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# The Index of Sustainable Economic Welfare (ISEW) for Flanders, 1990-2016

prof. dr. Brent BLEYS

Department of Economics, Ghent University



**Vlaanderen**  
is milieu



**De Index voor Duurzame Economische  
Welvaart (ISEW) voor Vlaanderen  
1990-2016**

# Outline

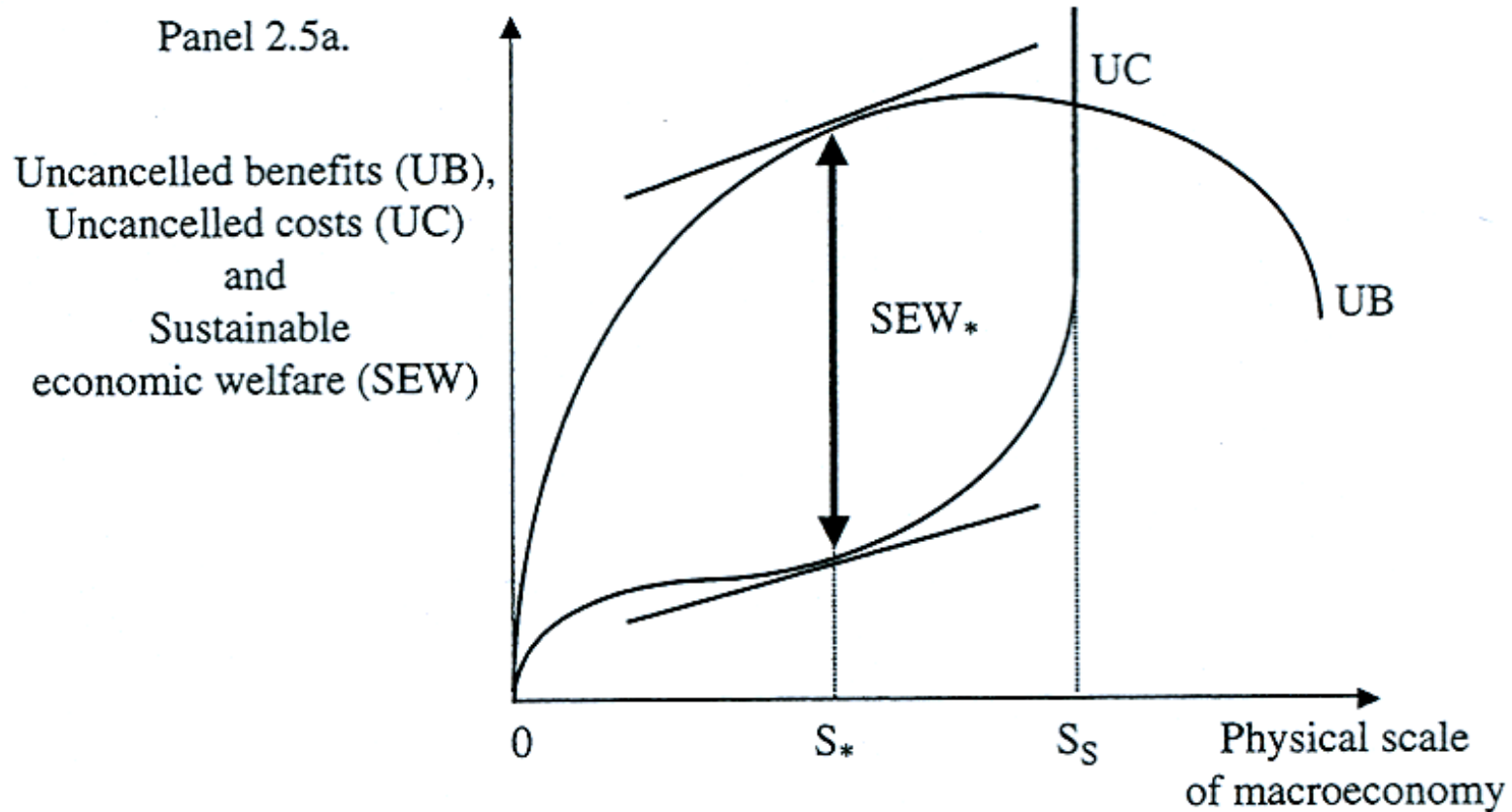
- 1. The Index of Sustainable Economic Welfare (ISEW)**
- 2. ISEW for Flanders, 1990-2016**
- 3. Discussion**

# ISEW

## Index of Sustainable Economic Welfare (ISEW)

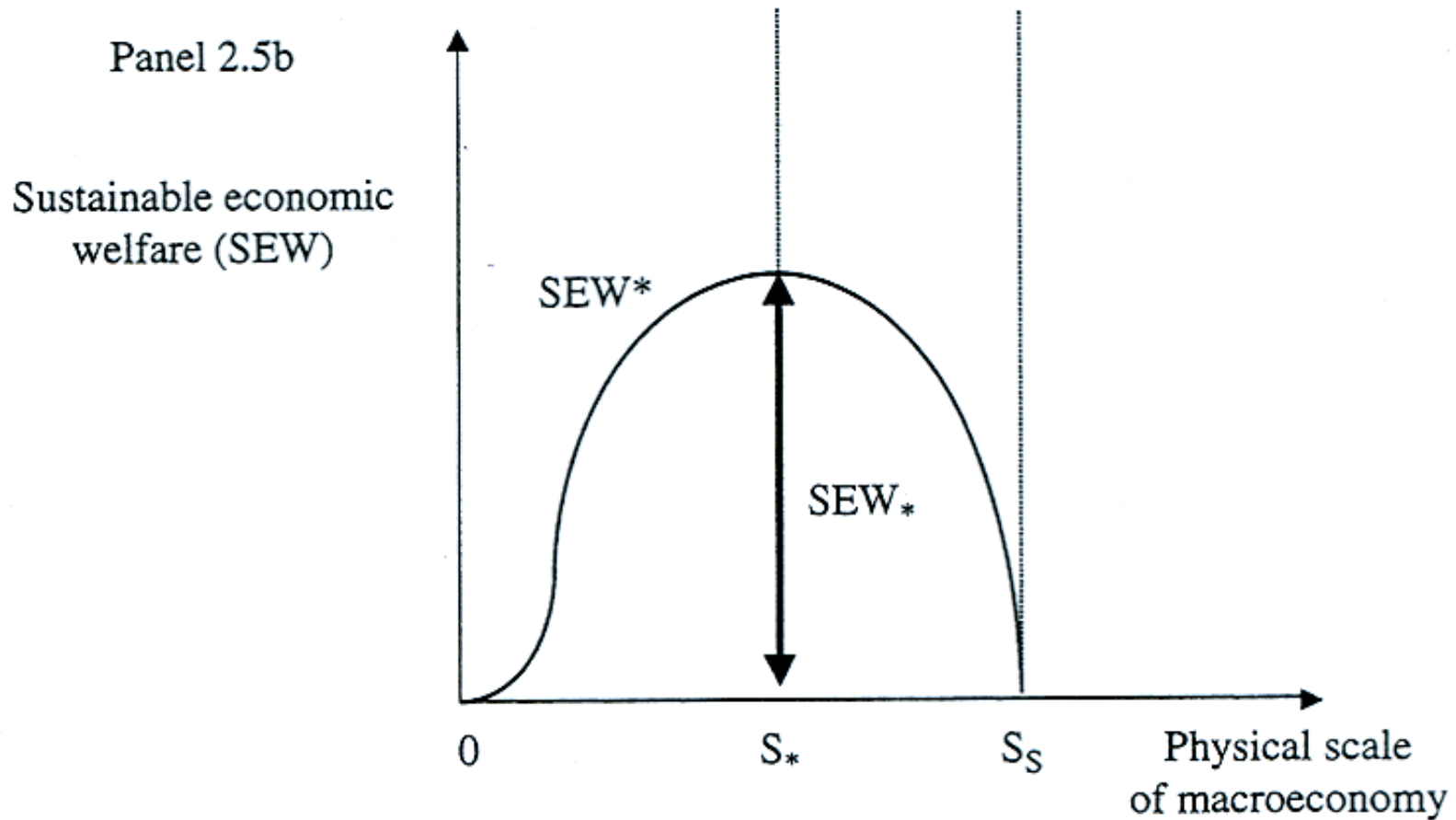
- ▶ Daly and Cobb, 1989 ~ ecological economics
- ▶ methodological updates
- ▶ measures the contribution of a nation's economy to the level of well-being enjoyed by its citizens (economic welfare)
- ▶ macroeconomic cost-benefit analysis:  
uncancelled benefits versus uncancelled costs

# Optimal Physical Scale



Lawn & Sanders, 1999

# Optimal Physical Scale



Lawn & Sanders, 1999

# Methodology

ISEW=

Benefits

- ▶ private consumption expenditures (+)
- ▶ welfare losses from income inequality (-)
- ▶ value of household work (+)
- ▶ non-defensive public expenditures (+)
- ▶ defensive private expenditures (-)
- ▶ capital adjustments (+/-)

Costs

- ▶ costs of environmental degradation (-)
- ▶ depreciation of natural capital (-)

# ISEW

- total number of components in the ISEW methodology varies between 15 and 25 across different studies
- data from SNA, time use surveys, national or regional statistical offices, environmental agencies, ...
- monetary aggregation



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# Components

A	Private Consumption Expenditures	K	Costs of Water Pollution
B	Losses from Income Inequality	L	Costs of Air Pollution
C	Value of Household Work	M	Costs of Noise Pollution
D	Services from Consumer Durables	N	Loss of Farmlands
E	Public Expenditures (health; education)	O	Depletion of Non-renewable Resources
F	Expenditures on Consumer Durables	P	Costs of Climate Change
G	Private Expenditures (health; education)	Q	Costs of Ozone Layer Depletion
H	Costs of Commuting	R	<i>Net Capital Growth</i>
I	Private Expenditures (household waste)	S	<i>Changes in NIIP</i>
J	Costs of Car Accidents		

# Valuation Methods

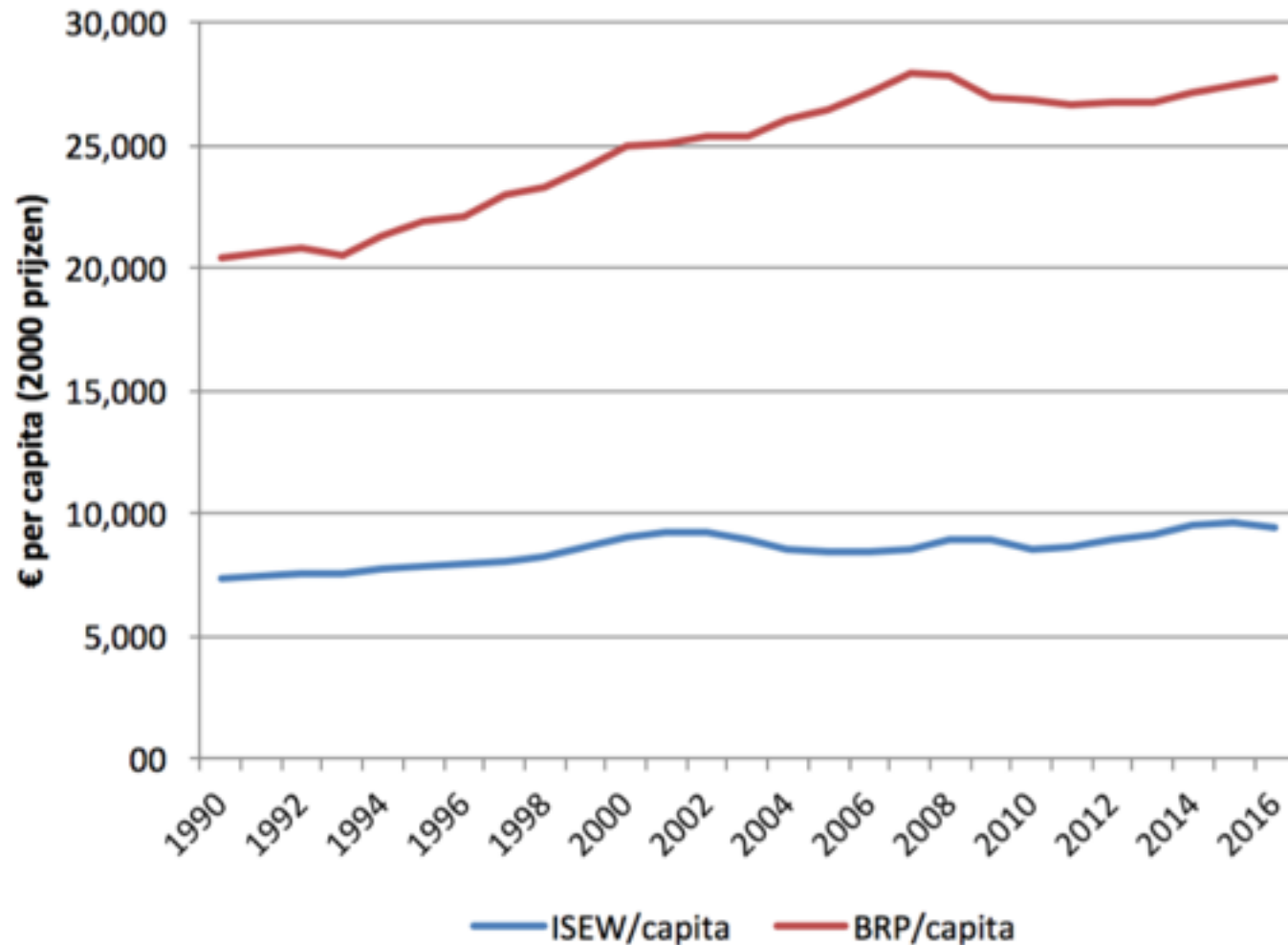
- B: welfare losses from income inequality
  - ▶ Atkinson index of income inequality that builds on society's preference for more or less equality
  - ▶ clear welfare theoretical interpretation
- C: value of household work
  - ▶ time spent on household work (time use surveys) \* wage rate of cleaning personnel

# Valuation Methods

- L: costs of air pollution
  - ▶ yearly emissions for 5 air pollutants \* MSC estimate (De Nocker et al., 2010)
- P: costs of carbon dioxide emissions
  - ▶ cumulative emissions since 1964, yet only that part of the emissions above the Earth's carbon sequestration capacity
  - ▶ time-varying MSC estimate

# ISEW for Flanders

figuur 19: ISEW/capita en BRP/capita voor Vlaanderen



Bron: eigen berekeningen

# Results

- GDP/capita ~ 2008/9 crisis
- ISEW/capita
  - ▶ steady increases between 1990-2001
  - ▶ 2002-2006: decline - rising income inequalities and increases in costs of LT environmental costs
  - ▶ 2009: only a minor drop in ISEW due to decrease of the costs of economic activities

# Results

- ISEW/capita ~ more recently:
  - ▶ impact of depletion costs of non-renewable energy resources ~ no “costs” on imported electricity (territorial)
  - ▶ costs of climate change (+3,5% in 2016) and air pollution (+3,1% in 2016) increase faster than average cost items
  - ▶ increases in shadow price of household labour

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# Policy impact

- observation: impact on policies and policy-makers has been rather limited
  - ▶ most studies undertaken by academics or think tanks
- few exceptions
  - ▶ Europe: ISEW in Flanders and NWI in Germany
  - ▶ US: state-level GPIs

# Policy impact

- Flanders
  - ▶ ISEW included in impact analysis of green taxation strategies (to complement GDP, LNE), Limburg carbon neutral (province)
- 2014 report
  - ▶ barrier study: context barriers, indicator barriers and user barriers
  - ▶ research agenda ~ Bleys & Whitby, 2015

# Reflection

- shortcomings and opportunities
  - ▶ standardised 2.0 methodology that draws on a sound theoretical foundation
  - ▶ ISEW dataset for EU15 countries (comparability)
  - ▶ compelling narrative
- research project (UGent, SRF) with Jonas Van der Slycken

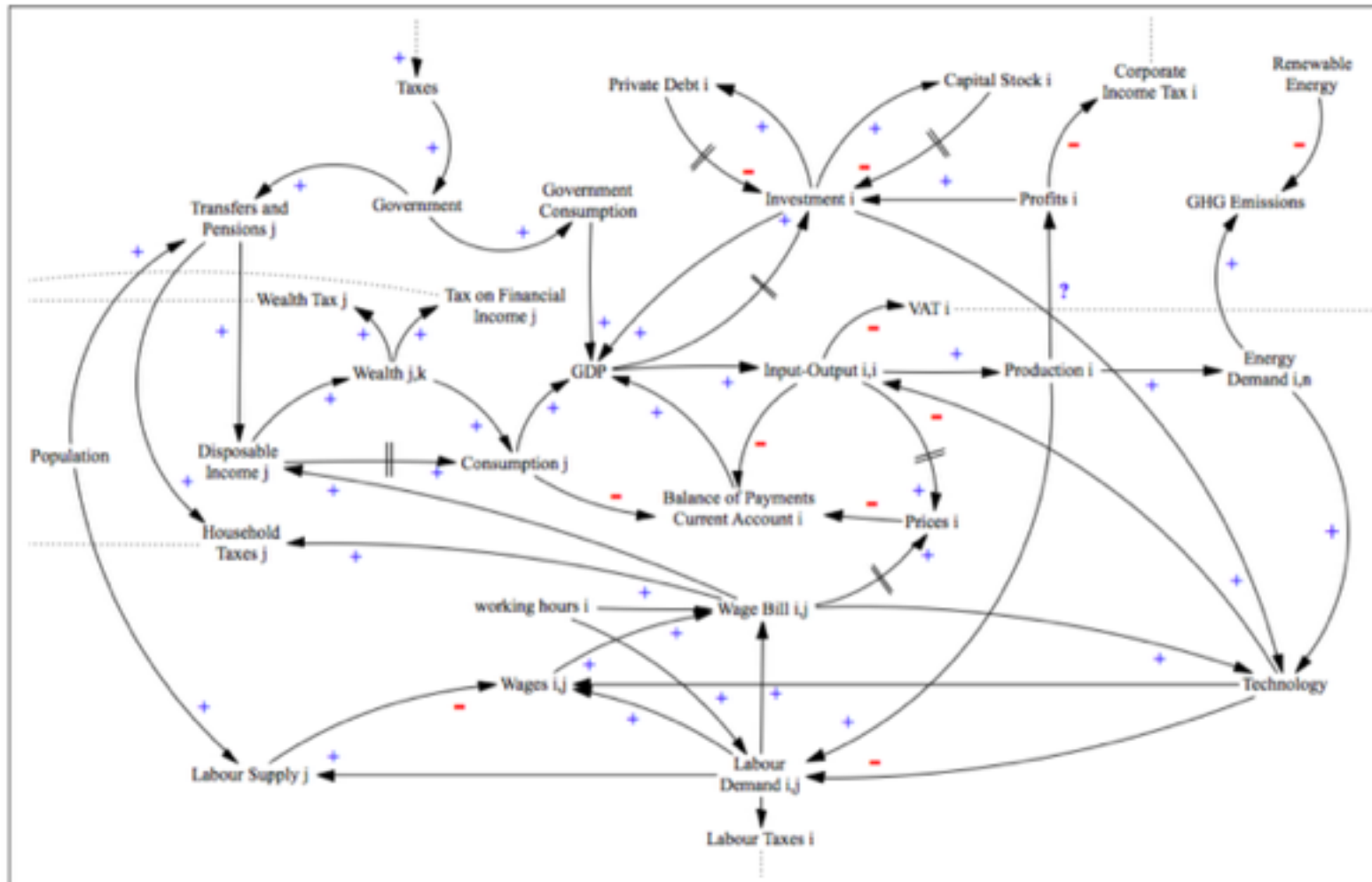
# Return to Theory

- ISEW: inspired by both Hicksian and Fisherian income concepts
- need to disentangle both:
  - ▶ benefits and costs experienced (BCE):  
present (+ backward looking), within boundaries
  - ▶ benefits and costs of present activities (BCPA):  
present (+ forward looking), beyond boundaries
- make clear choices and be consistent!

# Ecological Macro

- development of ecological macroeconometric models since 2010
- system-dynamic SFC modellen, post-Keynesian theory
- Tim Jackson, Peter Victor, ... that go back to the models of Limits to Growth (1972)
- integrate real economy, financial economy, distribution issues and ecological boundaries

# EUROGREEN



*Graphical representation of the feedback effects and lags among the main variables. Subscript  $i$  and  $j$  denote the industry and the skills, respectively. The signs on the arrows indicate a positive (+) or a negative (-) causal relationship, while the vertical double bar denotes a delayed effect.*

# Ecological Macro

- this kind of models would allow for ex ante assessments of policy interventions looking at other indicators than GDP
- integrating Beyond GDP indicators in ecological macro models  
~ WP in EU COST proposal “EMBARK”
- Well-being Economy Alliance (WE All) & Post-growth Economics Network (PEN)



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**Thank you!**

[brent.bleys@ugent.be](mailto:brent.bleys@ugent.be)