

# A Decomposition Approach to Evaluating the Progress of the New Green Economy

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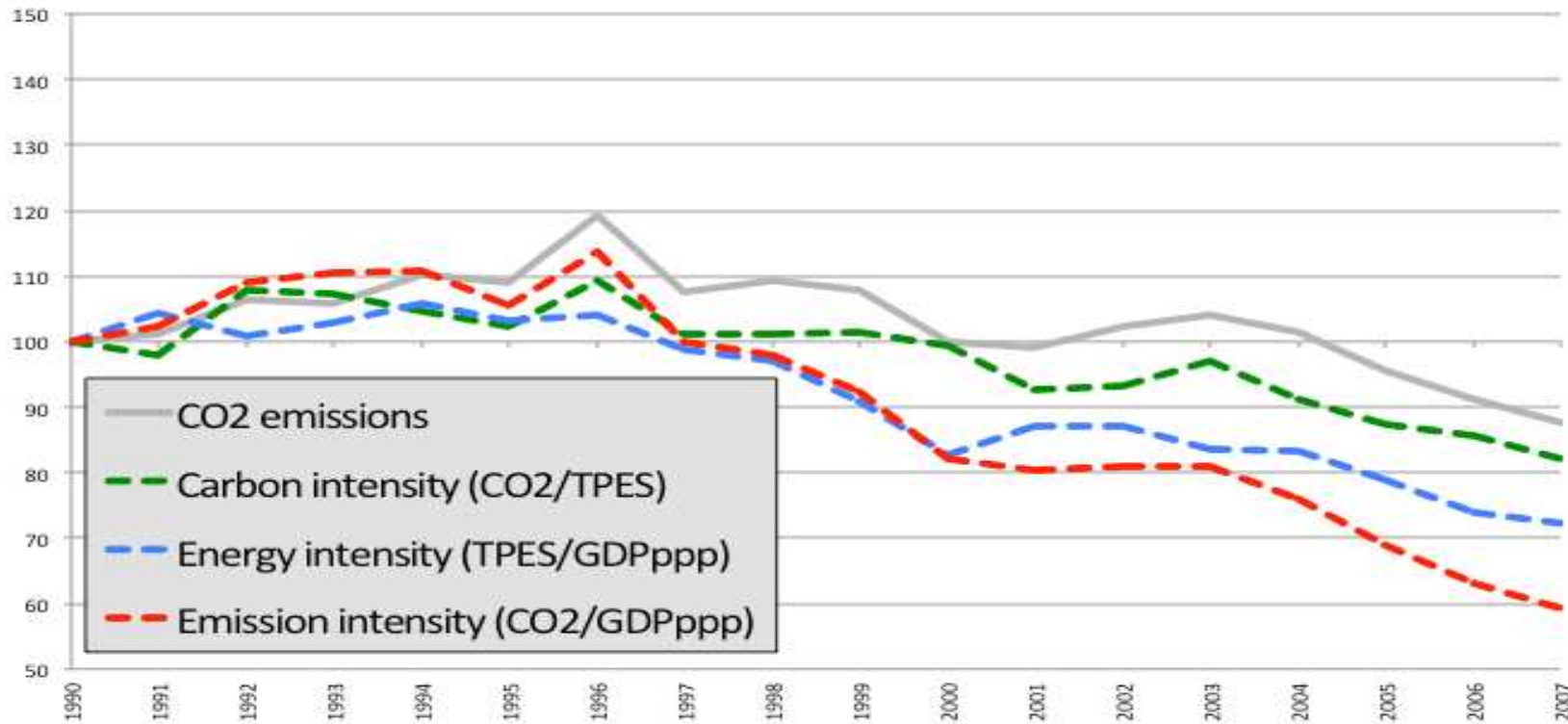
# Background

- Project : 'Policy Intervention for a Competitive Green Economy'
  - Create methodological framework
  - Apply methodology to focus on renewable energy and energy efficiency
  - Green Economy – Multiple Criteria ; Social, Environmental, Economic, Technological
  
- Conference Paper
  - Which policies warrant further investigation?
  - What indicators are significant?
  - Data from IEA – Energy consumption, Population, GDP, CO<sub>2</sub> emissions

# Correlation and Regression Analyses

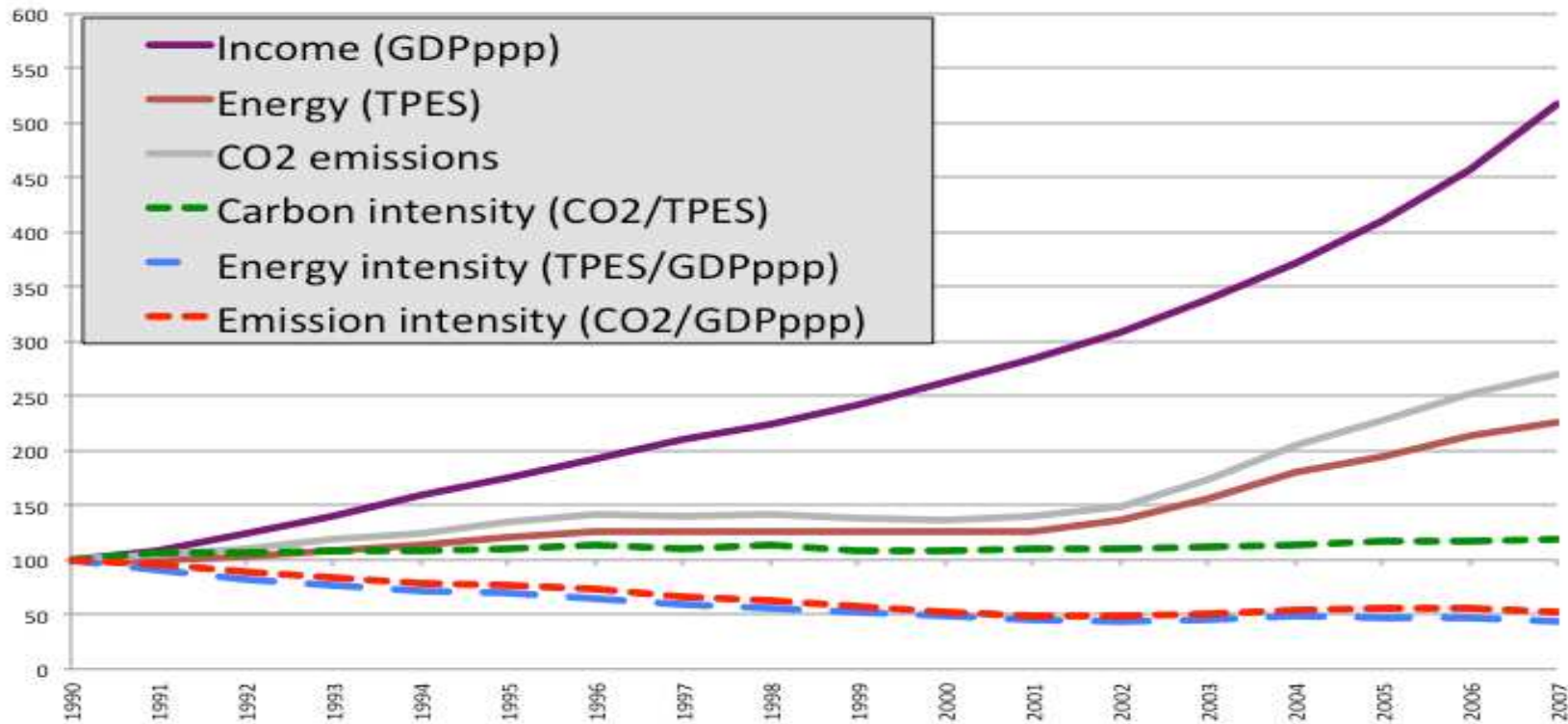
- Correlation Analysis based around I=PAT formula
  - Independent variables – Population (pop), Gross Domestic Product (GDP) and Energy Intensity (E\_int)
  - Equation defined as  $CO_2 = f(\text{pop}, \text{GDP}, \text{E\_int})$
  - Signs of collinearity in all 3 countries so further regression analysis applied
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- Sweden – Energy Intensity most significant variable
  - China – Population and GDP are significant variables
  - UK – All variables significant

# Sweden



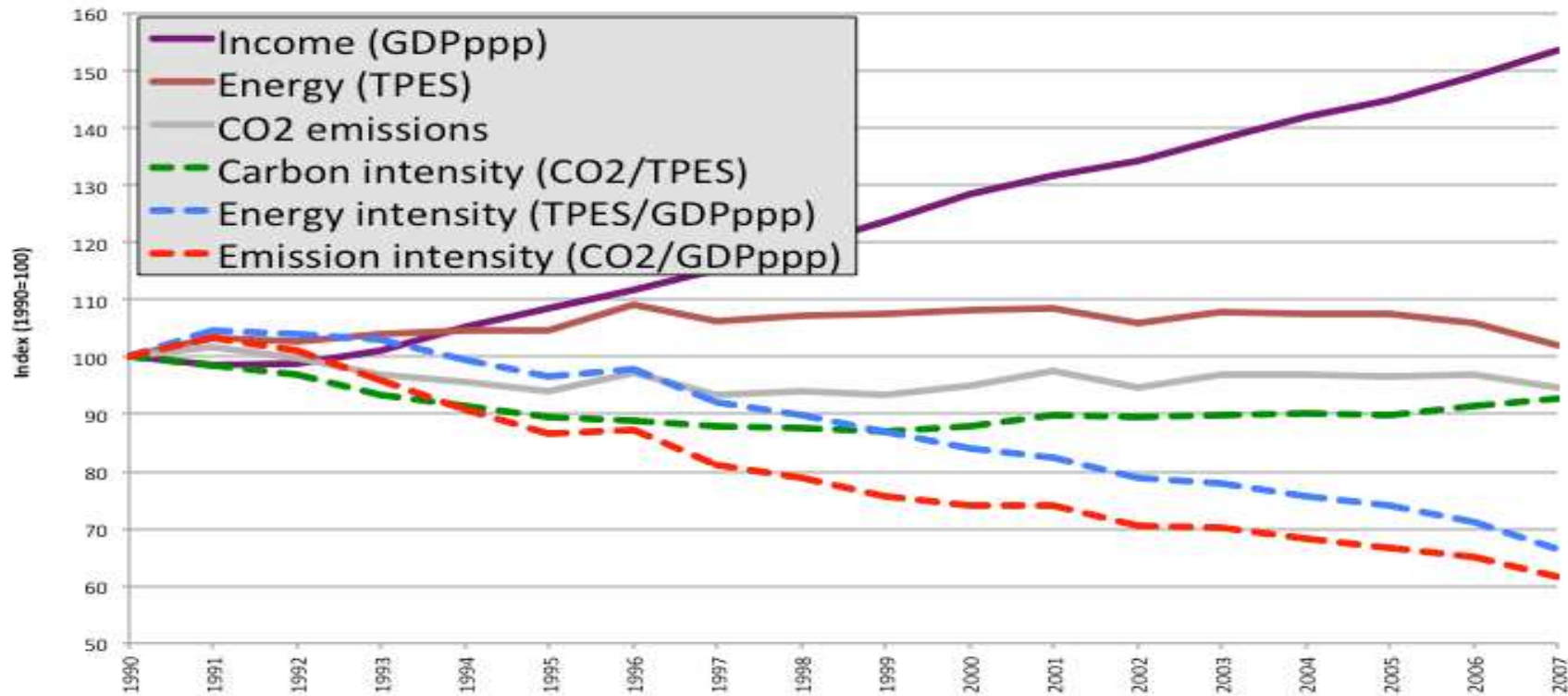
- Decreases in both Carbon Intensity and Energy Intensity
- Energy Intensity of greater significance
- Confirms regression analyses findings

# China



- Steady Carbon Intensity = no decarbonisation of fuel mix
- Decreased Emissions Intensity due to decreased Energy Intensity

# Great Britain



- Consistent signs of decoupling
- Carbon Intensity important before 1999, Energy Intensity after.
- All variables significant; signs of multicollinearity

# Significant Policies

## Sweden

- Green Electricity Scheme
- Swedish Program for Energy Efficiency Improvements (PFE)

## UK

- Energy Efficiency Commitment (EEC) and Carbon Emissions Reductions Target
- Non-Fossil Fuel Obligation (NFFO) and Renewable Energy Certificate (ROC)

## China

- No integrated policy approach
- Recent developments, post 2007

# Conclusions

- Strong candidates in Sweden for policy evaluation
- Plurality of policies in China will constitute methodological challenge
- Multiple policies for consideration in UK
  
- Additional techniques will need to be applied for policy evaluation (multi-criteria analysis)



# Thank-you

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