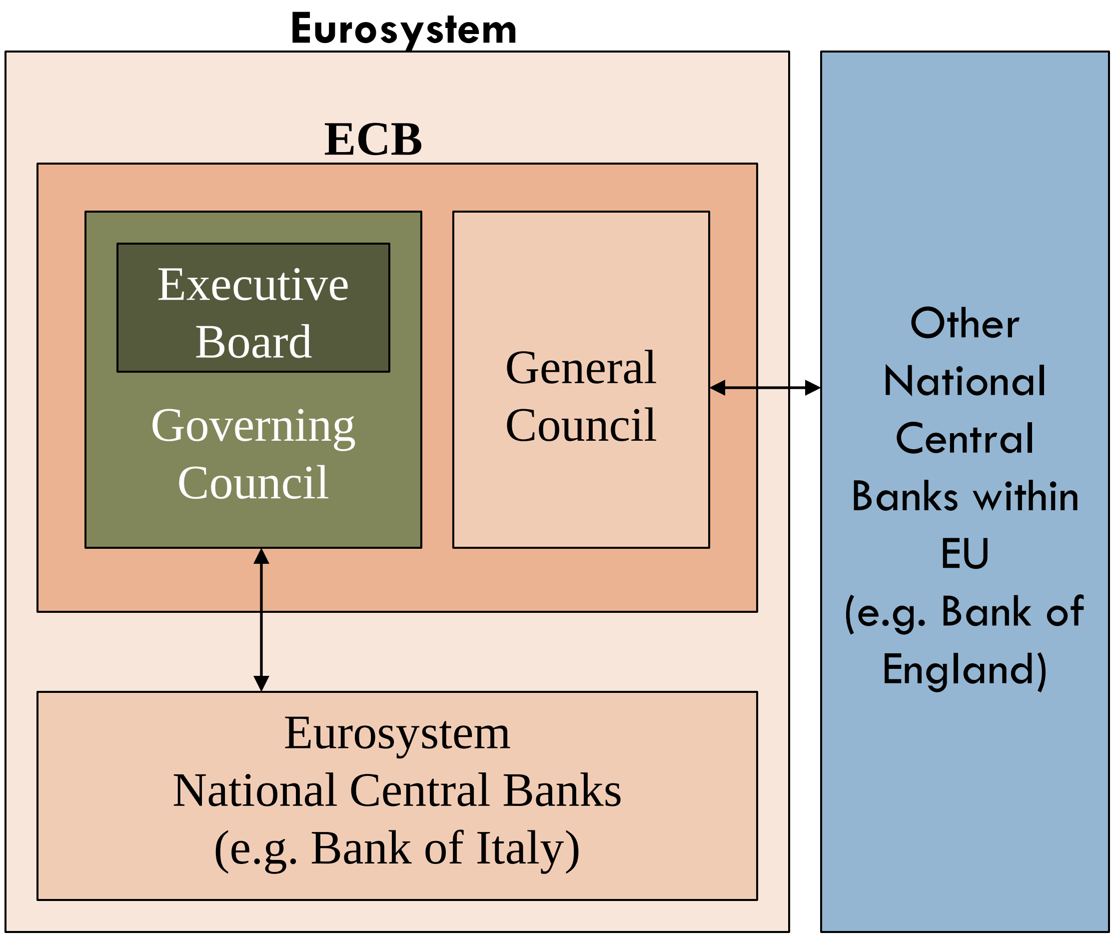
Economic Convergence

- Price developments
  - Average rate of inflation does not exceed by more than 1.5 percentage points that of the three best performing member states in terms of price stability
- Fiscal developments
  - The ratio of government deficit to GDP must not exceed 3%
  - The ratio of government debt to GDP must not exceed 60%

Economic Convergence

- Exchange rate developments
  - Respected the normal fluctuation margins provided for by the Exchange Rate Mechanism (ERM) of the European Monetary System (EMS) for at least the last two years before the examination without devaluing against the euro
- Long-term interest rate developments
  - An average nominal long-term interest rate (of long-term government bonds) does not exceed by more than 2 percentage points that of the three best performing member states in terms of price stability

Legal Convergence



Source: Howarth, D. & Loedel, P. (2005) *The European Central Bank: The New European Leviathan?* Revised 2nd ed. NY: Palgrave McMillan.

Legal Convergence

- ECB has 2 core units
  - Governing Council (similar to the FOMC in the Fed)
    - Governors from NCBs in euro area
  - General Council (can’t vote on monetary policy)
    - Governors from other NCBs in EU
    - Eliminated when all member states adopt euro
- Executive Board is part of the Governing Council
- Eurosystem = ECB + NCBs in euro area
- ESCB = Eurosystem + Other NCBs in EU

Monetary Policy Tools

Standing Facilities		ECB	Fed
Loan	Name	Marginal lending facility	Discount window
	Period	Overnight	Overnight
	Reference interest rate	MRO rate	Fed funds rate
	Name of the Interest rate	Marginal lending rate	Discount rate
	Operations	100 basis points above the reference rate	25 to 50 basis points below the reference rate
Deposit	Name	Deposit facility	None
	Operations	Overnight facility at rate 100 basis points below the reference rate	

Source: Cecchetti, S.G., & O'Sullivan R. (2003) The European Central Bank and the Federal Reserve. *Oxford Review of Economic Policy* 19(1): 30-43.

Monetary Policy Tools

Reserve Requirements		**ECB**	**Fed**
Reserve ratio	Ratio	0 to 2 per cent	0 to 10 per cent
	Type of account	Checking accounts and some other short-term deposits	Accounts with unlimited checking privileges
	Deposit balances of …	One-month average	Two-week average
Remuneration		Average of the refinancing rate over the period	None

Sources: Cecchetti, S.G., & O'Sullivan R. (2003) The European Central Bank and the Federal Reserve. *Oxford Review of Economic Policy* 19(1): 30-43.
ECB (2012) Minimum Reserves. http://www.ecb.int/mopo/implement/mr/html/index.en.html