

DECOUPLING OF GHG-EMISSIONS FROM GROWTH – HOW IMPORTANT ARE THE CO₂ TAXES? A CASE STUDY OF SWEDEN

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The most frequently asked question?

- Does it work?
 - Yes it does. Kind of.
 - Substantial reduction of total GHG-emissions with no obvious negative welfare effect.
- How does it work?
 - Well...

Our aim:

- To explore different data sources in order to be able to identify important questions for further analysis
- To identify questions for further analysis; necessary in order to improve policy making
 - Optimal tax level from a:
 - Total welfare point of view?
 - GHG-emission reduction point of view?
 - Exemptions?
 - Other instruments?

A practitioners' point of view!

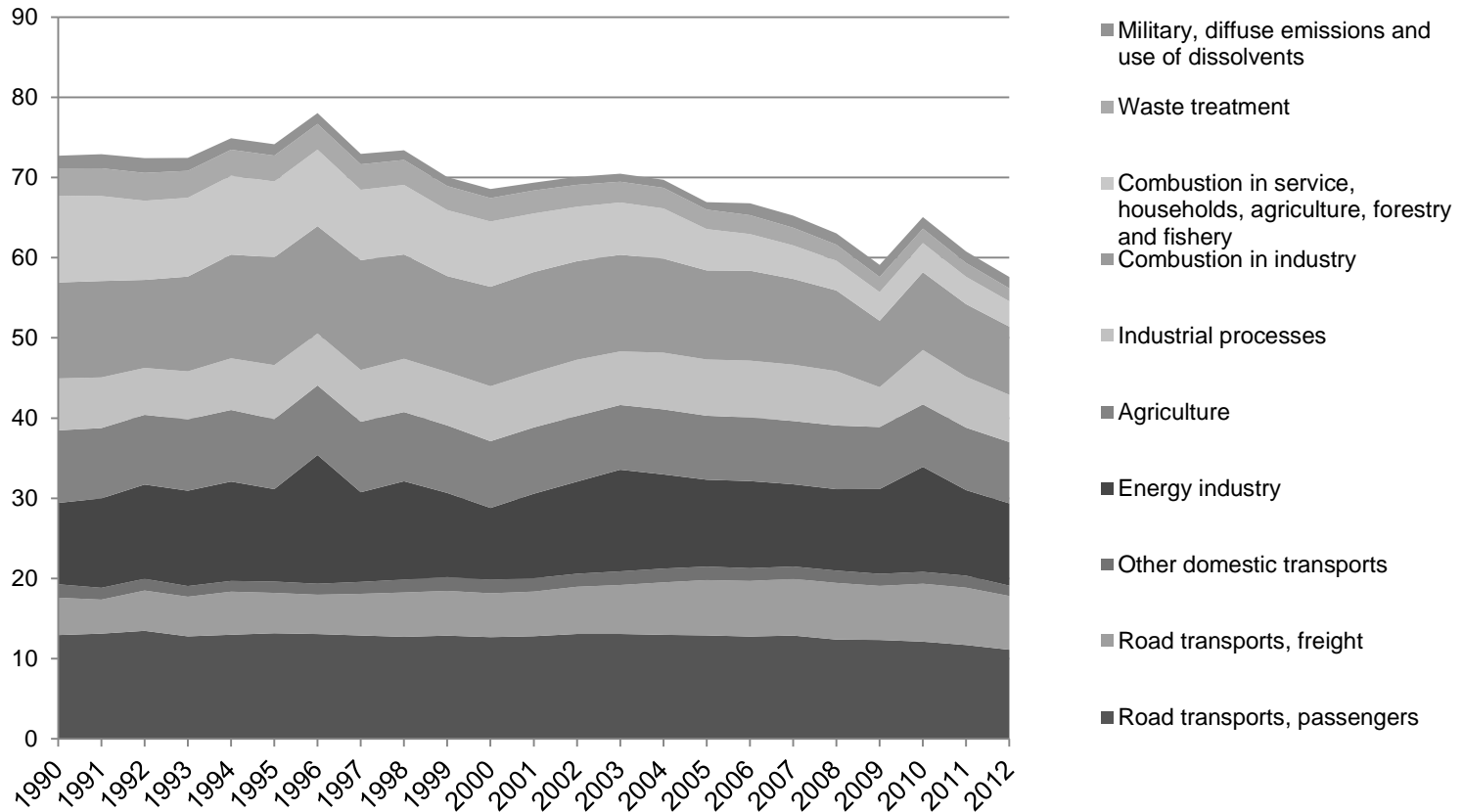
Good to know...

- 9 SEK = 1 EUR
- Sector approach follows the IPCC reporting classification.

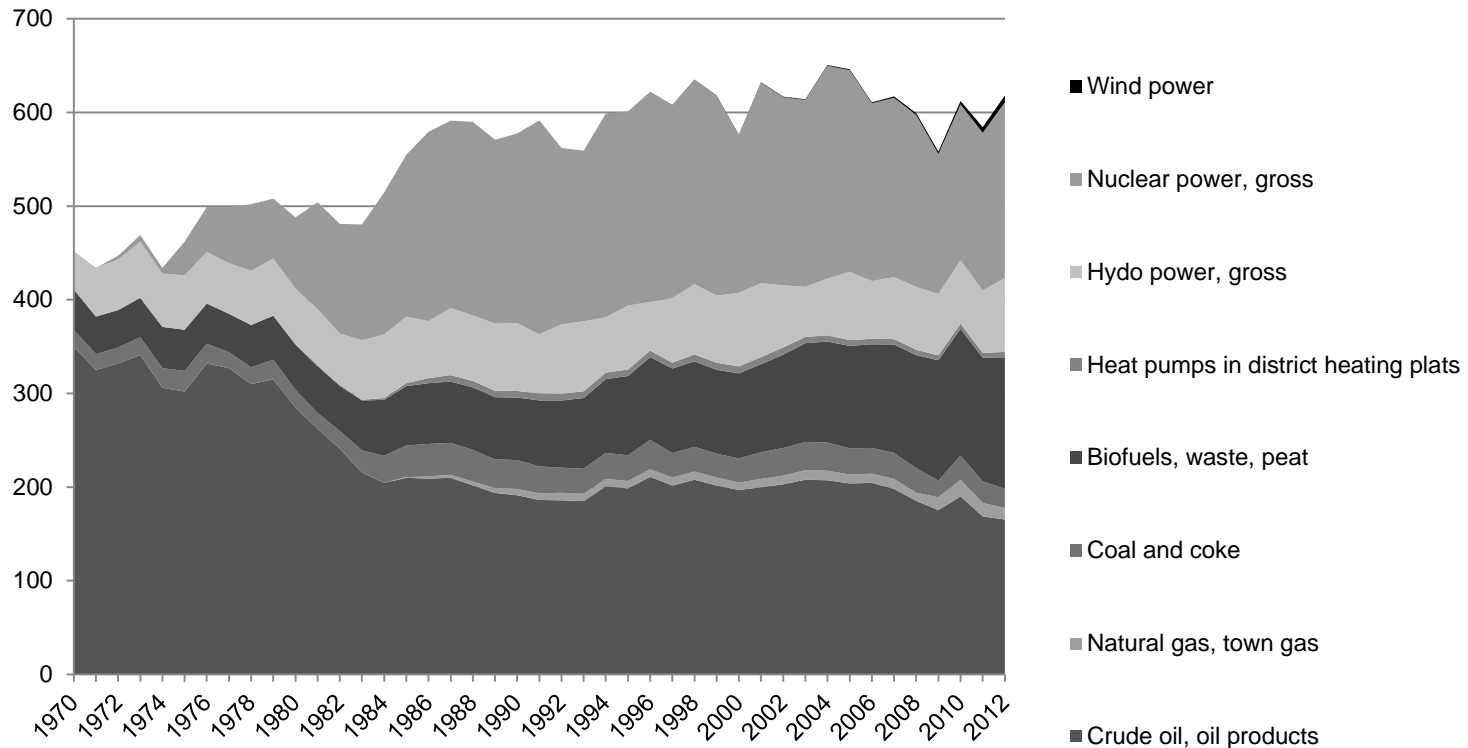
We start with a narrative...

- The energy- and CO2-tax is an effective instrument to reduce GHG-emissions.
- Thanks to this effective instrument, substantial GHG-emission reductions have been made without harming economic growth.
- Considering the relatively strong economic growth of Sweden it could be the case that energy- and CO2-taxes imply benefits of action!
- Not the quickfix for everything

National emissions of GHG in Sweden 1990-2012, million tonnes



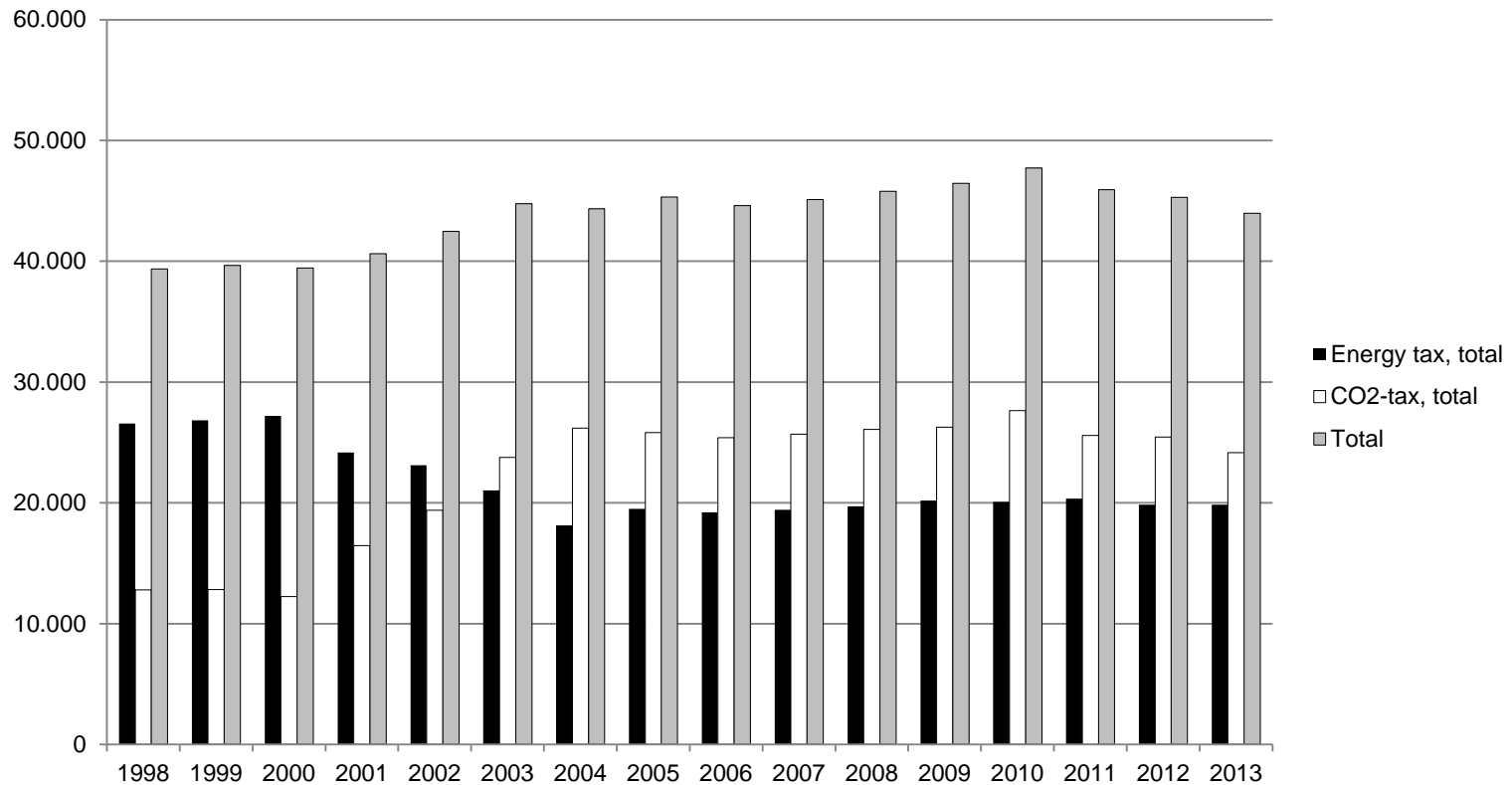
Total energy supply (TWh) in Sweden by energy source 1970-2012



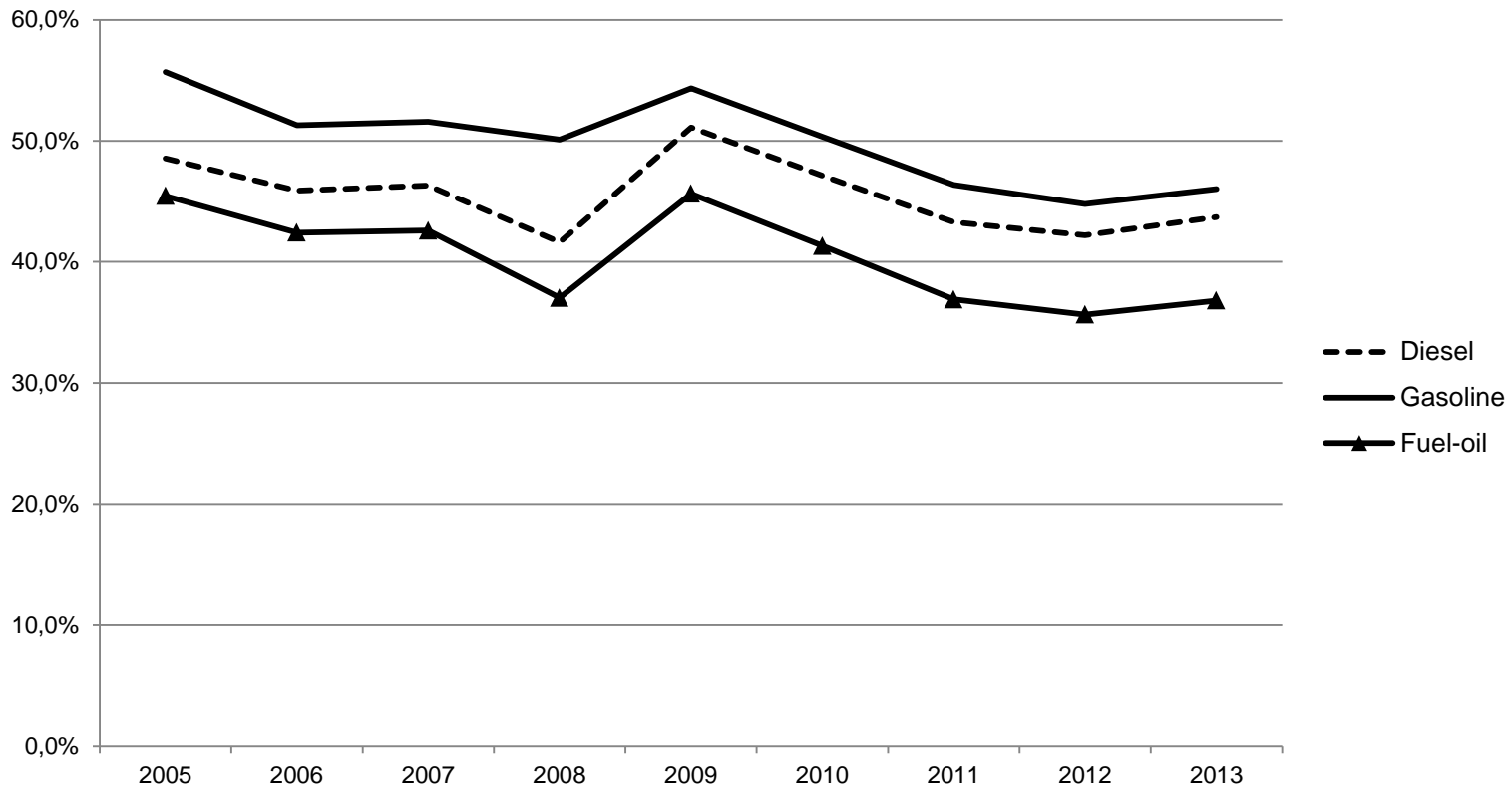
Some remarks

- Except from the residential sector, total emissions have decreased mostly in the least taxed sectors.
- Other instruments, and political goals, have been in place during a long period.
- In the most taxed sectors, total emissions have decreased only moderately or even increased.

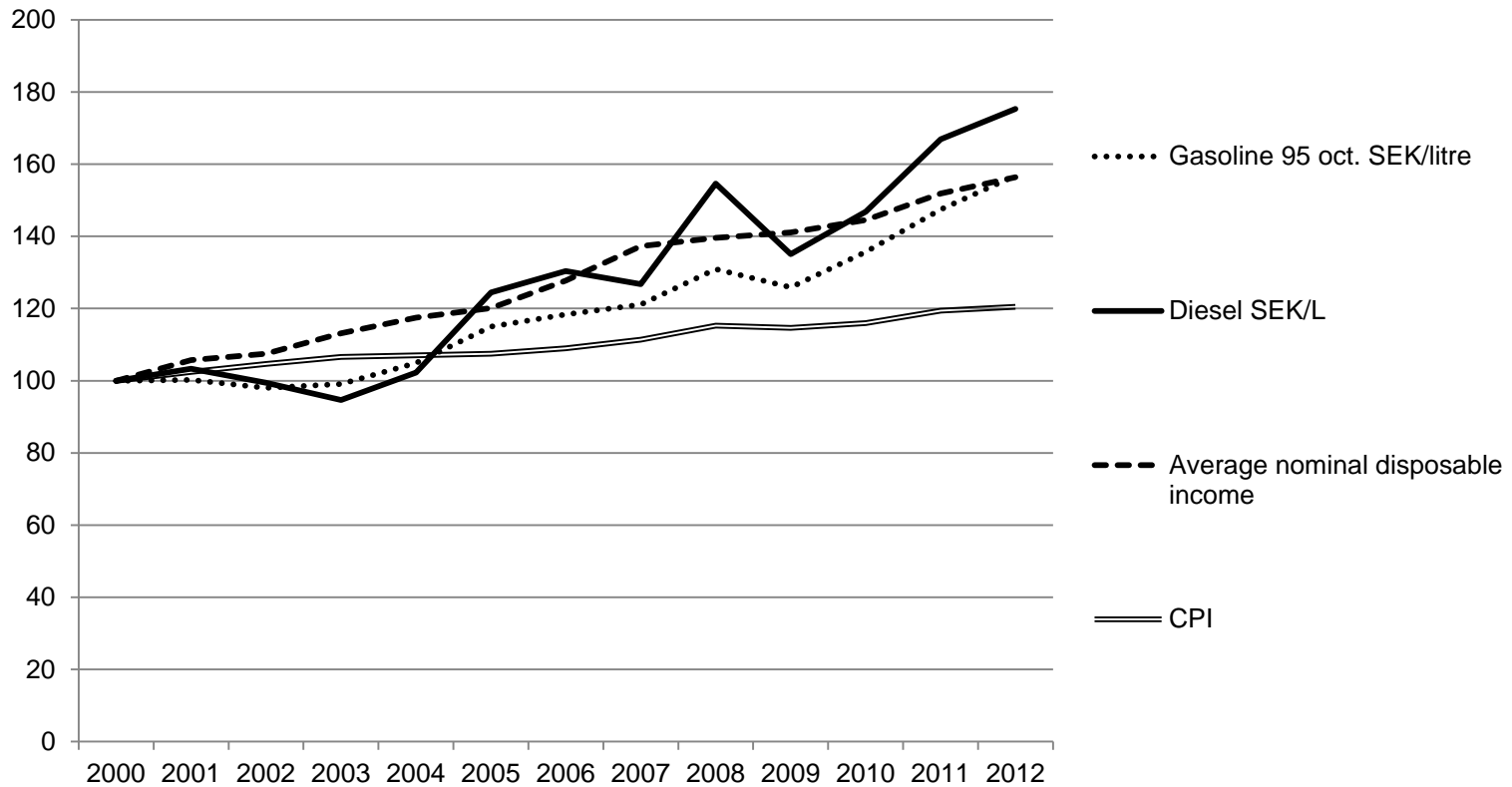
Fiscal revenues from energy- and CO2-tax 1998 – 2013, million SEK



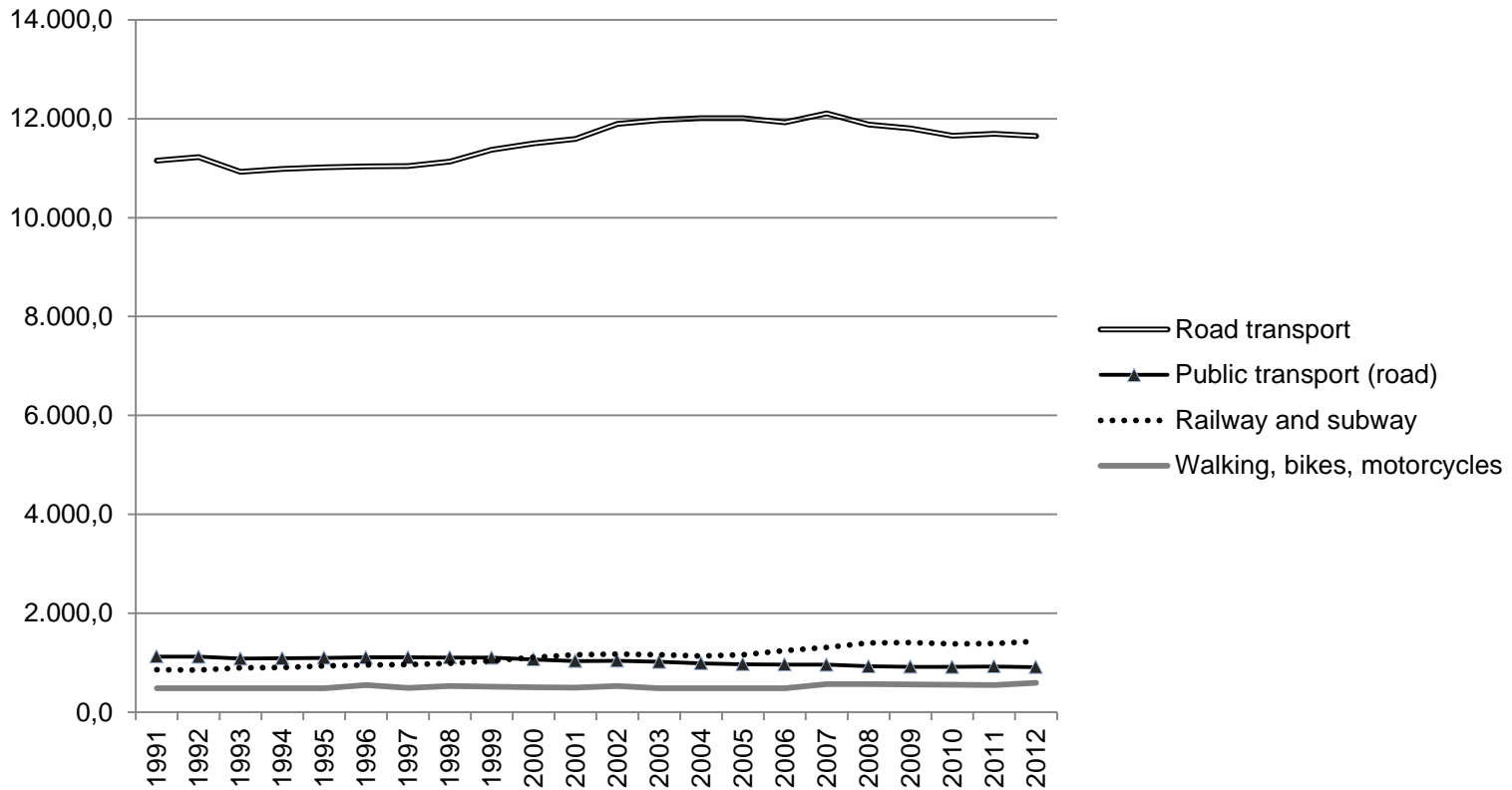
Energy- and CO₂-tax share of gasoline-, diesel- and fuel-oil price (excl. VAT) to consumer 2005-2012



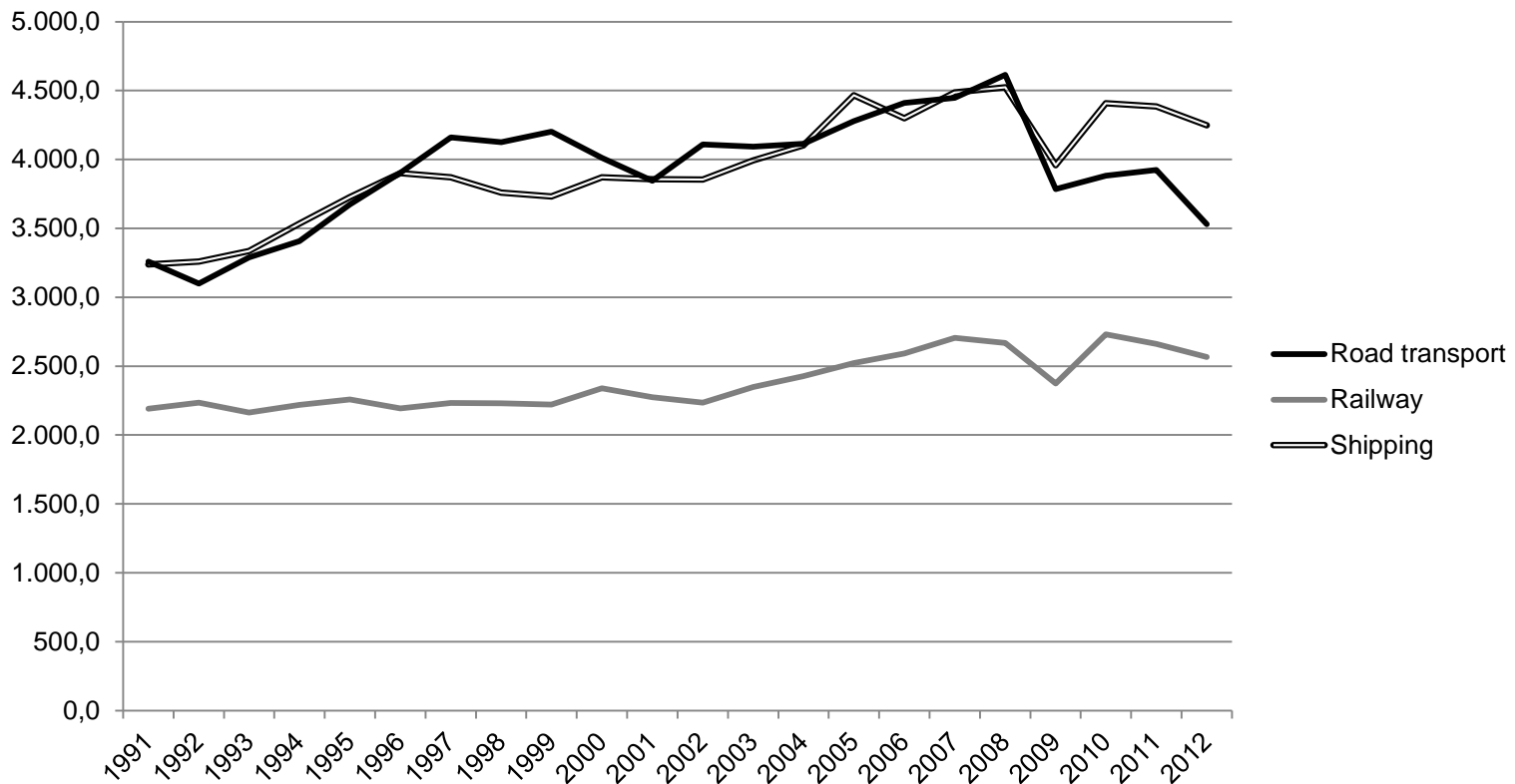
Index CPI, Price Gasoline 95 oct SEK/l., Diesel SEK/l., Average nominal disposable income 2000-2012 (2000=100)



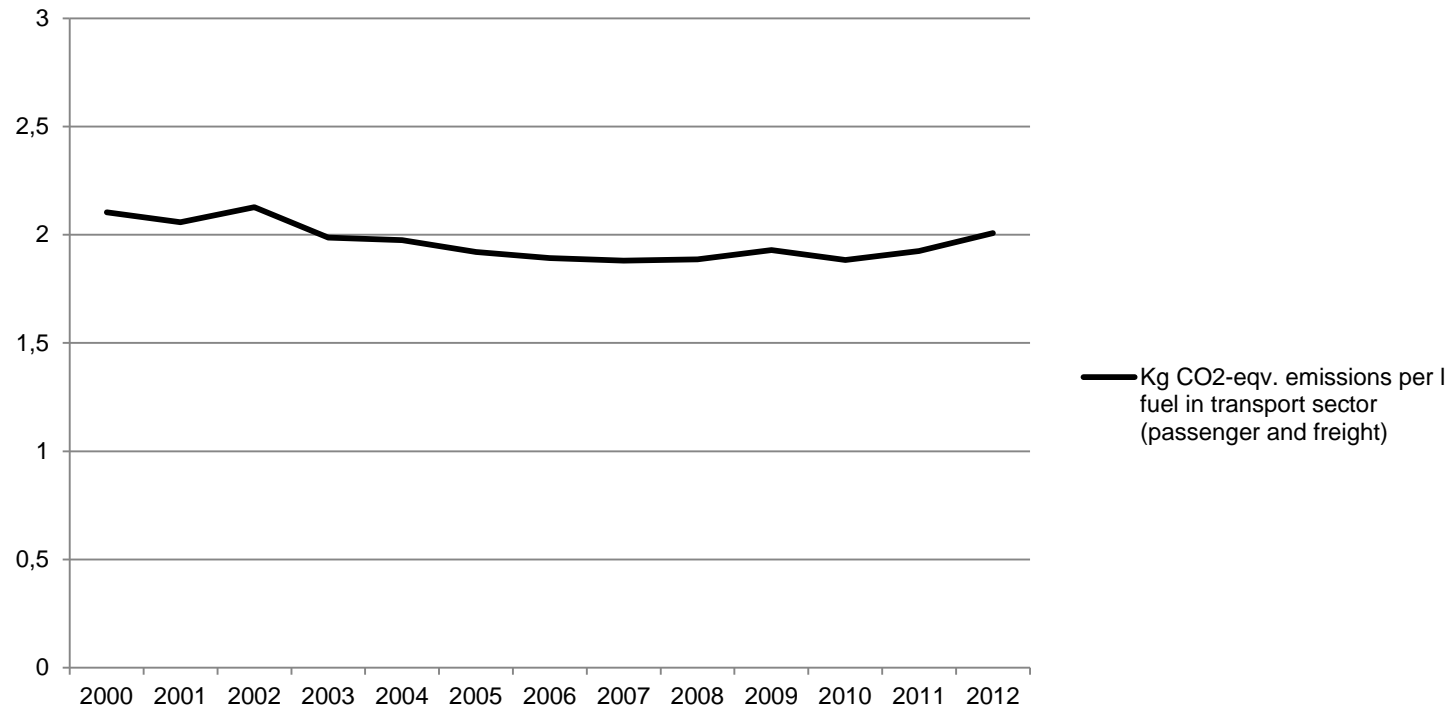
Passenger kilometres per capita and mean of transport 1991-2012



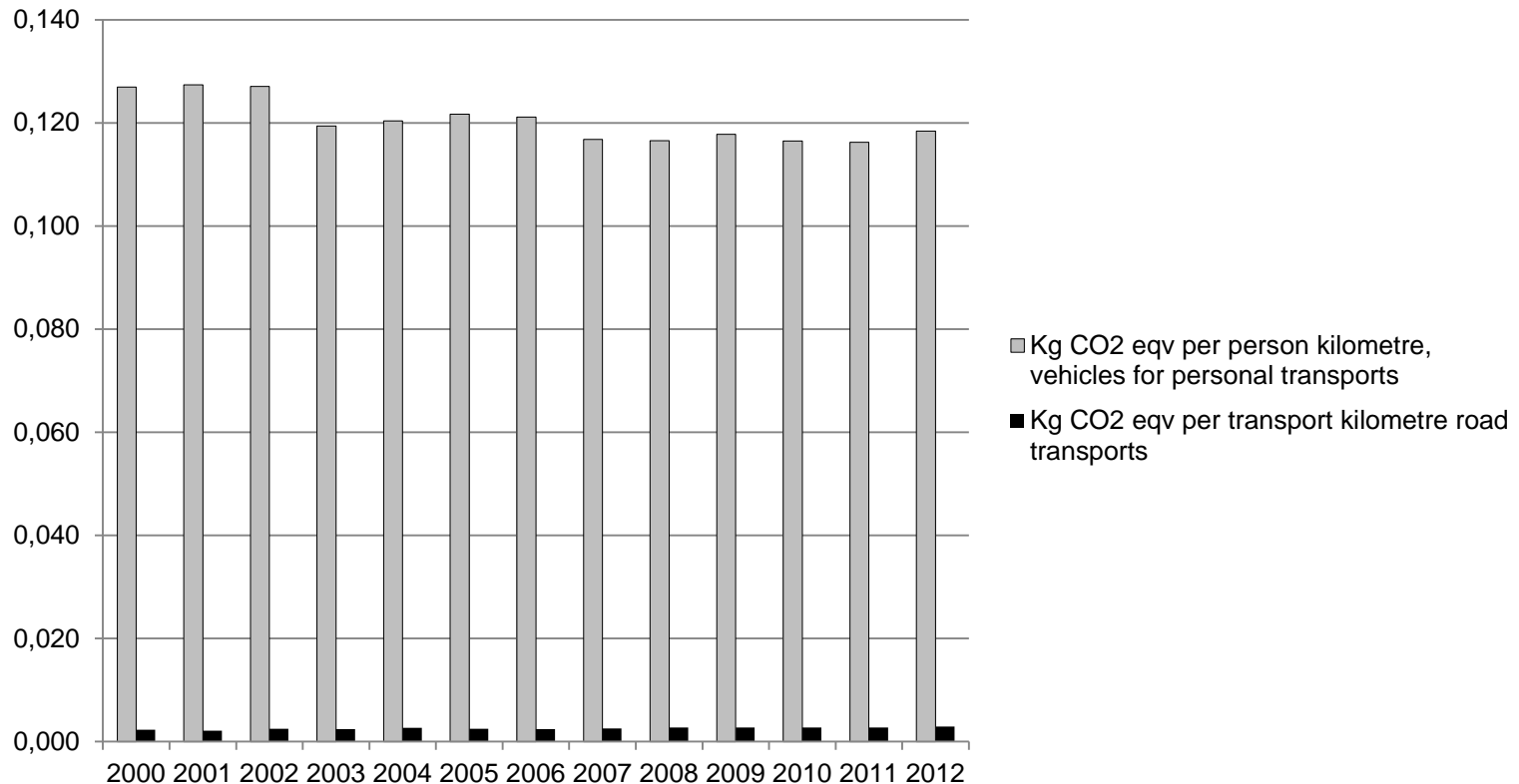
Tonne kilometres per capita and mean of transport 1990-2012



Emissions of CO2-equivalents per litre fuel in total transport sector 1990-2012



Emission of CO₂-equivalents per passenger kilometre and tonne kilometre 1990-2012

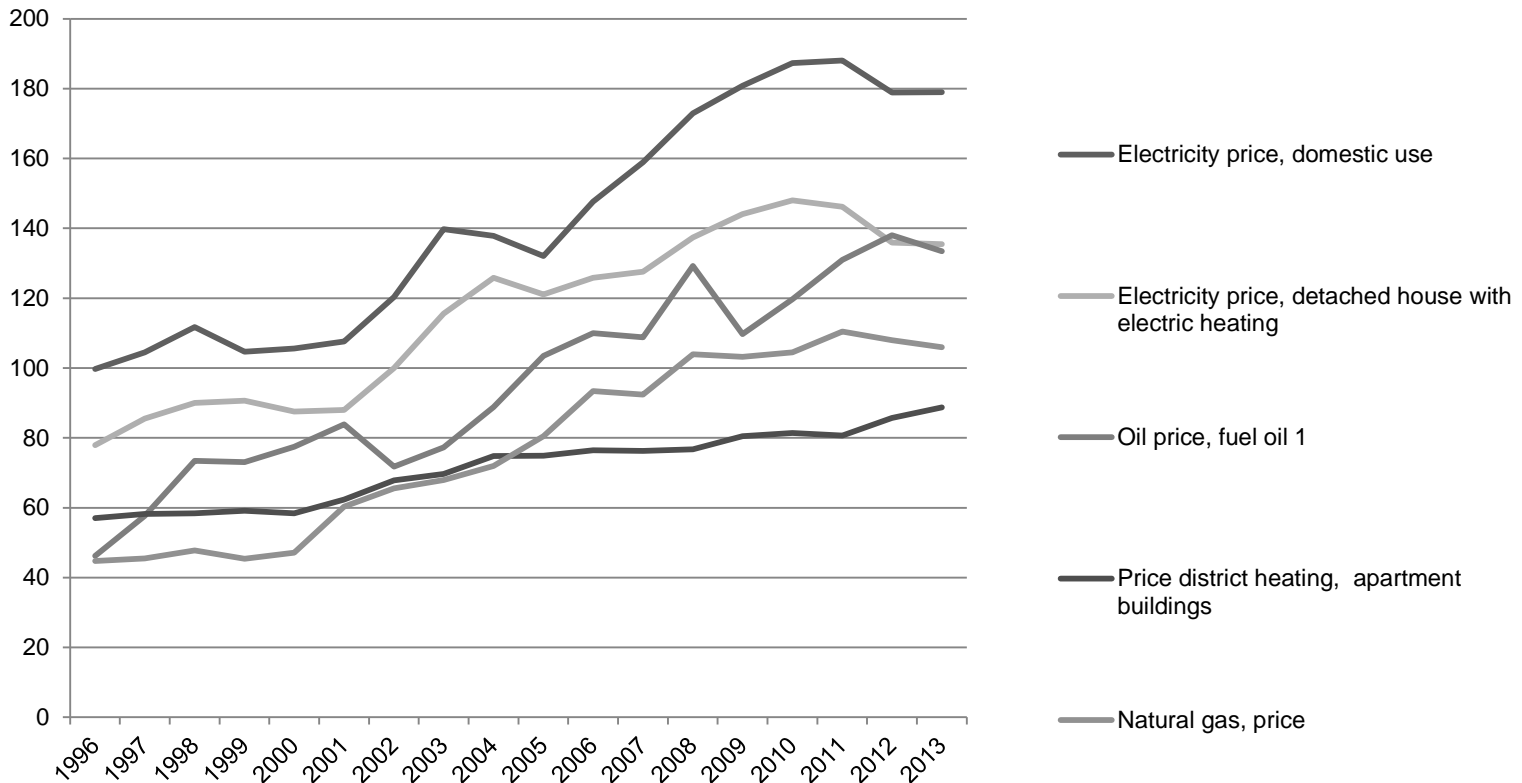


Questions for further analysis

- A matter of efficiency or effectiveness?
- Taxes as a driver for structural changes of the economy?
- Instruments and infrastructure in place?
- National vs. global markets?
- Other political goals?

Thank you

Energy price for the residential- and service in Sweden 1996-2013 öre(cent)/kWh



GDP market prices in Sweden, fixed prices (2013) , quarterly data*

