



Energy Economic Developments in Europe

European Commission - DG ECFIN

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http://ec.europa.eu/economy_finance/publications/european_economy/2014/energy-economic-developments-in-europe_en.htm

Background

- *2030 Framework on Energy and Climate change*
- *Report on energy prices and costs – May European Council Conclusions*
- *Discussions in the EPC WG on climate change and energy (May and November 2013)*

Objective of our analysis

- *Provide analysis and evidence for the economic impact of energy developments in the EU and Member States*
- *Contribute to discussions about economic aspects of energy and climate policies*
 - On lessons learnt
 - On how best these policies can contribute to fostering the transition to low carbon economies



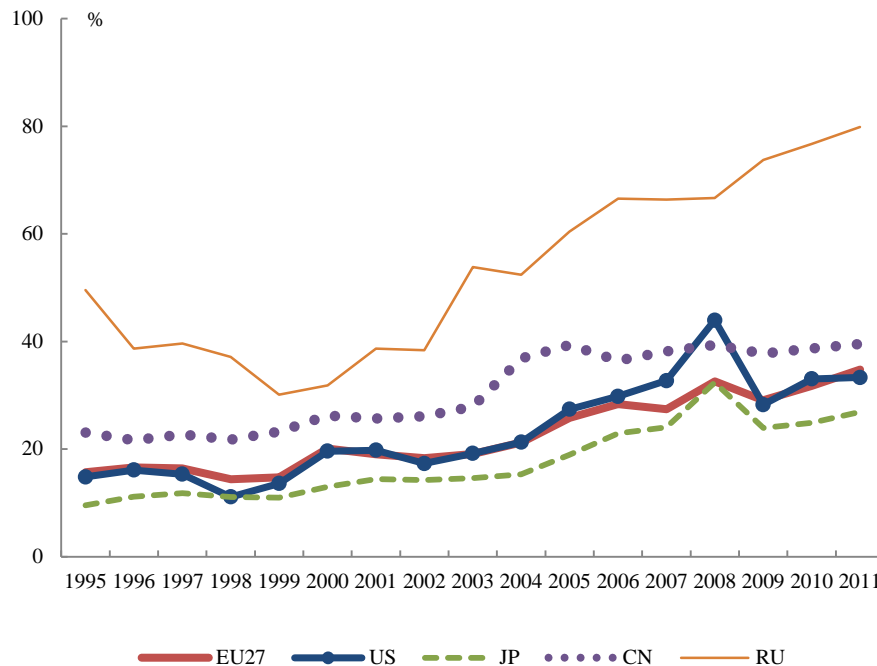
Outline

- Part I - Competitiveness:
 - Unit Energy costs in Europe, Member States and international partners.
 - Recent developments: shale gas in the US and impacts on the EU.
- Part II - Price drivers:
 - Electricity and Natural Gas price drivers
 - Carbon price drivers
- Part III - Renewable developments:
 - Renewables developments in the EU and the world
 - Drivers to trade in renewable equipment
 - Avoided fuel costs

Energy Cost Competitiveness in Manufacturing: where do we stand?

Unit Energy Costs in industry: global comparison

Real Unit Energy Costs as % of value added,
manufacturing sector

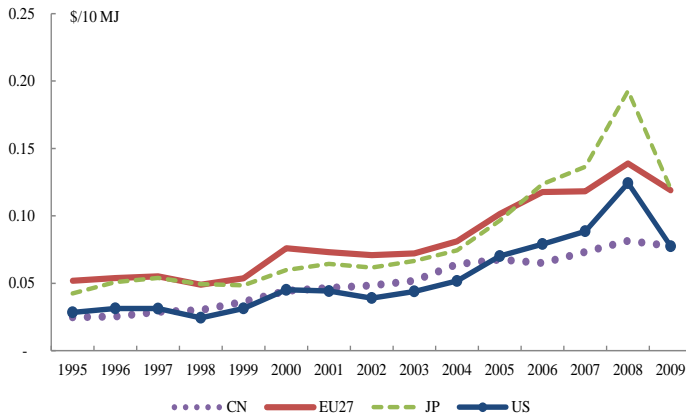


- Energy costs have been on an **increasing trend** in both the EU and the rest of the world since 1995
- Energy costs as % of valued added of the EU manufacturing sector is among the **lowest in the world**

Source: European Economy (2014) 1

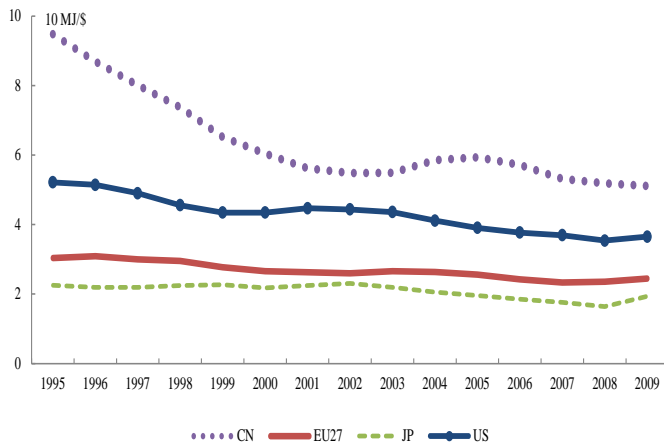
Drivers of energy cost competitiveness: a decomposition of unit energy costs

Real Energy Price Levels

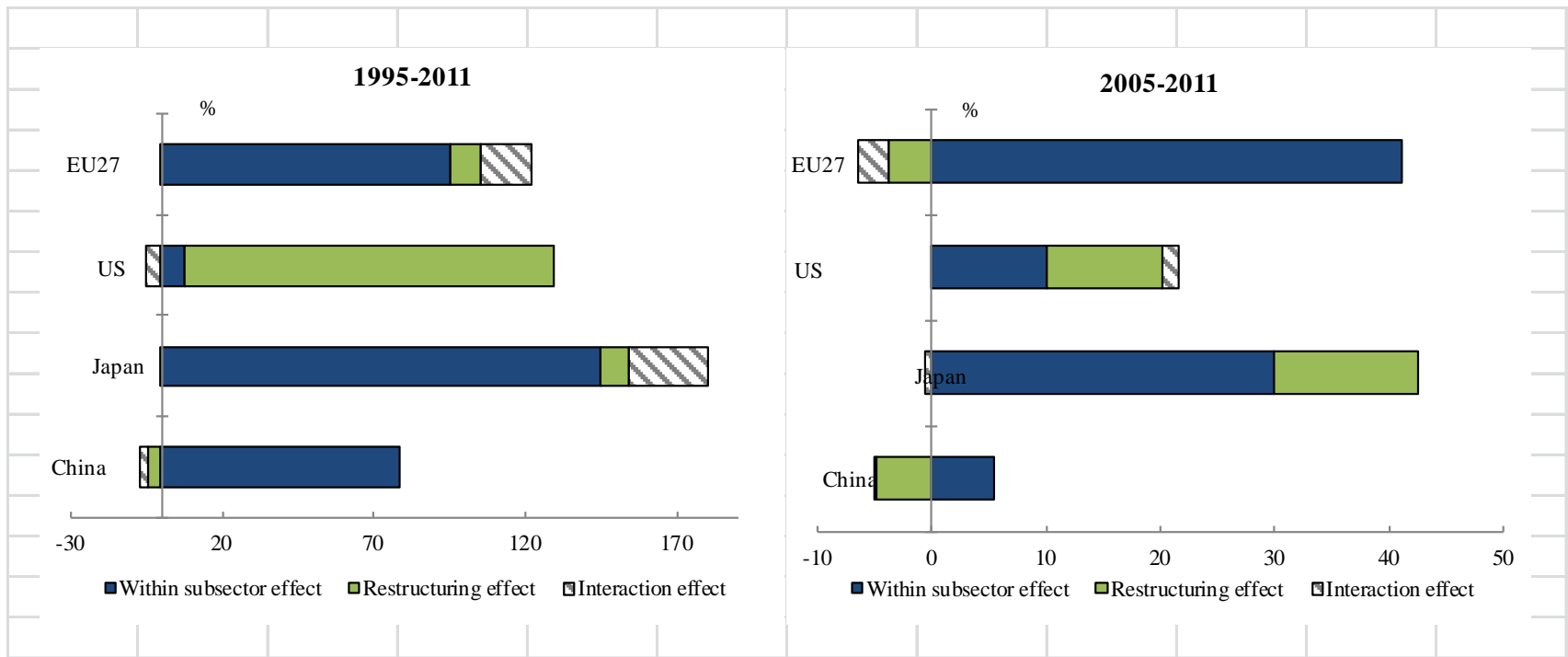


- The price of energy in the EU (and Japan) is among the highest in a global comparison
- EU manufacturing has adapted to high prices by specialising in low energy intensity and high value added production
- EU has improved its energy intensity since 1995 but US and especially China are catching up

Energy Intensity Levels



Evolution of real unit energy cost: restructuring effect?



Source: European Economy (2014) 1

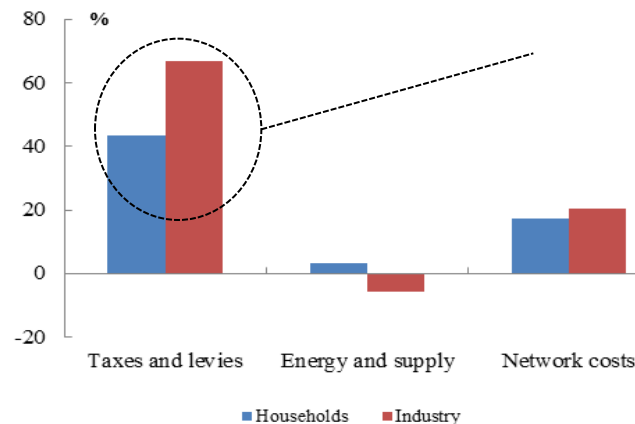
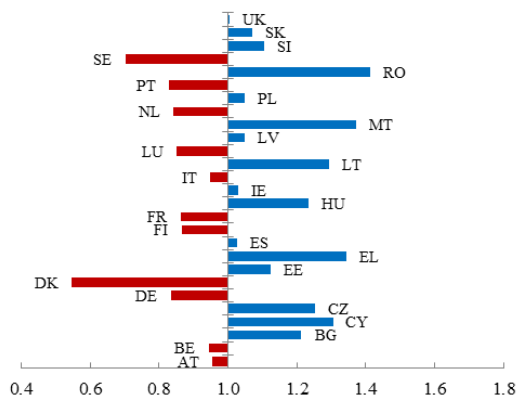
Energy price drivers: focus on electricity, gas and carbon prices

Electricity and Natural Gas End-User Prices

Average ratio of Industrial to Household electricity prices, relative to the EU-27 average, 2004-2011

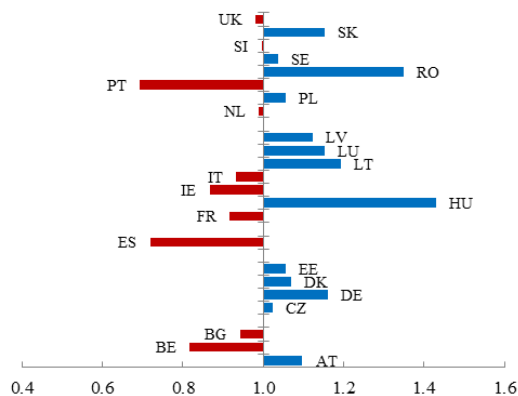
EU average change per electricity tariff component between 2008 and 2011

Electricity Prices



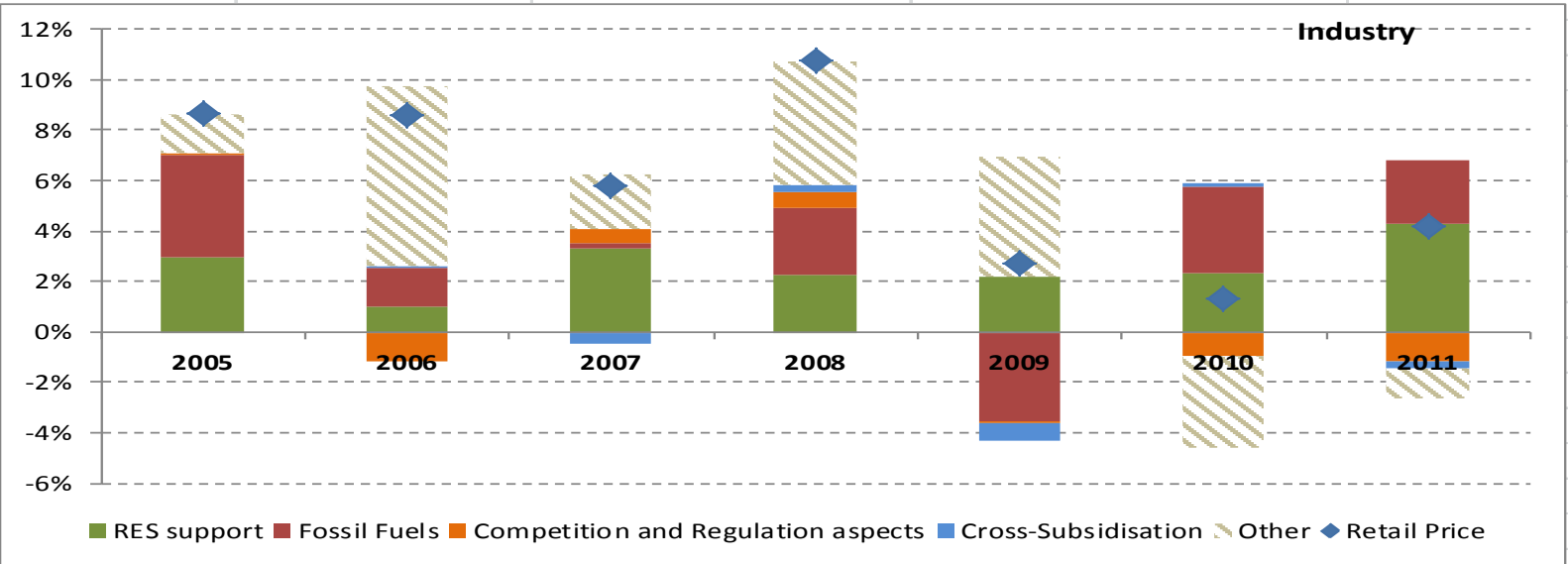
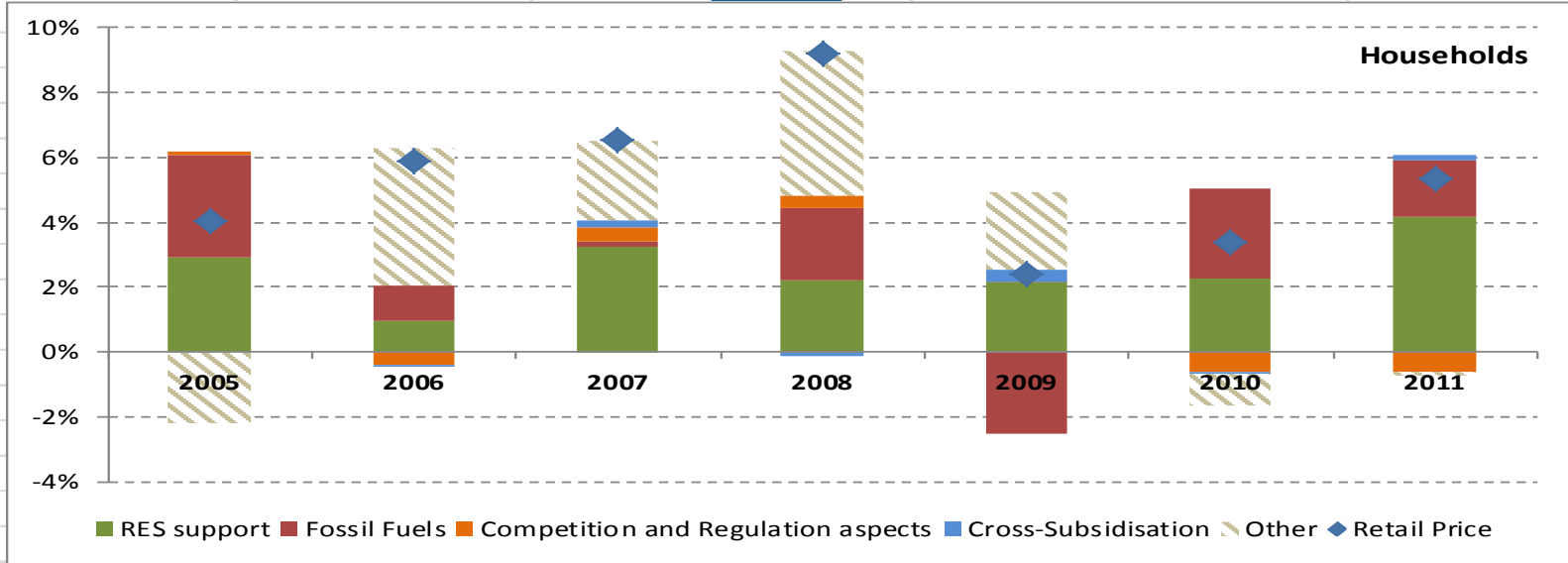
The largest % increase among the components of retail electricity prices observed in taxes and levies

Gas Prices

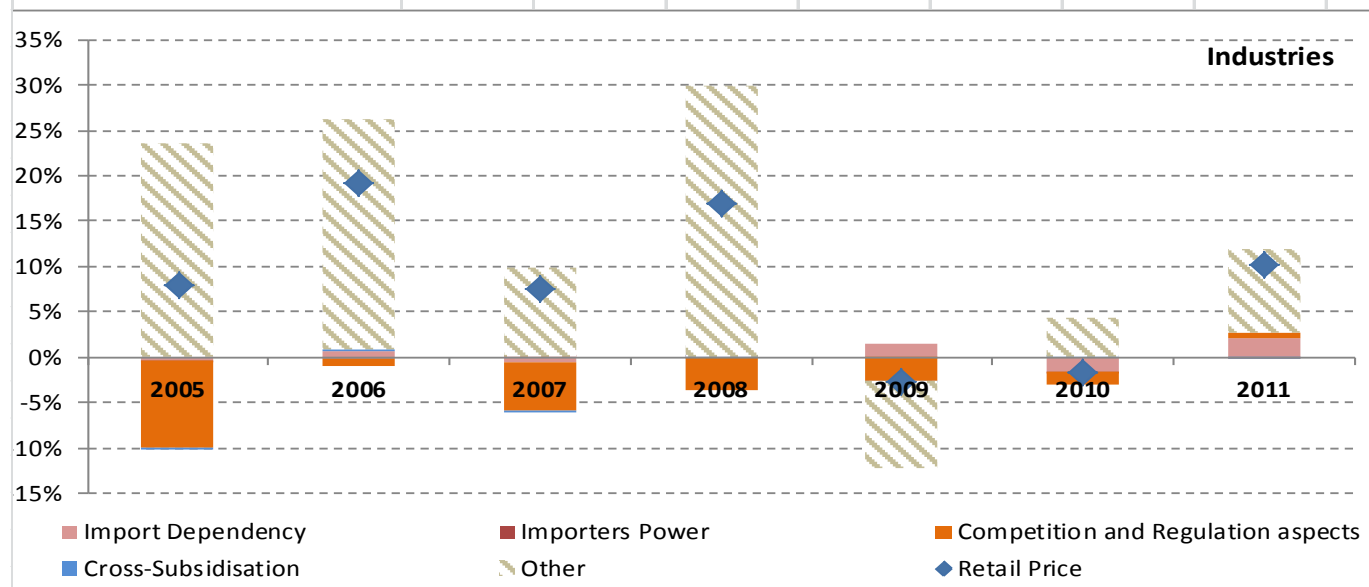
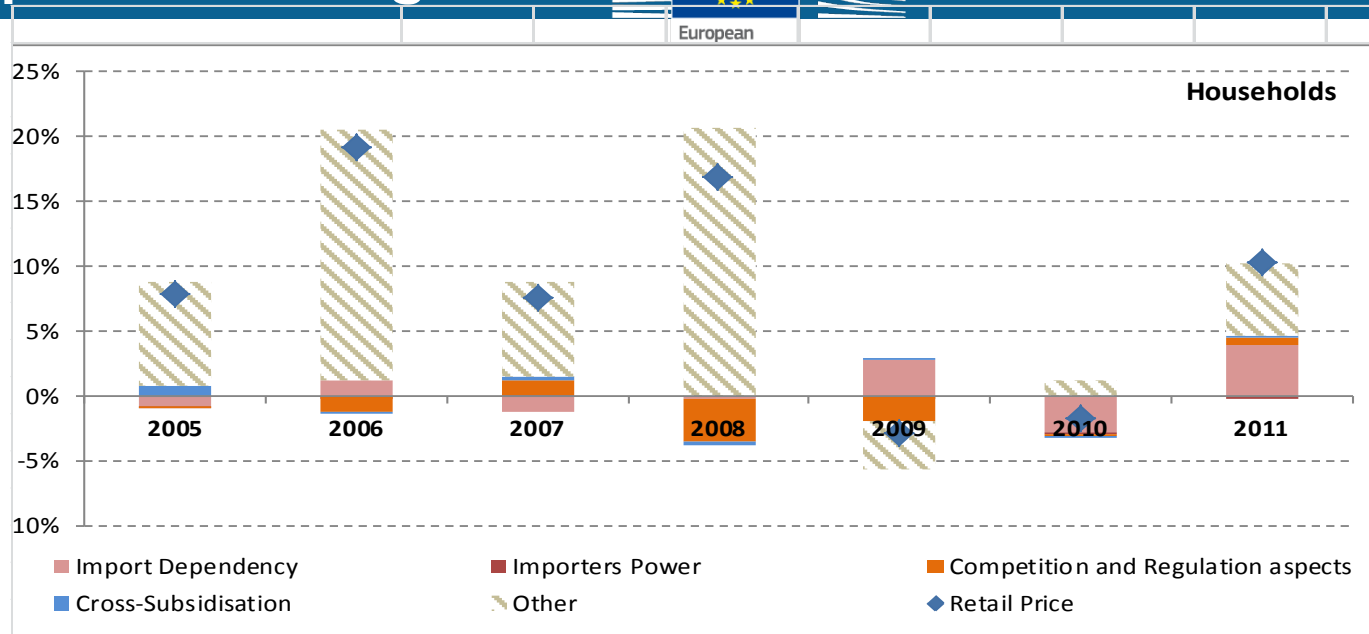


- Usually household prices are higher than the industrial prices, as a result of load profiles, level of voltage/pressure connection.
- Compared to the EU average, the ratio is highly dispersed across Member States, implying the level of some state intervention to satisfy different distributional preferences in industrial and social policy.

Electricity Prices drivers: Empirical Findings

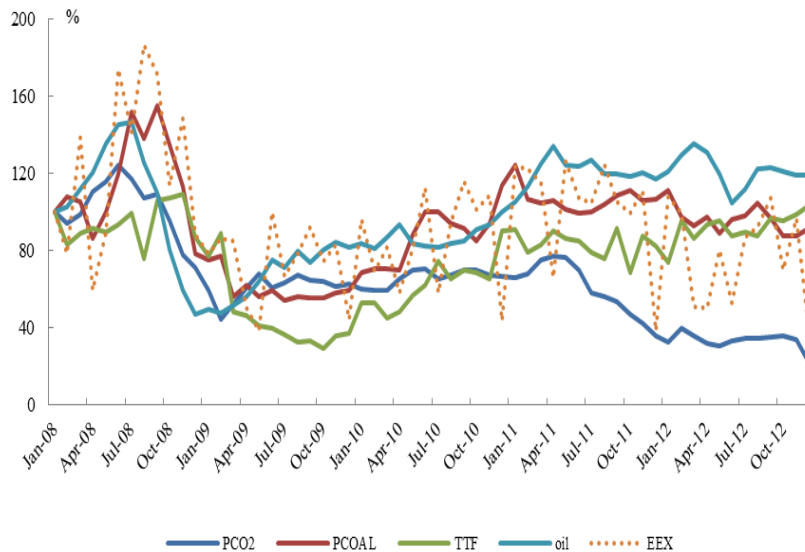


Natural gas Prices drivers: Empirical Findings



Carbon Prices Analysis

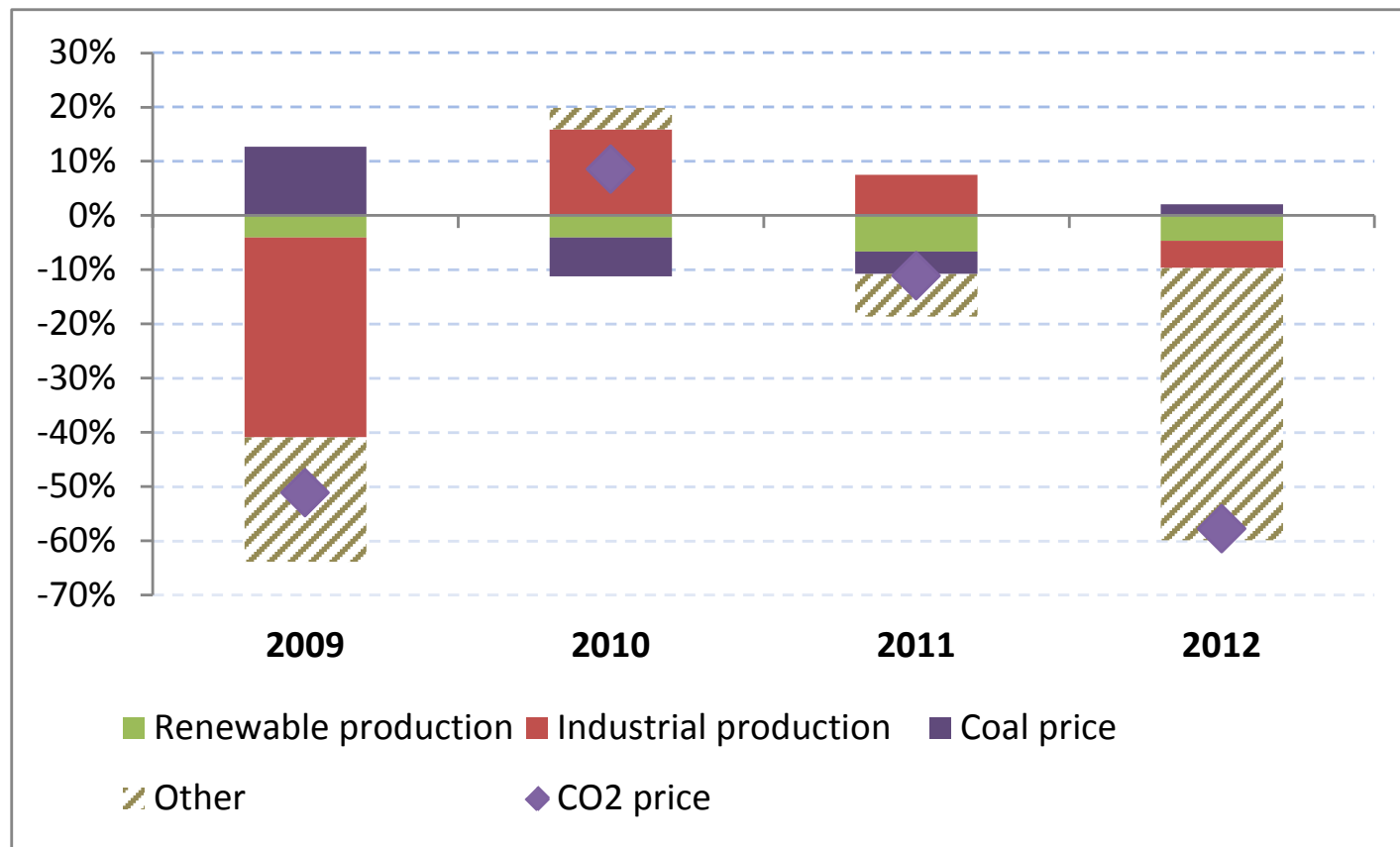
Evolution of carbon price, fuels and electricity prices over 2008-2012



- Carbon Prices, **less volatile** than electricity prices, but almost as volatile as other primary energy sources
- After mid-2011 **CO2 prices have been decoupled** from coal and Gas prices

Source: European Economy (2014) 1

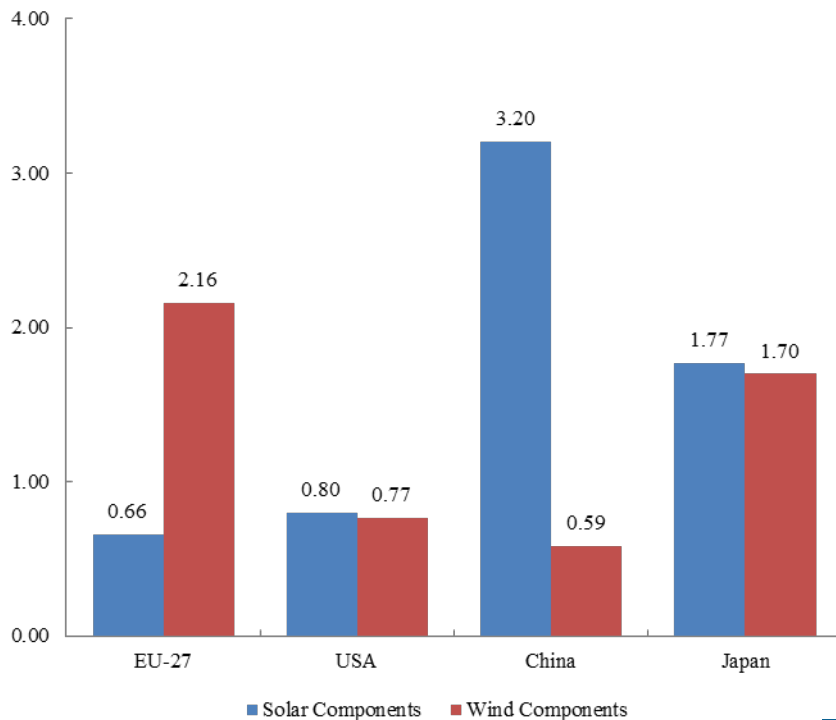
Carbon prices drivers : empirical findings



Trade and Renewables

Trade in renewable energy components: Revealed comparative advantages

Average Revealed Comparative Advantage
Indexes of solar and wind industries in the EU-
27, USA, China and Japan

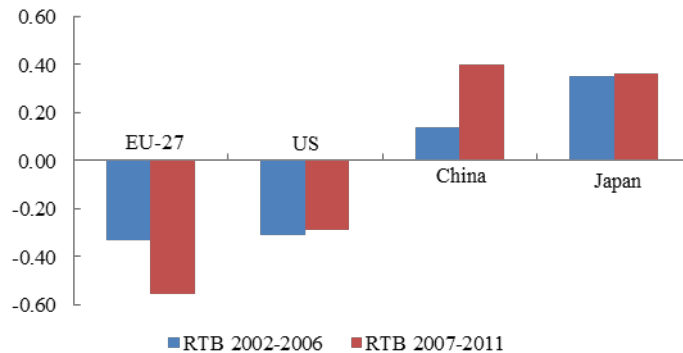


- EU has a significant trade deficit in solar and a small surplus in wind components
- EU has revealed a comparative advantage in wind components (high RCA index value)
- EU has a revealed comparative disadvantage in solar components (low RCA index value)

Trade in renewable energy components: Relative trade balance

Average Relative Trade Balances of the EU-27, USA, China and Japan

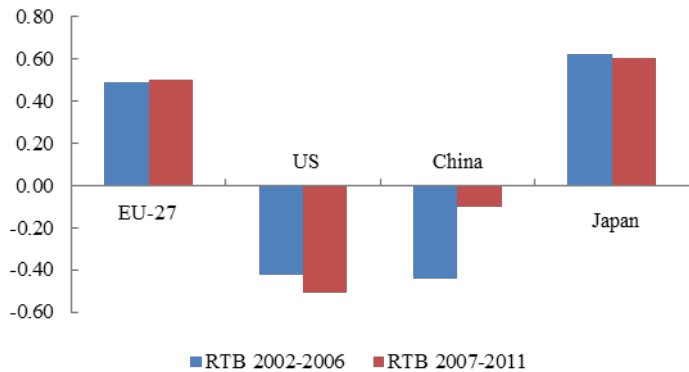
Solar



➤ Solar components: EU-27 has a negative relative trade balance, deteriorated over time

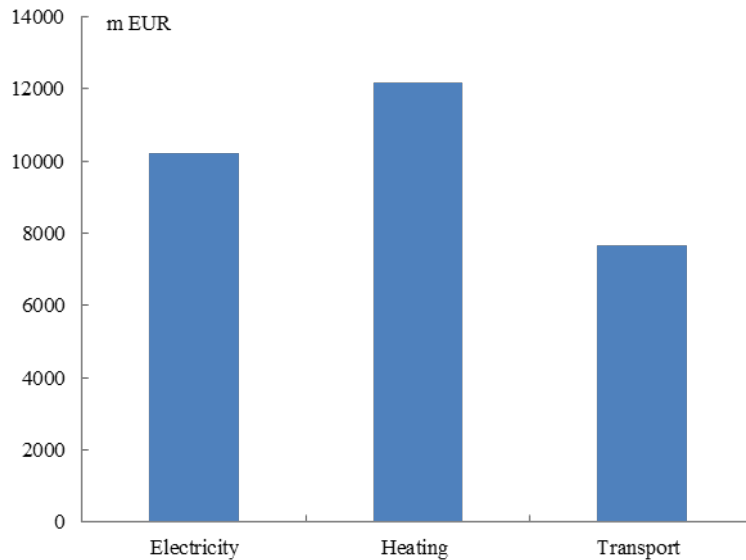
➤ Wind components: EU-27 displays a **positive relative trade balance**

Wind



Renewable energy: avoided imported fuel costs

Avoided imported fuel costs thanks to renewable energy, 2010



- EU-27 deficit in energy products: EUR 304 bn in 2010, EUR 421 bn in 2012
- Renewables allow Member States to save part of imported fuel costs
- Avoided imported fossil fuel costs: some EUR 30 billions in 2010
- These avoided import costs **expected to rise in future** with higher RES production and rising world fossil fuel prices



Thank you