# Fiscal policy coordination in the European Monetary Union

AP

Lecture

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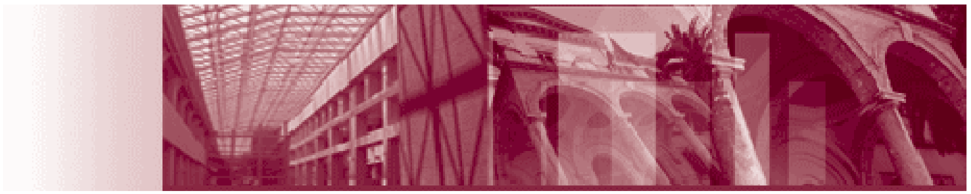

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# Plan of the lecture

- First part
  – The coordination problem.
  – Some game theory tools.
- Second part
  – Fiscal policies and the need of coordination.
  – The Growth and Stability Pact.
  – The debate on the coordination desirability: An example.

# Coordination

- Multi agents' interactions
    - Example 1: The market (prices).
    - Example 2: The crossroad (traffic lights, sunspots).
    - Example 3: International coordination in a Keynesian world (mutual externalities)
- Coordination is needed if there are some externalities.
    - *Positive* coordination (positive externalities)
    - *Negative* coordination (negative externalities)
- An additional issue: Multiple equilbria.

# Game theory: Tools

- The Nash equilibrium
- The anticipation effects

# The prisoner's dilemma

| Player 1 / Player 2 | **Player 1**<br>**N**ot confess | <br>**C**onfess |
|---|---|---|
| **Player 2**<br>**N**ot confess | –3 / –3 | –1 / –12 |
| **C**onfess | –12 / –1 | –**6** / –**6** |

- The Nash equilibrium **(C,C)** is Pareto inefficient: **(N,N)** is better. Failure of the first theorem of the welfare economics.

# The battle of sex

| Mary \ John | **John** Soccer | Ballet |
| --- | --- | --- |
| **Mary** Soccer | **10**, **5** | 0, 2 |
| Ballet | 2, 0 | **5**, **10** |

- Now there are two Nash equilibria **(S,S)** and **(B,B)**.
- The equilibria are not Pareto rankable.

# The crossroad problem

| Alpnso / Massa | **Massa** Pass | Stop |
|---|---|---|
| **Alonso** Pass | –100, –100 | **0**, **–5** |
| Stop | **–5**, **0** | –15, –15 |

- Again multiple equilibria.

# The anticipation effect

- Imagine that Mary moves first and that John can observe where Mary is going.
- Where does John go?
- What about Mary?

**The anticipation effect solves the coordination problem!!!!!**

- Think about the crossroad problem!!! (right of way)

# Beware from generalization

- Now imagine that the Ringo (the first prisoner) act first and that Bingo (the second prisoner) can observe him. What do they will decide?
- The solution (sub-game perfect Nash equilibrium) are fond by backward induction.

**Now the anticipation effect does not solve the coordination problem!!!!!**

# The inflation bias (1)

| ECB / Unions | **Unions**<br>**N**ot expand | <br>**E**xpand |
|---|---|---|
| **ECB**<br>**N**ot expand | 0 / –5 | –5 / 0 |
| **E**xpand | –5 / –15 | **0** / –**10** |

- Now the Nash equilibrium is **(E,E)**, but, once again, Failure of the first theorem of the welfare economics.

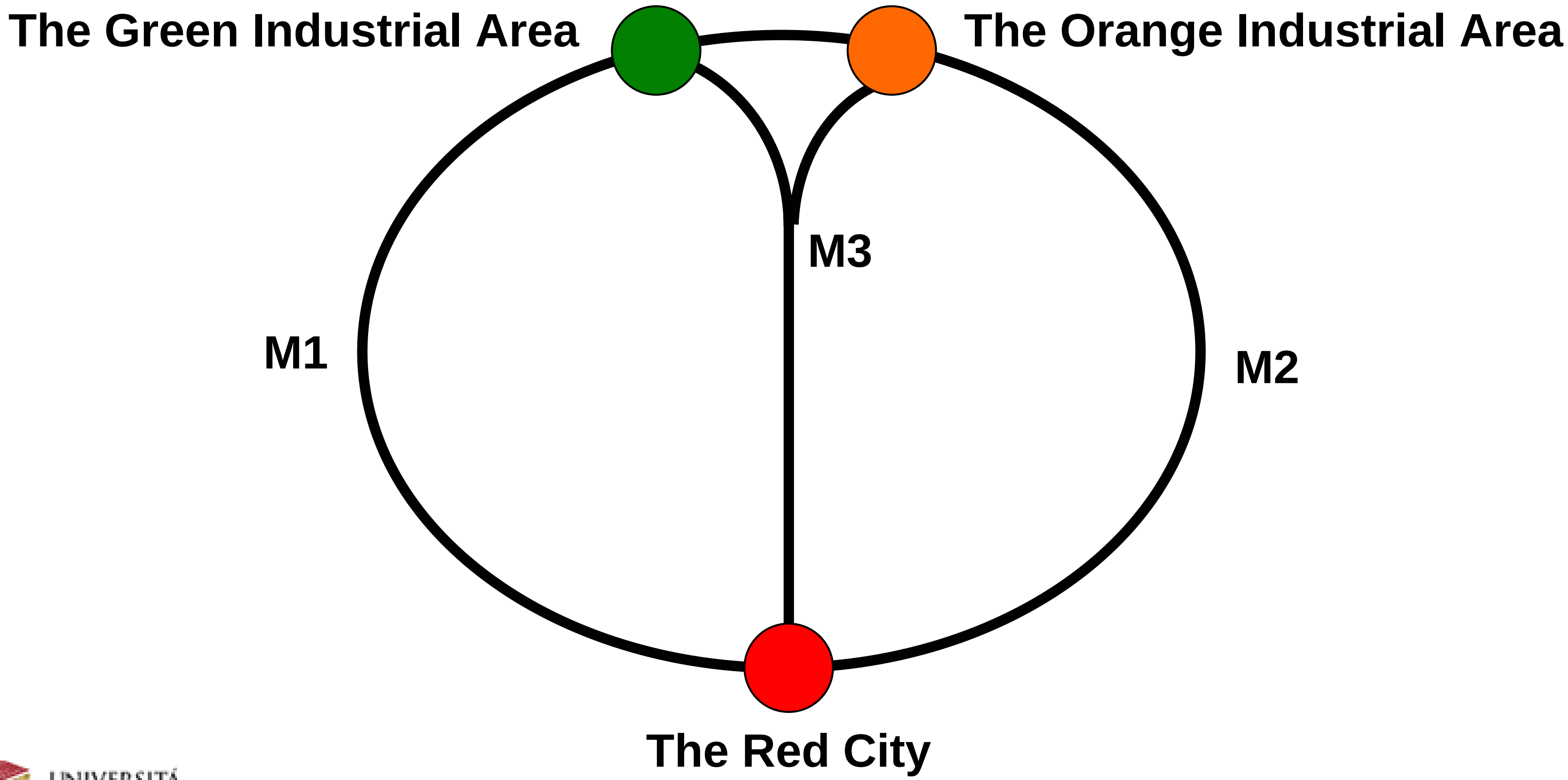
# Optimal policies (2)

| ECB \ Unions | Unions: Not expand | Unions: Expand |
|---|---|---|
| **ECB** Not expand | 0 / –5 | –5 / 0 |
| Expand | –5 / –15 | **0** / –**10** |

- If the union move first?
- If the ECB move first? (commitment)

# Coordination: A policy paradox

- Consider the following motorway map



# Fiscal policies: Two questions

- (a) Is fiscal policy needed in the EMU?
  - Discretionary vs. automatic fiscal policy.
- (b) Should the fiscal instruments be subjected to some form of collective control?
  - If yes, which?
  - The Stability and Growth Pact?

# (a) Is fiscal policy needed?

- In a monetary union, the fiscal instrument assumes greater importance:
  - the only macroeconomic policy instrument left at the national level
  - its effectiveness is increased (a result from the Mundell-Fleming model).
- A substitute to transfers.

# The answer mainly depends on

- How much the countries business cycles are synchronic, i.e. how much the shocks are asymmetric.
- How much the preferences are common across countries.
- The degree of labor market mobility and flexibility.

# ...and on its effectiveness

- The crucial role of private expectations:
  - A deficit today but a debt tomorrow: who will pay?
  - A tax cut, but how permanent?
- Slow implementation:
  - agreement within government;
  - agreement within parliament;
  - spending carried out by bureaucracy;
  - taxes not retroactive.
- Result: countercyclical moves can become pro-cyclical actions.

# The EMU as an OCA

| Criterion | Satisfied? |
|---|---|
| Labour mobility | No |
| Trade openness | Yes |
| Production diversification | Yes |
| Fiscal transfers | No |
| Homogeneity of preferences | Probably |
| Commonality of destiny | ? |

# Ricardian Equivalence (*)

- The Ricardian Equivalence is a fiscal policy ineffectiveness proposition.
- Consumers have rational (forward-looking) expectations about taxes:
  - They realize that a government tax cut today will necessitate a tax increase in the future (through the intertemporal government budget constraint given no changes in government expenditure)
  - Consumers experience increased income through the tax cut, but they decide to save it in order to pay the increased taxes in the future
- Conclusion: No effect on today's consumption from a tax cut

# (b) Fiscal policy coordination

- Should the fiscal instrument be subjected to some form of collective control in the EMU?
- The arguments for:
  - serious externalities
  - a bad track record, anyway.
- The arguments against:
  - the only remaining macroeconomic instrument
  - national governments know better the home scene.

# The general principles

- Two general arguments for collective action:
  - externalities
  - increasing returns.
- Two general arguments against collective action:
  - heterogeneity of preferences
  - information asymmetries.
- And a caveat:
  - governments may pursue own interests.

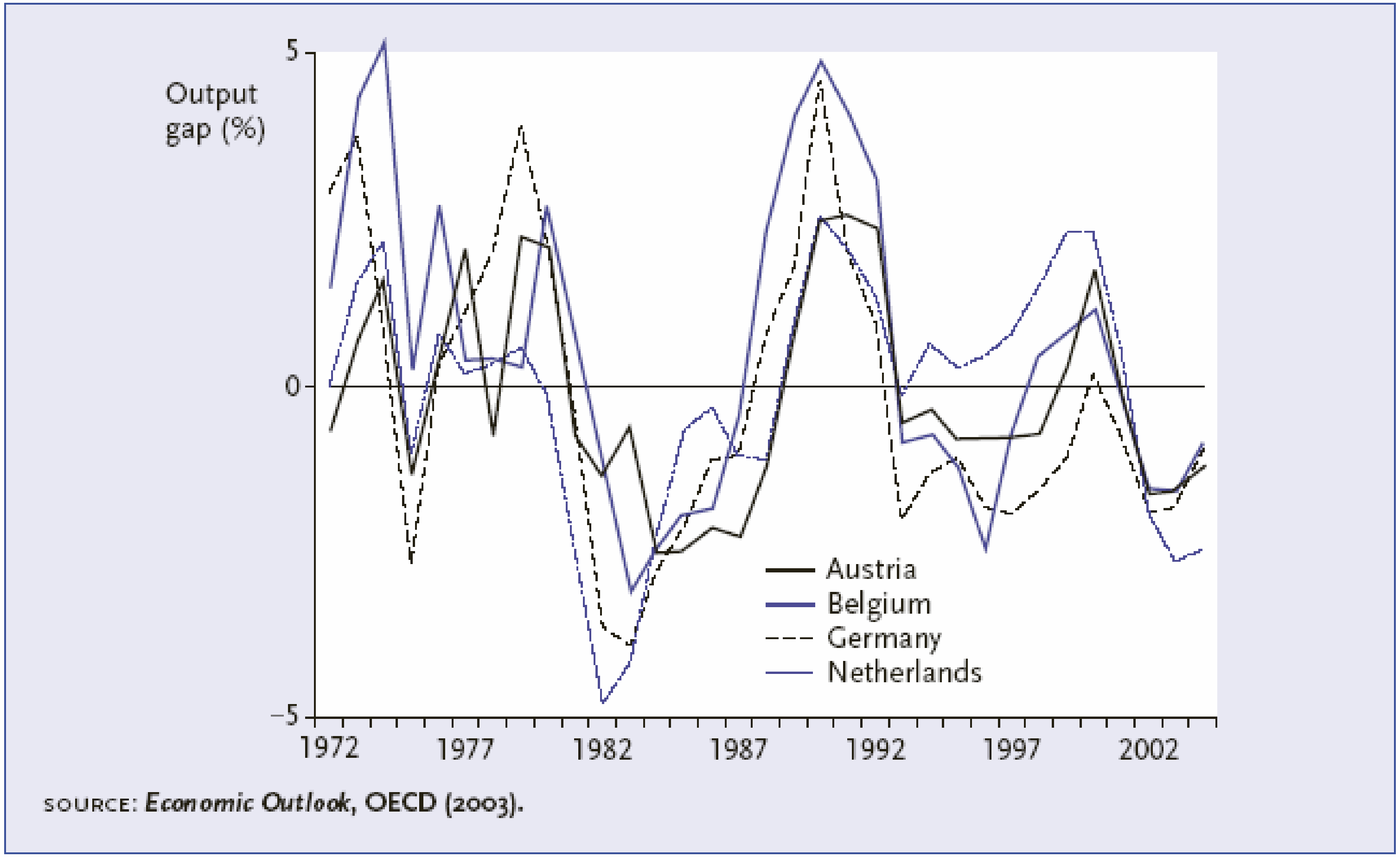
# Two important distinctions

- Distinction No. 1:
  - micro/structural aspects (tax and spending levels and structure)
  - macro aspects (the balance between tax revenues and spending).
- Distinction No. 2:
  - coordination: voluntary and flexible efforts at taking into account each other's action
  - binding commitments or rules.

# Trade classical argument

- Income externalities via trade (important and strengthened by monetary union).
- A prisoner dilemma problem: Each country wants the other ones support the growth.

# An example: Income spillovers




Income spillovers 1972-2004

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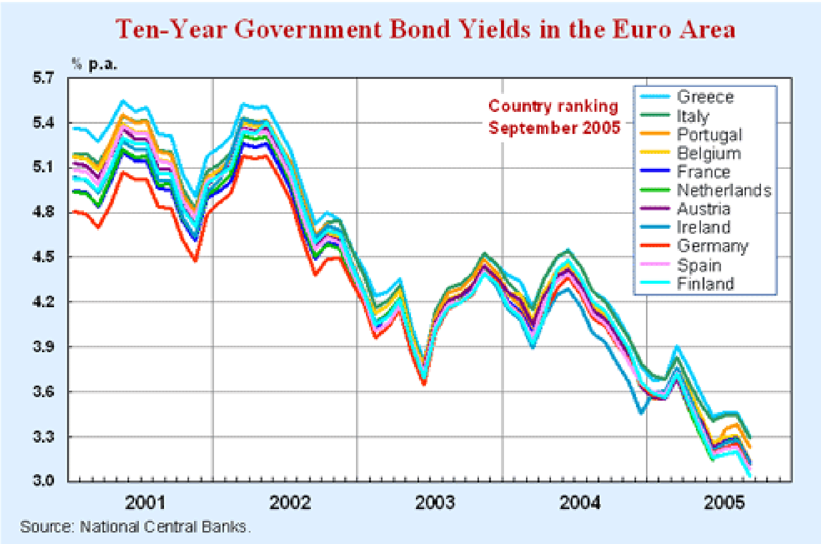
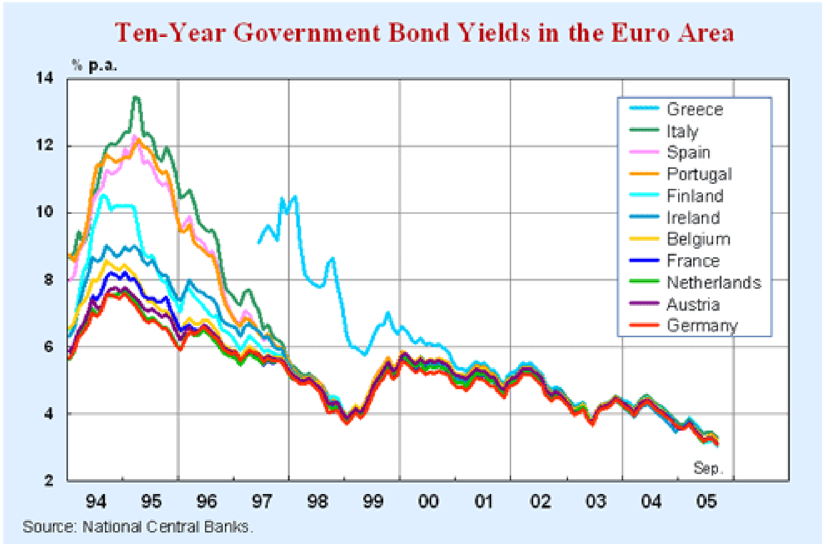
# Borrowing cost externalities

- One common interest rate




- But euro area integrated in world financial markets.

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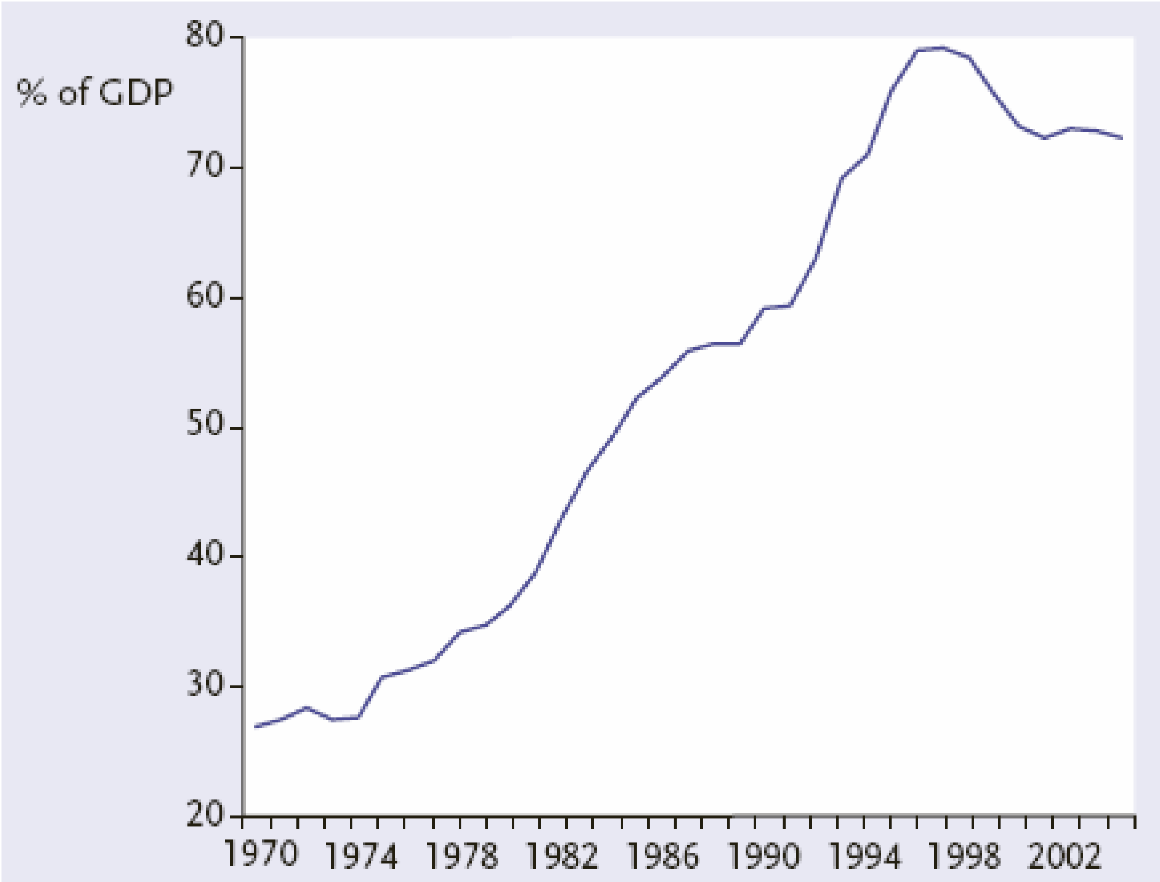
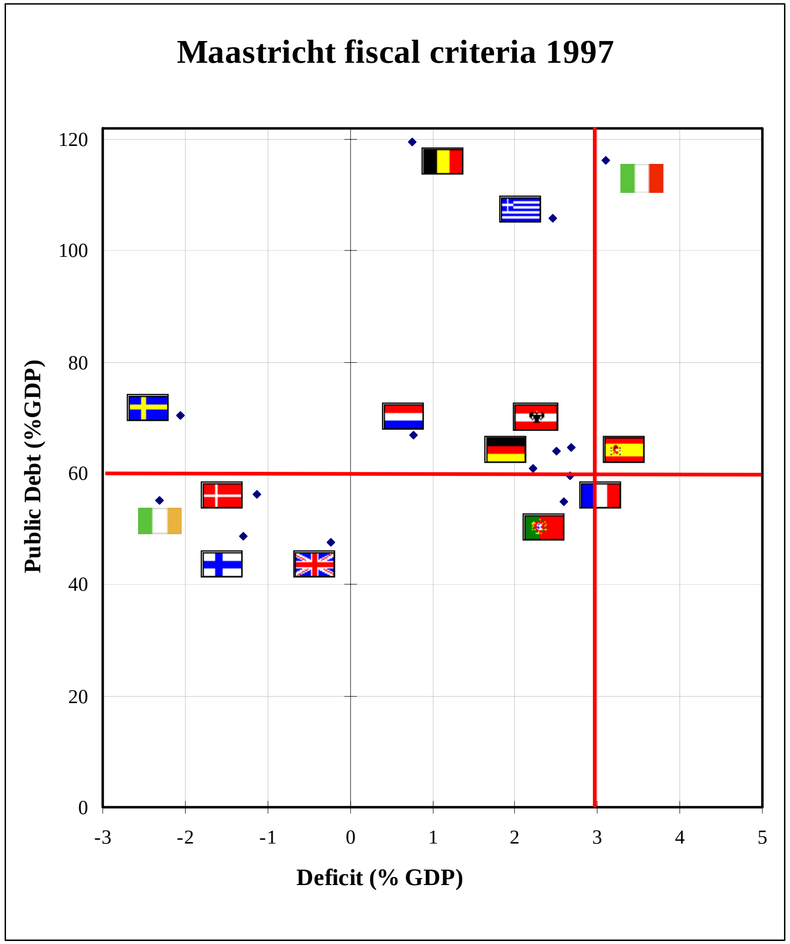
# The deficit bias

- The track record of EU countries is not good.



# Debt and deficit in 1997



# What is the problem?

- Fiscal indiscipline in parts of the euro area might concern financial markets and raise borrowing costs (unlikely, markets can distinguish among countries).
- More serious is the risk of default in one member country: capital outflows and a weak euro; pressure on other governments to help out; pressure on the euro-system to help out.

# The answer to default risk

- The no-bailout clause:

  Overdraft facilities or any other type of credit facility with the ECB or with the central banks of the Member States (hereinafter referred to as ‘national central banks’) in favour of Community institutions or bodies, central governments, regional, local or other public authorities, other bodies governed by public law, or public undertakings of Member States shall be prohibited, as shall the purchase directly from them by the ECB or national central banks of debt instruments. (Art. 101)

# The no bailout clause

- The no-bailout clause.
- Still, fears remain:
  - informal pressure
  - impact on euro.
- Prevention is better, especially given a tradition of indiscipline.

# The Stability and Growth Pact

- Formally, the implementation of the Excessive Deficit Procedure (EDP) mandated by the Maastricht Treaty.
- The EDP aims at preventing a relapse into fiscal indiscipline following entry in euro area.
- The EDP makes permanent the 3 per cent deficit and 60 per cent debt ceilings and foresees fines.
- The Pact codifies and formalizes the EDP.

# How the pact works

- Emphasis on the 3 per cent deficit ceiling.
- Recognition that the budget balance worsens with recessions:
  - exceptional circumstances when GDP falls by 2 per cent or more: automatic suspension of the EDP
  - when GDP falls by more than 0.75 per cent, country may apply for suspension.
- Precise procedure that goes from warnings to fining.

# The procedure

- When the 3 per cent ceiling is not respected:
  - the Commission submits a report to ECOFIN
  - ECOFIN decides whether the deficit is excessive
  - if so, ECOFIN issues recommendations with an associated deadline
  - the country must then take corrective action
  - failure to do so and return the deficit below 3 per cent triggers a recommendation by the Commission
  - ECOFIN decides whether to impose a fine
  - the whole procedure takes about two years.

# The Fine Schedule

- The fine starts at 0.2 per cent of GDP and rises by 0.1 per cent for each 1 per cent of excess deficit.

| Size of deficit (% of GDP) | Amount of fine (% of GDP) |
|---|---|
| 3% | 0.2% |
| 4% | 0.3% |
| 5% | 0.4% |
| 6% and above | 0.5% |

# How is the fine levied?

- The sum is retained from payments from the EU to the country (CAP, Structural and Cohesion Funds).
- The fine is imposed every year when the deficit exceeds 3 per cent.
- The fine is initially considered as a deposit:
  - if the deficit is corrected within two years, the deposit is returned
  - if it is not corrected within two years, the deposit is considered as a fine.

# The Broad Economic Policy Guidelines

- Emphasis on precautionary measures to avoid warnings and fines.
- The stability programs are embedded in the wider BEPG, a peer-monitoring process that includes the Lisbon strategy.
- Each year, each country presents its planned budget for the next three years, along with its growth assumptions.
- The Commission evaluates whether the submission is compatible with the Pact.

# Issues raised by the pact (1)

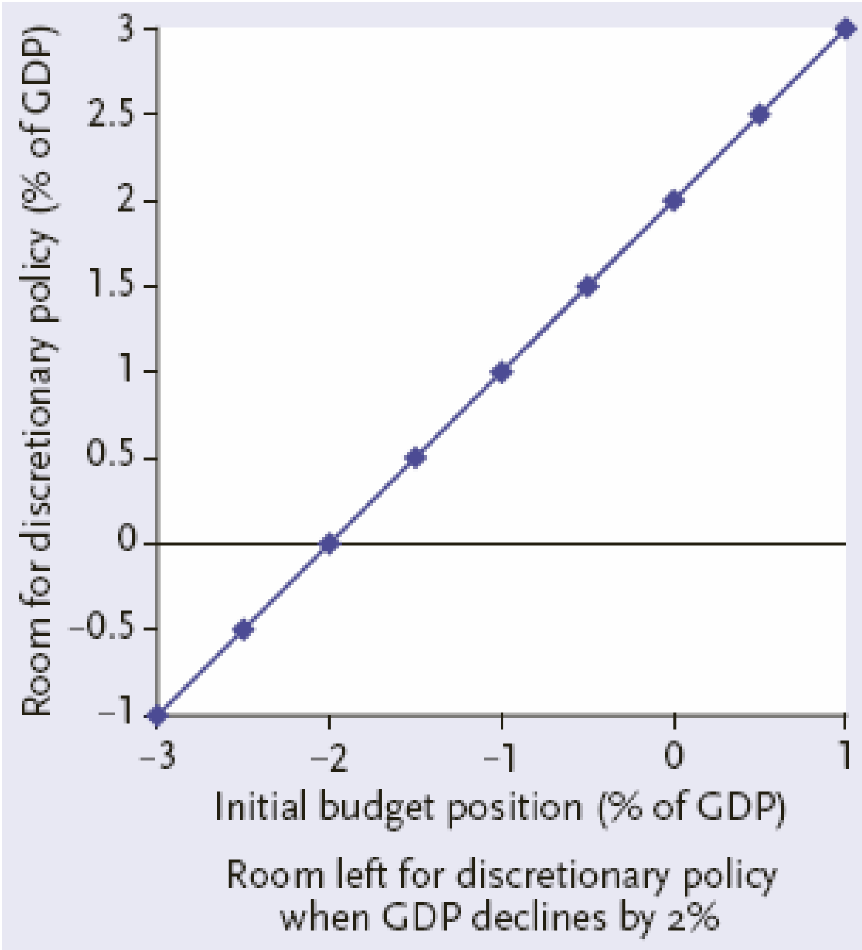
- The BEPG shift the focus to *ex ante* commitments:
  - led to the Irish warning (2001).
- Decisions are taken by the ECOFIN, a political grouping:
  - France and Germany treated leniently in 2003–4.
- Imposition of a fine can trigger deep resentment:
  - are fines credible?
  - if not, what is left?

# Issues raised by the pact (2)

- Does the Pact impose pro-cyclical fiscal policies?:
    - budgets deteriorate during economic slowdowns
    - reducing the deficit in a slowdown may further deepen the slowdown
    - a fine both worsens the deficit and has a pro-cyclical effect.
- The solution: a budget close to balance or in surplus in normal years.

# Issues raised by the pact (3)

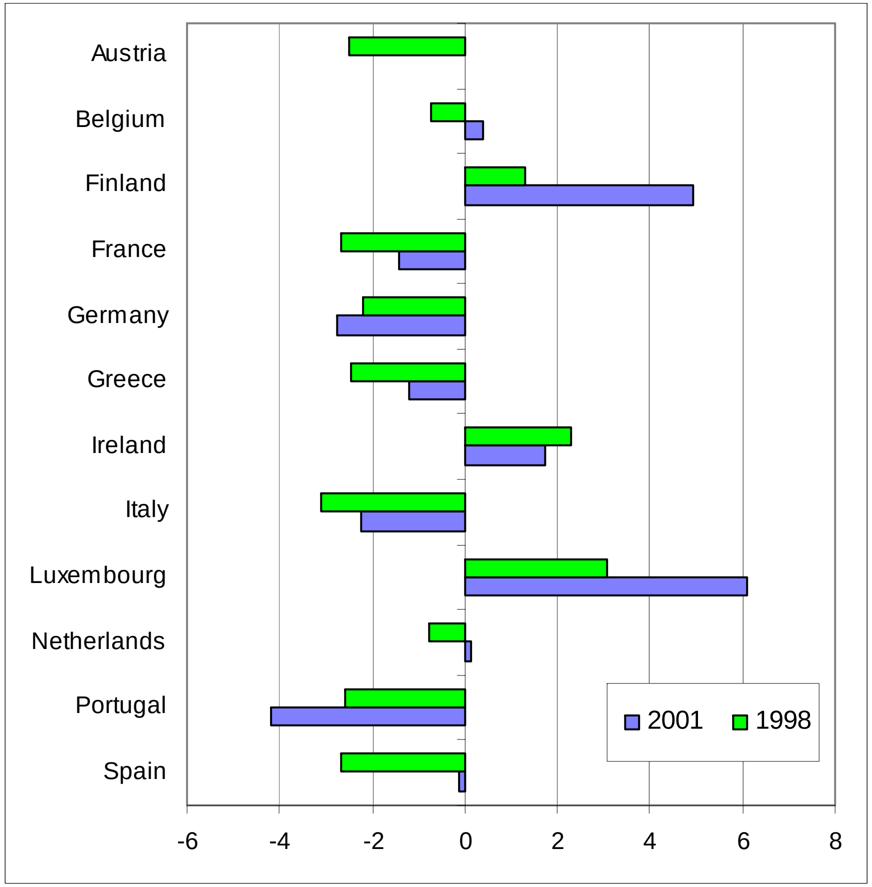
- What room left for fiscal policy?:
  - if budget in balance in normal years, plenty of room left for automatic stabilizers
  - some limited room left for discretion action.



# Issues raised by the pact (3)

- What room left for fiscal policy?:
  - if budget in balance or surplus in normal years, plenty of room left for automatic stabilizers
  - some limited room left for discretion action.
- In practice, the Pact encourages:
  - aiming at surpluses
  - giving up discretionary policy.
- The early years are hardest:
  - takes time to bring budgets to surplus.

# The early years (before slowdown)



# Further controversies

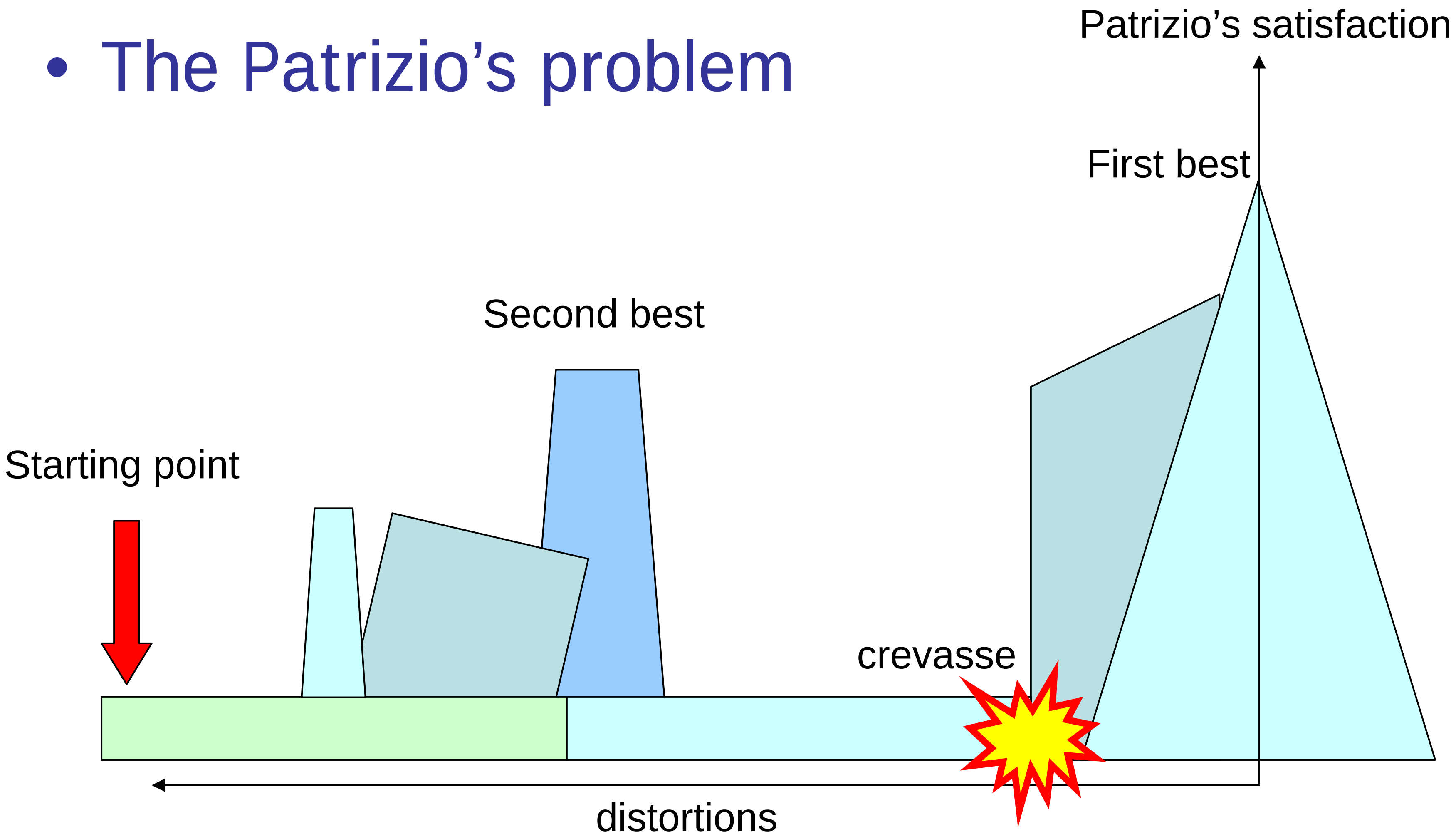
- Discipline imposed from outside:
  - a further erosion of sovereignty?
- Arbitrary limits:
  - why 3 per cent?
  - what about the debt celing of 60 per cent?
- Asymmetry:
  - the Pact binds in bad years only.
- A budget forever close to balance or in surplus would drive debt/GDP ratio to 0.

# Can coordination be counter-productive?

- The need of coordination emerges in presence of externalities, which imply distortions.
- However, if there are many distortions coordination may lead to more inefficient outcomes.
- Meade’s second best theory.

# The Meade's example

- The Patrizio's problem



# Counter-productive fiscal coordination in the EMU

- Beetsma and Bovenberg (1998) in *Journal of International Economics*.
- A simple expectations augmented Phillips curve.

$$y_i = Y_i + b\,(\pi - \pi^e) - t_i \qquad \text{(country } i\text{)}$$

- The model (sequence).
  - The private sector sets inflation expectations.
  - Fiscal authorities set public expenditure (it acts as a distortion).
  - A central bank (ECB) sets inflation.

# The sequence (anticipation)

- The ECB will attempt to stabilize the output, if fiscal policy does not do it, by rising inflation.
- Each fiscal authority anticipate this, i.e. if they do not stabilize the economy the central bank will do. So each government plays a more expansive fiscal policy (distortion) leaving the burden of stabilization to the ECB.
- However, the private sector anticipate the expansionary monetary policy and offset the effect of it on the real output as result output is excessively low and inflation is high.

# The inefficient equilibrium (1)

- Each fiscal authority anticipate that if it does not stabilize the economy the ECB will do, but
- national fiscal policymakers only partially anticipate the central bank's inflationary reaction to a tax rise because their decentralization.
- As result, if they cooperate, they will increase more the expenditure by fully perceiving the expected expansionary monetary policy.

# The inefficient equilibrium (2)

- If governments cooperate, fiscal authorities expect a central bank more active in its expansionary policy.
- Thus they expand fiscal policy more leading the economy in a rational expectation equilibrium with a low output and a high inflation.
- A conservative ECB is thus optimal since it will not stabilize the output and fiscal authorities are force to do it by themselves.

# The end of the story?

- Introduce an additional distortion by considering endogenous labor markets.
- Expectations augmented Phillips curve modified.

$$y_i = Y_i + b\,(\pi - \pi^e) - t_i - w_i \text{ (country } i\text{)}$$

- The model (sequence).
  - The private sector sets inflation expectations.
  - A trade union fixes labor distortions.
  - Fiscal authorities set public expenditure.
  - A central bank (ECB) sets inflation.

# A reverse argument (1)

- Acocella, Di Bartolomeo and Tirelli (Patrizio, the rock climber) in *Economics Letters* (2007).
- Unions set a labor distortion that increases unemployment but also real wages.
- Foundations: monopoly union, right-to-manage models.

# A reverse argument (2)

- Note that for the union the cost of rising real wages are higher if unemployment is high.
- This reverse the previous argument as far as fiscal coordination leads to low output, the unions will set lower wage distortions if they known that fiscal policy is centralized since they anticipate, all the rest equal, a lower output than that of the decentralized equilibrium.
- Unions internalize the fact that monetary policy is not effective.

# In the end

- The policy coordination problem
  - Sources of inefficiency
  - Eventual needs of positive or negative coordination
- The controversial answer
  - The need and the way depend on the sources of inefficacy (thus externalities)
  - In the EMU a coordination is needed, which one is less clear

# Some references


- Baldwin R. and R. Wyplosz (2004), **The Economics of European Integration**, **McGraw-Hill**, Meidenhead.

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- Acocella N. and G. Di Bartolomeo (2006), **European economic institutions: Stability or growth oriented?**, **Acta Oeconomica**, 57: 35-65.

# Thank you!!!


IL GENIO DELLA BIRRA
STRAP
AAH.. UNA BELLA BIRRETTA FRESCA DOPO UNA DURA GIORNATA DI LAVOR...
CAVEZZALI