Lecture 10: Intermediate macroeconomics, spring 2016

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Literature: ***Mankiw, chapter 19; Calmfors on fiscal rules; Calmfors on the Swedish macroeconomic framework; Swedish Fiscal Policy, chapter 5.***

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Topics

- **Ricardian equivalence**
- **Deficit bias**
- **Government debt dynamics**
- **The European debt crisis**
- **Government default**
- **Fiscal rules**
  - **The Stability Pact in the EU**
  - **Sweden**
- **Fiscal councils**

Ricardian equivalence

- **Normally we expect a tax cut to raise the real disposable incomes of households and therefore to raise private consumption**

- **Alternative view: Ricardian equivalence (David Ricardo – famous British 19th century economist who did not really believe in the theory he formulated)**

- **With a given path for government consumption, a tax cut today does not change life income because the tax cut must me financed by future tax rises that exactly offset the rise in income today. Hence private consumption does not change.**

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Ricardian equivalence in the Fisher two-period model

G **= government consumption**
T **= tax**
D **= government budget deficit**

Period 1

$$D = G_1 - T_1$$

Period 2

$$T_2 = (1 + r)D + G_2 = (1 + r)(G_1 - T_1) + G_2$$

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<u>The government budget constraint in present-value terms</u>

$$T_1 + T_2/(1 + r) = G_1 + G_2/(1 + r)$$

Present values of taxes and expenditures must be equal.

Tax cut in period 1: ΔT_1

Tax rise in period 2: $(1 + r)\Delta T_1$

Present value of future tax rise: $(1 + r)\Delta T_1/(1 + r) = \Delta T_1$

The tax cut thus has no effect on life income of individuals and thus no effect on their consumption.

With Ricardian equivalence a tax cut does not affect the household's budget constraint

Tax cut in period 1: ΔT_1 Tax rise in period 2: $\Delta T_1(1+r)$

$$C_2 = -(1 + r)C_1 + (1 + r)Y_1 + Y_2$$

Disposable income in period 1: $Y_1 + \Delta T_1$

Disposable income in period 2: $Y_2 - (1 + r)\Delta T$

Substitutions give:

$$C_2 = -(1 + r)C_1 + (1 + r)Y_1 + (1 + \mathrm{r})\Delta T_1 + Y_2 - (1 + r)\Delta T_1 =$$
$$= -(1 + r)C_1 + (1 + r)Y_1 + Y_2$$

- The whole tax cut is saved to pay for future tax rise
- This type of fiscal policy does not change private consumption
- Hence tax cuts are ineffective as a stabilisation policy tool under Ricardian equivalence

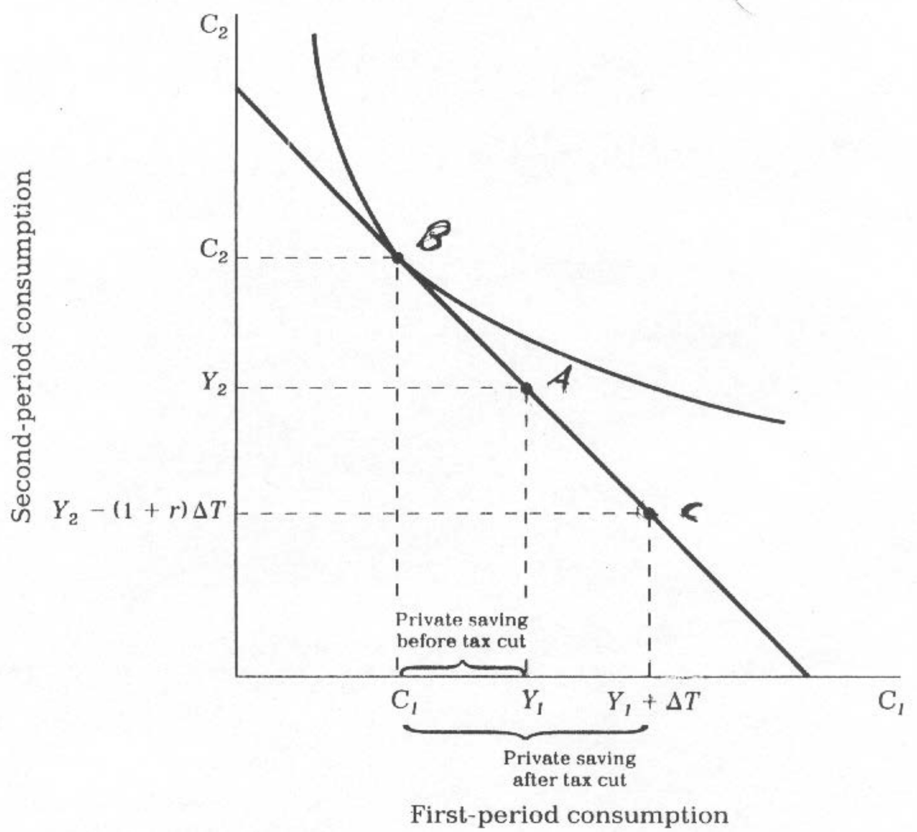


Figure 16-1 **A Debt-Financed Tax Cut in the Fisher Diagram.** A debt-financed tax cut of ΔT raises first-period income. Yet if government purchases are unchanged, then the government budget constraint requires that second-period taxes be raised by $(1 + r)\Delta T$. Because the present value of income is unchanged, the budget constraint is unchanged, and the consumer chooses the same consumption as before the tax cut. Hence, Ricardian equivalence holds.

Assumptions behind Ricardian equivalence

1. **Forward-looking households.**

2. **Households understand the intertemporal government budget constraint.**

3. **Lower taxes today do not imply lower future public consumption.**

4. **Households are not credit constrained.**

5. **The current generation cares for future generations.**

<u>Why are government budget deficits a problem?</u>

- **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**

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**
  - **deficits now restrict 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**

Government debt dynamics

D **= government debt**

Y **= GDP**

i **= nominal rate of interest**

γ **= GDP growth rate**

B **=** ***T-G*** **= fiscal balance**

T **= taxes**

G **= government expenditure excluding interest payments**

S **= primary fiscal balance (fiscal balance excluding interest payments)**

$$D_t = D_{t-1} - B_t$$

$$B_t = T - G - i_t D_{t-1} = S_t - i_t D_{t-1}$$

Thus:

$$D_t = D_{t-1} - (S_t - i_t D_{t-1}) = (1 + i_t) D_{t-1} - S_t$$

Divide by Y_t

$$\frac{D_t}{Y_t} = \frac{(1 + i_t) D_{t-1}}{Y_t} + \frac{S_t}{Y_t}$$

Government debt dynamics cont.

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

$$\frac{D_t}{Y_t} = \frac{1 + i_t}{1 + \gamma_t} \cdot \frac{D_{t-1}}{Y_{t-1}} - \frac{S_t}{Y_t}$$

Define:

$$d_t = \frac{D_t}{Y_t}$$

$$d_{t-1} = \frac{D_{t-1}}{Y_{t-1}}$$

$$s_t = \frac{S_t}{Y_t}$$

Thus:

$$d_t = \frac{1+i_t}{1+\gamma_t}\, d_{t-1} - s_t$$

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

$$d_t - d_{t-1} = \frac{1 + i_t}{1 + \gamma_t}\, d_{t-1} - d_{t-1} - s_t$$

$$d_t - d_{t-1} = \left[\frac{1 + i_t}{1 + \gamma_t} - 1\right] d_{t-1} - s_t$$

$$d_t - d_{t-1} = \frac{1 + i_t}{1 + \gamma_t}\, d_{t-1} - s_t$$

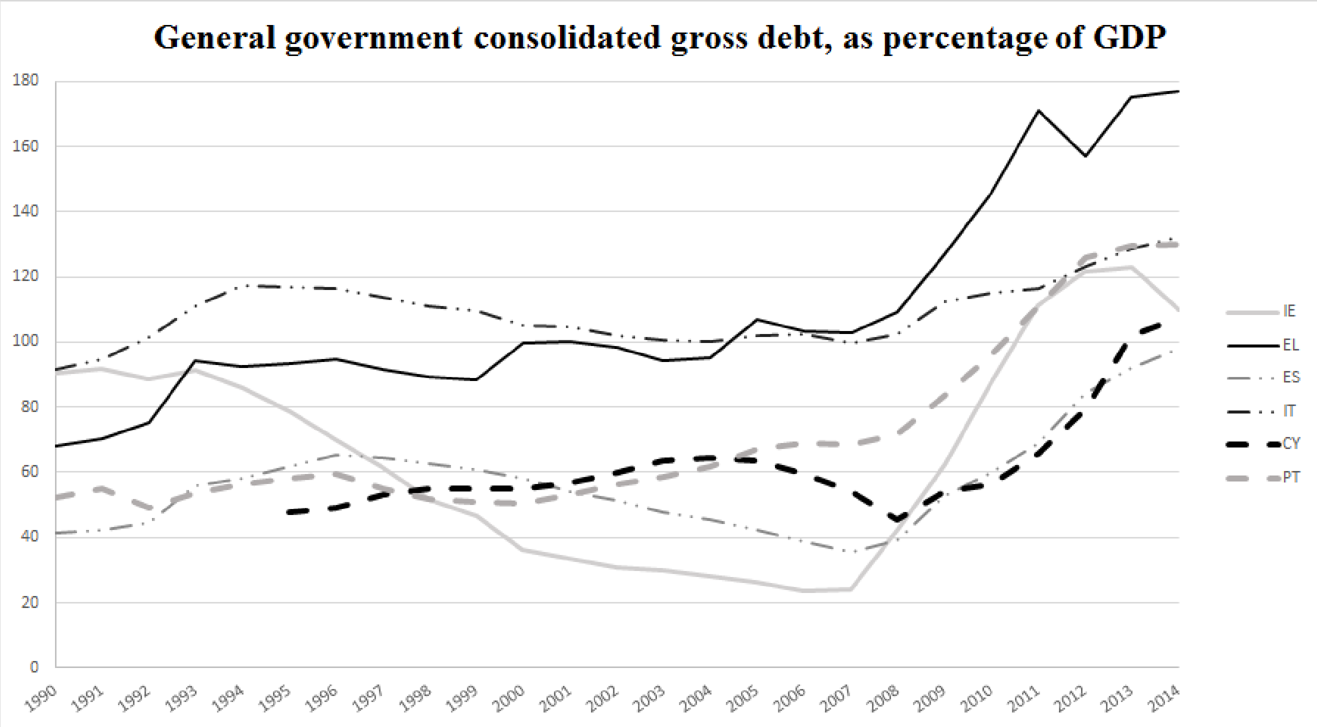
If γ_t **is small (close to zero), then:**

$$d_t - d_{t-1} \approx (i_t - \gamma_t)d_{t-1} - s_t$$

Risk of spiralling government debt

$$\boldsymbol{d_t - d_{t-1} \approx (i_t - \gamma_t)d_{t-1} - s_t}$$

- **If large d_t and s_t is very large (large primary fiscal deficit)**
- **Then fast growth in the debt ratio**
- $i_t \uparrow \gamma_t \downarrow$
- **Debt grows even faster**
- $i_t \uparrow\uparrow \gamma_t \downarrow\downarrow$ **etc.**
- $i_t > \gamma_t$ **and** $d_{t-1} > 0$ **implies that debt can only be stabilised if there is a primary surplus (**$s_t > 0$**).**
- **But fiscal consolidation implies lower growth.**



Source: European Commission, Spring Forecast 2015.

Public finances

	Gross debt[a]				Fiscal balance[a]			
	1999–2007	2008/2009	2010–2014	2015	1999–2007	2008/2009	2010–2014	2015
Germany	62.3	68.8	78.3	71.4	– 2.3	– 1.7	– 1.0	0.9
France	62.6	73.5	88.9	96.5	– 2.5	– 5.2	– 4.9	– 3.8
Italy	102.9	107.4	123.2	133.0	– 2.9	– 4.0	– 3.3	– 2.6
Spain	48.2	46.1	81.6	100.8	0.2	– 7.7	– 8.4	– 4.7
Netherlands	49.0	55.5	64.6	68.6	– 0.5	– 2.6	– 3.6	– 2.1
Belgium	100.6	95.9	103.5	106.7	– 0.5	– 3.2	– 3.6	– 2.7
Austria	66.2	74.1	82.3	86.6	– 2.2	– 3.4	– 2.6	– 1.9
Finland	40.6	37.2	52.7	62.5	3.8	0.8	– 2.3	– 3.2
Greece	102.4	118.0	166.6	194.8	– 5.3	– 12.7	– 9.3	– 4.6
Portugal	59.6	77.6	118.6	128.2	– 4.3	– 6.8	– 7.2	– 3.0
Ireland	30.9	52.1	108.8	99.8	1.6	– 10.4	– 12.5	– 2.2
Slovakia	40.5	32.1	48.8	52.7	– 5.2	– 5.1	– 4.2	– 2.7
Slovenia	25.7	28.1	58.0	84.2	– 2.2	– 3.6	– 7.3	– 2.9
Luxembourg	6.7	14.9	21.4	22.3	2.5	1.4	0.4	0.0
Lithuania	20.1	21.8	38.5	42.9	– 1.7	– 6.1	– 4.5	– 1.0
Latvia	12.2	27.7	42.3	38.3	– 1.7	– 6.6	– 3.0	– 1.5
Cyprus	59.1	49.5	82.4	106.7	– 2.4	– 2.3	– 6.0	– 0.7
Estonia	5.0	5.8	8.5	10.0	0.9	– 2.4	0.3	0.2
Malta	65.5	65.3	68.6	65.9	– 5.0	– 3.7	– 2.8	– 1.7
Euro area	**69.0**	**75.0**	**89.8**	**94.6**	**– 1.9**	**– 4.2**	**– 3.9**	**– 2.2**
United Kingdom	39.7	58.7	83.6	88.3	– 1.8	– 7.9	– 7.4	– 4.3
Sweden	48.9	38.6	39.3	44.7	1.1	0.6	– 0.8	– 1.4
Denmark	43.6	36.9	45.0	40.2	2.3	0.2	– 1.6	– 3.3
Poland	42.7	48.2	53.6	51.4	– 3.9	– 5.5	– 4.7	– 2.8
Czech Republic	24.6	31.4	42.1	41.0	– 3.7	– 3.8	– 2.9	– 1.9
Romania	19.5	18.2	35.9	39.4	– 2.6	– 7.3	– 3.8	– 1.2
Hungary	58.7	74.8	78.5	75.8	– 6.3	– 4.1	– 3.5	– 2.3
Croatia[b]	29.5	43.4	71.2	89.2	– 2.7	– 4.2	– 6.0	– 4.9
Bulgaria	45.1	13.3	18.7	31.8	0.5	– 1.2	– 2.5	– 2.8
European Union	**61.8**	**67.6**	**84.2**	**87.8**	**– 1.7**	**– 4.6**	**– 4.3**	**– 2.4**
United States[b]	47.2	79.4	101.2	104.9	– 2.4	– 9.9	– 7.4	– 3.8
Japan	167.0	201.0	234.2	245.9	– 5.9	– 7.3	– 8.7	– 5.9
Switzerland	60.6	48.3	47.6	46.2	0.1	1.1	0.1	– 0.2

[a] As a percentage of gross domestic product. For the European countries, definitions according to the Maastricht Treaty. For the United States, Japan and Switzerland, definitions are according to the IMF. – [b] Data on Croatia and the United States are only available from 2001 onwards.

Sources: European Commission, Autumn 2015; IMF World Economic Outlook, October 2015.

Why was the Greek fiscal situation unsustainable?

γ_t **= -4 per cent**

i_t **= 10 per cent**

d_{t-1} **= 160 per cent**

s_t **= 2.8 per cent**

$$d_t - d_{t-1} = (i_t - \gamma_t)d_{t-1} - s_t$$

$$d_t - d_{t-1} = [0.10 - (-0.04)] \times 160 + 2.8$$

$$d_t - d_{t-1} = [0.10 - (-0.04)] \times 160 + 2.8$$

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

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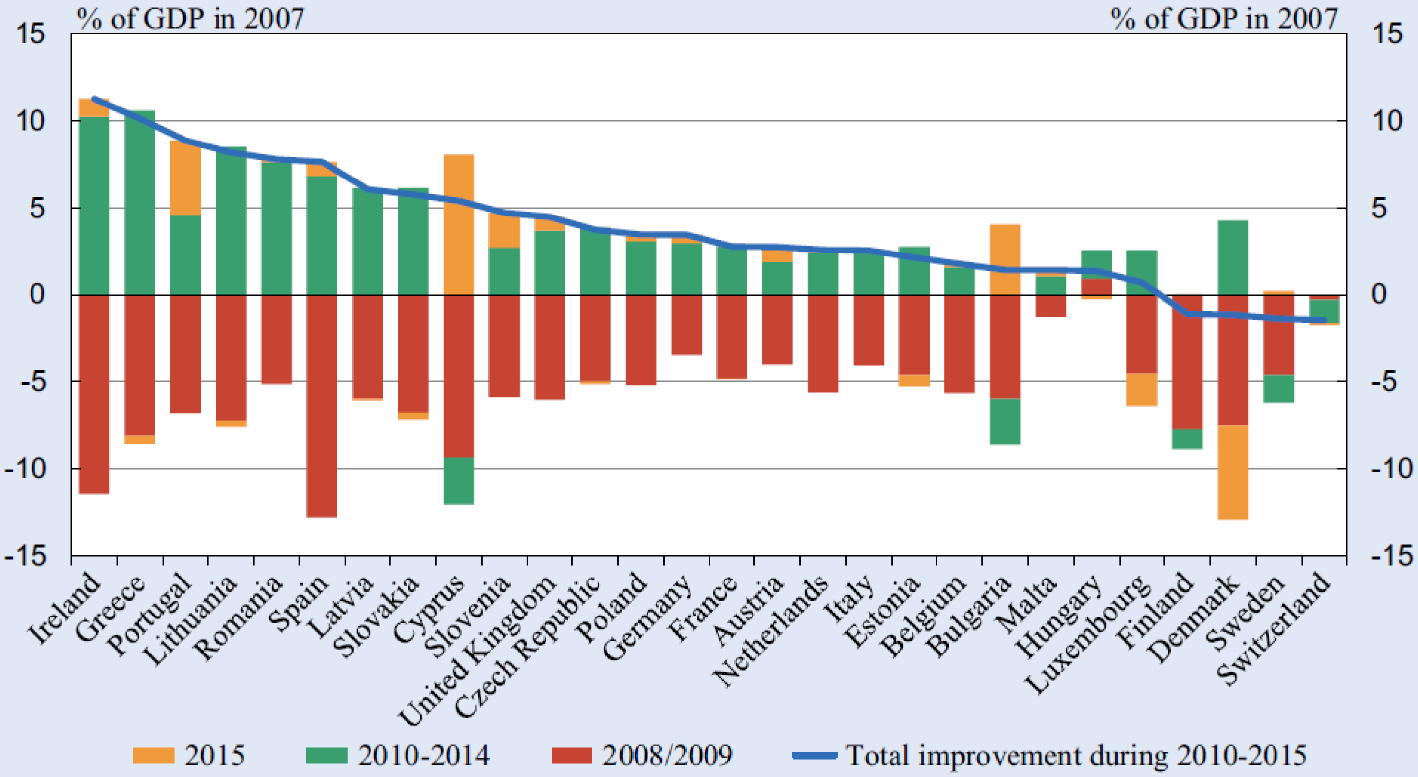
Changes in the primary fiscal balances relative to pre-crisis GDP[a)]



[a)] Below the horizontal axis at zero deteriorations of the primary fiscal balance are reported; above this line improvements are shown. The sum of the three bars result in the overall change during 2008-2015.
Source: European Commission, DG ECFIN, General Government Data and AMECO, Autumn 2015.

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

- **Rescue packages from other Eurozone countries (and IMF)**
  - **Greece 1,2 and 3**
  - **Ireland**
  - **Portugal**
  - **Spain**
  - **Cyprus**

- **The 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**

- **Very large 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)**
  - **Commitment to purchase unlimited amounts of government bonds (up to three-years maturity) from crisis countries if necessary to hold down their interest rates: Ordinary Monetary Transactions (OMT) Programme**

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

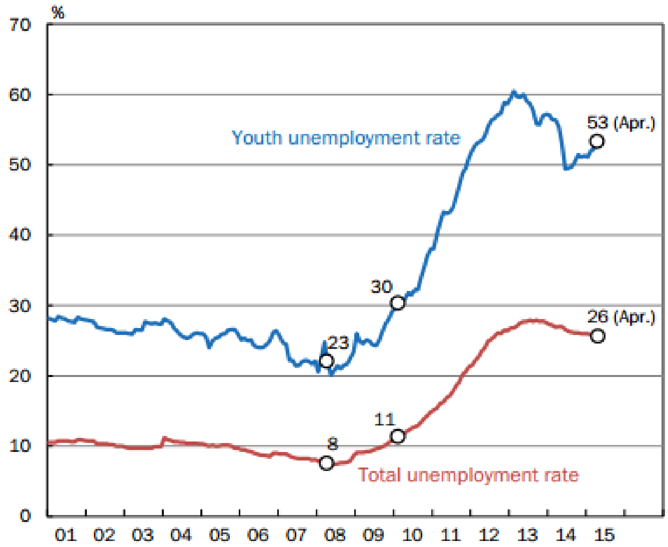
- **Moral hazard problems**
  - **Weaker incentives for fiscal discipline with bail-outs**

- **Greece will certainly default on its government debt.**
  - **capital losses for the rescue funds and the ECB**
  - **these capital losses will be borne ultimately by tax payers in the solvent Eurozone countries (Germany, Finland, Austria, the Netherlands etc.)**
  - **may not be outright debt forgiveness; could also be reduced interest payments, deff~~f~~erred interest payments and lengthening of maturities**

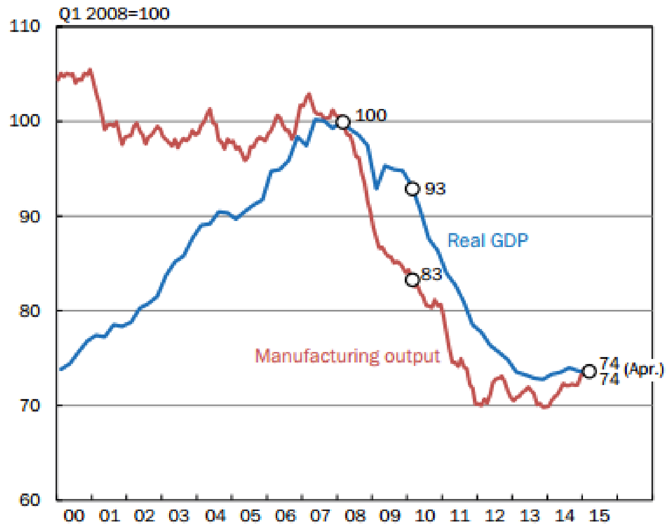
<u>Rescue loans with conditionality</u>

- **The rescue loans have been given with strong conditions on fiscal restraint (and structural reforms) in recipient countries**
    - **To reduce moral-hazard problems**
    - **To reduce bail-out costs**
- **But fiscal restraint reduces aggregate demand and thus output in recipient countries**
    - **Tax revenues fall**
    - **This counteracts improvements in fiscal balances**
    - **Only slow improvement in fiscal balances**
- **Heated European debate on the pros and cons of fiscal austerity**
- **The crisis countries would be helped by more expansionary fiscal policy in the well-behaved countries**
    - **Germany**
    - **Netherlands**
    - **Austria**
    - **Finland**
    - **Positive spill-over effects on aggregate demand in crisis countries and thus on tax revenues there**

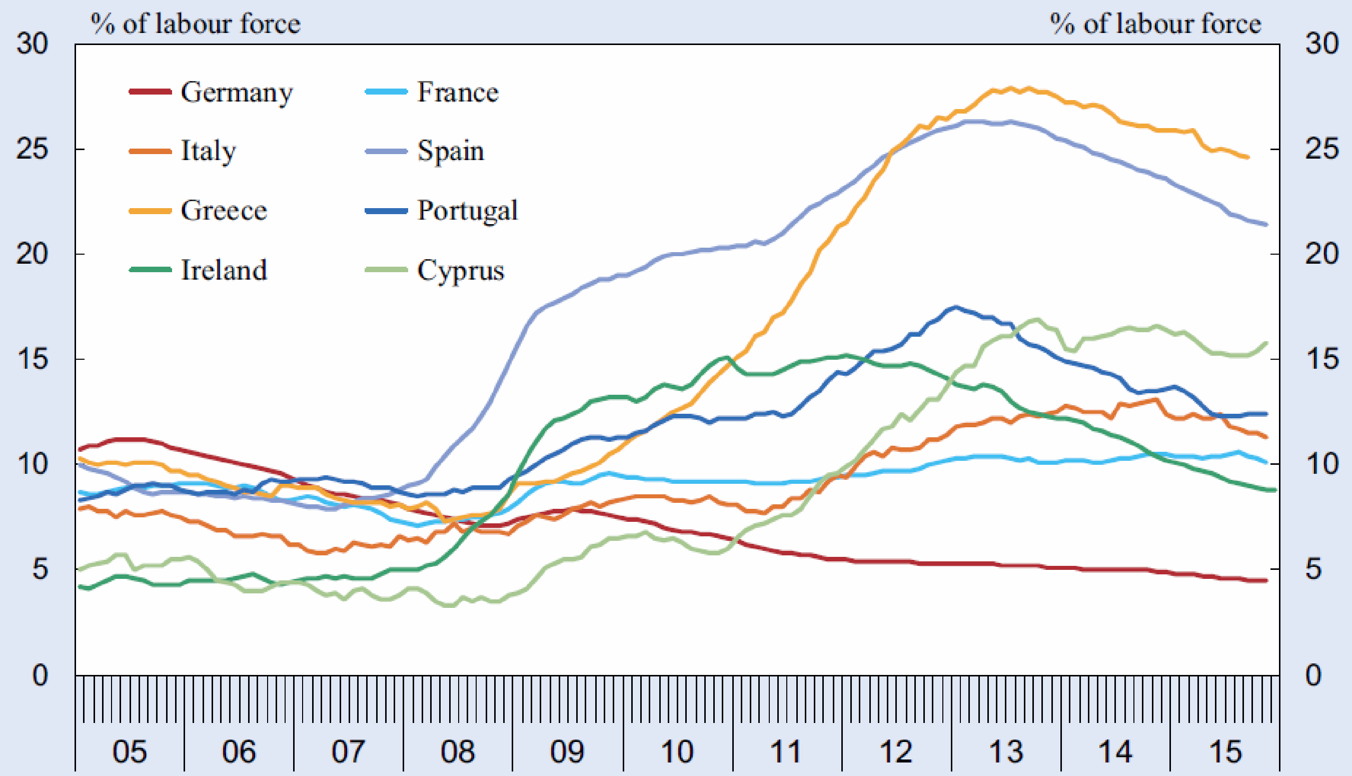
The evolution of unemployment in Greece



The Greek economic slump



Unemployment rates in selected euro area countries



Source: Eurostat, last accessed on 13 January 2016.

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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".**
- **Excessive deficit procedure should be opened against a country exceeding the deficit limit**
    - **Non-interest-bearing deposits of up to 0.5 per cent of GDP which can be transformed into fines**
    - **Escape clause allowing deficits above the ceiling in recessions (GDP falls or accumulated large negative output gaps)**

<u>EU fiscal rules were not applied</u>

- **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)**

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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: reluctance to use them
- Pecuniary sanctions worsen deficit problems
- Sanctions only in the case of violations of the 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**

<u>Summary of reforms</u>

- **Earlier and more graduated sanctions**
  - **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**

- **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**

- **Broader macroeconomic surveillance within the Macroeconomics Imbalance Procedure**
  - **Identify imbalances that can later cause excessive deficits**

<u>Summary of reforms, cont.</u>

- **This would take care of situations like the ones that occurred in Ireland and Spain (unsustainable booms, but no fiscal deficits, before the crisis)**

- **Banking union**
  - **Common bank supervision by the 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 in national law or constitutions)
- Balanced budget requirement is for the structural budget balance (the cyclically adjusted budget balance)
- No clear criteria in the Macroeconomic Imbalance Procedure
- Further steps necessary to complete the banking union
  - Common resolution mechanism
  - Common deposit insurance?
  - Common backstop (ESM)?

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 country can borrow to pay the fines and then have someone else pay?

<u>Political consensus on budget discipline and fiscal framework in Sweden</u>

- **Top-down budget process**
  - **Initial decision on overall government expenditures (27 expenditure areas)**
  - **After that a specific expenditure can be raised only if another one in the same area is reduced**
- **Fiscal surplus target of one per cent of GDP, (but the government now wants to revise the target to a balanced-budget target)**
  - **Over the business cycle**
- **Central government expenditure ceiling**
  - **Three years ahead**
- **Local government budget balance requirement**
- **Reformed pension system**
  - **Defined contributions instead of defined benefits**
  - **Benefits are adjusted automatically to contributions ("the brake")**
- **Monitoring institutions with substantial independence**
  - **Fiscal Policy Council (Finanspolitiska rådet)**
  - **National Institute for Economic Research (Konjunkturinstitutet)**
  - **Office for Budget Management (Ekonomistyrningsverket)**
  - **National Audit Office (Riksrevisionen)**
- **Government calculations of the annual scope for reforms**
  - **Amount of tax cuts and/or government expenditure increases consistent with surplus target**
- **Fiscal culture likely to be much more important than formal rules**
  - **Cf Greece and Sweden**

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Comparison between the Eurozone and Sweden

Europe

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

Sweden

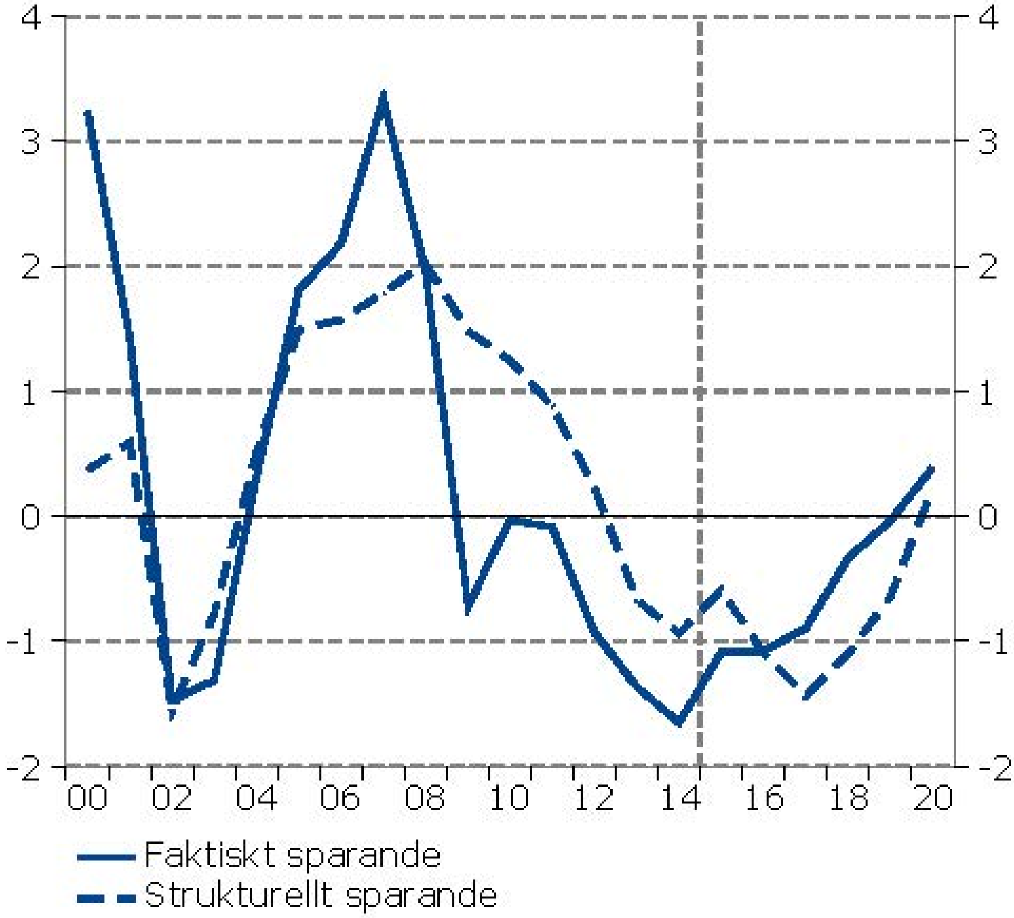
- Flexible rules
- No automatic correction mechanisms
- No sanctions
- Transparency and qualified public debate
    - information given and required by the government
    - monitoring institutions

Swedish Fiscal Framework under Threat

- The one-percent-of-GDP surplus target is not met
- Discussion of change to balance target
  - Proposal from the government
  - Government commission appointed
- But difficulties of achieving also such a target
- The structural fiscal balance deteriorates in 2016-2017 despite a boom
- A balanced budget first in 2020
- The credibility of fiscal objectives is jeopardized
- A risk that fiscal norms are no longer binding because they are not taken seriously

Diagram 110 Offentliga sektorns faktiska och strukturella finansiella sparande

Procent av BNP respektive potentiell BNP



Källor: SCB och Konjunkturinstitutet.

Independent fiscal institutions

- **Fiscal committees with decision-making powers**

- **Fiscal watchdogs or fiscal councils**

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<u>Earlier existing fiscal watchdogs</u>

- **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)**
- **Fiscal Policy Council in Australia (2012)**
- **Fiscal Policy Council in Slovakia (2012)**
- **Fiscal Policy Council in France (2013)**
- **Fiscal councils have been or are being set up in all eurozone countries according to commonly agreed principles**

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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**

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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 defence against politically motivated critique**

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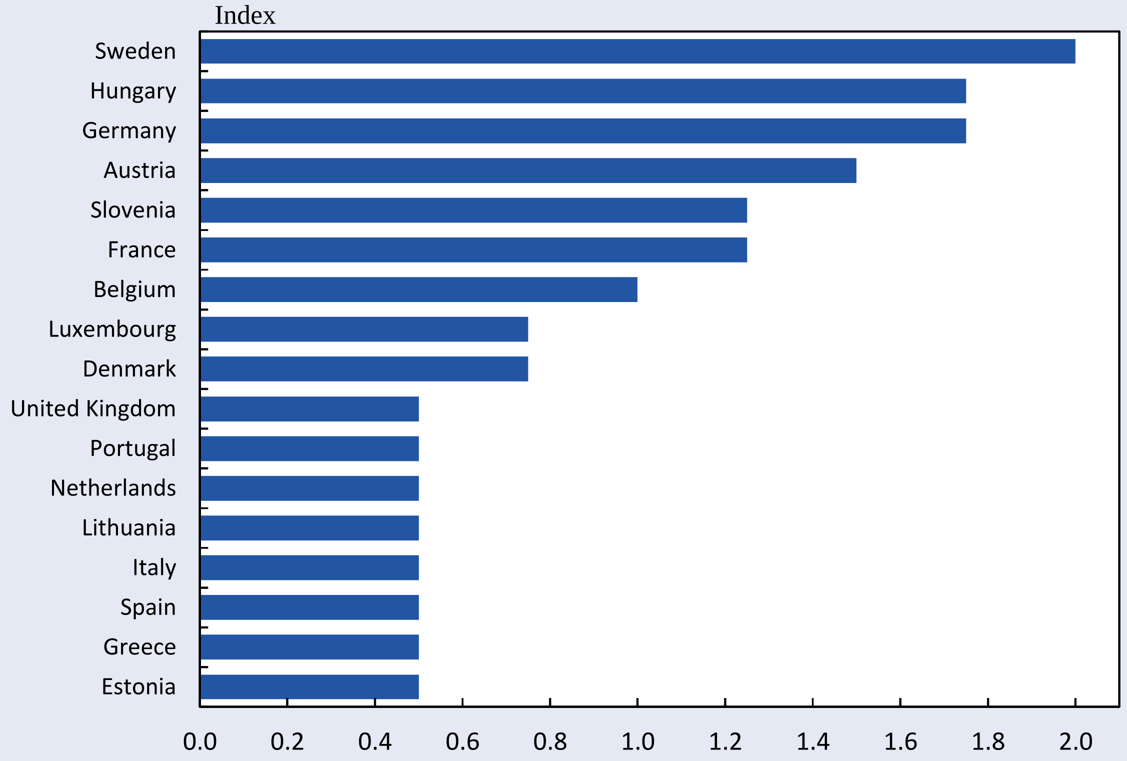
The strength of fiscal watchdogs in EU member states in 2009



Source: European Commission (2011).