
Urban sprawl and climate change: a statistical exploration of cause and effect, with policy options for the EU

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The speaker is presenting his own private views and not the official position of the European Commission

Background

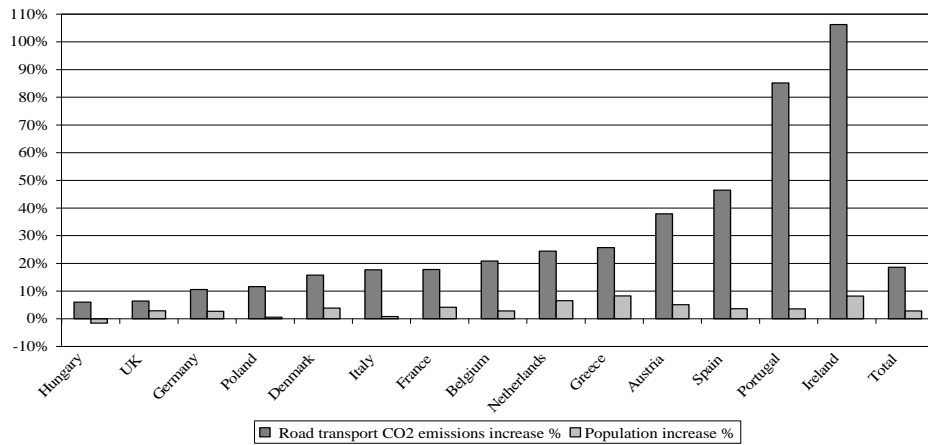
- Transport CO2 emissions are increasing (by 2010 it will reach 27% above 1990 levels)
 - People travel greater distances
 - Number of cars increasing
 - Amount of goods transported is increasing
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What is the cause of this increase?

- Growth of population?
 - Growth of GDP?
 - Sprawling of human settlements?
 - The study compares % changes between these factors and road transport CO2 emissions in EU Member States between 1990 and 2000
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Population vs. road transport CO2

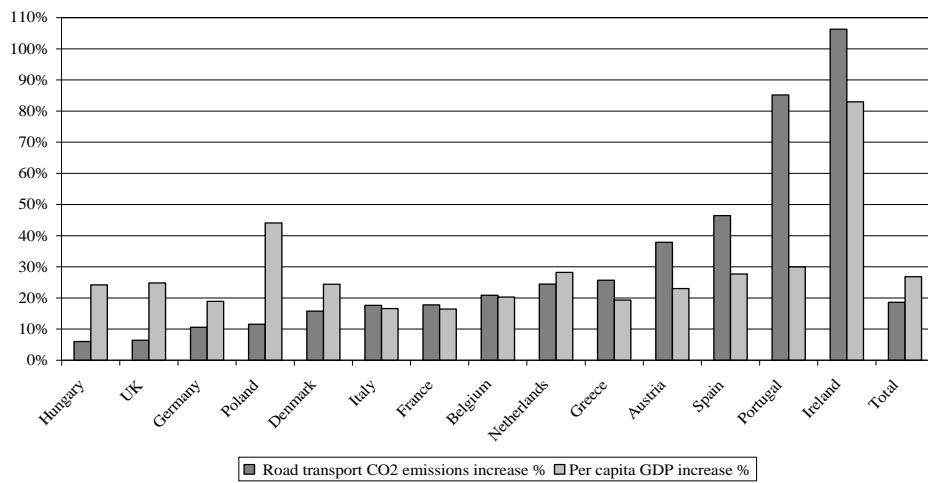
Figure 2: Comparison of road transport CO2 emissions increase and population increase between 1990 and 2000



■ No significant correlation

GDP vs. road transport CO2

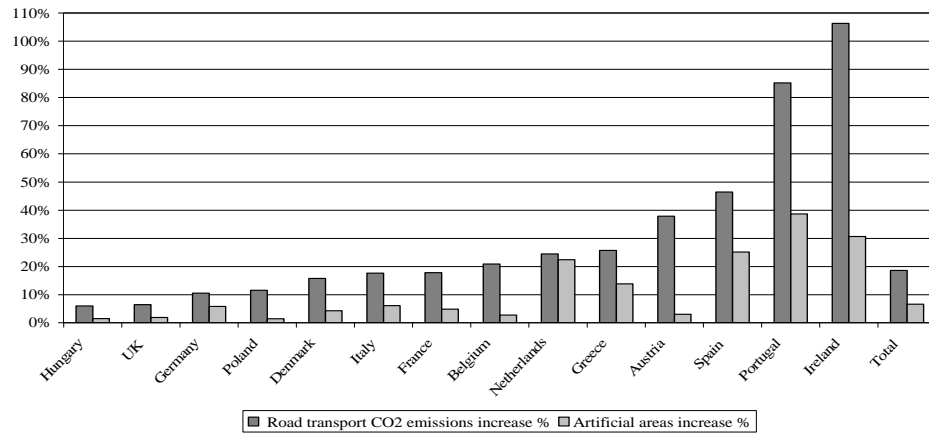
Figure 4: Comparison of road transport CO2 emissions increase and GDP increase between 1990 and 2000



■ Some correlation (t-value: 2.9)

Land use change vs. road transport CO2

Figure 5: Comparison of road transport CO2 emissions increase and artificial areas increase between 1990 and 2000



- Strong correlation (t-value: 5)
- Based on CORINE Land Cover Database

Conclusion

- Sprawl is a stronger driver of increased transport CO2 than population or GDP
- Sprawl is NOT inevitable – you can have growth without sprawl!
- Urban planning makes a big difference – compare Netherlands and Portugal
- Countries with weak regulatory framework will get sprawl and increased emissions

What should be done?

- We cannot rely only on cities being proactive – national (or better, EU-level) action is needed to force ALL municipalities to control sprawl

 - Central regulation should not be prescriptive but should set limits and targets for municipalities
 - Public transport minimum requirements
 - Mandatory Urban Transport Plans
 - emissions trading for municipalities

 - EU is limited by the Constitution to take measures on “Land Use”, but could have environmental measures
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