Lecture 10: Intermediate macroeconomics, spring 2013

Lars Calmfors

<u>Literature</u>

Calmfors, L. (2012), “Can the Eurozone Develop into a Well-functioning Fiscal Union?”, *CESifo Forum* No 1, Munich.

Calmfors, L. and S. Wren-Lewis (2011), What Are Fiscal Councils and What Do They Do?, *Vox* 21, April.

EEAG (2013), Report on the European Economy of the European Economic Advisory Group, CESifo, Munich.

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<u>Topics</u>

- **Deficit bias**
- **Government debt dynamics**
- **The European sovereign debt crisis**
- **Fiscal rules**
  - the Stability Pact
  - fiscal rules in Sweden
- **Independent fiscal institutions: Fiscal councils**

Public finances 2012

	Government net lending (per cent of GDP)	Consolidated gross government debt (per cent of GDP)
Greece	-6.6	161.6
Ireland	-7.7	117.2
Italy	-2.9	127.1
Portugal	-5.0	120.6
Spain	-10.2	88.4
Cyprus	-5.5	86.5
Belgium	-3.0	99.8
France	-4.6	90.3
Germany	0.1	81.6
Sweden	-0.2	37.7

Why are government budget deficits a problem?

- **Higher taxes tomorrow imply large distortionary costs**
  - **distortionary costs rise more than proportionally with the (marginal) tax rate**
  - **tax smoothing (constant marginal tax rates) is optimal**

- **Intergenerational redistribution**
  - **interest payments from future to current generations**
  - **crowding out of investment**

- **Risk of government default**
  - **financial crisis when lenders make capital losses**
  - **defaulting country likely to be shut out of financial markets and to be unable to borrow**

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Deficit bias: Inherent tendency to accumulate government debt

- **Myopia**
- **More popular to lower taxes and increase government expenditure in recessions than to raise taxes and reduce expenditure in booms**
- **Incumbent governments try to favour their constituencies when in power**
  - **restricts the possibilities of future governments to favour their constituencies**
- **Common-pool problems**
  - **various interest groups try to elicit favours without consideration of the cost for others**
- **Incentive for governments to signal competency through high government expenditure/low taxes which imply deficits if voters are uninformed**

<u>Government debt dynamics</u>

$\boldsymbol{B}$ = **government debt**

$\boldsymbol{Y}$ = **GDP**

$\boldsymbol{r}$ = **real rate of interest**

$\boldsymbol{g}$ = **GDP growth rate**

$\boldsymbol{D}$ = **fiscal deficit**

$\boldsymbol{PD}$ = **primary fiscal deficit (deficit excluding interest payments)**

$$\boldsymbol{B_t = D_t + B_{t-1}}$$

$$\boldsymbol{D_t = rB_{t-1} + PD_t}$$

$$\boldsymbol{B_t = rB_{t-1} + B_{t-1} + PD_t}$$

$$\boldsymbol{B_t = (1+r)B_{t-1} + PD_t}$$

Divide by $\boldsymbol{Y_t}$

$$\boldsymbol{\frac{B_t}{Y_t} = (1+r)\frac{B_{t-1}}{Y_t} + \frac{PD_t}{Y_t}}$$

Use that $\boldsymbol{Y_t = (1+g)Y_{t-1}}$

$$\boldsymbol{\frac{B_t}{Y_t} = \frac{1+r}{1+g} \cdot \frac{B_{t-1}}{Y_{t-1}} + \frac{PD_t}{Y_t}}$$

Define:

$$\boldsymbol{b_t = \frac{B_t}{Y_t}}$$

Government debt dynamics cont.

$$b_{t-1} = \frac{B_{t-1}}{Y_{t-1}}$$

$$pd_t = \frac{PD_t}{Y_t}$$

Thus:

$$b_t = \frac{1+r}{1+g}\, b_{t-1} + pd_t$$

Deduct b_{t-1} from both LHS and RHS.

$$b_t - b_{t-1} = \frac{1+r}{1+g}\, b_{t-1} - b_{t-1} + pd_t$$

$$b_t - b_{t-1} = \left[\frac{1+r}{1+g} - 1\right] b_{t-1} + pd_t$$

$$b_t - b_{t-1} = \frac{r-g}{1+g}\, b_{t-1} + pd_t$$

If g is small (close to zero), then:

$$b_t - b_{t-1} \approx (r-g) b_{t-1} + pd_t$$

Risk of spiralling government debt

$$\boldsymbol{b_t - b_{t-1} \approx (r-g)b_{t-1} + pd_t}$$

- **If large $\boldsymbol{b_{t-1}}$ and $\boldsymbol{pd_t}$**
- **Then fast growth in the debt ratio**
- $\boldsymbol{r} \uparrow \ \boldsymbol{g} \downarrow$
- **Debt grows even faster**
- $\boldsymbol{r} \uparrow\uparrow \ \boldsymbol{g} \downarrow\downarrow$ **etc.**
- $\boldsymbol{r} > g$ **and** $\boldsymbol{b_{t-1}} > 0$ **implies that debt can only be stabilised if there is a primary surplus (**$\boldsymbol{pd_t} < 0$**).**
- **But fiscal consolidation implies lower growth.**

<u>Why was the Greek fiscal situation unsustainable?</u>

$\boldsymbol{g}$ **= -4 per cent**

$\boldsymbol{r}$ **= 10 per cent**

$\boldsymbol{b_{t-1}}$ **= 160 per cent**

$\boldsymbol{pd_t}$ **= 2.8 per cent**

$$\boldsymbol{b_t - b_{t-1} = (r - g)b_{t-1} + pd_{t-1}}$$

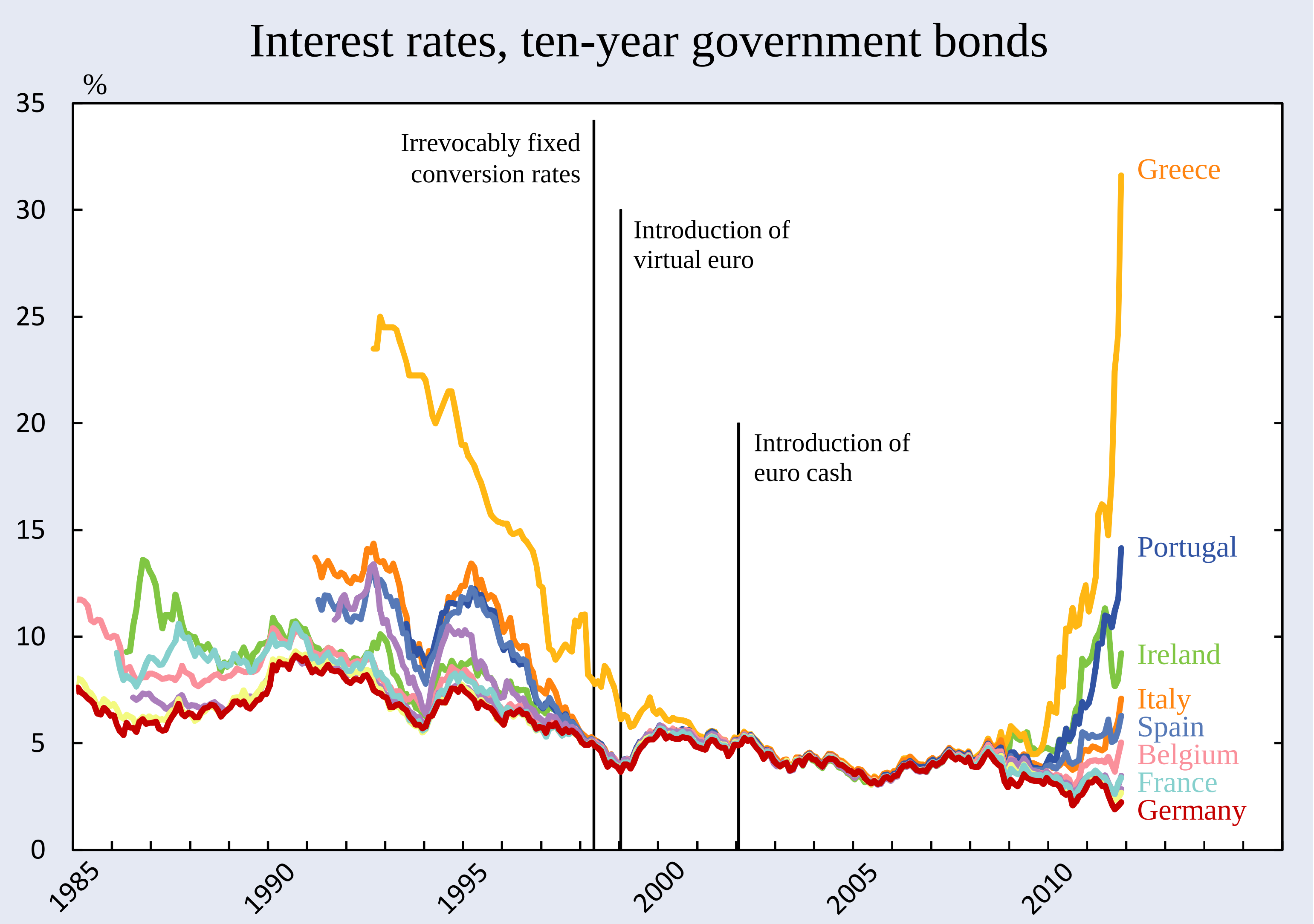
$$\boldsymbol{b_t - b_{t-1} = [0.10 - (-0.04)] \times 160 + 2.8}$$

$$\boldsymbol{b_t - b_{t-1} = 0.14 \times 160 + 2.8 = 25.2}$$

- **Yearly rise in debt ratio of the order of magnitude of 25 percentage points**

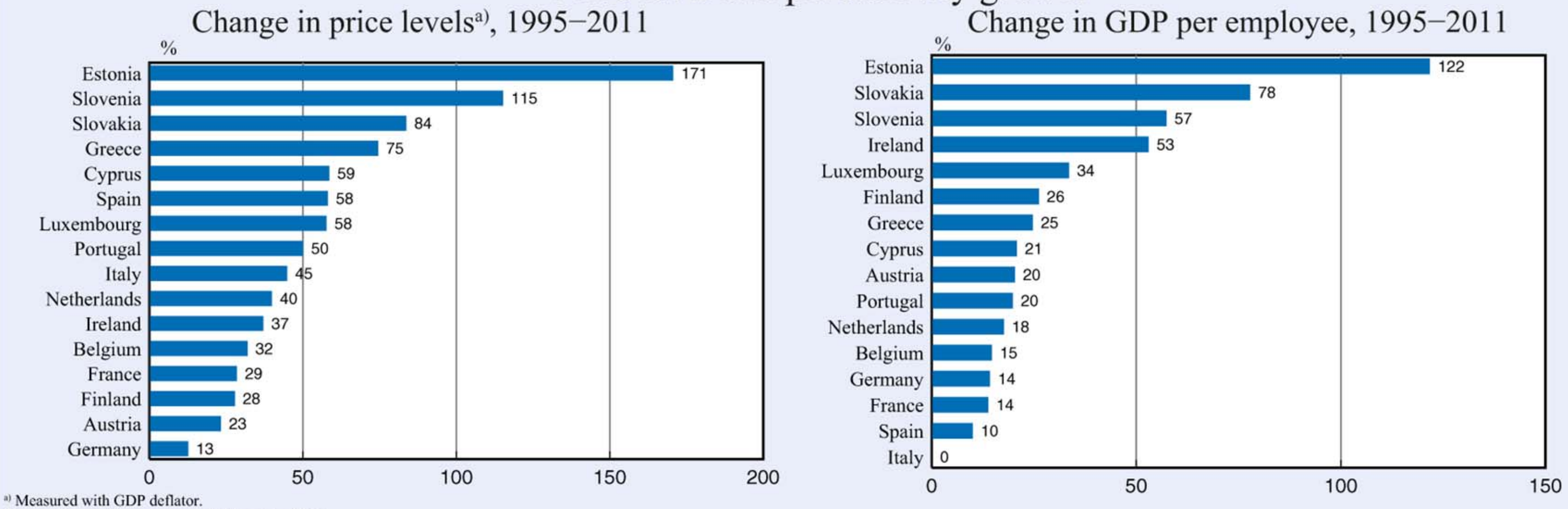
Gigantic asymmetric shock when the euro was introduced

- **Large interest rate fall in PIGS countries**
- **Excessive borrowing in the public sector in Greece and Portugal**
- **Excessive borrowing in the private sector in Ireland and Spain**
- **The economies became overheated: house price booms**
- **Real appreciations and current account deficits**
- **Unsustainable borrowing**
- **Crash when house price bubbles burst in Ireland and Spain**
- **Government budget deficits when banks had to be rescued and tax revenues collapsed**

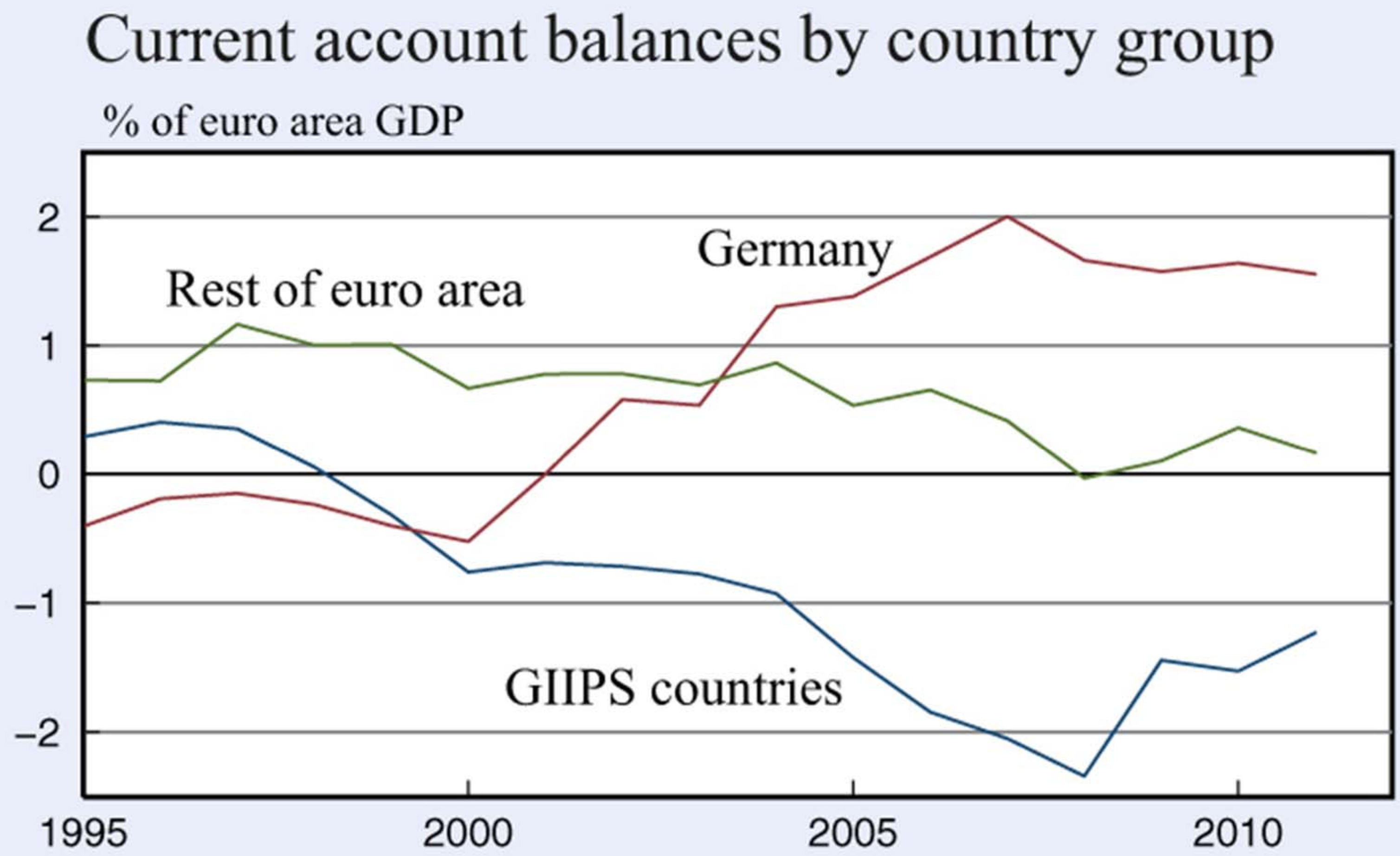


Source: Thomson Reuters Datastream.

Price level and productivity growth

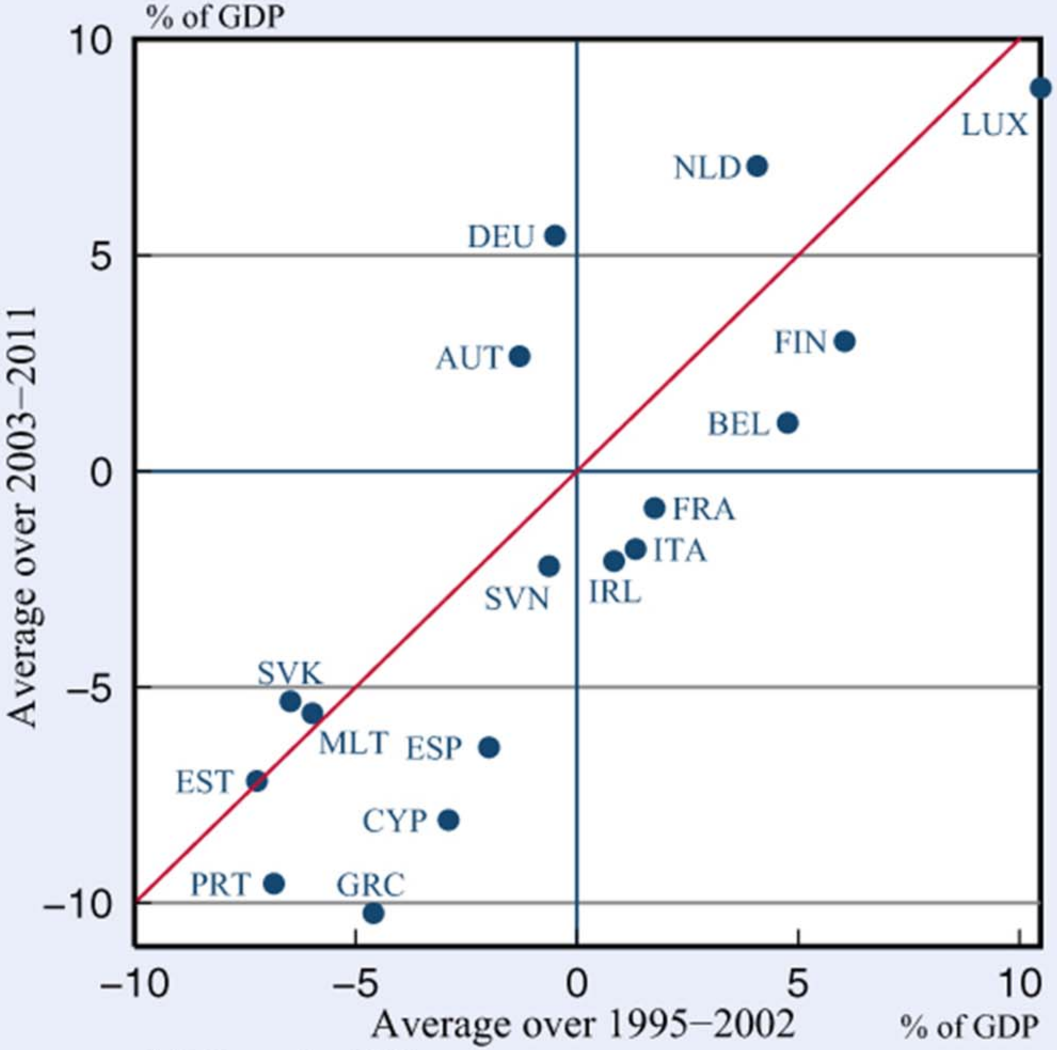


[a)] Measured with GDP deflator.
Source: Eurostat, last accessed 10 December 2012.



Source: Eurostat, last accessed 10 December 2012.

Current account balances by country



Source: Eurostat, last accessed 10 December 2012.

<u>Handling of the euro crisis</u>

- **Rescue package from other Eurozone countries (and IMF)**
  - **Greece 1 and 2**
  - **Ireland**
  - **Portugal**
  - **Spain**
  - **Cyprus**

- **European Financial Stability Facility (EFSF) and the European Stability Mechanism (ESM) – the rescue funds borrow in financial markets (with guarantees from solvent Eurozone countries) and then lend to the crisis countries.**

- **The largest support packages have come from the European Central Bank (ECB)**
  - **Bond-buying programme**
  - **Liquidity provision (loans to banks in crisis countries against bad collateral in the form of government bonds from these countries)**

- **Violation of no-bail-out clause in the TFEU (Treaty on the Functioning of the European Union)**

- **Moral hazard problems**
  - **Weaker incentives for fiscal discipline with bail-outs**

- **Financial assistance is given with strong conditionality: aid-receiving countries must implement harsh fiscal austerity programmes involving government expenditure cuts and tax rises (as well as structural reforms to promote growth in the long run)**

- **Fiscal austerity does improve the budget balance, but improvements are small because aggregate demand, output and employment are reduced with negative repercussions on tax revenues**

The largest support to the crisis countries has come via the Eurosystem (ECB and national central banks)

- Private capital flow financing the current account deficits of PIGS countries dried up
  - transfer of liquidity from PIGS countries to Germany
- In a fixed-exchange-rate system the outcome would have been **balance-of-payments crisis** and **devaluations**
- Instead liquidity support from national central banks in PIGS countries (against low-quality collateral)
- National central banks in PIGS countries have acquired debt against ECB in the **Target system**
- Bundesbank has instead acquired claims on ECB in the **Target System**
- ECB purchases of government bonds from crisis countries (Securities Market Programme)
- Now unlimited ECB purchases of government bonds (bills) with up to three years' maturity (Outright Monetary Transactions)

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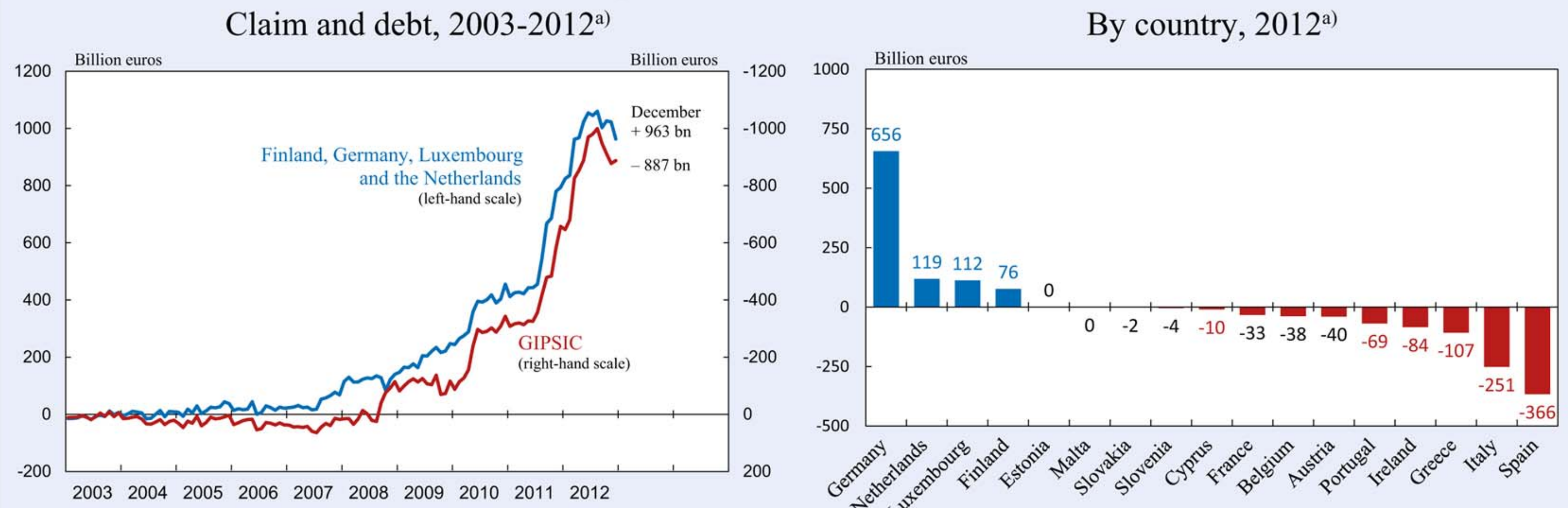
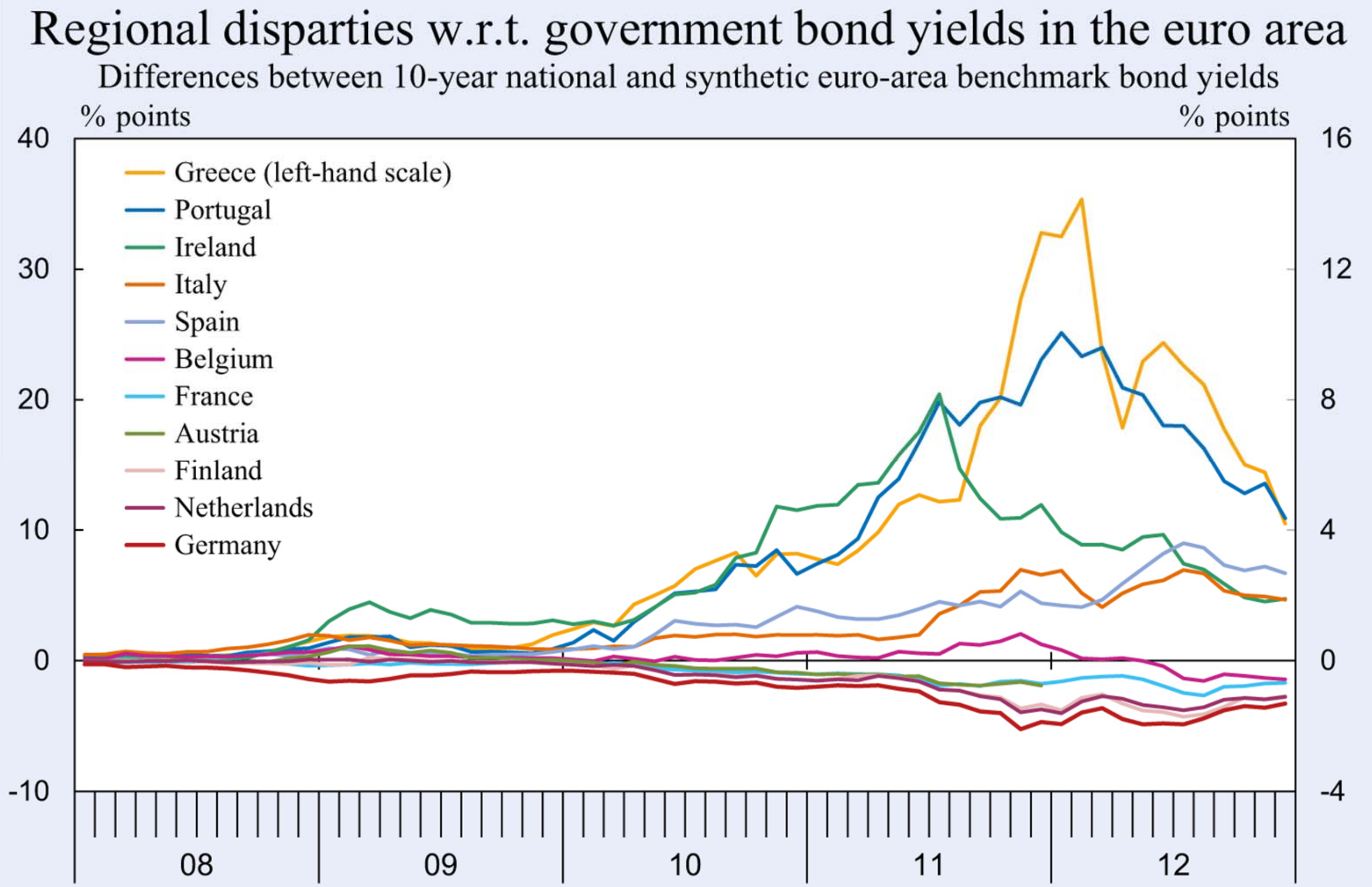
Target balances in the euro area



[a] Germany, Italy: end of December; Spain, Netherlands: end of November; other countries: end of October.

Source: Sinn and Wollmershäuser (2012), updated.

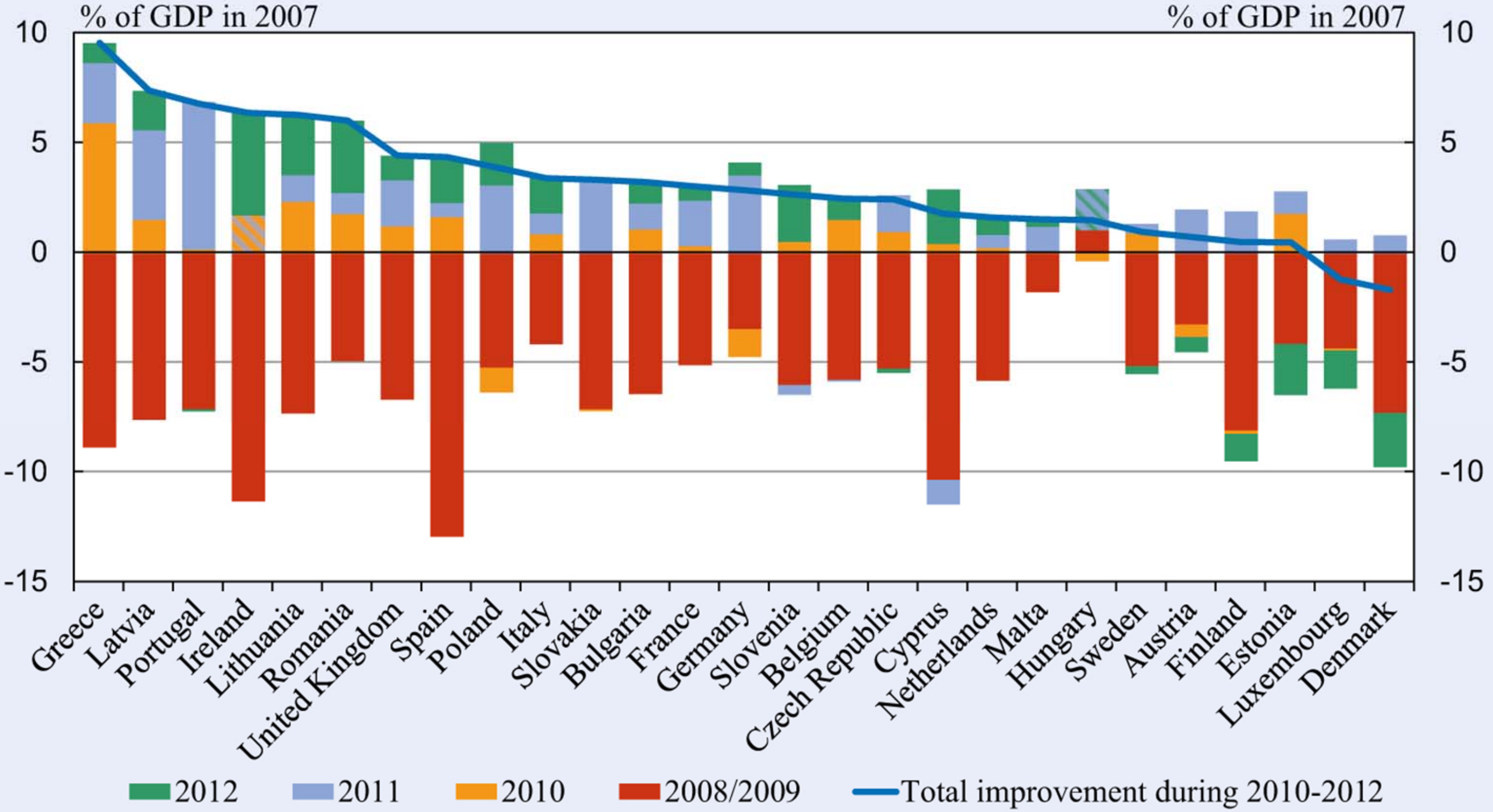


Source: Datastream, last accessed on 31 January 2013.

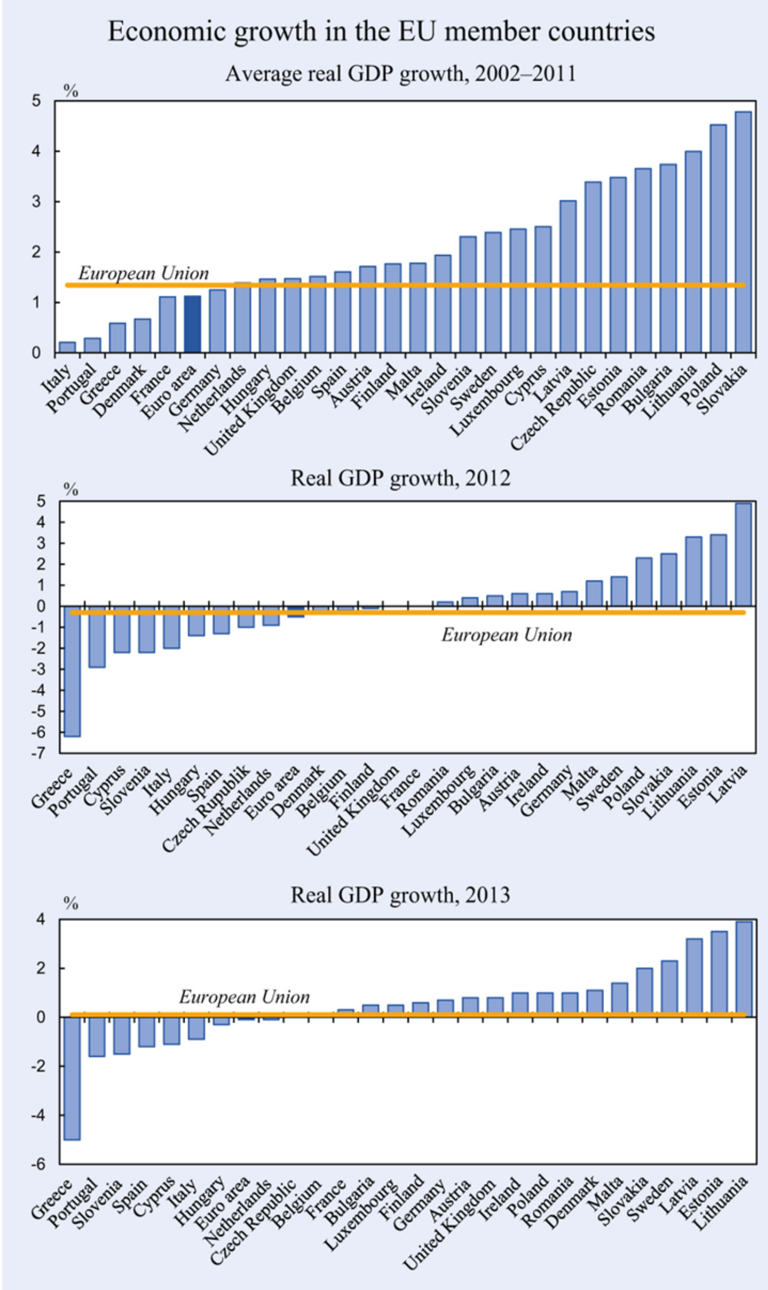
<u>Unlimited ECB purchases of government bills</u>

- **It can work with self-fulfilling expectations**
  - financial markets may have misjudged the situation and required too high interest rates
  - crisis countries may be solvent with lower interest rates
  - then no cost of ECB purchases (rescue loans)
- **But the crisis countries may also be genuinely insolvent**
  - then ECB (and the rescue funds) will make large capital losses
  - theses capital losses are in the end borne by tax payers (the owners of ECB) in Germany, the Netherlands, Finland etc. in the form of lower profits from ECB
  - huge political risk that voters will revolt

Changes in the primary fiscal balances relative to pre-crisis GDP[a)]

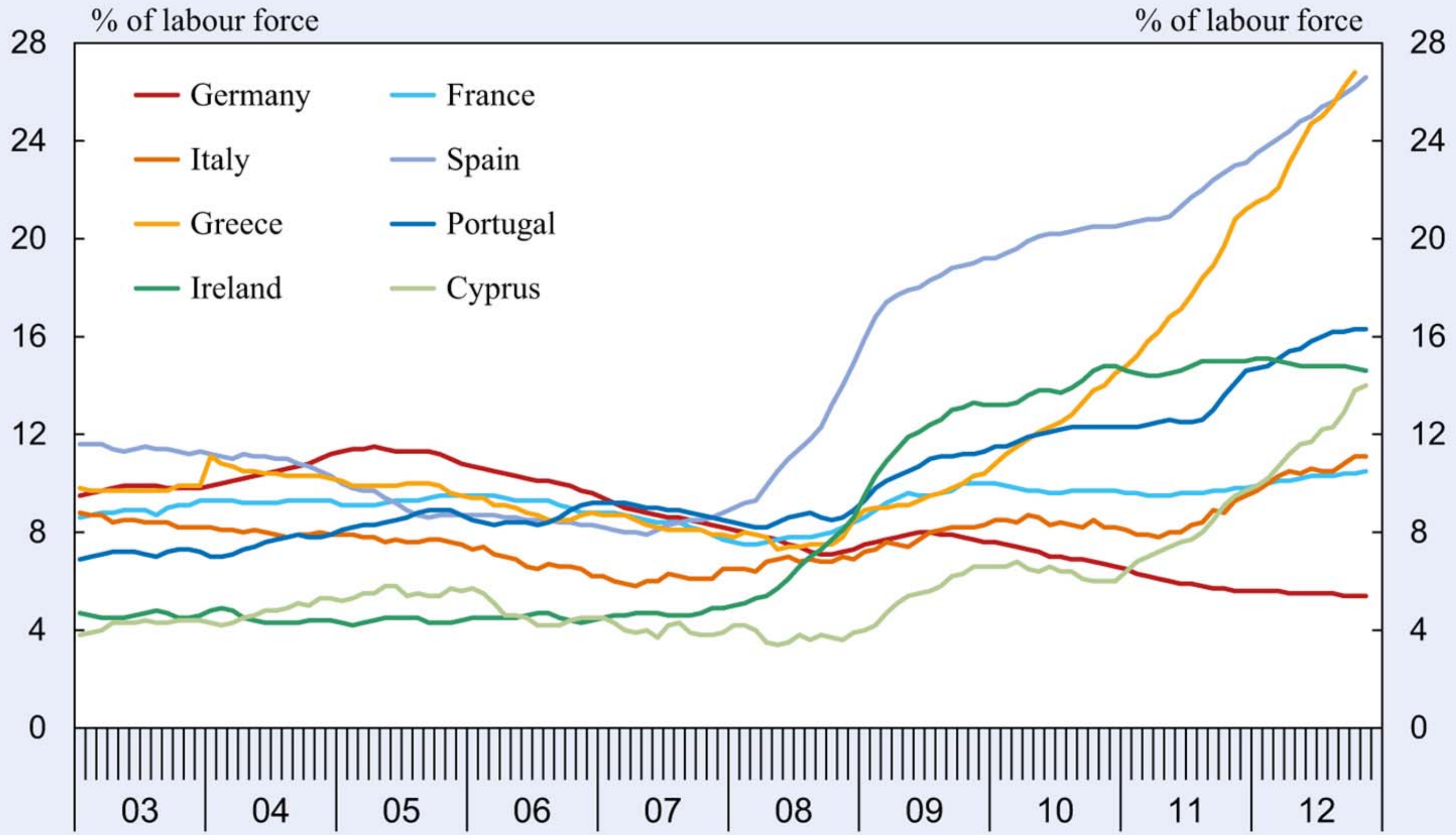


a) To circumvent strong jumps caused by extraordinary events, in the cases of Ireland and Hungary the changes are aggregated for the years 2010/2011 and 2011/2012, respectively.
Source: European Commission, DG ECFIN, General Government Data, Autumn 2012.



Source: Eurostat, last accessed on 1 February 2013; 2012, 2013: EEAG forecast.

Unemployment rates in selected countries of the euro area



Source: Eurostat, last accessed on 31 January 2013.

<u>Crisis countries need real depreciations</u>

- **They must lower prices/costs relative to other countries in the eurozone (Germany)**
  - **internal devaluation (lower price/wage increases than in the core): but this takes time and happens only with high unemployment**
  - **internal revaluation (higher price and wage increases in the core): but Germans dislike inflation**
  - **exit from the eurozone, reintroduction of national currency which is allowed to depreciate: but this would create contagion effects (expectations that other would follow causing bank runs and higher interest rates elsewhere) that could lead to the break-up of the eurozone**

<u>Real exchange rate depreciation</u>

$$\frac{\mathbf{EP*}}{\mathbf{P}}\uparrow$$

Three ways:

1. **Internal devaluation in the periphery: P↓**

2. **Internal revaluation in the core: P*↑**

3. **External devaluation/depreciation in the periphery: E↑**

In practice real exchange rates are usually measured as relative unit labour costs (RULC).

ULC = Unit labour cost = Cost per unit produced

ULC = WL/Q = W/(Q/L)

W = Wage cost per employee

L = Number of employees

Q = Output

ULC = Total wage costs divided by output = Wage cost/Productivity

Use * to denote foreign variables. Unstarred variables refer to the domestic economy.

E = exchange rate (units of domestic currency per unit of foreign currency)

Then RULC = ULC/ULC*= (WL/Q)/(EW*L*/Q*)=E × (W/W*) × (Q*/L*)/(Q/L).

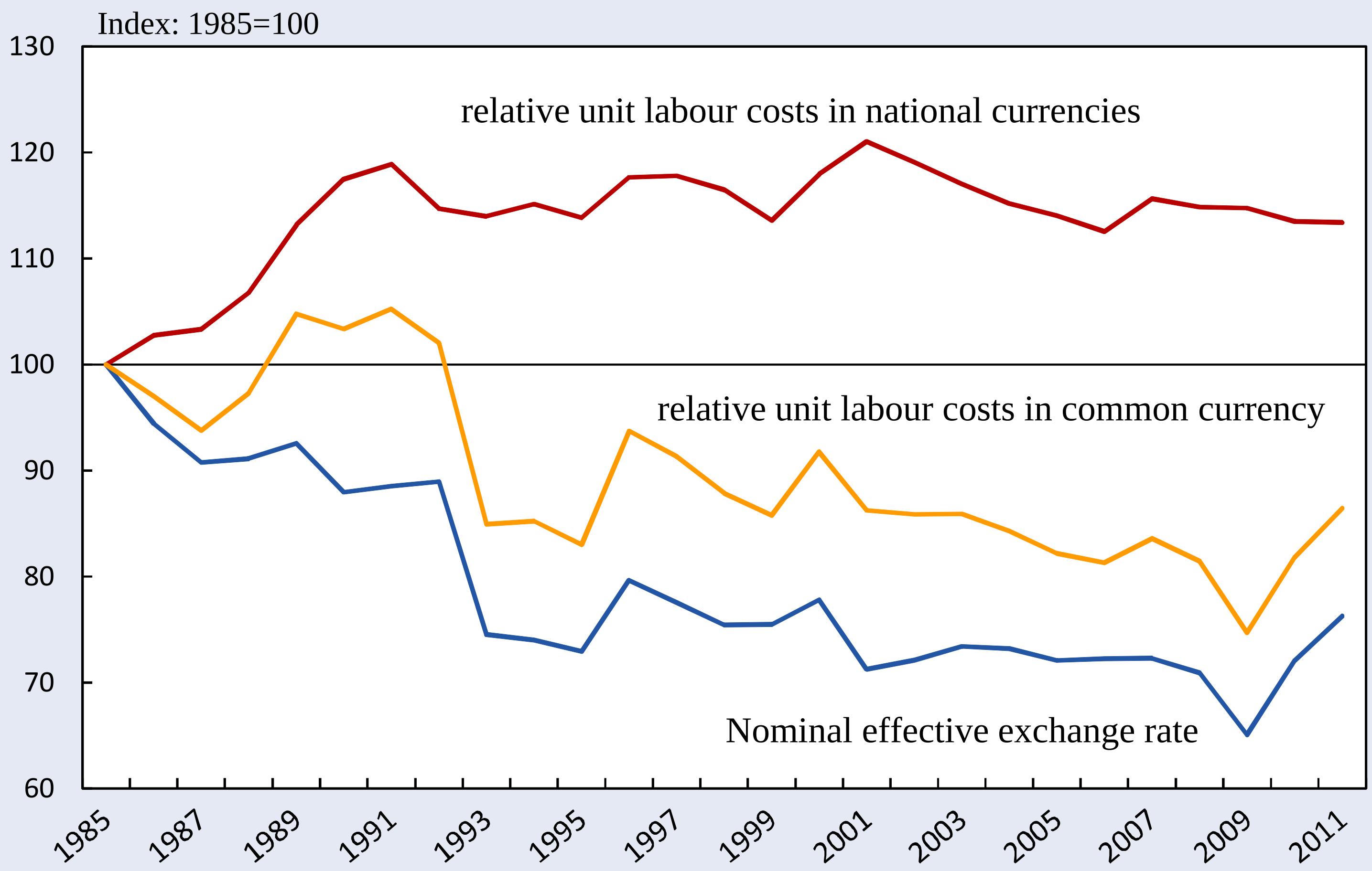
Change in RULC can be decomposed into three components:

1. **Change in nominal exchange rate**
2. **Change in relative wage cost per employee**
3. **Change in relative productivity per employee**

Within the eurozone E=1, so then:

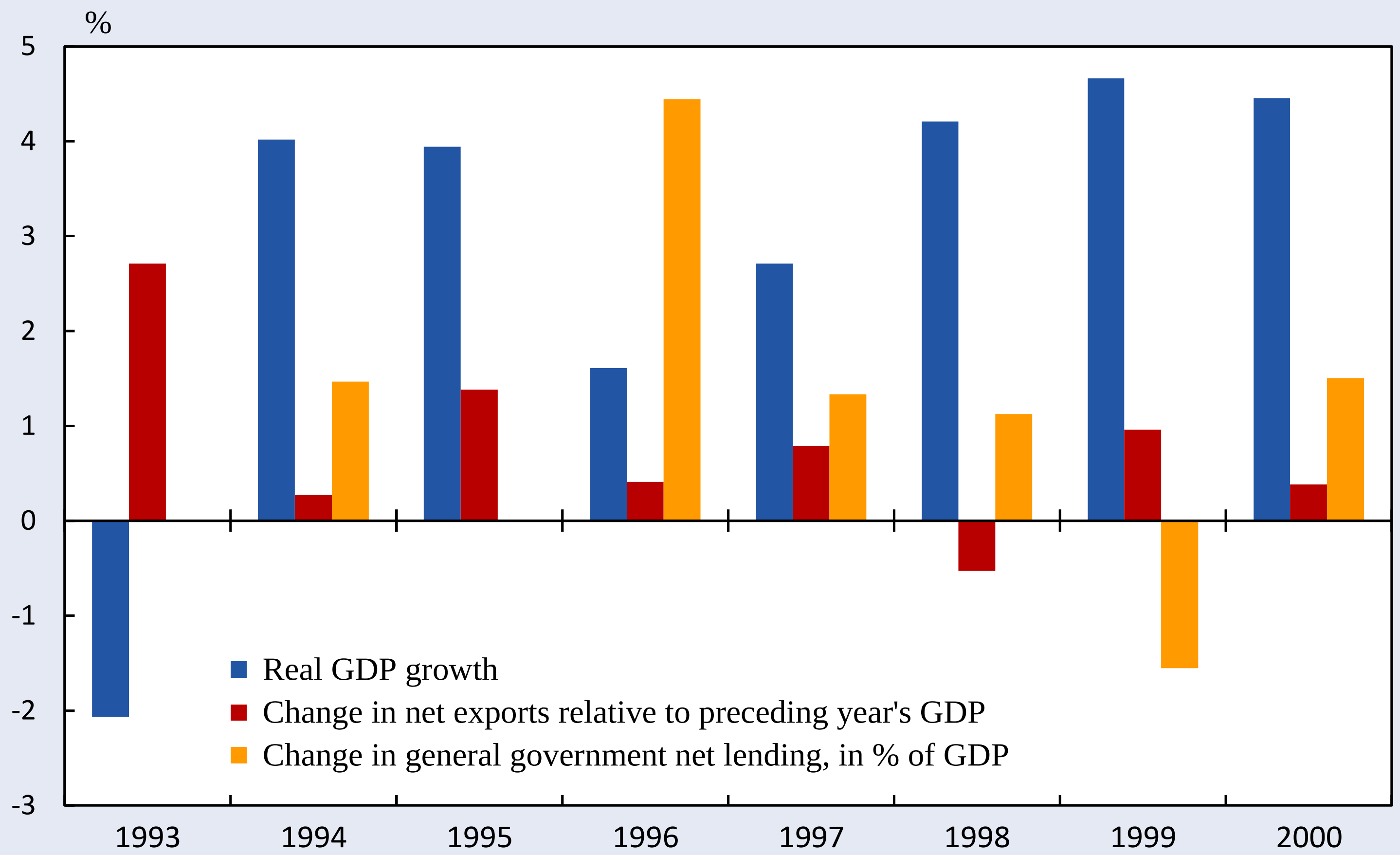
RULC = ULC/ULC*= (WL/Q)/(EW*L*/Q*)= (W/W*) × (Q*/L*)/(Q/L).

Nominal exchange rate and relative unit labour costs vis-à-vis EU-15 for Sweden



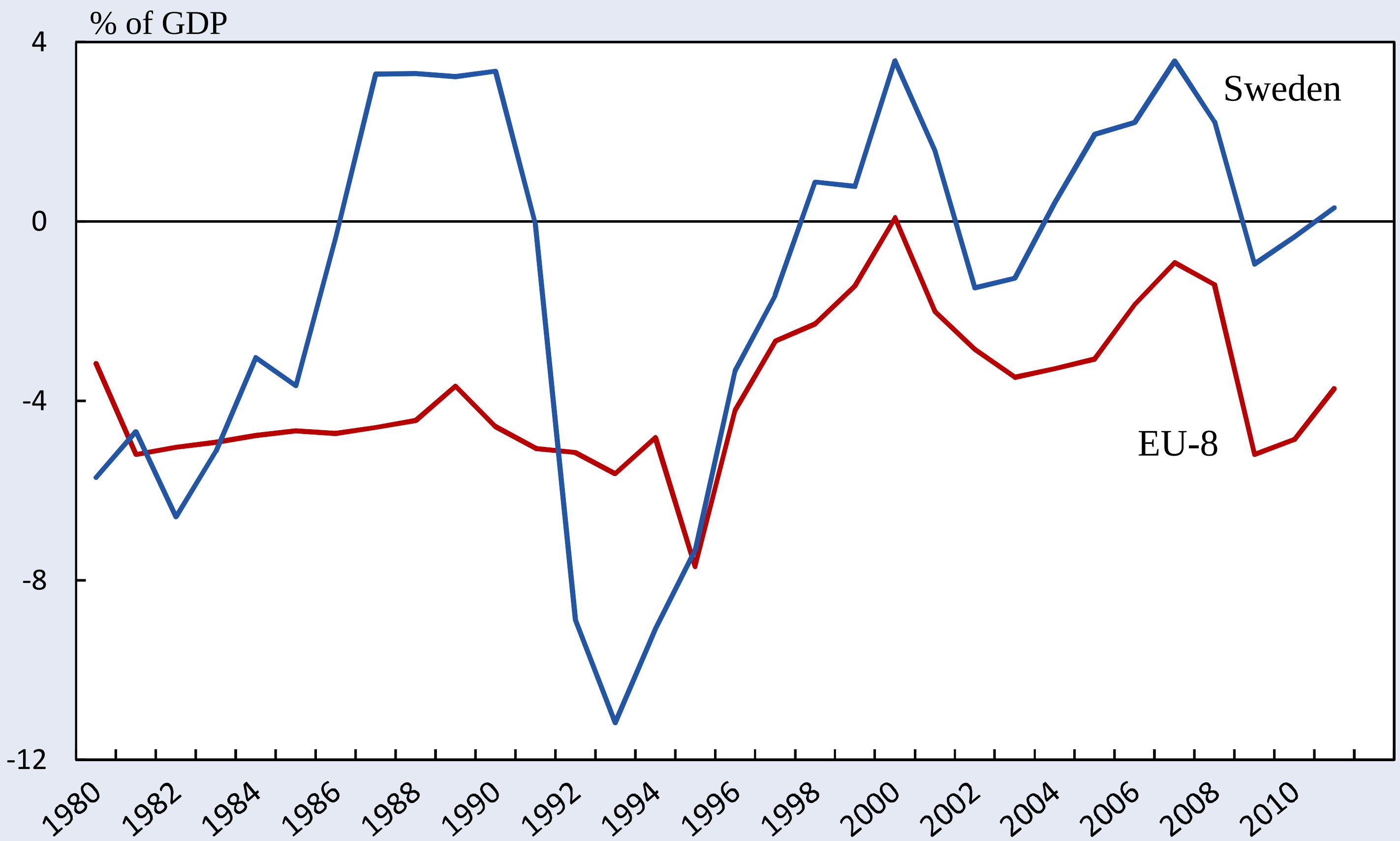
Sources: Ameco and own calculations.

Fiscal consolidation, GDP growth and change in net exports in Sweden, 1993-2000

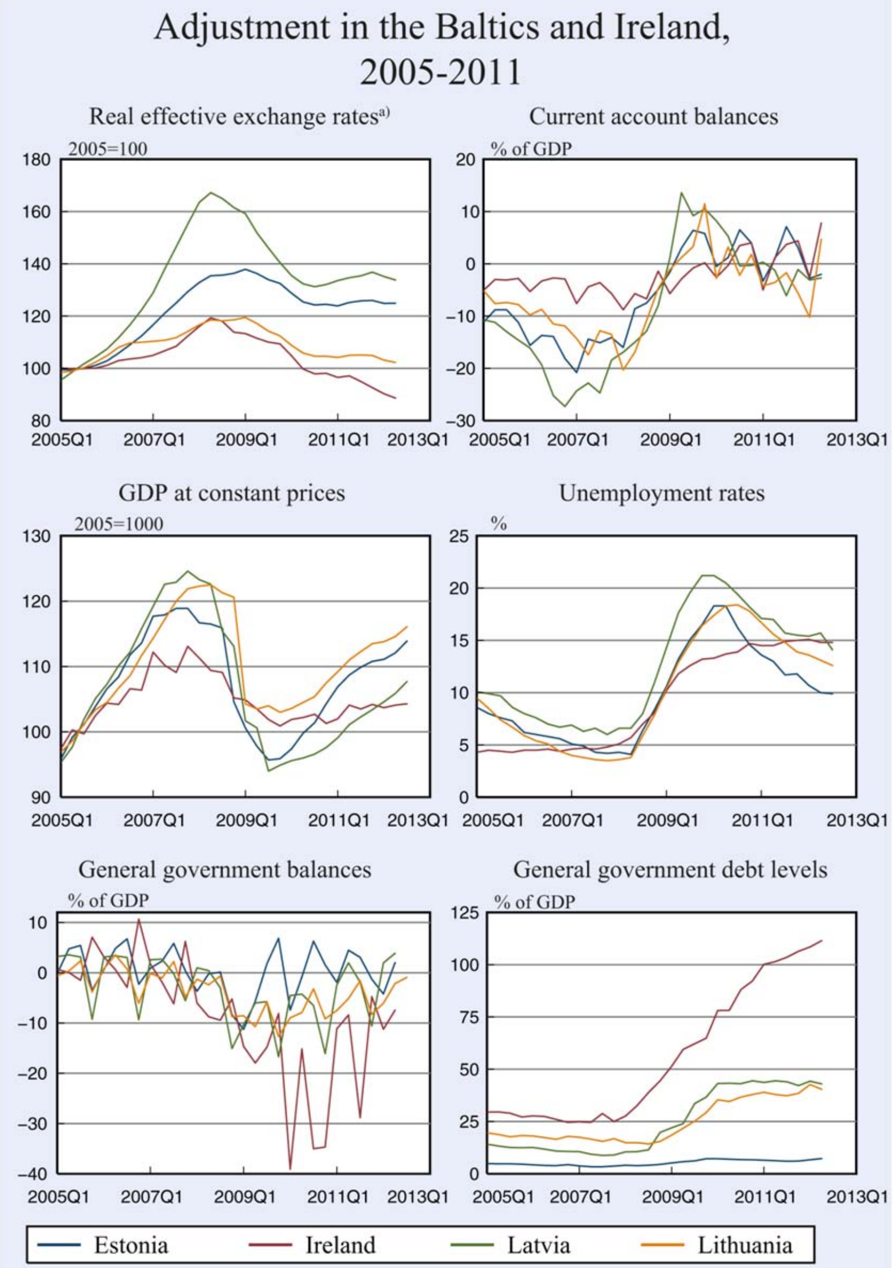


Sources: Ameco and own calculations.

General government net lending in Sweden and the euro area



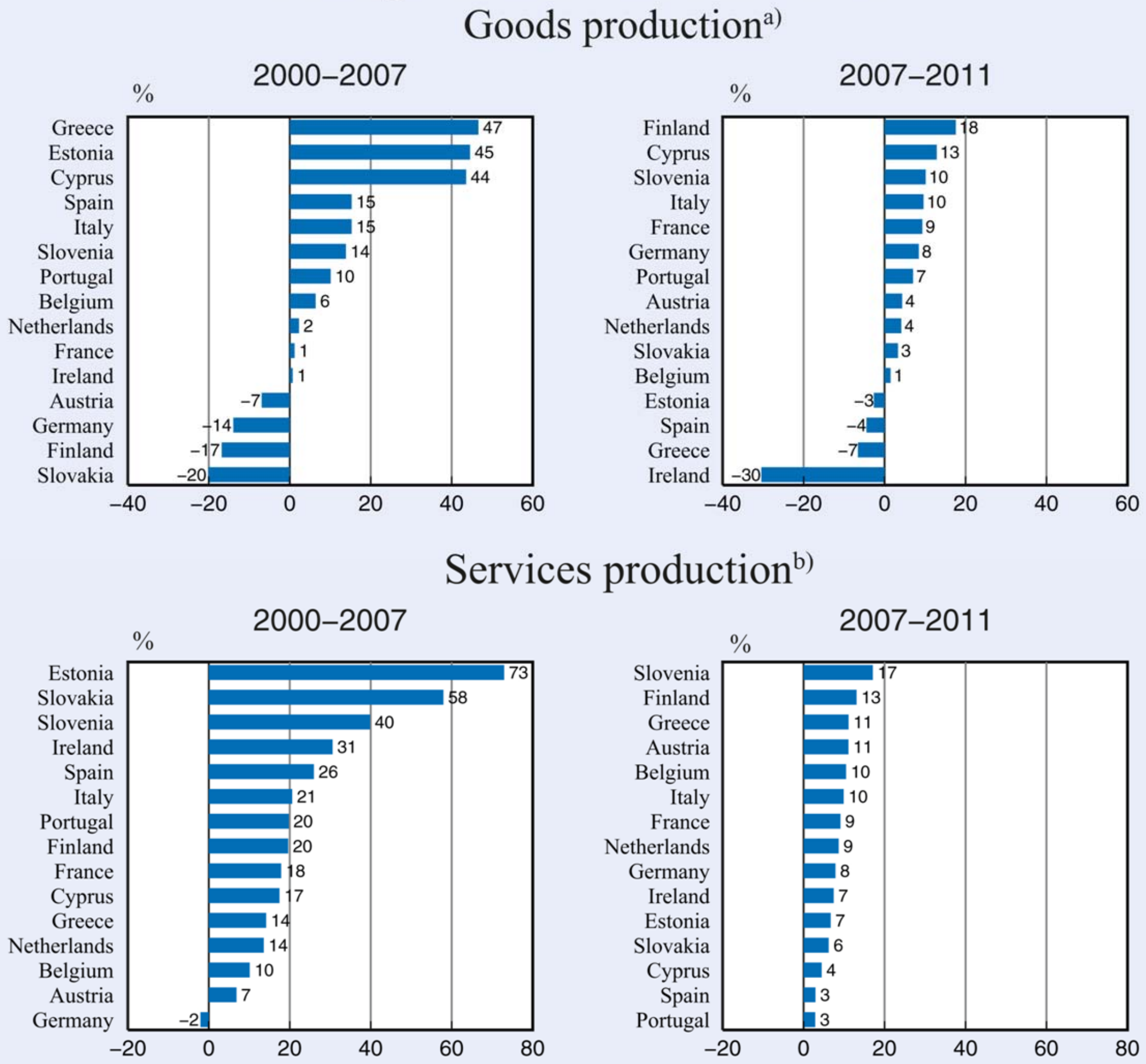
Note: EU-8 is a weighted average for Austria, Belgium, Finland, France, (West) Germany, Italy, the Netherlands and Portugal.
Sources: OECD Economic Outlook No. 89 (Sweden); and Ameco and own calculations (EU-8).



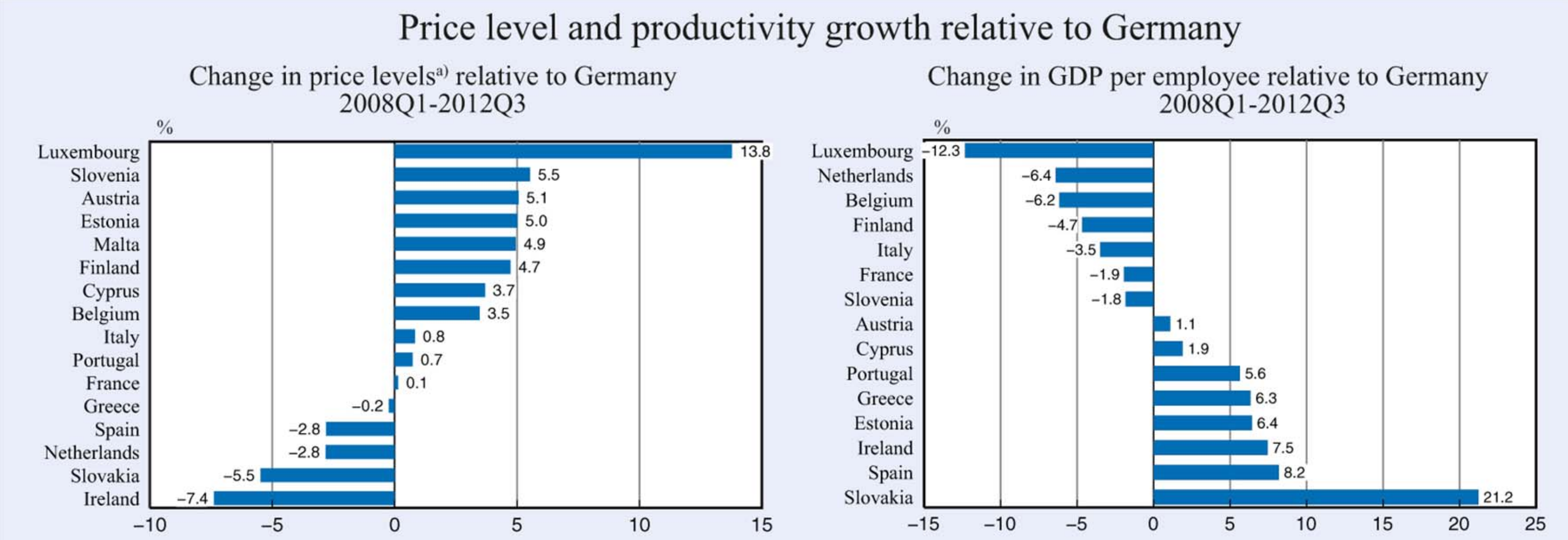
[a] Based on unit labour cost.

Source: Eurostat, last accessed 15 January 2013.

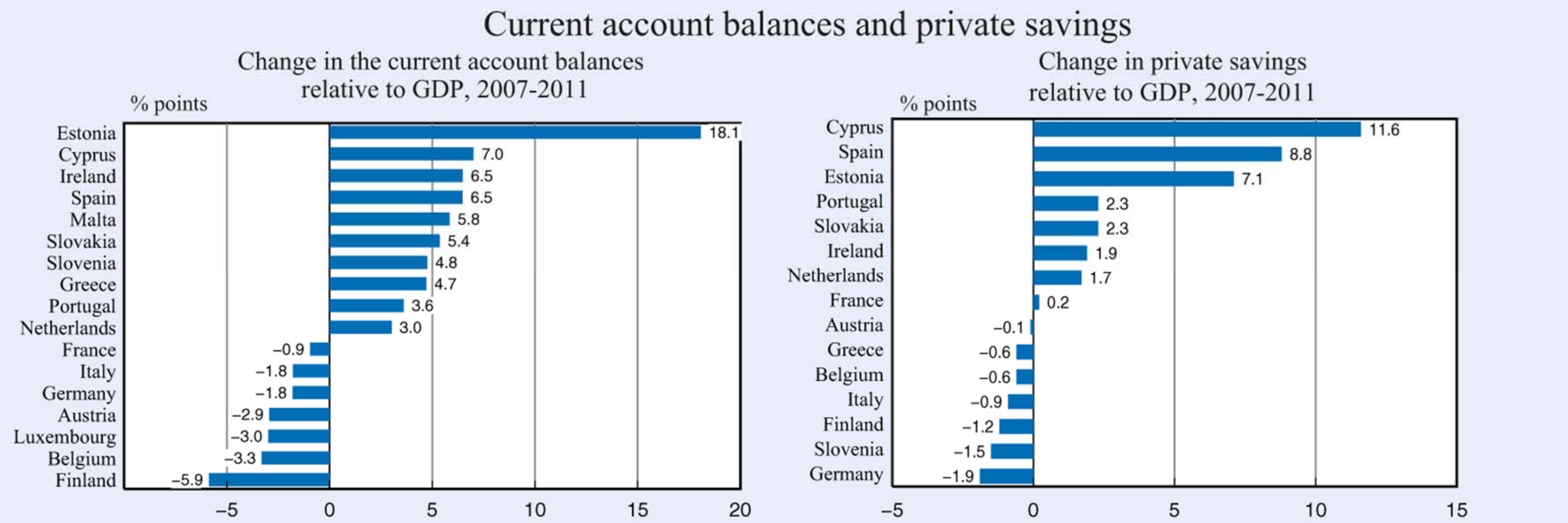
Change in unit labour costs



[a)] Comprises agriculture, mining and manufacturing.
[b)] Comprises construction and services excluding public services.
Source: Eurostat and EEAG calculations, last accessed on 10 December 2012.



[a] Measured with the GDP deflator.
Source: Eurostat and EEAG calculations, last accessed on 15 January 2013.



Source: Eurostat, last accessed on 10 December 2012.

Violation of EU fiscal rules (stability pact)

- **Maximum 3 per cent of GDP in government deficit**
- **Maximum 60 per cent of GDP in government debt; if higher the debt should be falling at a satisfactory pace**
- **Medium-term fiscal objectives of "surplus or close to balance".**

EU fiscal rules were not applied

- 45 breaches out of 177 possible cases before 2008
- Yet no sanctions were applied
- Excessive deficit procedures against Germany and France were broken off in 2003-2005
- Watering down of the Stability Pact in 2005 to ex post justify the treatment of Germany and France

- extended deadlines to correct excessive deficits

- deposits (fines) after seven (nine) years instead of after three (five)

Table 1 Breaches of the stability pact

	99	00	01	02	03	04	05	06	07	08	09	10
Austria	x		x			x				x	x	x
Belgium										x	x	x
Bulgaria											x	x
Cyprus						x					x	x
Czech Republic							x				x	x
Denmark												x
Estonia												
Finland												x
France				x	x	x	x		x	x	x	x
Germany	x			x	x	x	x			x	x	x
Greece		x	x	x	x	x	x	x	x	x	x	x
Hungary						x	x	x	x	x	x	x
Irland										x	x	x
Italy			x		x	x	x	x		x	x	x
Latvia										x	x	x
Lithuania										x	x	x
Luxemburg												
Malta						x				x	x	x
Netherlands					x						x	x
Poland						x	x	x		x	x	x
Portugal			x			x	x	x		x	x	x
Romania										x	x	x
Slovakia								x			x	x
Slovenia											x	x
Spain										x	x	x
Sweden												
UK					x	x	x			x	x	x

Note: The crosses show that a country has a government deficit exceeding three per cent of GDP, or a gross government debt exceeding 60 per cent of GDP that is not falling (or both). A grey field indicates that the country, at the time, was not an EU member state.
Source: ECB.

Problems with the fiscal rules

- Atomic bomb character – very harsh sanctions from the start when applied: up to 0.5 per cent of GDP
- Pecuniary sanctions worsen deficit problems
- Sanctions only in the case of violations of deficit criterion, not in the case of violations of the debt criterion
- Each step in the excessive deficit procedure required a qualified majority in favour in the Ecofin Council
- Ministers reluctant to punish their peers
- No rules on fiscal policy in booms
- Insufficient monitoring of quality of statistics
- Disconnect between fiscal policy discussion at European and at national levels

Reforms of EU economic governance

- Changes in the Stability Pact
  - new regulations
- New fiscal compact
  - intergovernmental treaty
  - Formally: Treaty on Stability, Coordination and Governance in the Economic and Monetary Union

Summary of reforms

- Earlier and more graduated sanctions
  - both in the stability pact's preventive and corrective arms
  - interest-bearing deposits, non-interest-bearing deposits and fines up to 0.2 per cent of GDP
- Operationalisation of the criterion that government debt in excess of 60 per cent of GDP shall be "sufficiently diminishing"
  - excess shall be reduced each year by 1/20
- Reversed qualified majority in the excessive deficit procedure
  - Commission proposals are accepted unless there is a qualified majority against

Summary of reforms cont.

- National budget balance rules to be written into national constitutions (law)
- Automatic national correction mechanisms if budget balance rule is violated
- European Court of Justice to monitor the establishment of national budget balance rules
- Common principles on public finance statistics

Summary of reforms cont.

- Broader macroeconomic surveillance within the Macroeconomic Imbalance Procedure
  - identify macroeconomic imbalances (overheatings) at an early stage (Ireland, Spain)
  - current account, international net investment position, credit growth, house prices, inflation
- Banking union
  - common bank supervision by ECB (single supervisory mechanism)
  - to prevent banks from excessive risk taking that can jeopardise public finances

Remaining problems

- Steps in the excessive deficit procedure still require **political** decisions
- Sanctions are still pecuniary
- European Court of Justice does not monitor adherence to the rules (only imposition of national budget balance rules)
- Balanced budget requirement is for the structural budget balance (the cyclically adjusted budget balance)
- No clear criteria in the Macroeconomic Imbalance Procedure
- Further steps required for banking union
  - common recovery and resolution mechanism
  - common deposit insurance?

Remaining problems cont.

- Do voters accept the reforms?
- Are they fully aware of them?
- Will there be new political negotiations on them?
- What is the credibility of the new rules?
- The bail-outs being undertaken represent Treaty violations

  -moral hazard

  - why should fines work as deterrents if a state can borrow to pay the fines and then have someone else pay?

Comparison with Sweden

Europe

- Strict formal rules on fiscal targets
- Automatic correction mechanisms
- Sanctions

Sweden

- Flexible rules
- No automatic correction mechanisms
- No sanctions
- Transparency and qualified public debate
  - information given and required by the government
  - monitoring institutions

Political consensus on budget discipline and fiscal framework in Sweden

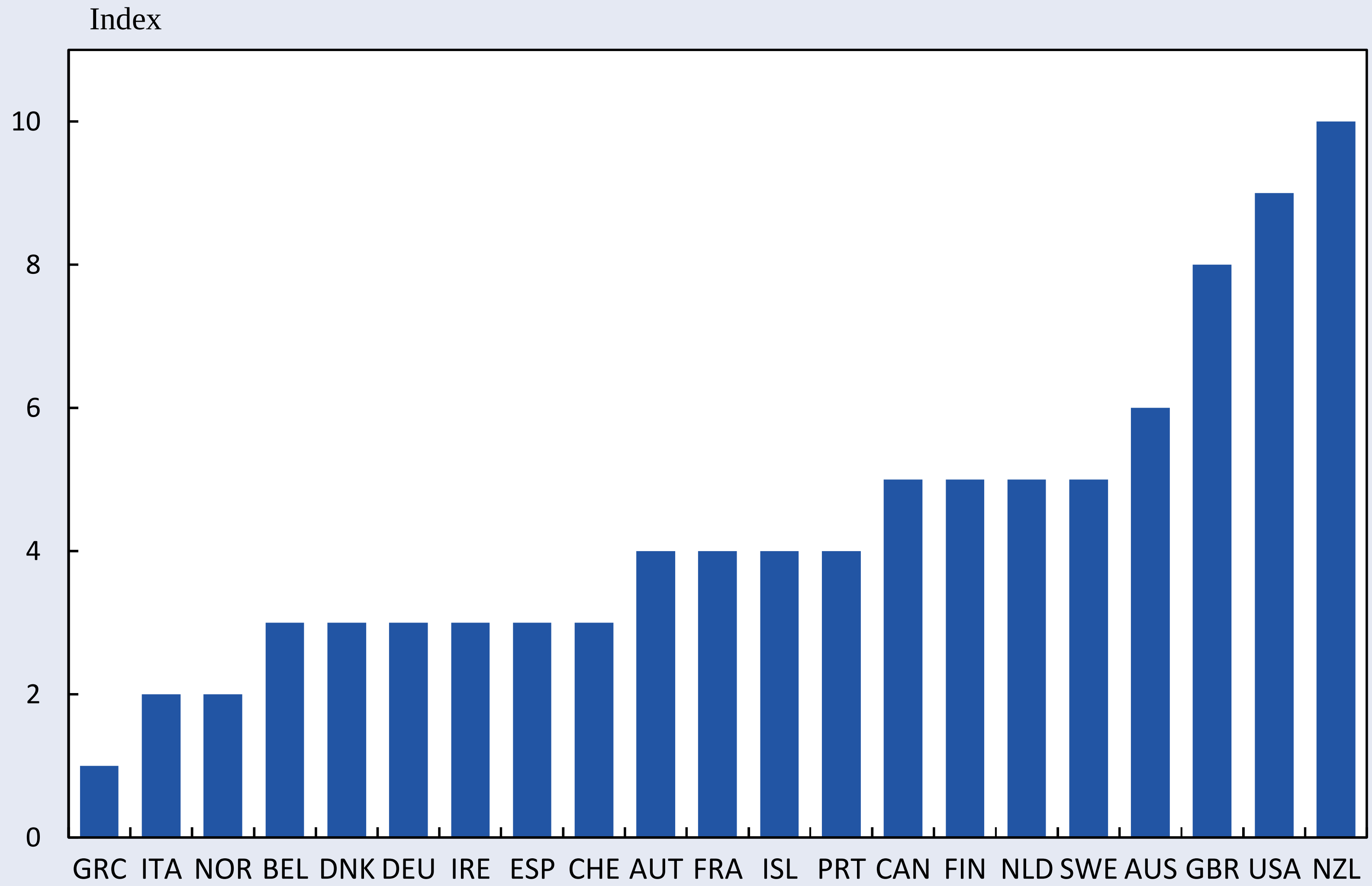
- Top-down budget process
- Fiscal surplus target of one per cent of GDP
- Central government expenditure ceiling
- Local government budget balance requirement
- Reformed pension system
- Monitoring institutions with substantial independence
- Government calculations of the annual **scope for reforms**
- **Fiscal culture likely to be much more important than formal rules**

  - cf Greece and Sweden

Problems with the rules approach

1. Insufficient legitimacy for European rules
2. Conflict between **simplicity** and **flexibility**

The Alt-Lassen index of fiscal transparency in OECD economies



Source: Lassen (2010).

Independent fiscal institutions

- Fiscal committees with decision-making powers
- Fiscal watchdogs or fiscal councils

Earlier existing fiscal watchdogs

- Central Planning Bureau (CPB) in the Netherlands (1947)
- Economic Council in Denmark (1962)
- Sachverständigenrat in Germany (1963)
- Congressional Budget Office (CBO) in the US (1975)
- Public Sector Borrowing Requirement Section of the High Council of Finance in Belgium (1989)
- Staatsschuldenausschuss in Austria (1997)

Recently established fiscal watchdogs

- Fiscal Policy Council in Sweden (2007)
- Parliamentary Budget Office (PBO) in Canada (2008)
- Fiscal Council in Hungary (2008)
- Fiscal Council in Slovenia (2010)
- Office for Budget Responsibility in the UK (2010)
- Fiscal Advisory Council in Ireland (2011)
- Fiscal Policy Council in Portugal (2012)
- Parliamentary Budget Office in Australia (2012)
- Council for Budget Responsibility in Slovakia (2012)
- Fiscal Council to be set up in France

Potential contribution of a fiscal council

1. Alleviate informational problems
   - increase accountability of politicians
2. Complement to a fiscal rule
   - increase reputation cost of violating the rule
3. Alleviate the conflict between simplicity and flexibility
   - evaluate when simple rule can be broken
   - monitor adherence to more complex rule

Tasks of a fiscal council

- Forecasts
- Ex ante and ex post analysis of fiscal sustainability and the adherence to medium-term fiscal targets
- Analysis of stabilisation policy
- Evaluation of fiscal rules
- Costing of individual government proposals
- Breadth of remit: employment, growth, income distribution etc.
- Normative recommendations on policy?

Viability of a fiscal watchdog

- Natural to get into conflict with government at times
- Time inconsistency problem for government

  - ex ante incentives to set up fiscal watchdog

  - ex post incentives to restrict its activities or even close it down

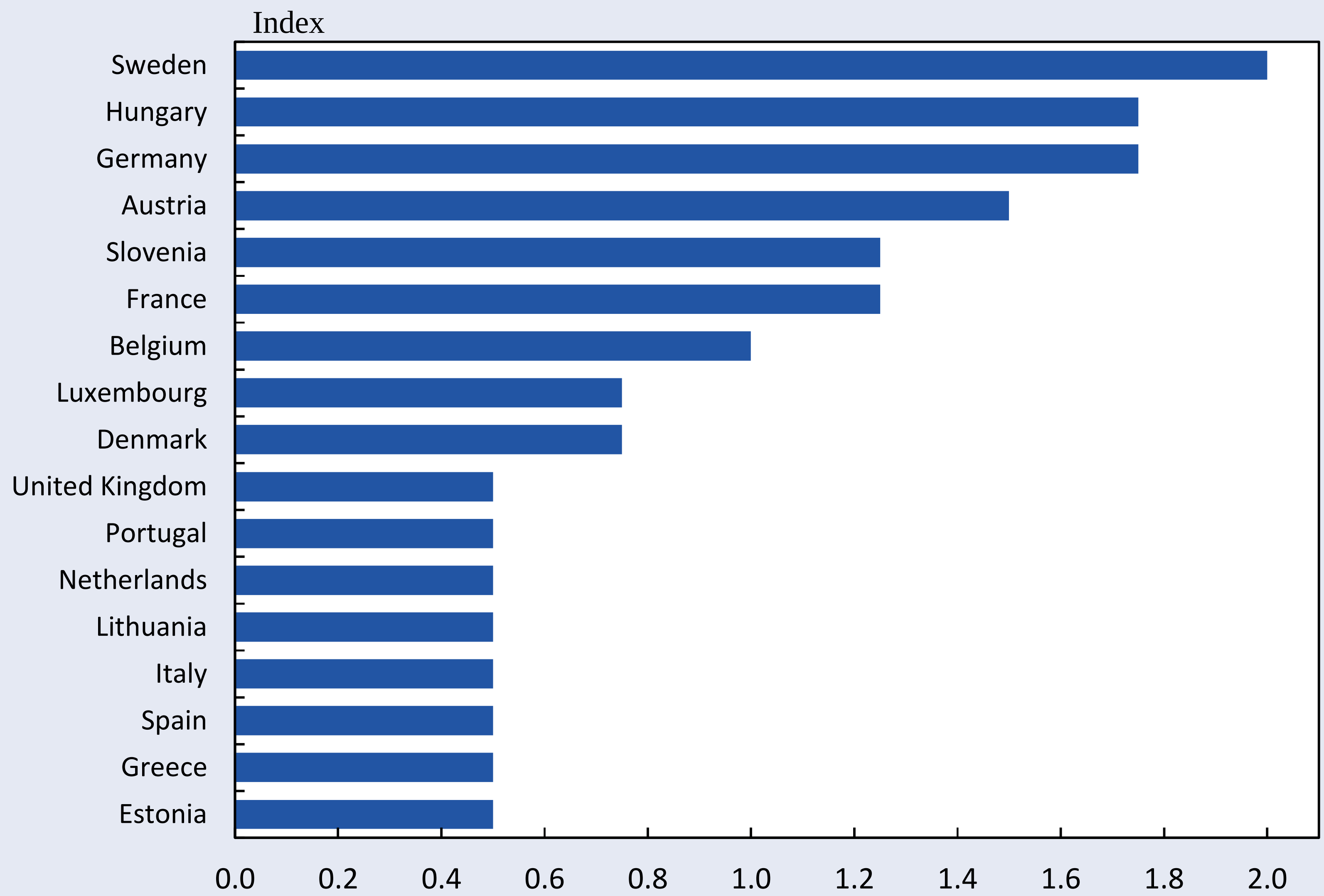
Examples of government pressures

- Venezuela – PBO closed down
- Hungary – Fiscal council in effect dismantled
- Canada – budget cut for PBO
- Sweden – threat of budget cut
- Greece – firing of head of PBO

Lines of defence

1. Building a reputation
   - but it takes time
   - and requires a sophisticated political debate
2. Formal provisions
   - guarantees against firings
   - resourcing
   - long-term budget
3. International evaluations
   - quality control
   - but also defense against politically motivated critique

The strength of fiscal watchdogs in EU member states in 2009



Source: European Commission (2011).