Multidimensional Poverty in Germany: A Capability Approach

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Outline

I. Introduction

II. The Correlation Sensitive Poverty Index (CSPI)

III. The German Correlation Sensitive Poverty Index (GCSPI)

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V. Conclusion
A poverty perspective based on (material) basic need fulfillment is especially problematic in affluent countries as it comes dangerously close to “politics of envy” where one has to have more just because others have more (Sugden, 1993).

The German government denied the existence of poverty in Germany over a very long period, claiming that the well-functioning social security system prevents poverty.

Under the capability approach, people are no longer poor because they are surrounded by the evident wealth of others (Sugden, 1993), they are poor because of their capability failures.

Functionings like the ability to “walk about without shame” or the ability to “take part in the life of the community” are much costlier to achieve in more affluent countries and a person in an affluent country who lacks the respective capability to achieve those functionings is just as poor as a person who lacks the same capability in a poor country (Sen, 1996).
I. Introduction

The first German poverty report, finally introduced in 2001, is explicitly based on the capability approach.

Yet, few steps have been taken so far to operationalise the capability approach when it comes to measurement issues: The at-risk-of-poverty rate that is based on net equivalence income is still the only official poverty measure in Germany.

This work is a suggestion for a possible way to operationalise the capability approach by introducing a multidimensional poverty index for Germany: the German Correlation Sensitive Poverty Index (GCSPI).

The GCSPI belongs to a class of multidimensional poverty indices that are unique in the sense that they are the only counting indices that are able to account for the inequality between and the correlation among poverty dimensions.

This is achieved by a new identification method that differs significantly from the method that is usually utilised for counting indices like, for instance, the well-known Multidimensional Poverty Index (MPI).
The Dual Cut-off Method used for the MPI

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Poverty severity

Not poor  poor

Sum of weighted indicators

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The Weakness of the Dual Cut-off Method

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The MPI that is based on the dual cut-off method does not distinguish between the poor.

- In other words, a household is considered poor whether it is deprived in 33% of weighted indicators or in 100%.

- This creates a kind of “inverted Robin Hood effect”:

<table>
<thead>
<tr>
<th>Ten Indicators</th>
<th>Assets Floor</th>
<th>Electricity</th>
<th>Water</th>
<th>Sanitation</th>
<th>Cooking Fuel</th>
<th>Sanitation</th>
<th>Water</th>
<th>Electricity</th>
<th>Floor</th>
<th>Assets</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health</td>
<td>Nutrition</td>
<td>1/6</td>
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<td></td>
<td>Child Mortality</td>
<td>1/6</td>
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<tr>
<td>Education</td>
<td>Schooling</td>
<td>1/6</td>
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<td></td>
<td>Enrolment</td>
<td>1/6</td>
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<tr>
<td>Living Standards</td>
<td>Cooking Fuel</td>
<td>1/18</td>
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<td>Sanitation</td>
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<td>Water</td>
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<td>Floor</td>
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</tbody>
</table>

MPI = 0.609
The new Identification Method used for the CSPI

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High initial poverty severity

Medium initial poverty severity

Low initial poverty severity

Low Substitutability

High Substitutability

Poverty severity

Sum of weighted indicators
The Correlation Sensitive Poverty Index

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- With the new identification method, the CSPI is able to capture the correlation among dimensions and indicators as well as inequality.
- This creates a “real Robin Hood effect“:

\[
\text{CSPI} = 0.50\% 
\]
## The German Correlation Sensitive Poverty Index

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Main Capability</th>
<th>Indicator</th>
<th>Threshold</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Health</strong></td>
<td>Bodily Health</td>
<td>Health Condition</td>
<td>Subjective health condition either poor or bad</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Health Impairments</td>
<td>At least four of the following:</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>1. Have trouble climbing stairs</td>
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<td>2. Health limits vigorous activities</td>
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<td>3. Achieved less due to physical health condition</td>
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<td></td>
<td>4. Achieved less due to mental health condition</td>
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<td></td>
<td>5. Reduced social contacts due to health problems</td>
</tr>
<tr>
<td><strong>Education</strong></td>
<td>Senses, Imagination and Thought</td>
<td>Schooling</td>
<td>Less than nine years of schooling</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Graduation</td>
<td>Neither graduation nor training qualification</td>
</tr>
<tr>
<td><strong>Employment</strong></td>
<td>Affiliation; Control over Environment; Play</td>
<td>Employment</td>
<td>At least one of the following:</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1. Activity status 'unemployed'</td>
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<td>2. Working poor (wage below minimum)</td>
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<td></td>
<td>3. Time poor (working hour tension at least 10 hours)</td>
</tr>
<tr>
<td><strong>Housing</strong></td>
<td>Bodily Health; Affiliation</td>
<td>Housing Condition</td>
<td>Condition of housing either:</td>
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<tr>
<td></td>
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<td></td>
<td>1. In urgent need of complete renovation</td>
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<td></td>
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<td>2. In danger of breaking down</td>
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<tr>
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<td></td>
<td>Amenities</td>
<td>Lack of either of the following:</td>
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<tr>
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<td></td>
<td></td>
<td>1. In-house bath / shower</td>
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<tr>
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<td></td>
<td></td>
<td>2. Warm water</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3. In-house toilet</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>4. Central heating</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Living Space</td>
<td>Living space below minimum (45sqm for first, 15sqm for additional household members excluding infants)</td>
</tr>
<tr>
<td><strong>Mobility</strong></td>
<td>Bodily Integrity</td>
<td>Transport</td>
<td>Public transport more than 20 minutes away and no car available</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Crime</td>
<td>Neighborhood either insecure or dangerous</td>
</tr>
<tr>
<td><strong>Income</strong></td>
<td>Control over Environment</td>
<td>Disposable Income</td>
<td>Disposable income below breadline (638 EUR for first, 356 EUR for additional adults, 322 EUR for additional children)</td>
</tr>
</tbody>
</table>
A comparison with the at-risk-of-poverty rate reveals considerable differences between the two indices:

- Different persons are identified as being poor
- Differences in poverty trends
- Health, education and employment are greater contributors to overall poverty than income
- Regional differences
- Gender differences can be captured by the GCSPI but not by the at-risk-of-poverty rate
Differences in the Identification of the Poor

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At-risk-of-poverty rate

Net equivalence income

7%

6%

48%

5%

1%

Multidimensional poverty line (weighted sum of indicators ≥ 1/3)

Deprivation line (weighted sum of indicators < 1/3)

Multidimensional achievements
Differences in Poverty Trends

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At-risk-of-poverty rate

- Health
- Education
- Employment
- Housing
- Mobility
- Income
Differences in Poverty Trends

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III. The GCSP1

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Regional Differences

I. Introduction

II. The CSPI

III. The GCSP

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V. Conclusion

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Regional Differences

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Regional Differences

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III. The GCSPI
IV. Poverty Comparisons
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Gender Differences

I. Introduction
II. The CSPI
III. The GCSPI
IV. Poverty Comparisons
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Gender Differences

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II. The CSPI

III. The GC SPI

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V. Conclusion

- The German poverty reports are explicitly based on the capability approach, yet the only official German poverty index is the income-based at-risk-of-poverty rate.

- This work seeks to contribute to an operationalization of the capability approach by introducing a multidimensional poverty index for Germany, the German Correlation Sensitive Poverty Index (GCSPI).

- This index is a representative of a whole new class of ordinal poverty indices that are the first additive indices able to capture correlation-sensitivity and inequality while at the same time being fully decomposable (according to dimensions and population subgroups).
The specific properties of the new index have especially interesting implications for policy making:

- The index accounts for **efficiency**, i.e. scarce resources are applied in a way that their impact is strongest;
- It accounts for **distributive justice**, i.e. ensures that the neediest are not left behind;
- Due to its decomposability according to population sub-groups and poverty dimensions as well as the three I’s of poverty (incidence, intensity and inequality), it provides a detailed picture of the poverty structure in a given country.
Applying this new index to the German SOEP data set reveals considerable differences to the at-risk-of-poverty rate:

- Different persons are identified as being poor;
- Poverty trends are different;
- Health, education and employment are greater contributors to overall poverty than income;
- Considerable regional differences exist; and
- Gender differences can be captured by the GCSPI that cannot be captured by the at-risk-of-poverty rate.

All these results suggest that complementing the official poverty index with a multidimensional poverty index will provide crucial additional insight in the poverty structure of Germany.
Thank you for your attention!

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