

PRICE SETTING IN THE ELECTRICITY MARKETS WITHIN THE EU SINGLE MARKET

A report to the Committee on
Industry, Research and Energy of the
European Parliament

February, 2006

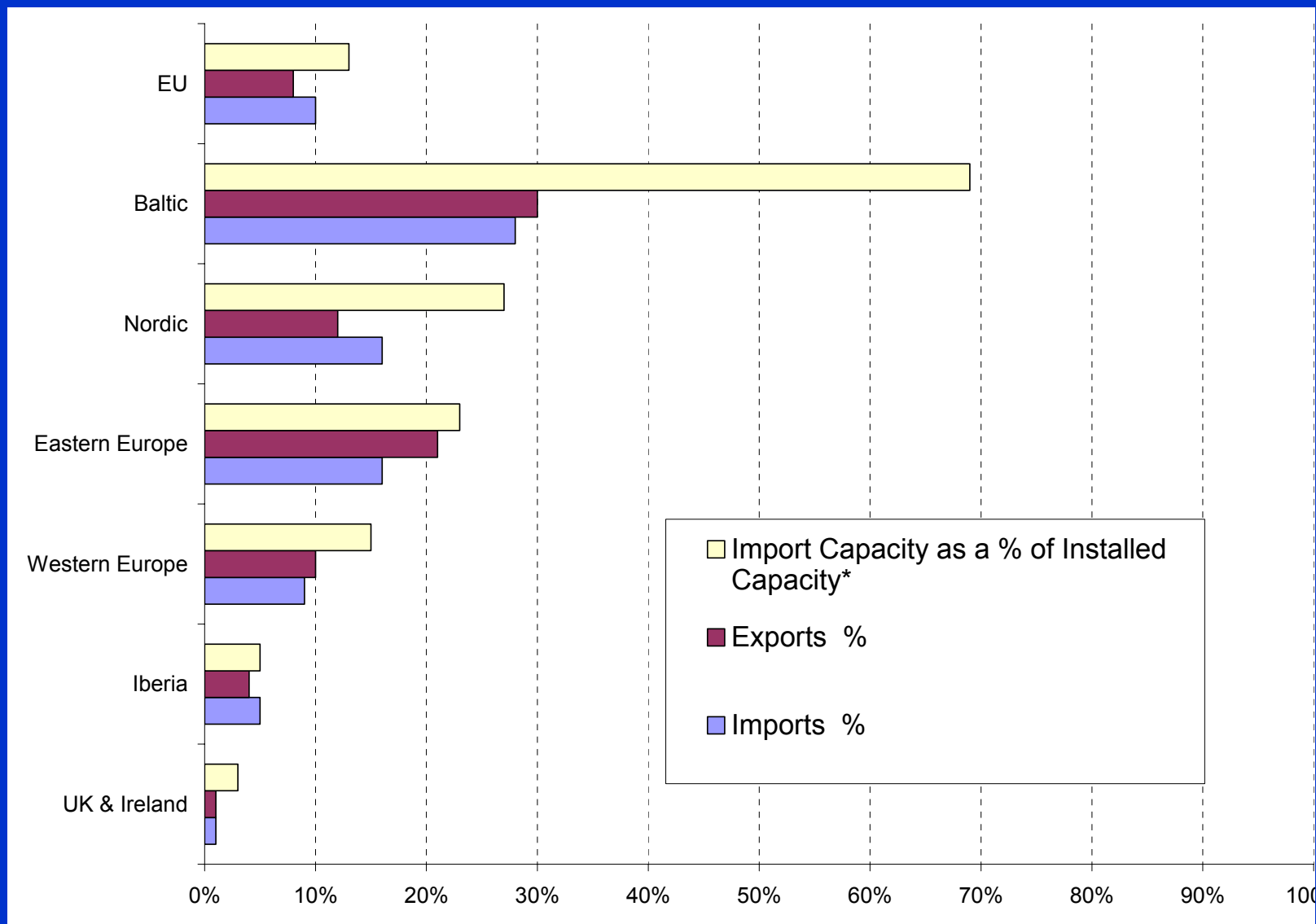
Outline

- Characteristics of the main electricity markets,
- European price structures and trends,
- Impact on electricity prices of emissions trading,
- Long-term contracts effects,
- Conclusions.

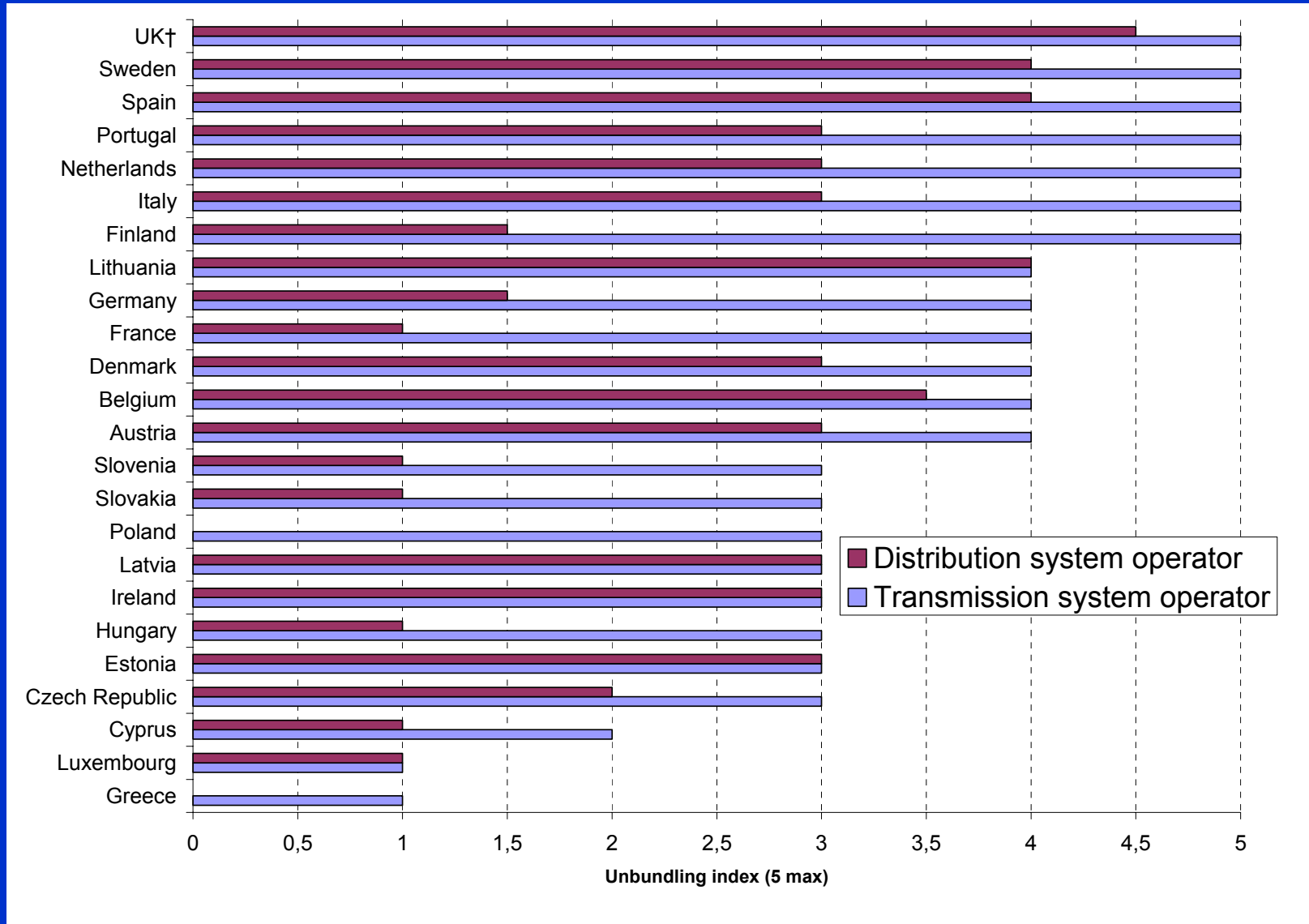
Main electricity markets characteristics

- Facts:
 - Common agreement on unified electricity market,
 - Cross-border trade at about 8% of EU consumption,
 - Lack of interconnecting capacity between countries,
 - **Very low number of producers as bidders,**
- Results:
 - **No EU integrated market yet** ►
 - Local markets,
 - Regional markets- operating and developing.
 - Not all regional markets function up to standards,
 - W.EU vs. E.EU countries market development: **indecisive,**
- More detailed insight needed.

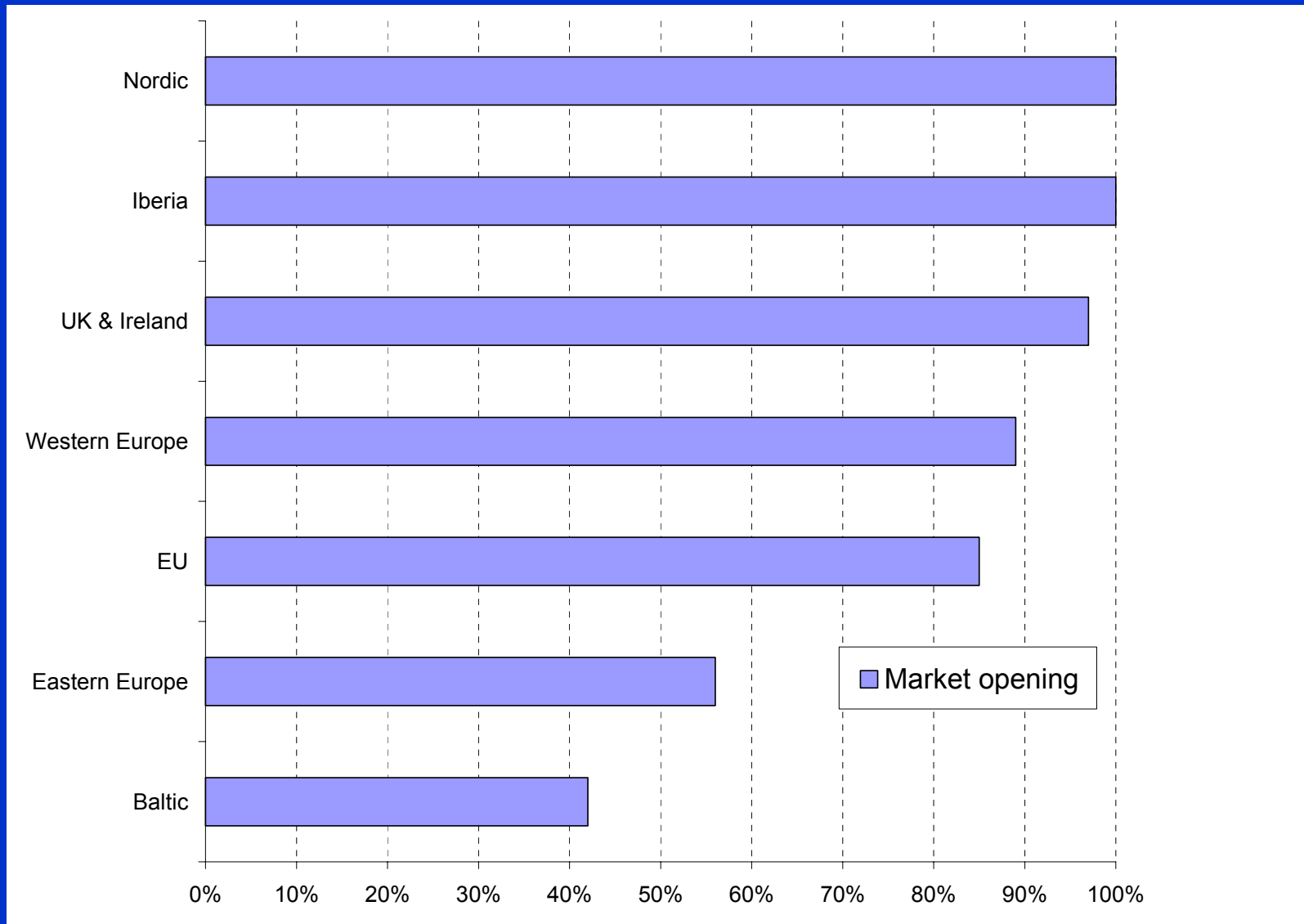
International interdependence, 2003



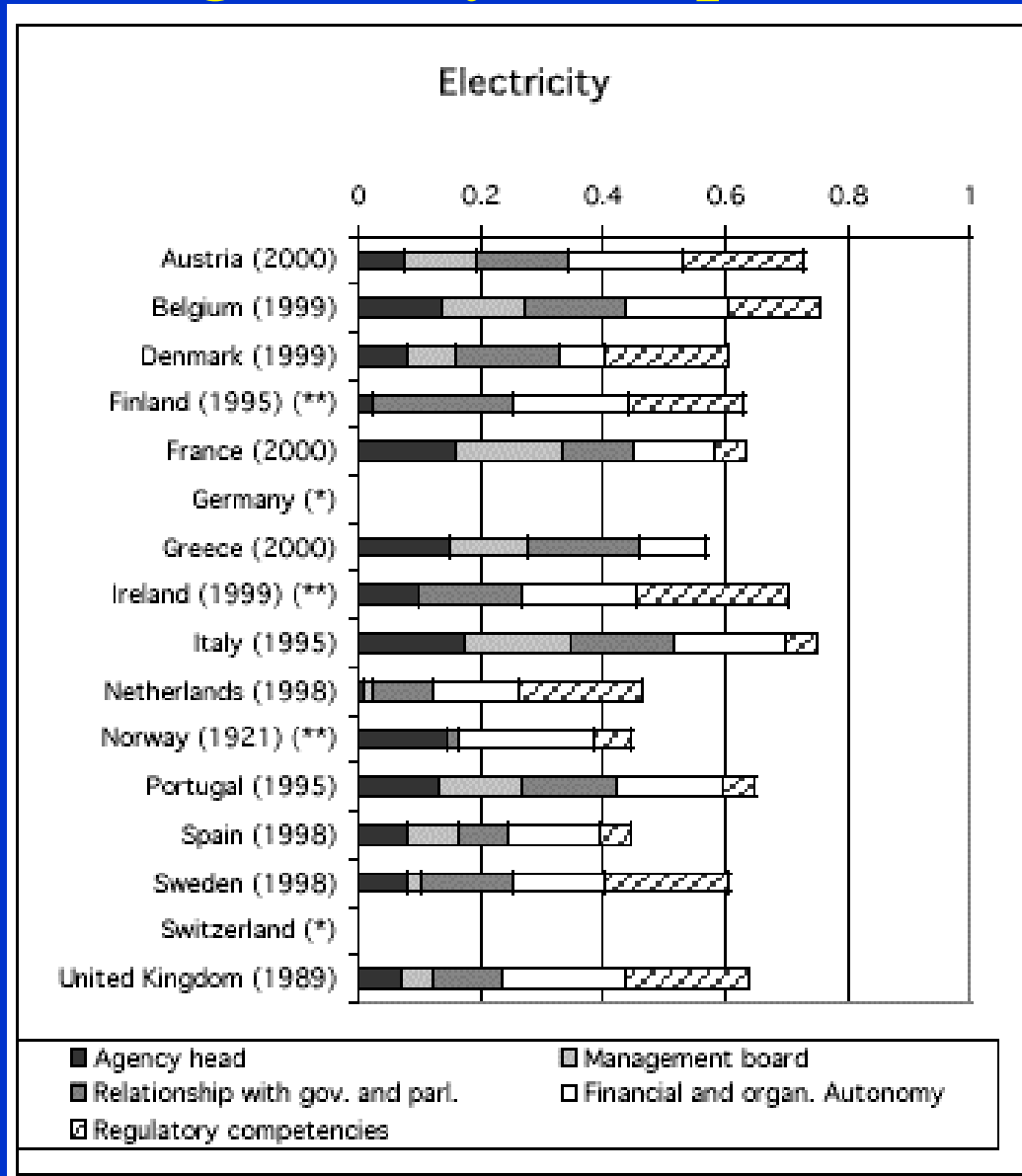
Level of network unbundling, 2005



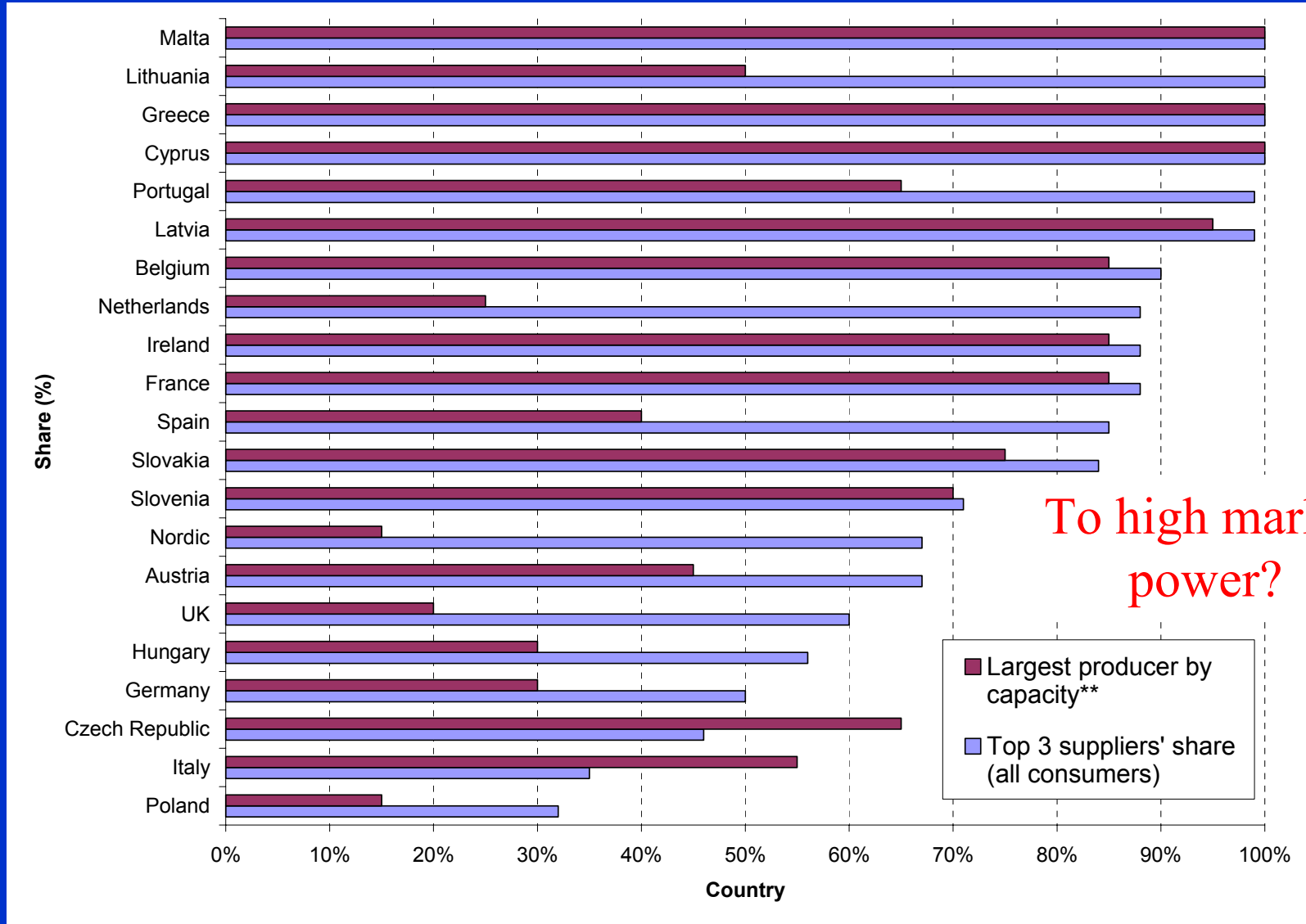
Market opening, 2005



Regulatory independence, 2003

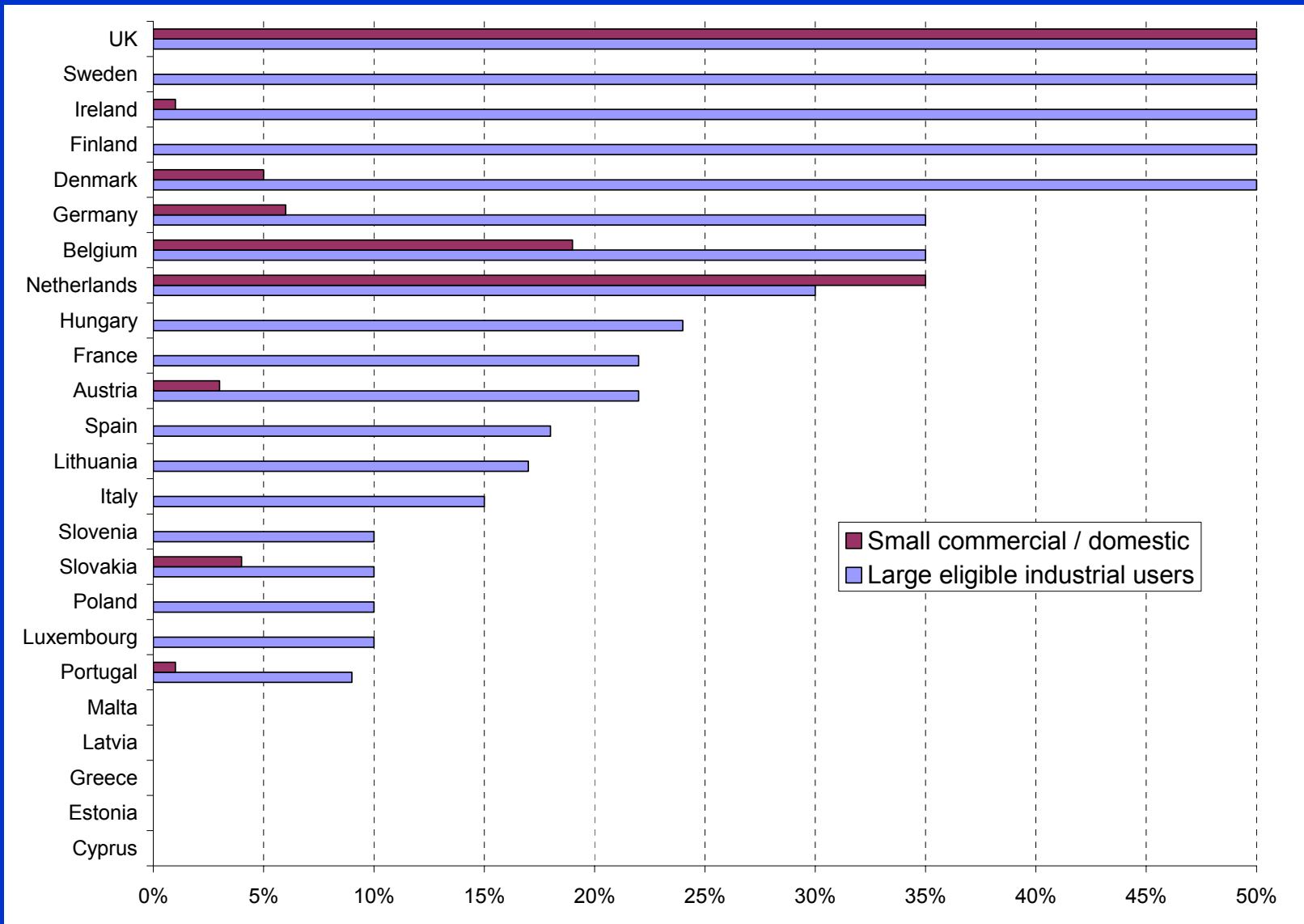


Competition in retail and generation, 2005



To high market power?

Level of customers switching supplier, 2005



Pricing structures

- Tariffs:
 - Liberalisation led to more competing tariffs,
 - Number of tariffs reduced with market regulation,
 - Social tariffs to domestic customers,
 - Industrial consumers have a wider choice of tariffs than domestic customers.
- Price convergence:
 - Regions reached more price convergence than EU as a whole,
 - Convergence of prices improves with stronger interconnection,
- Accession members without electricity taxes.

Price trends

- Electricity prices:
 - Downward trend 1995 - 2000, higher productivity
 - Stable period
 - Growth after 2004.
- Reasons for prices growth:
 - Rising prices of gas,
 - Dwindling surpluses of electricity,
 - Inadequate EU electricity market model,
 - No feedback for new:
 - generating units,
 - transmission and distribution capacities,
 - remuneration of investment (marginal prices → variable costs).

Average price development

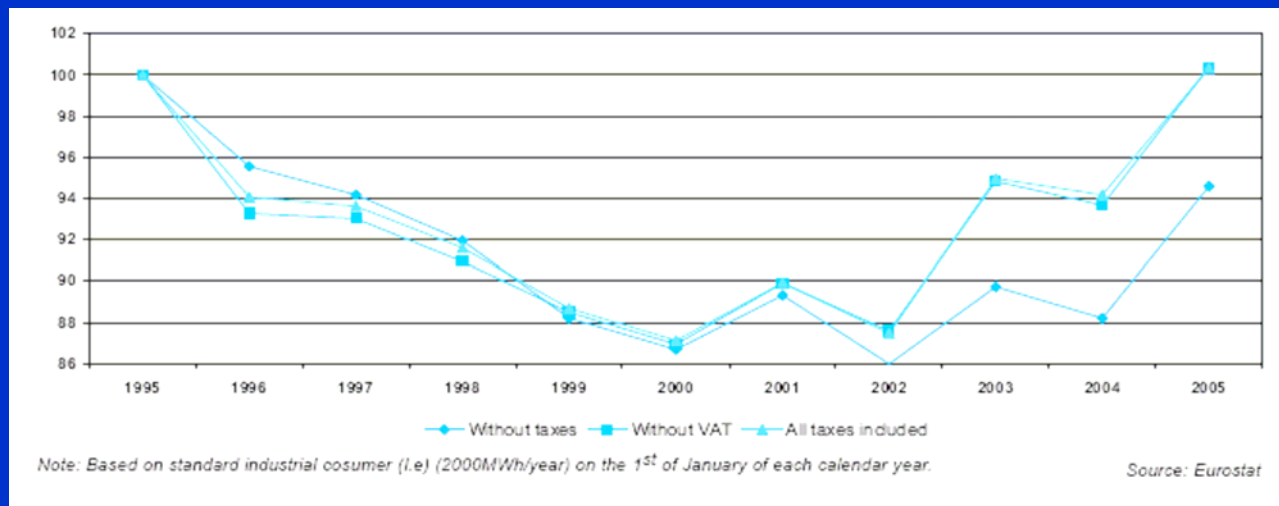
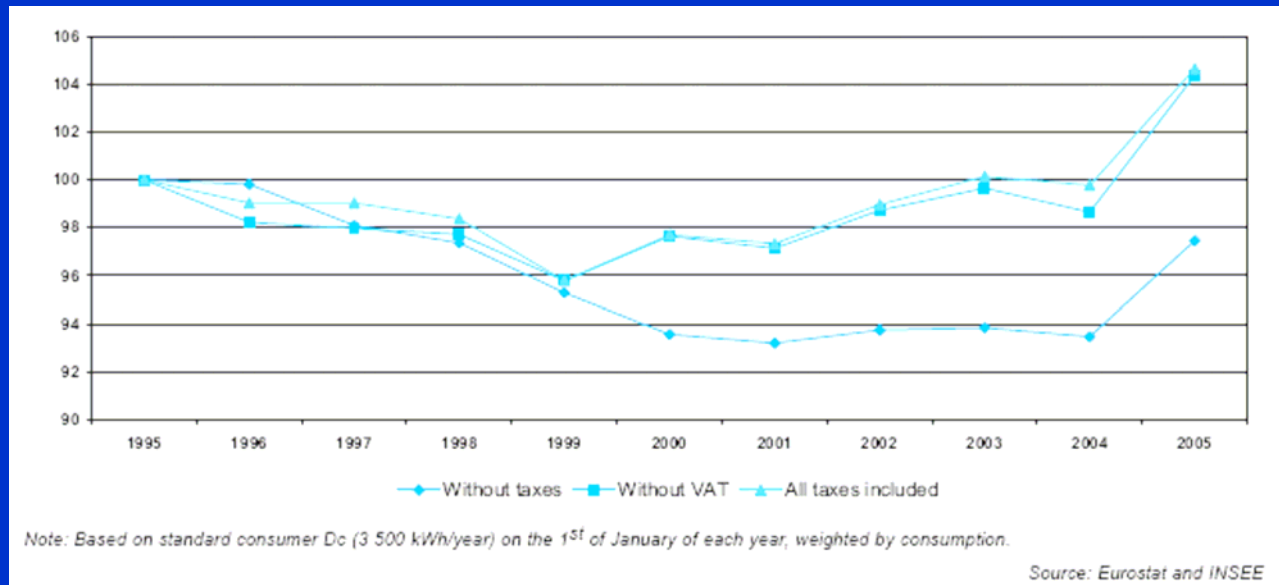
Consumer

3.5 MWh/year

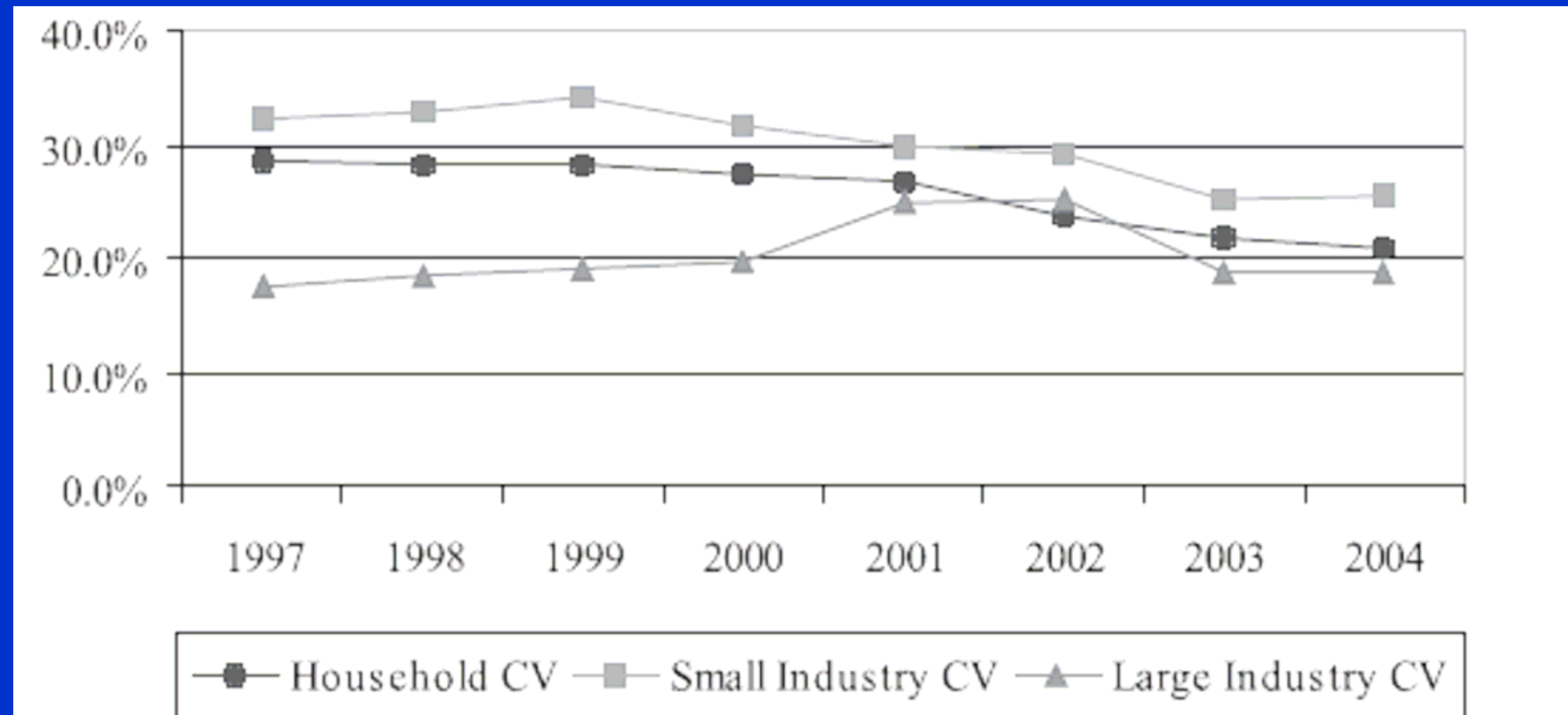


Industrial consumer

2.0 MWh/year



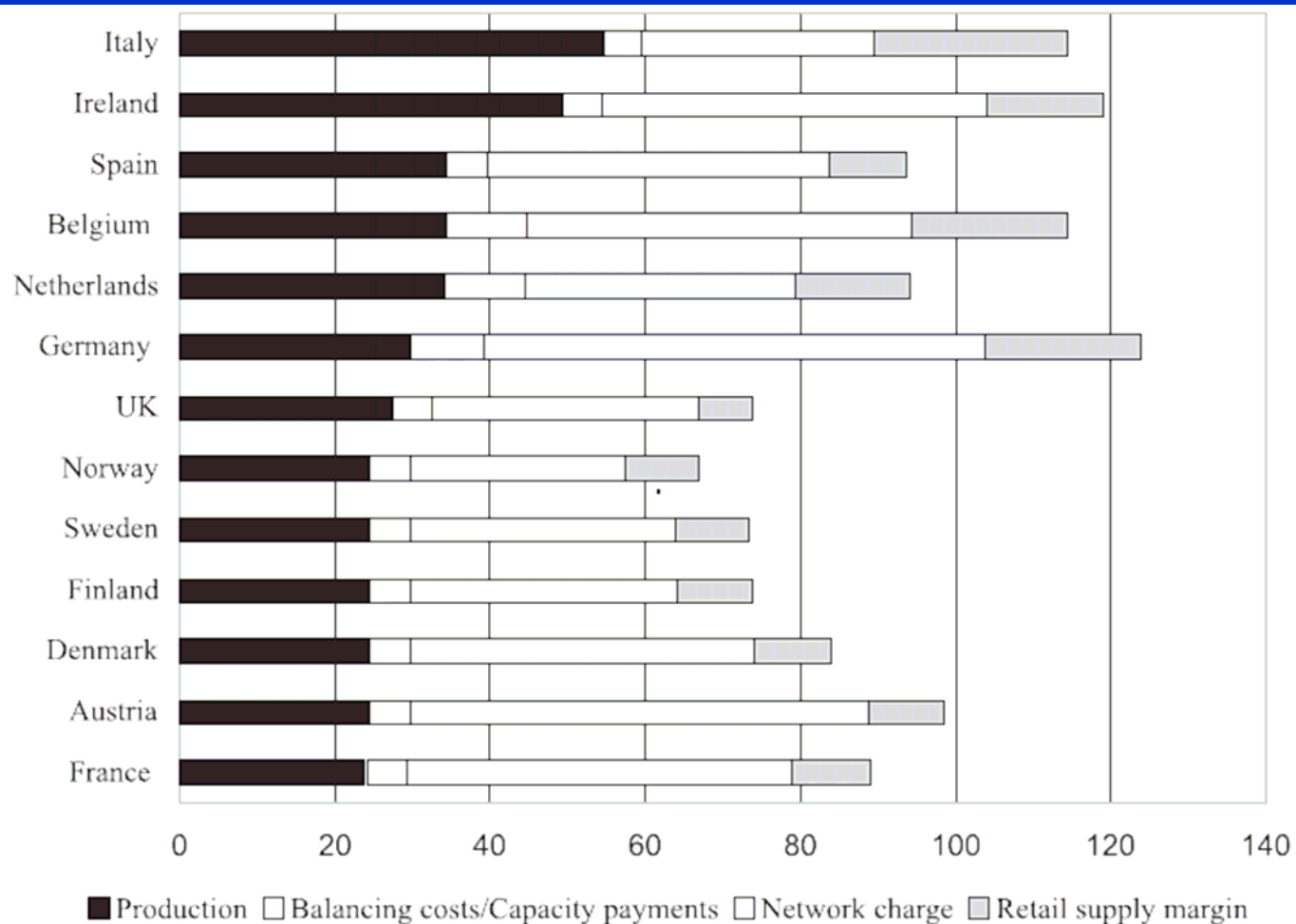
Price convergence- Coefficient of variation



Source: Based on European Commission (2004b, 2005)

Breakdown of electricity prices, 2004

(50 MWh /year customer) (€/MWh before taxes)



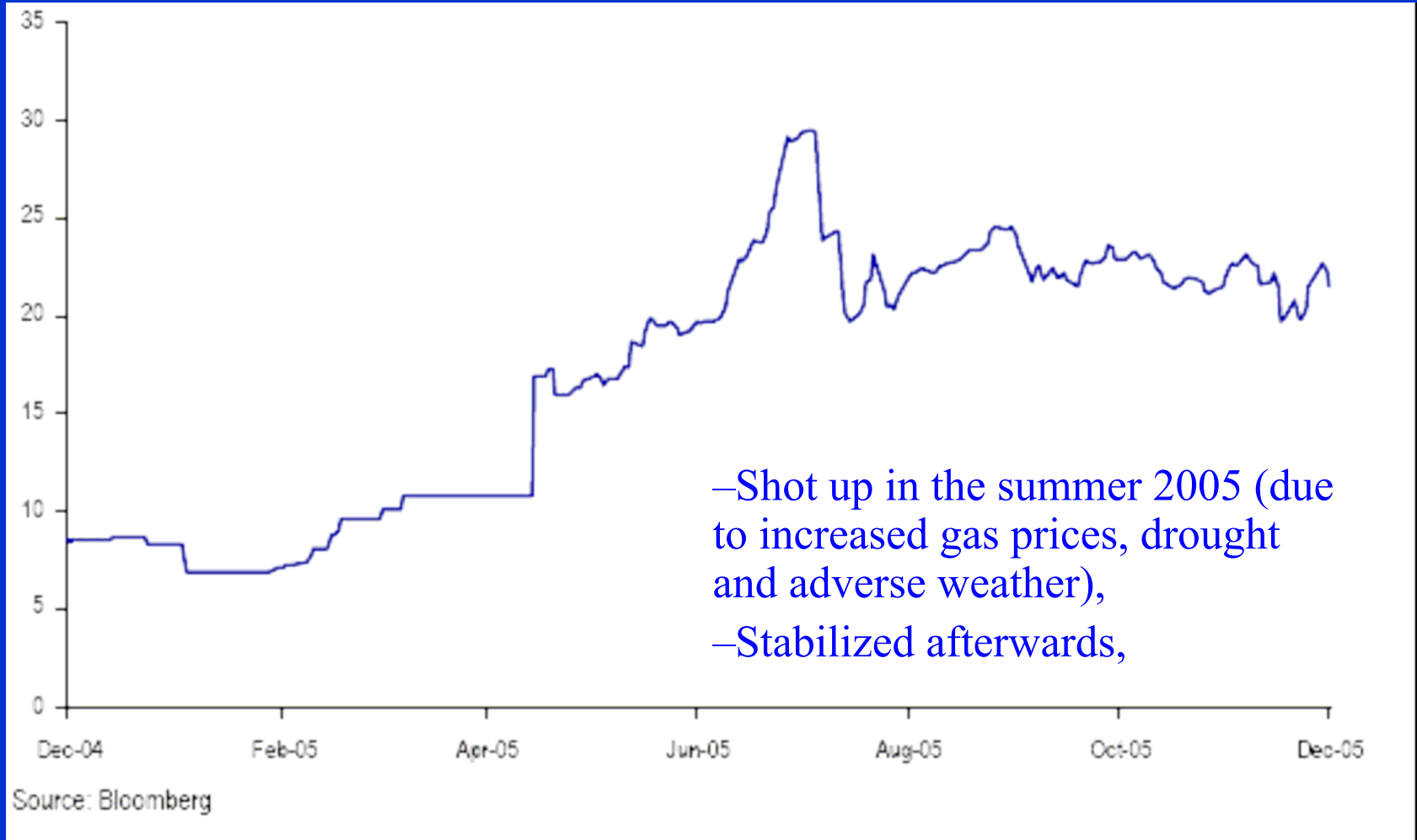
Source: European Commission (2004b)

ETA impact on electricity prices

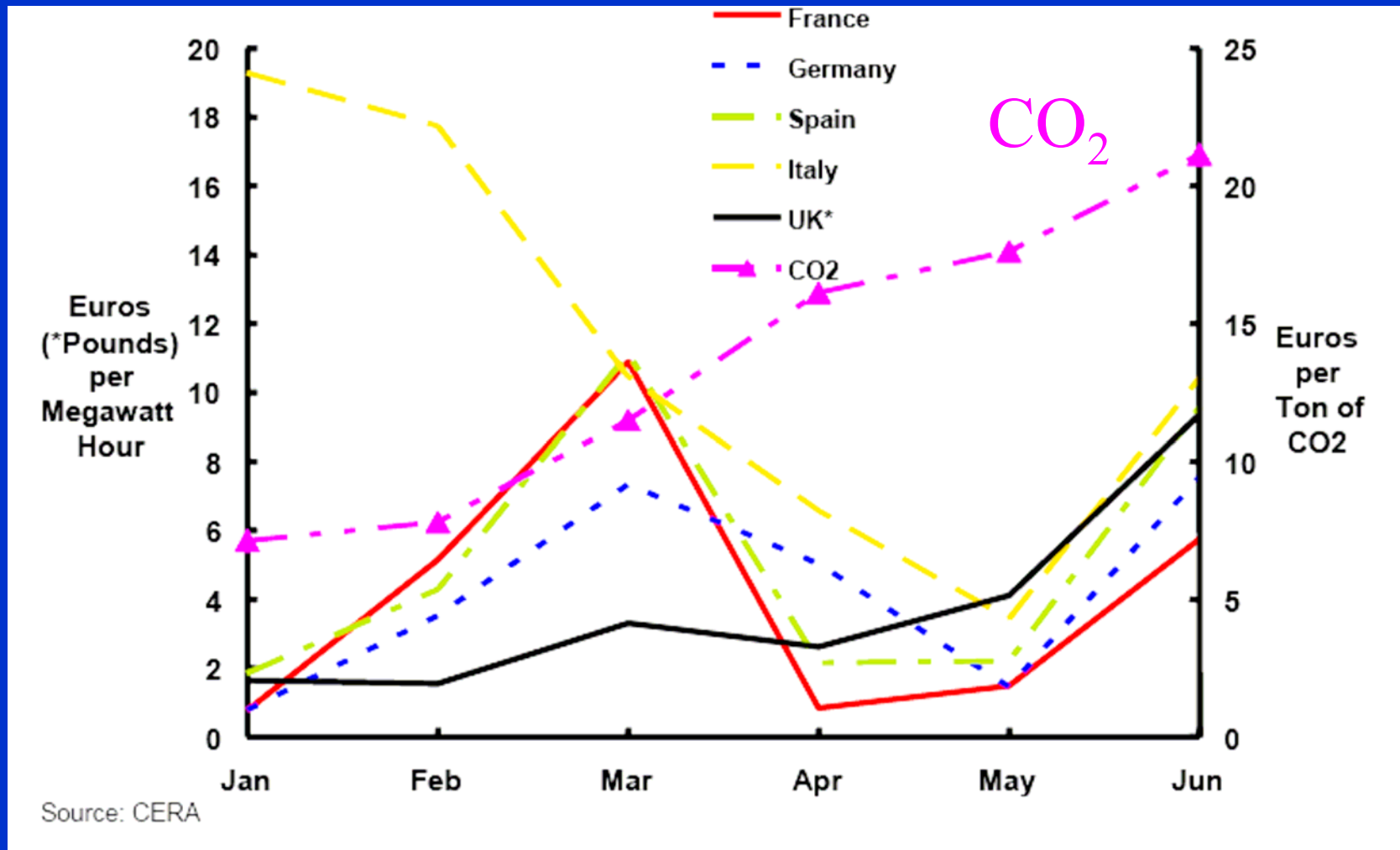
- Emission trading allowances (ETA) for CO₂:
 - Producer obtains the certificates,
 - If he needs more he has to buy them in the market.
- Market prices of allowances:
 - Significant initial price transient,
 - Less impact on the end user than on wholesale prices (long term contracts),
 - **Industry can not get compensation for its losses.**
- Auction could:
 - Finance the CO₂ reduction or
 - Transfer wealth from polluters to government or reverse,
 - **Appropriate model required.**
- **Simulation** (by sparks spreads):
 - **Most if not all of the allowance cost passed into electricity wholesale price,**
 - Estimated impact on wholesale electricity price (20 - 30)%
- Lack of empirical evidence to judge (to short time).

Price evolution of emission allowance

€

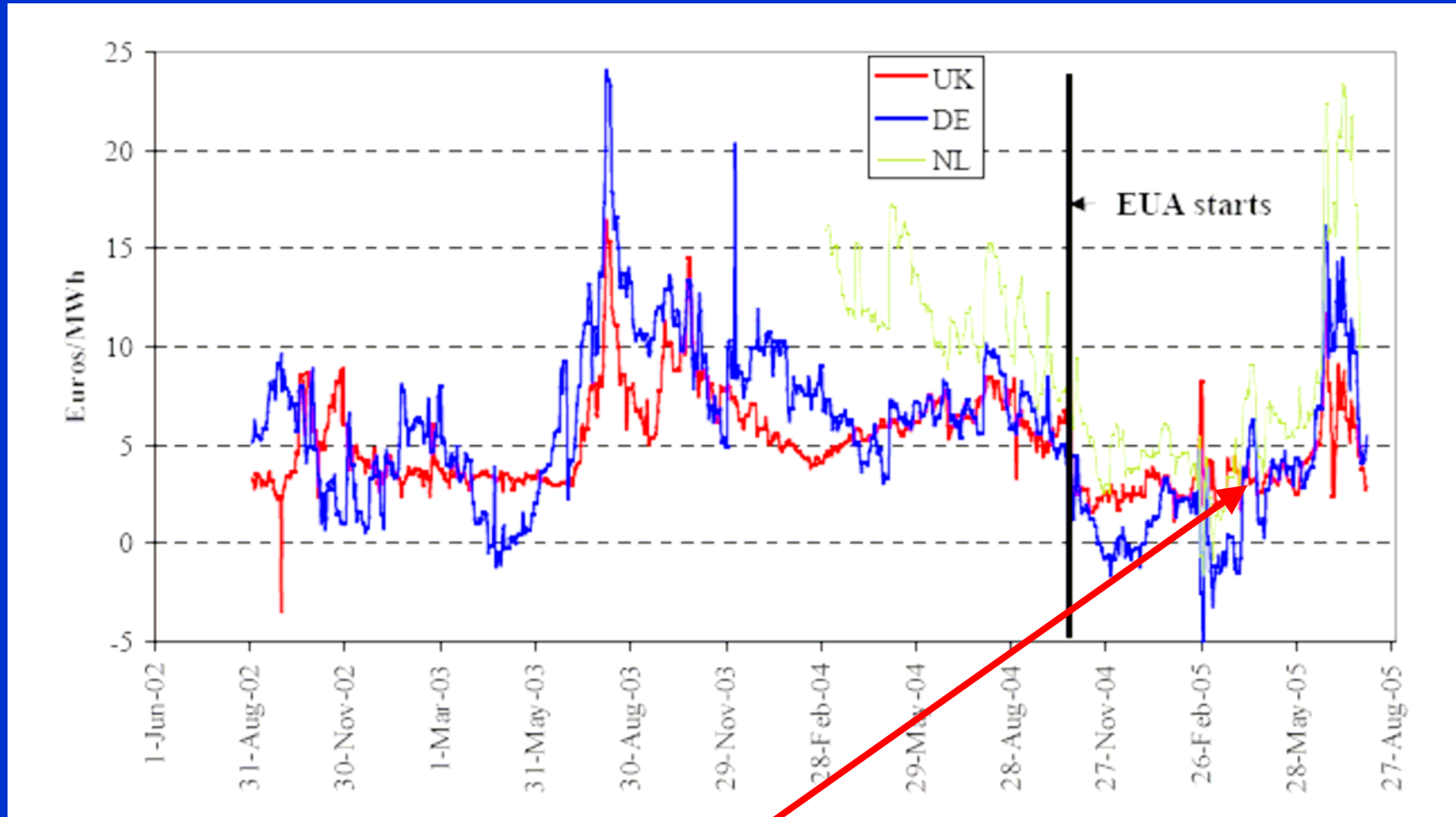


Marginal costs and wholesale power prices 2005



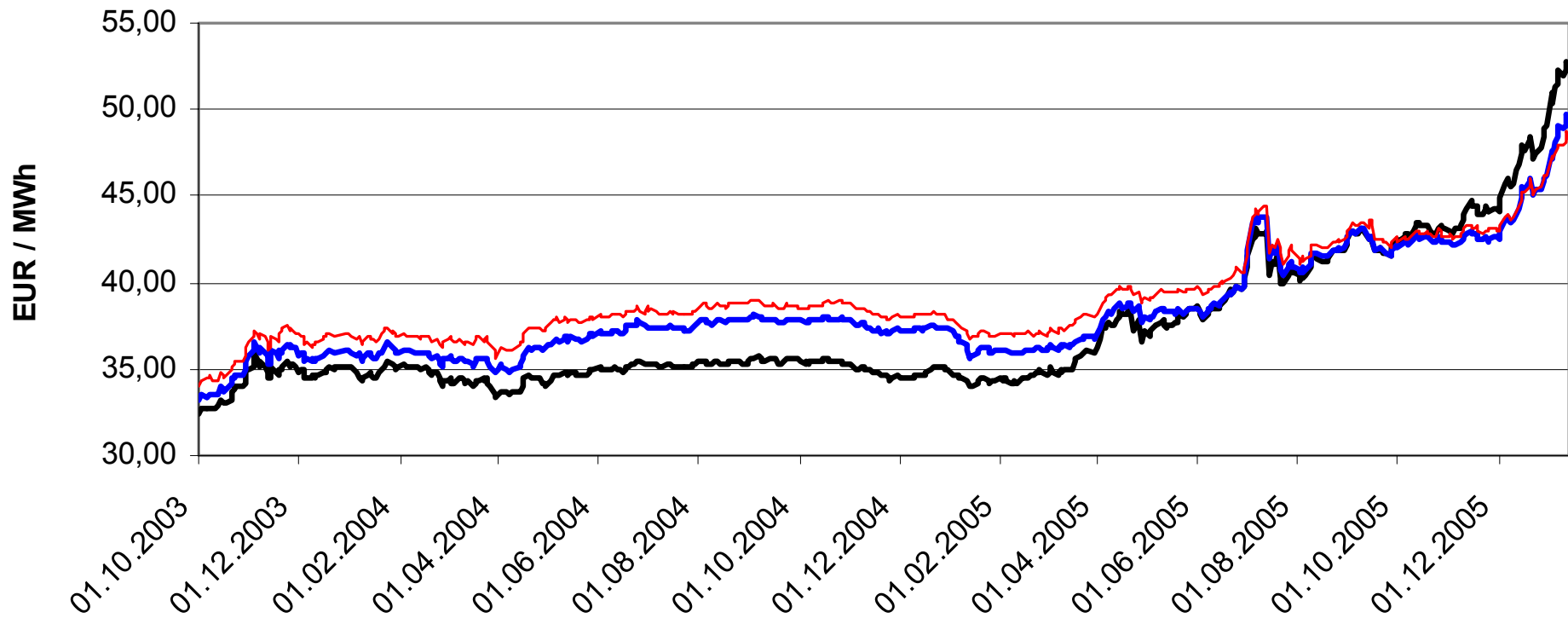
Spark spreads (Simulation results)

(=the difference between electricity prices and fuel costs for gas plants)



Since the spark spread net allowances are equal the sector passes on its entire costs

Retail prices in Slovenia (band 2003-2005)



Long term contracts

- Lack of long-term contracts is considered to be the sole reason behind the California electricity crisis.
- Relatively low energy volume in the EU spot markets.
- Reasons:
 - High market power of producers in EU electricity market,
 - Industrial electricity users shield themselves from the volatility of the market prices - **risk reduction**,
 - Collusive activity less attractive,
 - Ensuring stability of prices,
 - **Encourage investment in a very capital-intensive, slow-return industry**,
 - Incentive for entering new providers,
 - Timing of essential maintenance work - increase of electricity availability,
- **Will not solve growing problem of production and supply mismatch.**

Conclusions

- The report:
 - on various aspect of EU electricity markets and
 - suggestion for policies development.
- Desirable:
 - Increasing cross-border connectivity,
 - Promoting long-term contracts,
 - Continuous monitoring of price development,
 - Electricity market model correction to accommodate the growing problem of production and supply mismatch.
- Emission trading scheme:
 - Positive for controlling emissions,
 - Model should be monitored for its possible adverse effects.