

Loise JEANNIN

M2 PPD

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Environmental Taxes in the EU

Outlines

- I Definition, purpose and trends in the EU
- II The Energy ITR
- III Have green tax reforms had any visible impact on the energy intensity of GDP?
- IV The EU harmonisation and the carbon tax debate

I Definition of Environmental Taxes: 3 sub-groups

- **Energy taxes**
 - Transport fuel taxes: petrol, diesel
 - Stationary use: fuel oils, natural gas, coal and electricity
 - CO₂ taxes (not in pollution tax bcse not separable from energy taxes)
- **Transport taxes= vehicles ownership taxes**
 - one-off taxes related to imports or sales
 - recurrent taxes such as an annual road tax
- **Pollution/resource taxes**
 - taxes on measured or estimated emissions to air and water, management of solid waste and noise
 - Tax the use of a natural resource

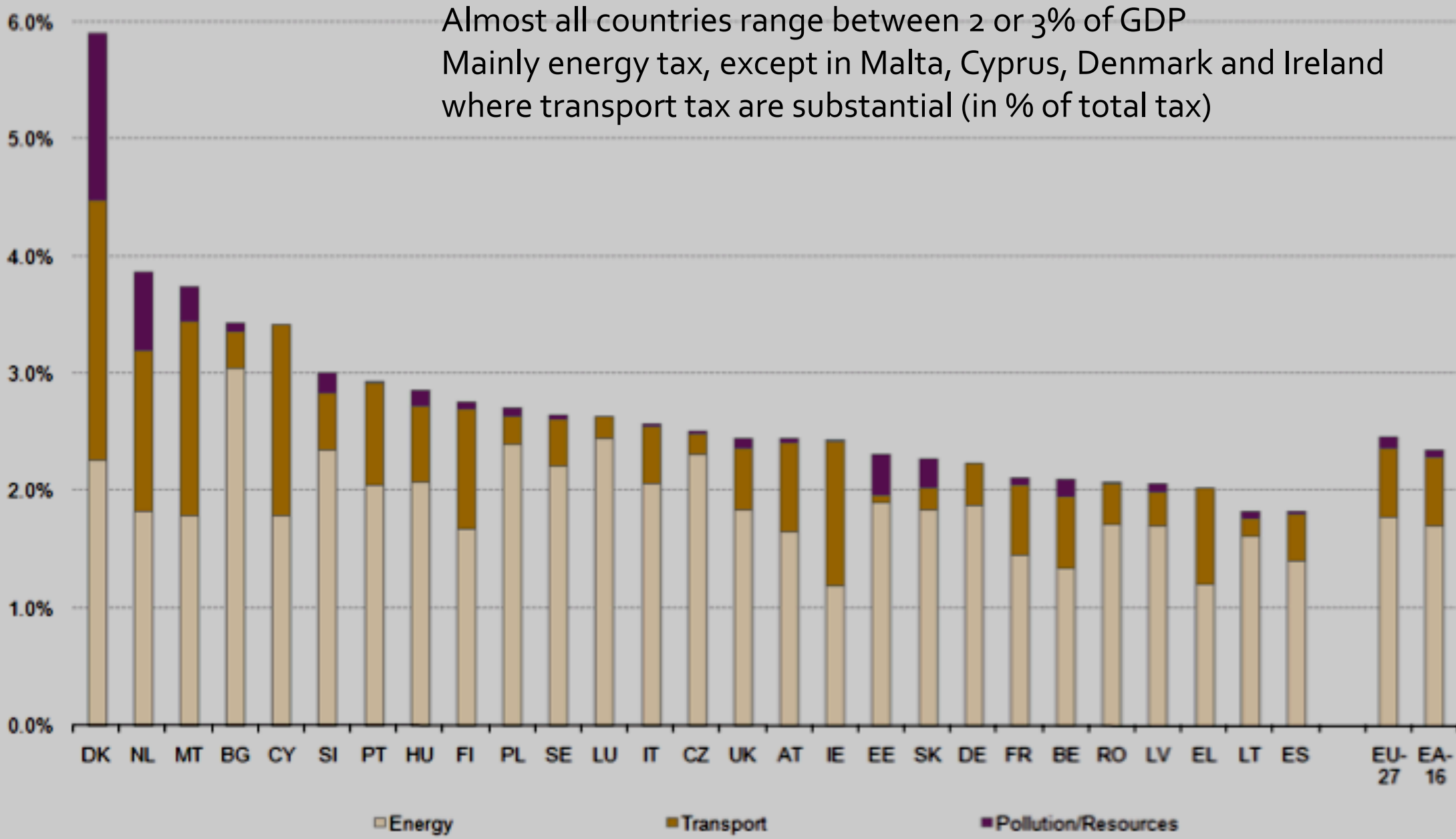
Purposes

- **Increase revenues** to finance social policies. Energy taxes were originally used purely as revenue raising instruments, without environmental purposes
 - **Substitution:** Reduction in labour or income taxes.
 - **Efficiency:** incentives to save energy or to reduce pollution: make prices reflect the real costs for society.
- debate on the « Double Dividend » (improve efficiency and reduce the tax burden on labour)

Relative size of each tax source

- In environmental tax receipts= 302,9 bn € (2007)
 - **Energy** = 75% including transport fuel tax = 80% (OM) to 90 % (NM) (electricity/ gas benefit from exemptions or small taxation rate)
 - **Transport** < 25%
 - **Resource/pollution** = 4% (marginal role)
- In total taxes and social contributions= 4,908 bn € (2007)
 - **Energy**= 4,5%
 - **Transport**= 1,5%
 - **Resource/pollution** = 0,2%
 - **Total**= 6,2%

Graph II-5.1 Environmental tax revenues by Member States and type of tax
 2007, in % of GDP, weighted averages



Source: Commission services

Heterogeneity among EU

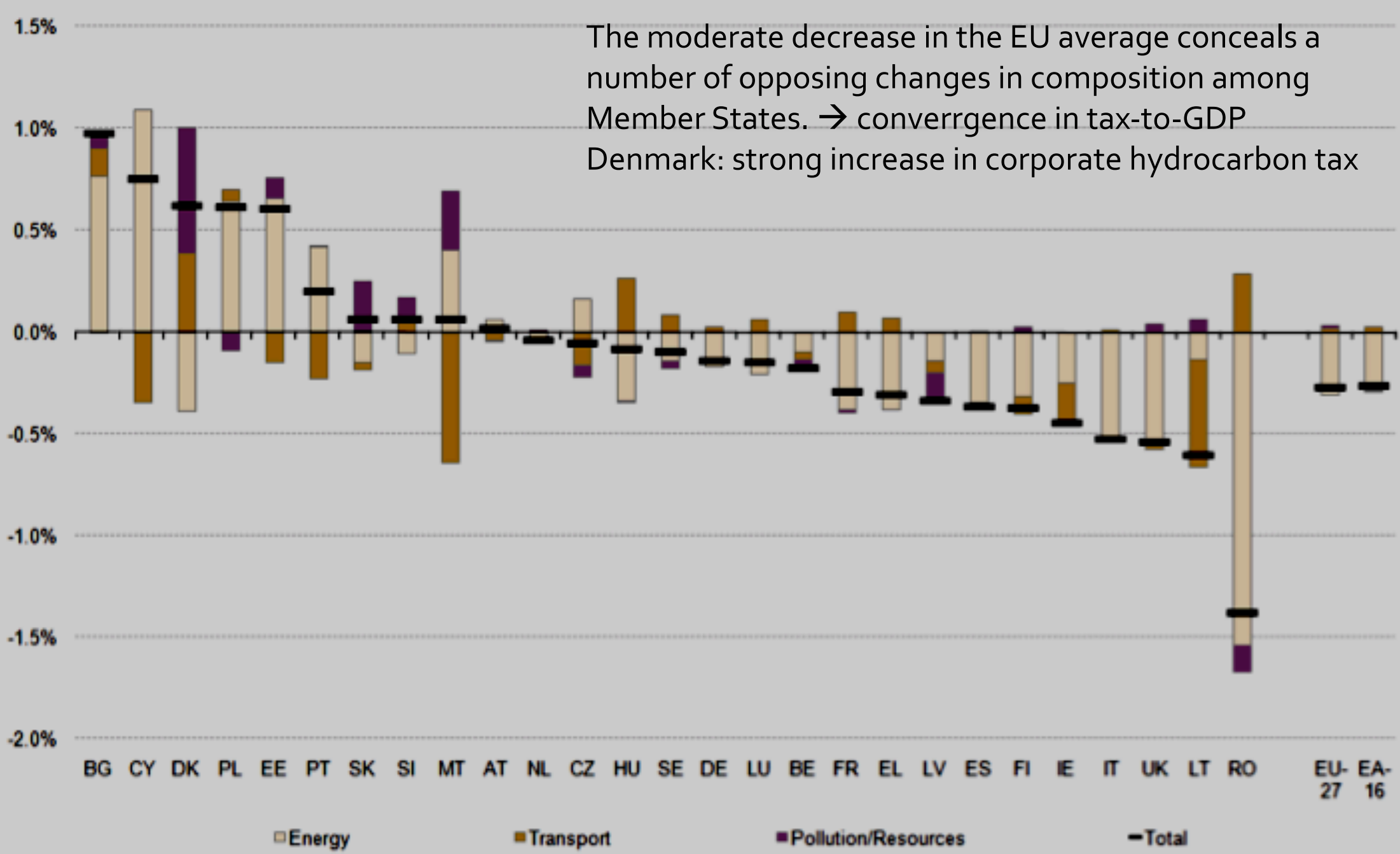
- A long term increase (1980-2007) but a short term decrease (1997-2007) in % GDP.

year	In % weighted GDP	In % total tax receipts
1980	0,5	-
1999	2,8	7
2007	2,5	6,2

- New members differ from old countries in EU.
- EU15: sharp increase between 90 and 94
- New members: sharp increase around 2004, with taxes higher than strictly required.
- Since 1999, environmental tax revenues (in the weighted average) have decreased both in relation to GDP and as a share of total taxation (by – 0.3 % and – 0.8 % respectively).
- Still an increase in small countries: Denmark, Belgium, Cyprus

Graph II-5.2 Evolution of the structure of environmental taxes

2000–2007, differences in % of GDP, weighted averages



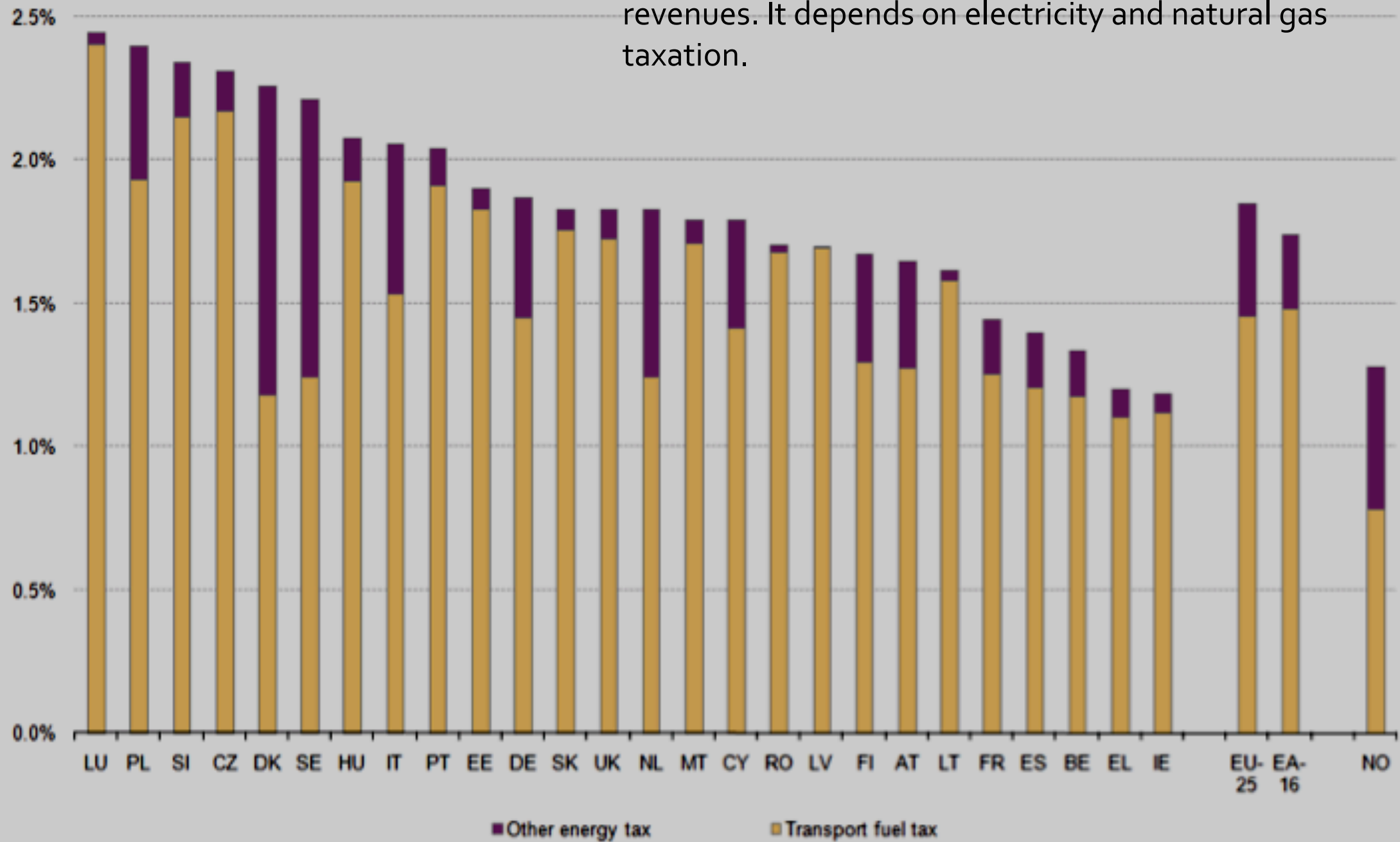
Convergence in taxation rate and homogeneisation

- Minimum tax rates for fuel, electricity and natural gas are set by the **Energy Tax Directive** (2003/96/EC). The highest floor is for fuel.
- Differences in the taxation of natural gas and electricity still persist (country derogations)
- The shares are relatively stable over time within countries → decomposition of Energy Taxes

Graph II-5.3 Energy tax revenues by Member States

2007, in % of GDP

Fuel taxes shares spread from 50 to 90% of energy tax revenues. It depends on electricity and natural gas taxation.



Evolution of environmental tax revenues

A tendency to decrease in % GDP : Why?

- Nominal tax per unit of consumption (not indexed on inflation except in Denmark)
- If disincentive is efficient, adaptation of behaviours → erosion of tax base
- Energy budget share decreases with growth
- Increase in energy prices leads to a decrease in quantity consumed.
- Gvt =reluctant to increase tax : costly
- other mechanism may be substitute for some purpose EU CO₂ emission permit, road duties (not encountered in taxation) → **IMPLICIT TAX RATE**

II Implicit Tax rate for energy

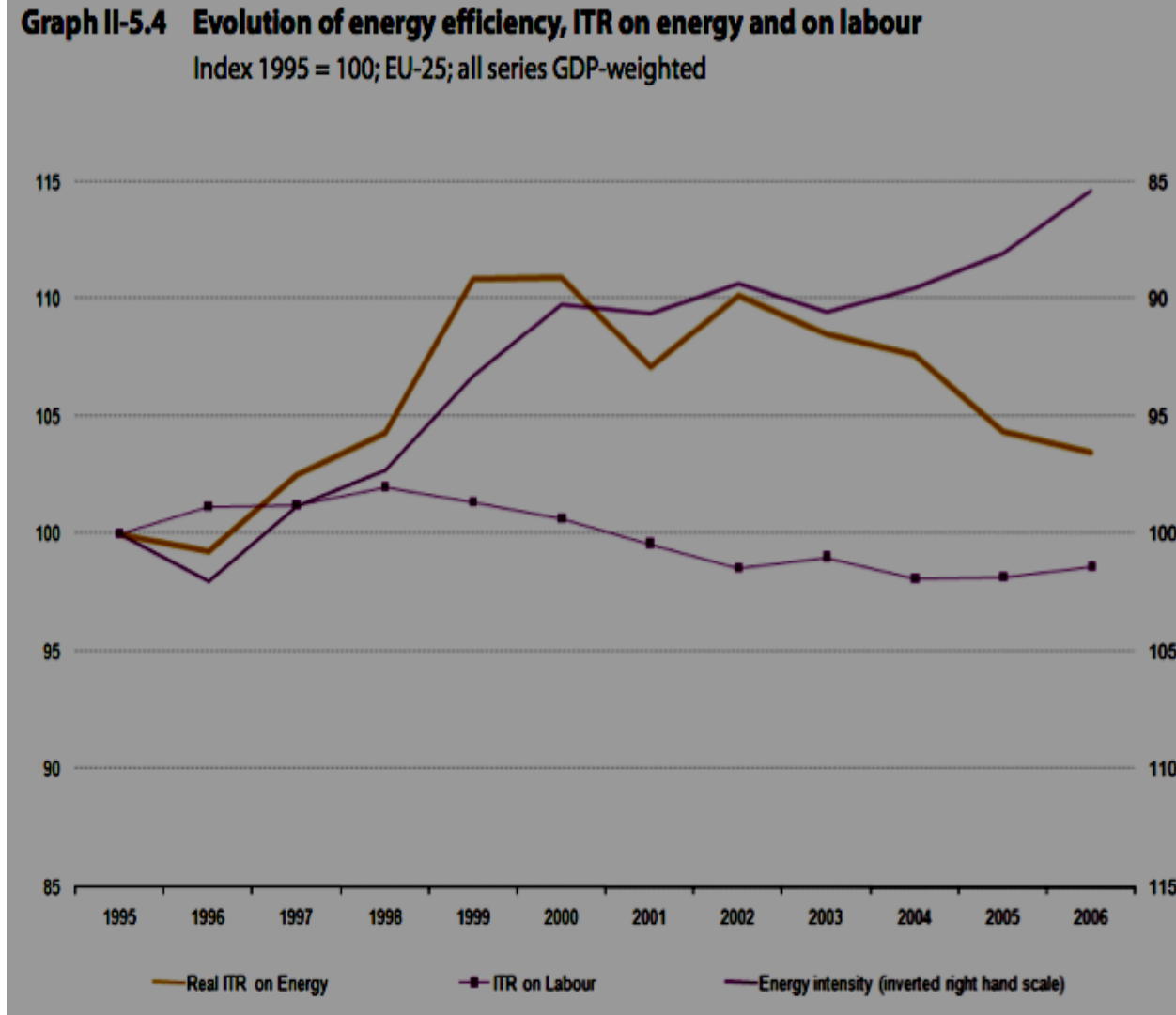
- Difficult to build → mainly for energy
- **Which denominator?**
 - Final energy consumption aggregating different energy sources on the basis of each source's net calorific value, expressed in tonnes of oil equivalent
- **Which numerator?**
 - the revenue from all energy taxes
- Different from ITRs on labour, consumption, and capital = dimensional numbers while the ITR on energy is expressed in **euro per tonne of oil equivalent.**
- **Real ITR** by taking into account inflation (ex: a constant nominal ratio is equal to a decrease in real term)
→ An average decrease of real ITR in weighted EU average

Critic of the Implicit Tax Rate

- Comparison remains difficult because a low ITR may have 2 different significations:
 - Low environmental taxation
 - High taxation of pollutant energy and shift of consumption towards green renewable energy which are hardly taxed.
- A country with a large share of renewable energy will have a lower ITR on energy than one which relies largely on carbon-based energy sources.

III Have green tax reforms had any visible impact on the energy intensity of GDP?

- Yes until 2003 on average
- Unclear starting from 2003
- No reduction of Labour ITR with the increase of Energy ITR
- But, diverging trends are summarized in mean here → observe inverse relationship Germany, Estonia, Ireland, Lithuania, the Netherlands, Slovakia and Sweden (2000-2007)



IV The EU Harmonisation and the carbon Tax Debate

- Environmental tax= 2,5% GDP and 6,2% of total taxes,
- Adopting a normative view, should we increase it? In which purpose?
- The “greenest” countries already have a carbon tax: Sweden, Finland, the Netherlands, Denmark
- **Harmonization among EU members:** the carbon tax debate (would be included in energy tax)
 - At the frontier
 - Same tax rate for all: A reform of the Directive on Energy taxation is supported by the actual Tax Commissioner: New tax Base: depending on CO₂ emission per tonne but also on energy content of fuels.

Carbon Tax in France

- **Contribution Climat Energie** (Rocard report) to give incentives to consume environmentally-friendly energy, with lump-sum compensation for households (37€ for singles, 100€ for a four-person family, only for the 60/70% the poorest, those living out of a “public transport system” will receive 20€ more).
- A predictable evolution of taxation to allow household and firms to adapt: evolution from 32€/ton of CO₂ until 100€ in 2030 (Quinet Report).
- But brought back to 17 €.
- Taxation of all energy and fuels (with reduction for wood sector) → Supported by both households and firms but real tax incidence?
- Bring about 8 to 9 bn
- Rejected by the Constitutional Council because it will exclude the more polluting firms until 2013 (those which are submitted to the EU CO₂ emission trading system)

Conclusion

- 2,5% + tendency to fall
- 6,2%
- Harmonisation: tax rate and/or tax base
- Creation of carbon tax at the frontier ?

Thank you !!!

Références:

- Taxation trends in the European Union Data for the EU Member States and Norway, 2009 edition
- Rapport Rocard
- site EUROPA