

Replication Project

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Codebook of the Replication Project

Andersson, Julius J. (2019). *Carbon Taxes and CO2 Emissions: Sweden as a Case Study*. American Economic Journal: Economic Policy, 11 (4): 1–30. DOI: 10.1257/pol.20170144.

Variable List and Descriptions

1. Outcome Variables (Levels and Logs)

These are variables representing the dependent measures of interest, such as levels or logs.

Variable	Label/Type	Description
gas_cons	Continuous	Gasoline consumption per capita (kg of oil equivalent).
log_gas_cons	Log-transformed	Log of gasoline consumption.
CO2_Sweden	Continuous	Metric tons of CO2 emissions per capita from Sweden (transport).
CO2_OECD	Continuous	Metric tons of CO2 emissions per capita from OECD average (transport).
GDP_Sweden	Continuous	GDP per capita of Sweden (PPP, 2005 USD).
GDP_Synthetic_Sweden	Continuous	GDP per capita of synthetic Sweden (PPP, 2005 USD).
gap_CO2_emissions_transp	Continuous	Gap in CO2 emissions per capita (metric tons) from transport.
gap_GDP	Continuous	Gap in GDP per capita (PPP, 2005 USD).
yhat	Predicted values	Predicted gasoline consumption using the full model.
yhat_nocarb	Predicted values	Predicted gasoline consumption without carbon tax.
yhat_nocarb_novat	Predicted values	Predicted gasoline consumption without carbon tax and VAT.

2. Treatment Variables

These represent the main explanatory variables of interest (e.g., taxes, policy changes).

Variable	Label/Type	Description
real_carbontax_with_vat	Continuous	Real carbon tax including VAT (SEK/litre).
real_carbontaxexclusive_with_vat	Continuous	Real carbon tax excluding VAT (SEK/litre).
d_carbontax	Discrete/Indicator	Indicator for carbon tax changes.
real_energytax_with_vat	Continuous	Real energy tax including VAT (SEK/litre).
real_oil_price_sek	Continuous	Real oil price (SEK/litre).

3. Other Controls

These are additional variables included in regressions to account for confounding or contextual factors.

Variable	Label/Type	Description
real_gdp_cap_1000	Continuous	Real GDP per capita, scaled to thousands (PPP, 2005 USD).
urban_pop	Continuous	Share of the urban population (%).
unemploymentrate	Continuous	Unemployment rate (%).

4. Other Variables

These variables are used for intermediate calculations, predictions, or graphical representations.

Variable	Label/Type	Description
Real_Gasoline_Price	Continuous	Real gasoline price (SEK/litre).
Real_Carbontax	Continuous	Real carbon tax (SEK/litre).
Real_VAT	Continuous	Real VAT component (SEK/litre).
Real_Energytax	Continuous	Real energy tax (SEK/litre).
Real_total_tax	Continuous	Total real tax on gasoline (SEK/litre).
year	Time	Year of observation (1960–2005).
t	Time	Time trend variable.