

LINKING RESOURCE EFFICIENCY TO NEW MEASUREMENT OF WELL-BEING

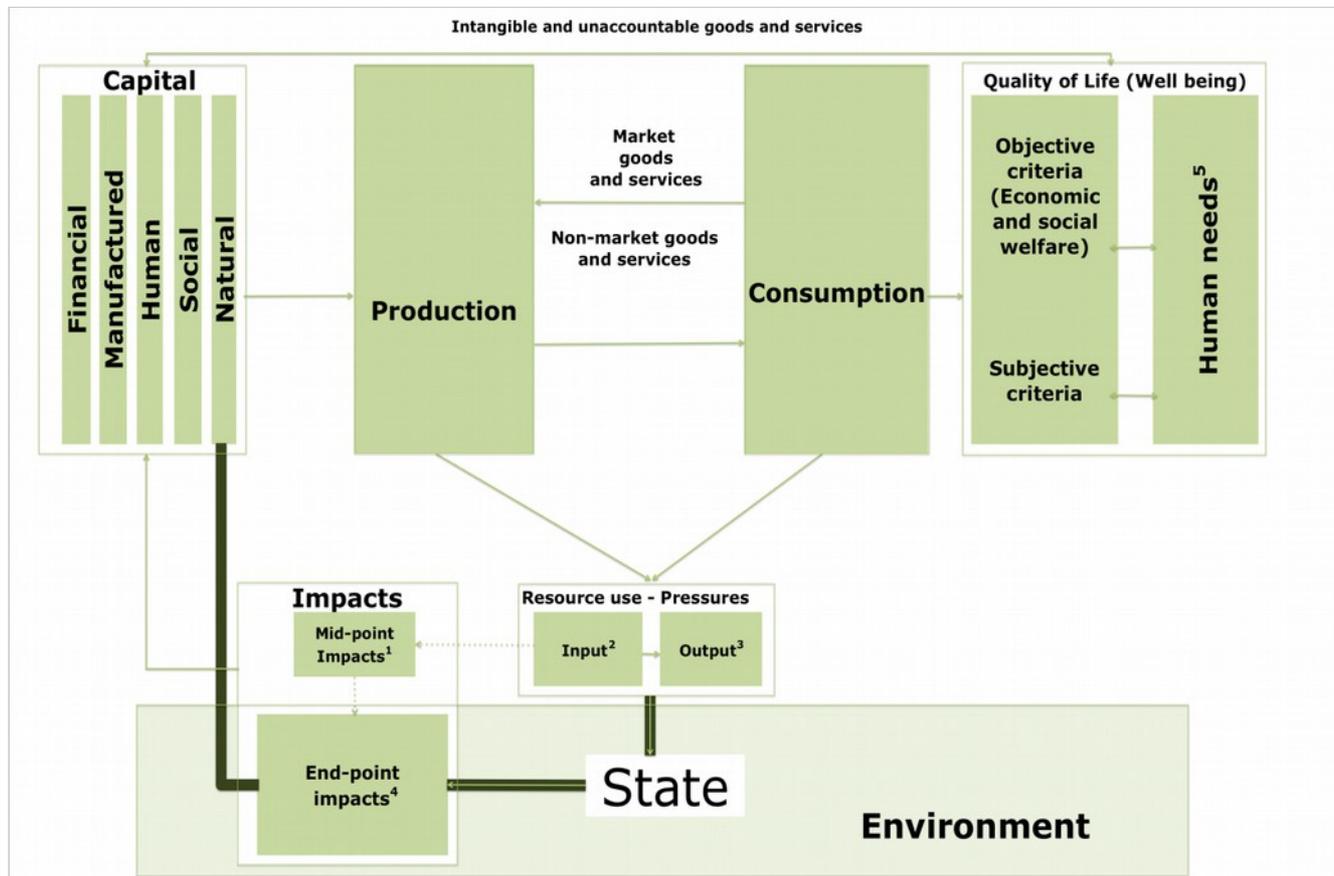
Abstract

In the resource scarce world, more than ever, the future of human development relies on people's ability to manage their resources. Improving resource efficiency generally means maximizing produced value, while minimizing pressures and impacts of economic production. The normative question 'what is the actual value of socio-economic production?' has received a lot of attention in science and policy-making. The established resource efficiency indicator places consumption of natural resources (DMC) in relation to the monetary value of all final goods and services (GDP). Although this indicator shows certain important aspects of resource efficiency, it can also lead to misleading conclusions. To name a few, it does not imply decoupling resource use from the produced value. In fact, the aggregated productivity indicator does not represent how "efficiently" or "sustainably" resources are handled in an economy, but measures "prosperous" economies. Relying on this measure in policy, science and culture usually rewards business-as-usual and does not focus on absolute decreases in resource use. Economies that show higher resource productivity measures may largely benefit from their growth rather than being more sustainable and environmentally efficient.

To overcome this problem, the paper first looks at the existing scope of beyond GDP indicators: presenting interpretations of produced value in form of economic income, economic welfare, social welfare and quality of life (well-being). In line with previous studies, we examined three categories of indicators that are currently proposed as alternatives to GDP. First, indicators correcting GDP (Adjusted Net Savings, Genuine Progress Indicator, Index of Economic Well-Being and Inclusive Wealth Index) add different types of monetary adjustments to GDP, such as costs of environmental degradation or social inequality. Second, indicators replacing GDP try to establish a direct link to quality of life and well-being (Happy Planet Index, Happy Life Years, Human Development Index, Better Life Index, Sustainable Society Index, Legatum Prosperity Index and GLOBECO Happiness Index). A clear characteristic of this type of indicators is the use of non-monetary measures, such as life expectancy, environmental health, access to housing, nutrition, etc. Finally, the last group of indicators complement GDP by means of dashboards that describe different aspects of welfare without aggregating them into a single index (e.g. UN Sustainable Development Indicators, EURLife).

After considering all the advantages and limitations, we created a conceptual framework that provides an idea of how an outcome indicator on macro- and meso- level should ideally represent the produced welfare on levels of a country's or sector's production. For this purpose, a theory of human scale development (Max Neef approach) offers a good opportunity to operationalize satisfaction of fundamental human needs. This approach allows us to identify a limited number of indicators that serve as proxies for the satisfaction of human needs from axiological categories of subsistence, protection, understanding etc. and existential categories of having, doing, being and interacting.

Figure 1: Conceptual framework linking human needs and the different types of capital



- e.g. 1. GWP, Acidifying, TOFP
 2. Energy use, Material use, Land use, Water appropriation
 3. Waste, C emissions, Other emission
 4. Impacts on ecosystems and BD, Impacts on human health, Impacts on NNRR, Impacts on amenities and economy
 5. Being, Having, Doing and Interacting for Subsistence, Protection, Affection, Understanding, Participation, Idleness, Creation, Identity, Freedom.

Source: Wuppertal Institute

Our study identified that satisfiers for needs like subsistence, protection and partially for interaction and freedom can be quantified in most close sense in relation to natural and manufactured goods and services. The needs of subsistence are satisfied with capital that people require to live a healthy and happy life, like proper nutrition and potable water, a home, work, clothes, etc. The needs of protection are satisfied for the most part by the same satisfiers, a functioning healthcare system and a healthy environment could be added to this category. Finally, although freedom is for the most part a need based on subjective capabilities, it can only be realized by having access to different physical means of communication and mobility.

The basic idea behind this framework is to investigate if the resource use facilitates satisfaction of fundamental human needs and provides an opportunity to look at the idea how particular needs are (over)-satisfied (for example, overly access to amounts of produced food imply that the resources are used in an unsustainable way to what people's fundamental needs require and are being wasted (as opposed to GDP concept that favors positively monetary gains from overproduction of food). The idea behind "fundamental" needs and means of living is of course of qualitative nature, which can be solved in two ways. The first way focuses on engaging already existing norms and standards to define the proper indicators and connect them to the existing socio-economic accounts (nutrition, infrastructure, etc.): use of established amount of caloric intake 2000 kcal per day. The second choice focuses on direct democratic decisions based on consensus between people on how they understand the quality of food (e.g. amount of dwellings/rooms per person or introduction of meat-free days in public cafeteria). Ideally, such outcome indicator should always aim at 100 percent. Everything above and below this number should indicate unsustainably produced value/welfare.