



Bachelor Thesis

Decomposition analysis based on IPATH

The IPAT equation is a mathematical identity that expresses the idea that environmental impact (I) is the product of three factors: population (P), affluence (A) and technology (T).

The identity decomposes ecological impacts into the relative contributions of population size, economic prosperity per capita, and technology. In practice, it is used to systemically analyse historical data on environmental effects (e.g. GHG-emissions) with respect to the relative impact of changes in population size, technology and affluence.

Kurz (2019) and others suggest that the usage of economic prosperity per capita (GDP/P) as a proxy for standard of living, well-being and happiness is inappropriate since GDP measures output and annual income. To remedy this issue, affluence should be redefined as the expenditure for market-based goods and services needed per unit of happiness (GDP/H). For the identity to hold, happiness per person (H/P) would have to be added.

The goal of the thesis would be to model the IPATH identity and do a decomposition analysis. For that, a suitable measure of happiness has to be devised and all the data required would have to be gathered. As part of the thesis, either several countries at a single point in time or one country over a period of time could be considered.

Key tasks and objectives of the thesis

- Detailed familiarisation with the IPAT identity
- Review of the theoretical and empirical literature on the IPAT identity
- Modelling the IPATH identity by introducing H (=happiness) into the IPAT equation
- Decomposition analysis based on IPATH

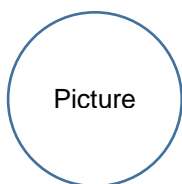
Your profile

- Student of economics, best with focus on energy
- Interest in green energy

Literature

- Kurz, R., 2019. Post-growth perspectives: sustainable development based on efficiency and on sufficiency. Public Sector Econ. 43 (4), 401–422.

Contact



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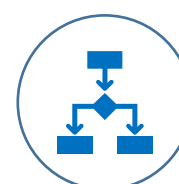
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Topics



- IPAT
- Environmental Impact
- Growth

Methods



- Decomposition analysis
- Data gathering
- Literature work