Econometric Analysis using R

This project was focused towards leaning econometrics, R and environmental studies.

Learning Objectives:

- Econometric Models (Hausman Test)
- Panel Data Analysis
- Environmental Economics

Learning Outcomes:

- Implementing Statistical Model
- Analysis Using R
- Data Visualization

Conclusion:

This project successfully implements panel data econometrics to analyses CO2 emission drivers, validating advanced statistical methods in environmental economics. The study finds that wealthier countries don't always follow the same pollution patterns, and environmental regulations clearly matter.

Output of the code in R:

=== HAUSMAN TEST ===

data: co2_emissions ~ gdp_per_capita + I(gdp_per_capita^2) + renewable_share + ...

chisq = 3.8771, df = 5, p-value = 0.5672

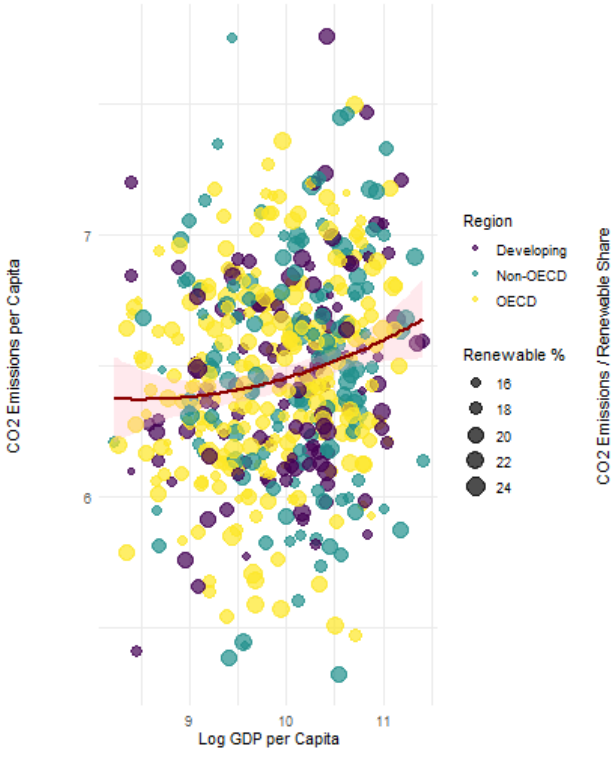
alternative hypothesis: one model is inconsistent

Comprehensive Environmental Econometrics Analysis

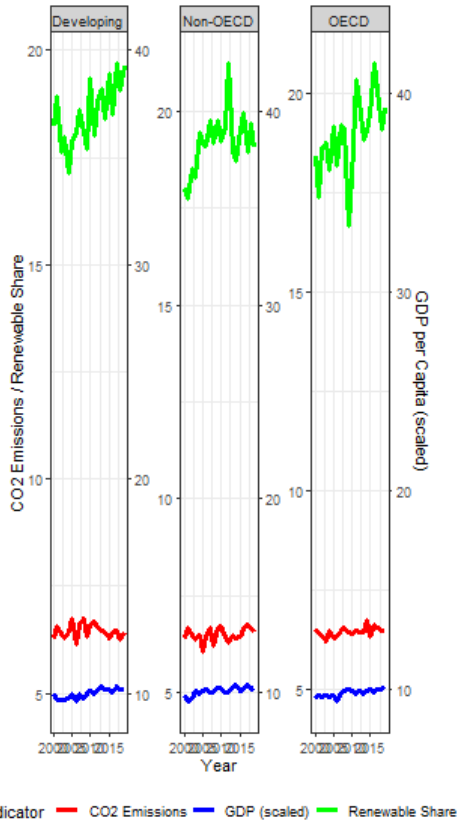
Intermediate-level graphical representation of environmental-economic relationships

Environmental Kuznets Curve with Regional Differentiation

CO2 Emissions vs GDP per Capita (2000-2019)

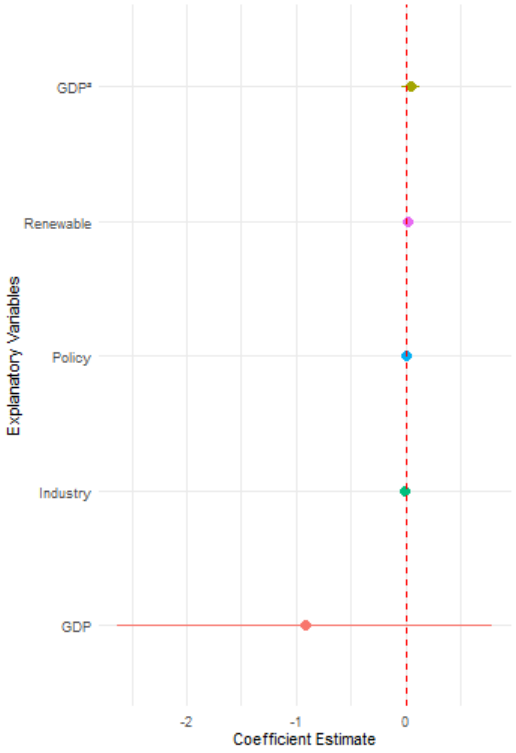


Regional Trends: Environmental and Economic Indicators



Fixed Effects Regression Coefficients

Determinants of CO2 Emissions with 95% Confidence Intervals



CO2 Emissions by GDP with Policy and Renewable Context

Faceted by Renewable Energy Share Tertiles