Alternative Economic Welfare Measurement in Germany – The National and Regional Welfare Index (NWI/RWI)

Why we need a better indicator for measuring welfare than GDP

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Overview

1) Context and Methodological Overview
2) Results
3) Conclusion
1) Context and Methodological Overview
Problem:
GDP (growth) often used as the central indicator for countries (and politicians) success
'The Gross National Product counts air pollution and cigarette advertising, and ... the destruction of the redwood and the loss of our natural wonder in chaotic sprawl... Yet [it] does not allow for the health of our children, the quality of their education, or the joy of their play... the beauty of our poetry or the strength of our marriages... it measures everything, in short, except that which makes life worthwhile.'
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Robert Kennedy, 1968

Remarks at the University of Kansas
History of alternative measures of economic welfare

• Nordhaus/Tobin 1972: Measure of Economic Welfare (MEW)

• Japan 1974: Net National Welfare (NNW)

• Xenophon Zolotas 1981: Economic Aspects of Welfare (EAW)

• Daly/Cobb 1989: Index for Sustainable Economic Welfare (ISEW)

• Cobb/Halstead/Rowe (Redefining Progress) 1995: Genuine Progress Indicator (GPI)
The National/Regional Welfare Index: History

- **National Welfare Index (NWI)**
  - first published 2008/2009
  - revised NWI 2.0 2013
  - NWI update 2015
  - NWI update 2016

- **Regional Welfare Indices (RWI)**
  - Schleswig-Holstein (2011)
  - Bavaria, Thuringia, Saxonia (2013)
  - Rhineland-Palatinate, Hamburg, Bavaria (2014)
  - North Rhine-Westphalia
  - Rhineland-Palatinate (2016)
Methodological Overview of the NWI

Composite Indicator / Accounting approach of the „ISEW family“ (Index of Sustainable Economic Welfare)

20 components

Starting point: Private consumption weighted with income distribution

+ welfare-creating components not included in the GDP, i.e. household and family work, voluntary work

+/- adjustments due to the temporal divergence of expenses and benefits of durable goods

- welfare reducing components: e.g. environmental impacts, traffic accidents, consumption of non renewables
<table>
<thead>
<tr>
<th>1 Index of income distribution</th>
<th>Weighting</th>
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</thead>
<tbody>
<tr>
<td>2 Weighted private consumption expenditure</td>
<td>+</td>
</tr>
<tr>
<td>3 Value of housework</td>
<td>+</td>
</tr>
<tr>
<td>4 Value of voluntary work</td>
<td>+</td>
</tr>
<tr>
<td>5 Public expenditure on health care and education</td>
<td>+</td>
</tr>
<tr>
<td>6 Durable consumer goods, costs / benefits</td>
<td>+ / -</td>
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<tr>
<td>7 Costs of travelling between home and workplace</td>
<td>-</td>
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<tr>
<td>8 Costs of traffic accidents</td>
<td>-</td>
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<tr>
<td>9 Costs of crime</td>
<td>-</td>
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<tr>
<td>10 Costs of alcohol, tabacco and drug abuse</td>
<td>-</td>
</tr>
<tr>
<td>11 Expenditure to compensate for neg. environmental impacts</td>
<td>-</td>
</tr>
<tr>
<td>12 Damage costs of water pollution (“memo value”)</td>
<td>-</td>
</tr>
<tr>
<td>13 Damage costs soil degradation (“memo value”)</td>
<td>-</td>
</tr>
<tr>
<td>14 Damage of air pollution</td>
<td>-</td>
</tr>
<tr>
<td>15 Damage costs of noise</td>
<td>-</td>
</tr>
<tr>
<td>16 Value of increase/loss of ecosystems (“memo value”)</td>
<td>+ / -</td>
</tr>
<tr>
<td>17 Value of increase/loss of agricultural areas</td>
<td>+/-</td>
</tr>
<tr>
<td>18 Replacement costs due to the consumption of non-renewable energy resources</td>
<td>-</td>
</tr>
<tr>
<td>19 Damage costs from GHG emissions</td>
<td>-</td>
</tr>
<tr>
<td>20 Costs of nuclear energy</td>
<td>-</td>
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</tbody>
</table>

The 20 components of NWI/RWI
2) Results
NWI and GDP (2000=100)

Phase 1
+11.2 / +10.7

Phase 2
-8.9 / +5.0

Phase 3
-0.3 / +11.3

116.0

Diefenbacher et al. 2016 (to be published)
NWI and GDP (2000=100)

GDP and NWI increase

Main reasons for increase of NWI:

- Income inequality constant (Gini from 0.248 to 0.249)
- Consumption expenditures increase (+8%, 93 bn €)
- Environmental components decrease (–17%, – 88 bn €)
- Damages from air pollution (– 44%, – 62 bn €)

→ GDP good estimator for welfare (NWI)

Diefenbacher et al. 2016 (to be published)
NWIs and GDP (2000=100)

Phase 1

Phase 2

GDP increases, NWIs decrease

Main reasons for decrease of NWIs:

Income inequality increases (+16%, -192 bn €)
(Gini from 0.249 to 0.289)

Consumption expenditures constant. (+3%, +43 bn €)

Environmental components constant. (−4 %, −17 bn €)

→ GDP bad estimator for welfare (NWI)

Diefenbacher et al. 2016 (to be published)
NW1 and GDP (2000=100)

GDP increases, NW1 stagnates

Main reasons for stagnation of NWI:

- Income inequality constant (Gini from 0.289 to 0.291)
- Consumption expenditures constant (+3%, +35 bn €)
- Environmental components constant (–1%, –17 bn €)
- Value of housework work decreases (–6%, –42 bn €)

→ GDP bad estimator for welfare (NW1)

Diefenbacher et al. 2016 (to be published)
NWI and GDP (2000=100)

Overall:
GDP + 29.6
NWI + 3.9

Consumption expenditures increased
(+15%, +187 bn €)

Environmental components decreased
(−25%, −181 bn €)

Income inequality increased
(+17%, −209 bn €)
(Gini from 0.249 to 0.291)

Value of household work decreases
(−12%, −88 bn €)

→ GDP bad estimator for welfare (NWI)

Diefenbacher et al. 2016 (to be published)
Conclusion

Why do we need an alternative welfare measure “beyond GDP”? Because GDP just measures economic output, and as the NWI and other studies (e.g. Daly/Cobb (1989), Kubiszewski/Costanza et al (2013), Bleys/Whitby (2015)) showed: Economic Output (GDP) is not a good estimator for welfare.

Why do we need (also) a single indicator and not an indicator system? Because we need an indicator that can take on GDP. This by no means means that indicator systems are not necessary too. They are indispensable for responsible governing, but we also need a single indicator which is easy to communicate in the public and to politicians and which gives an indication of the overall development.

Next Steps: Methodological improvements; International harmonisation; Reducing time lag; Regular update and publication of NWI and RWI; Getting more federal states on board with RWI; Trying to make NWI/RWI and alternative welfare measurement more known/visible/relevant in Germany/Europe/Worldwide.
„What we measure affects what we do; and if our measurements are flawed, decisions may be distorted.“

Joseph Stiglitz  Amartya Sen  Jean-Paul Fitoussi

(Report by the Commission on the Measurement of Economic Performance and Social Progress, Page 1)


