Fossil fuel subsidies and ECR-calculations in Sweden

Results from Eurostat grant financed project, 2021-2023

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Background

- A first pilot on “Monitoring greenhouse gas transfers” was done 2019-2020

- Eurostat grant project 2021-2023, just finalized
  - Methodological improvement in industry allocation of env. taxes

- A lot of development in the international statistical community, several countries produce statistics or pilots
Methodology paths and choices

- PEDS vs FFS?
- Explicit transfers – which and why?
- Implicit transfers – which and in relation to what?
- ECR calculations by fuel and industry
- Several recalculations and changes of directions during the project
Explicit transfers

• Direct transfers that can be found in central government budget
• Swedish EPA mapping of PEDS starting point
• No direct links to fossil fuel production and consumption (yet)
• Several explicit transfers linked to transport e.g. support for non-governmental airports, transport support to north of Sweden, support to shipping industry
• Outside the scope of FFS: e.g. support to fishing industry, agriculture, regional investment support
• The exact effect of a subsidy scheme is not possible to assess
Implicit transfers

- Focus on tax abatement on fossil fuel taxes
- Calculated with revenue forgone method
  - ETEA is the basis
  - Tax exemptions are mapped out by industry (sometimes with a simplified approach)
- Energy tax, carbon tax and electricity tax (fossil share)
  - Tax abatement varies for different industries and between years
  - Diesel vs petrol discount included
Implicit transfers - Results vary depending on the benchmark
Some results by industry– implicit transfers

- Based on assumption “with and without exemption”
- NACE H and C have highest implicit transfers
- But decreasing trend: Pandemic and changes in tax exemption
ECR calculations

- Combustion related CO$_2$-emissions (mobile and stationary)

- How is carbon priced?
  - Energy tax
  - Carbon dioxide tax
  - EUA price (need some refining)

- Average ECR is calculated EUR/Tonne for combustion related emissions

- Adjust for combustion of fossil fuels, sometimes easy sometimes less intuitive (ETS related emissions)
Average ECR by industry, 2020

- Note, graph does not include ETS price – but should be adjusted for this (around 5 EUR/Tonne in 2020 in trading industries)
Average ECR by fuel, 2020
Average effective carbon rates

In NACE C, by component

- Note, graph does not include ETS price – but should be adjusted for this (around 5 EUR/Tonne in 2020)
Share of total CO₂ emissions from fossil fuels in Sweden priced within ECR bands [Euro / Tonne]

2008-2020
Conclusions and issues to address further

- Adjustment of ETS related emissions—importance is increasing
- New policy approaches to subsidies which needs to be taken into account
- Reference price for implicit transfers otherwise understanding PEDS can be tricky
- Average ECRs are more intuitive to compare across countries
- International collaboration highly valuable
Thanks!

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