



## Methodological and Ideological Options

## Flows, funds and the complexity of deprivation: Using concepts from ecological economics for the study of poverty

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## ABSTRACT

Poverty has been increasingly conceptualized as being multidimensional, involving deprivation in many dimensions of life. This paper discusses issues and implications of multidimensional poverty by adopting concepts commonly used in ecological economics. In particular, poverty is approached as an irreducible, complex phenomenon for which many legitimate, but non-equivalent descriptions exist. Issues of social and technical incommensurability are illustrated for different meanings and measurement types of poverty. Georgescu-Roegen's flow/fund framework is interpreted, informed by the capability approach of Amartya Sen. The paper argues that a predominant focus on flows as a proxy to analyze poverty represents rather a short-term perspective on access to satisfiers to fulfill particular needs. Contrary to that, focusing on valued funds may provide useful information for the analysis of capabilities that persons and societies might pursue in the long term. Furthermore, it is argued that strong poverty alleviation needs to adopt analytical tools that can deal with non-trade-off cases: improvements in one poverty dimension cannot always compensate for the deterioration of other poverties. This implies to rethink the usefulness of aggregate multidimensional poverty indices, as well as the predominant use of income measures.

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## 1. Introduction

During the last century, the understanding of poverty has experienced profound changes. While decades ago, poverty was mainly conceptualized from a conventional economics perspective, based on income measures such as dollars-a-day, currently a variety of different approaches to poverty exist (Laderchi et al., 2003) as well as multidimensional poverty concepts, such as offered by the capability approach of Amartya Sen (1999b). Multidimensional poverty concepts acknowledge that poverty does not only involve deprivation in the economic dimension, but rather that poverty consists of deprivations in a variety of dimensions, such as health, education, living a meaningful life and others. This shift in the conceptualization of poverty has been related with a subsequent involvement of a variety of scientific disciplines for the study of poverty.<sup>1</sup>

Within ecological economics, poverty has been mainly studied in relation to the environmental dimension and resource use issues (e.g., Goodland and Daly, 1993; Martinez-Alier, 2002; Moseley, 2001; Narain

et al., 2008), but some contributions also explicitly address the multidimensional aspects of poverty. Examples are Cohen and Sullivan's (2010) toolkit for the evaluation of the multiple dimension of poverty in relation to water use, or Max-Neef et al. (1989) theory of fundamental human needs, which underlines the necessity to deal with different 'poverties', rather than just with poverty.

In this paper, I aim to further integrate on a conceptual level the notion of multidimensional poverty – as largely discussed within development studies – into an ecological economics framework. To do so, I particularly aim to bridge different concepts from both development studies and ecological economics in order to connect both fields of study as well as to address further implications for research and policy. To do so, the paper discusses some poverty concepts from development studies with the following four theoretical frameworks commonly used in ecological economics:

First, the paper uses a complexity perspective (Giampietro, 2003) to approach the notion of multidimensionality. Poverty is conceptualized as complex phenomenon for which various legitimate but non-equivalent descriptions are possible. Such an approach shifts the emphasis from the need to find a universally agreed definition of poverty to rather finding an adequate definition regarding a certain social group and context.

Second, the paper addresses issues of incommensurability (Martinez-Alier et al., 1998) of different poverty concepts. Incommensurability means that there is no common measure. The paper argues

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<sup>1</sup> It is necessary to mention that while the shift from a one-dimensional monetary poverty concept to a multidimensional approach has been successfully made in theory and the study of poverty; monetary income measures still dominate development practice. See Sumner (2007) for a discussion on this issue.

that the study of poverty has to deal with incommensurability of different meanings as well as of different types of measurements of poverty.

Third, the different implications of analyzing poverty in terms of access to flows versus access to assets that allow for the production of flows (Carter and Barrett, 2006) are discussed in relation to the flow-fund framework of Georgescu-Roegen (1971). The paper then provides a further interpretation of the flow-fund framework in the light of Sen's (1999b) capability approach and arguments are presented for why the analysis of capabilities needs to focus on funds rather than on flows.

Finally, some reflections on how to integrate the many dimensions and measures of poverty within assessment approaches are presented. In an analogy to the debate of weak and strong sustainability (Daly, 1990), aspects of weak and strong poverty alleviation are discussed. The paper argues that 'strong poverty alleviation' efforts need to adopt analytical tools that can deal with non-trade-off cases: improvements in one poverty dimension cannot always compensate for the deterioration of other poverties. For example, an increase in living standards, such as buying a new TV, cannot necessarily compensate for the deteriorations in health, such as the loss of a child. Furthermore, an increase in income cannot necessarily substitute for the deterioration of the underlying factors that allow producing income as well as the creation of capabilities in the long-term.

The paper is organized as follows: Section 2 introduces the conceptual approach to poverty taken in this paper and distinguishes between meaning and measurement of poverty. Section 3 then reviews different meanings of poverty, while Section 4 discusses the characteristics of different types of poverty measures. Section 5 discusses issues of weak and strong poverty alleviation, and Section 6 concludes with some general implications for the study of poverty.

## 2. Complexity and Incommensurability: Conceptual Tools to Approach the Many Notions of Poverty

The conceptualization of poverty has seen substantial shifts within the last century and currently various different definitions exist rather than a universally agreed upon concept. Studies that compare different poverty concepts show that the response to the question of 'who is poor' differs substantially in relation to the various poverty concepts associated with the question of 'poor in what' (Caizhen, 2010; Haveman and Wolff, 2005; Laderchi et al., 2003; Rojas, 2008). Thus, the co-existence of different concepts evidently matters to the study of poverty. In order to deal from an epistemological point of view with such conflicting poverty definitions, the main assumption and approach of this article, is, that poverty needs to be considered as a complex phenomenon. A phenomenon is complex when it cannot be reduced to a single description, but rather various legitimate, but non-equivalent definitions are possible (Giampietro, 2003).

Somebody can be understood as poor if he/she has passed a certain threshold of deprivation. Thus, in order to analyze poverty, two elements are indispensable: a particular understanding of deprivation and a formal procedure to indicate if somebody is deprived. This includes setting a threshold, the poverty line, for classifying the poor and the non-poor. Different poverty concepts hence can be discussed by looking at these two different but closely related parts: (i) the meaning, and (ii) the measurement of poverty (Sumner, 2007).

Acknowledging that poverty is complex and multidimensional, however, implies that the study of poverty needs to deal with multiple meanings and measurements that are not necessarily comparable, nor commensurable. Incommensurability means that there is no common measure (Martinez-Alier et al., 1998). Munda (2004) further distinguishes between social and technical incommensurability. We encounter social incommensurability when, within a society, a multiplicity of legitimate values exists towards a certain issue. As illustrated presently, this is the case for the existence of different meanings of poverty. Technical incommensurability refers to the existence of multiple formal descriptions of a phenomenon that cannot be represented on the same

measurement scale. For example, income in monetary units is not commensurable with life expectancy values. This requires particular attention when trying to integrate different types of poverty measurements that aim to represent different poverty dimensions. Based on this complexity perspective to poverty and the distinction between meaning and measurement types, the following sections will illustrate issues of incommensurability and discuss some implications for research and policy.

## 3. Defining the Meaning of Poverty: Understanding Deprivation as a Complex Phenomenon

Defining the meaning of poverty has always been a challenging task. Some poverty concepts are reviewed in this section with the objective to point out the plurality of legitimate perceptions towards poverty. Fig. 1 illustrates a selection of historical and current concepts, which are outlined below in the indicated sections (Sections 3.1–3.5). The drawn eyes symbolize the different perspectives on deprivation under which the meaning of poverty has been defined.

### 3.1. Physical and Monetary Deprivation

Seebom Rowntree (2000 (1901)) work on poverty in York, was among the most influential for modern poverty studies. He defined families as being primary poor when their "total earnings are insufficient to obtain the minimum necessities for the maintenance of merely physical efficiency" (Rowntree, 2000 (1901): 86). The poverty line was set as subsistence standard in relation to physical needs. For calculation, Rowntree translated estimations of children and adults' nutritional needs into food quantities and related cash equivalence, and added, in relation to the household size, small sums for basic goods necessary to achieve physical well-being such as clothes and fuel. While the meaning of poverty in Rowntree's understanding reflects a physical deprivation perspective focused on the working class, poverty measurement was done in monetary terms. The choice of a monetary indicator hence was a means for articulating a semantically defined poverty analysis (i.e., poverty as physical inefficiency) in a cash economy, in which access to food and other basic needs was achieved through money. However, if monetary income itself is what matters, monetary assessments become an end rather than a means. In fact, the dominant discussions around economic growth and GDP in development discourses seem to have constituted monetary deprivation as a meaning of poverty on its own.

### 3.2. Deprivation of Needs

Rowntree's understanding of poverty as physical deprivation can be seen as an early precursor to the more comprehensive poverty concepts that focus on the deprivation of needs. On a theoretical level, needs, in contrast to wants, have been defined as universal goals of humans beings (Doyal and Gough, 1984), which are finite, few and classifiable (Max-Neef et al., 1989). Basic needs concepts in practice (Hicks and Streeten, 1979) usually have put attention on the goals of nutrition, health, shelter, and education, and poverty based on a deprivation of basic needs perspective expresses itself in their insufficient satisfaction. While this covers mainly physical needs (plus education), Max-Neef et al. (1989) theory of fundamental human needs further includes non-physical needs, i.e., subsistence, protection, affection, understanding, participation, idleness, creation, identity and freedom. He further draws the distinction between needs and their satisfiers, arguing that needs (e.g., physical health) are the same for all cultures, while the satisfiers (e.g., type of food) are those that change over place and time. In emphasizing the necessity to analyze the fulfillment of different needs independently, Max-Neef accounts for the incommensurability of different poverty dimension. The analysis of poverty under a deprivation of fundamental human needs perspective, thus, turns into an analysis of various 'poverties'.

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