Classifying Alternative Measures for Policy-Making

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Abstract

The potential pitfalls of macro-economic policies focused on stimulating economic growth and the problems involved in using GDP as a measure of well-being or economic welfare have long been recognized by economists and researchers from other social sciences. Therefore, it is no surprise that alternative measures for policy making have been developed and promoted since the early 1970s. The development of alternative measures for policy-making is gaining momentum and at the 'Beyond GDP' conference organised by the European Commission in November 2007, a strong political statement was made. However, most efforts concentrate on the development and promotion of individual indicators, while paying less attention to the wide range of indicators already available and to theoretical insights. As a result, few classification schemes of alternative measures exist today. This paper first looks into the different classification schemes available in the literature. Afterwards, the paper introduces an alternative classification scheme that builds on the notions of well-being, economic welfare and sustainability. Different approaches to quantitatively capture these notions have been put forward over the years, and these approaches will be used to further subcategorize the different measures. By focusing on the underlying concepts that the different measures aim to quantify, the alternative classification scheme overcomes most of the drawbacks of the existing schemes.

1. A Critical Analysis of the Economic Growth Objective and the Use of GDP

Achieving economic growth, as measured by an increase in Gross Domestic Product (GDP), has been the main goal of macro-economic policy-making over the last fifty years. National economic policies generally include a wide range of measures to stimulate economic activities, ranging from optimizing taxes to facilitating markets and trade to investing in public infrastructure and education. However, concerns about both the desirability and the sustainability of economic growth have increased over the years.

First, the desirability of continued economic growth is often questioned. Recent literature contrasts human well-being, described as the ultimate goal of society, with economic growth, described as an imperfect proxy for its material aspect, or as a means towards enhanced well-being. The goal of the economic system is to increase well-being, both

individually and collectively. Well-being is generally seen as a multi-dimensional concept that is much broader than its economic dimension. It includes important non-economic aspects, such as personal relationships, health conditions and environmental concerns.

Second, in the pursuit of economic growth, it is mostly assumed that all economic activities add to the well-being of the people involved. Economic growth and economic welfare (the contribution of the economic system to the overall level of well-being) are thus thought to be closely related. However, this relation is not as obvious as often assumed. For instance, if economic growth involves activities that threaten the health of a population or that degrade their natural environment, it remains to be verified whether or not this growth is truly adding to the overall level of well-being of this population.

Finally, concerns about the sustainability of the growth objective have increased over the years, given the close relationship between the economy and its natural environment and the increasing scale of the former relative to the fixed scale of the latter. The economic system depends on its surrounding ecosystem in two important ways. First, the ecosystem provides the natural resources that are needed in the economic production process, and second, the ecosystem is able to absorb the waste flows generated by this process. The increasing scale of the economic systems puts pressures on both the availability of natural resources and the assimilative capacity of ecosystems. Given the physical limits of its surrounding ecosystem, economic growth can not be sustainable. The expansion of the economy comes at the expense of the quality of the natural environment.

The concerns raised at the economic growth objective resulted in similar criticism of the use of GDP as the normative benchmark for economic and even social performance. As GDP keeps track of the total value of the final goods and services produced within a nation's borders during one year, it looks exclusively at the economic dimension of well-being. Other determinants of well-being are not included in the measure, so that the evaluation of the multi-dimensional concept of well-being is reduced to the single monetary dimension of per capita income. Next, GDP's failure to discriminate between costs and benefits leads to a mixture of goods and bads in its calculation. As such, GDP is a poor measure of economic welfare. Finally, while GDP gives an idea about the scale of the economic system, it does not indicate whether this scale is sustainable as the ecological and social impacts of economic activities are not considered in the calculation of GDP. Van den Bergh (2009) can be consulted for a comprehensive review of the criticism on GDP.

2. Existing Classification Schemes

The existing classification schemes for alternative measures for policymaking can be divided into two categories. A first category focuses on the origins of the different indicators in terms of the academic research fields in which they were developed. The second category looks at the main objectives for which the indicators were developed. Here, reference is made to the intended use of the indicators with regard to the Gross Domestic Product (GDP).

2.1 Origins

In the origin-based classification scheme worked out by Offer (2003), the alternative measures are categorized into three classes:

- *Extended economic accounts*
  As the traditional national accounts fail to provide a proper measure of well-being, *economists* have tried to extend these accounts by including social and environmental information and build adjusted measures of human well-being based on the notions of sustainability and sustainable income.
- *Social indicators*
  From the 1960s onwards, *sociologists* have put forward several alternative measures of well-being inspired by the idea that well-being cannot be fully captured by monetary indicators.
- *Psychological indicators*
  More recently, *psychologists* have started to employ a more direct approach to measure well-being by reaching into the individuals' personal experiences of welfare (subjective well-being).

In an assessment of the adequateness of GDP as a proxy for well-being carried out for the OECD, Boarini et al. (2006) employ a similar classification scheme. Alternative measures are grouped into three categories: monetary measures of economic resources, measures reflecting selected social conditions and subjective measures of happiness and life satisfaction.

Diener and Suh (1997) use a similar scheme to classify different measures of quality-of-life, yet they relate the different categories of measures to the philosophical approaches to conceive well-being used by the different research fields. Economists start from the idea of preference satisfaction through consumption to build income-related measures, sociologists mostly start from a set of normative ideals to quantify well-being, while psychologists tend to look at the subjective experience of individuals.

2.2 Objectives

In a review of the existing alternative measures of progress conducted on behalf of the European Parliament, Goossens et al. (2007) divide the measures into three categories based on their main objectives:

- *Indicators adjusting GDP*
  The first category includes traditional economic performance indicators such as GDP or national savings rates that are adjusted by including monetized environmental and social factors.
- *Indicators replacing GDP*
  This category contains indicators that try to assess well-being more directly than GDP, for instance by assessing average life satisfaction or the achievement of basic human functions.

- *Indicators supplementing GDP*
  The final category of alternatives includes indicators that complement GDP with additional information on the environment and social conditions, either by the creation of satellite accounts or by relating GDP to other social and environmental indicators (e.g. comprehensive indicator sets).

A similar objective-based approach has been proposed by Keune et al. (2006) who distinguish between complementing, corrective and transformative indicators of human welfare. Complementing indicators complete GDP by looking beyond traditional economic indicators and including ecological and social components. Corrective indicators have a similar intention, yet they generally adjust GDP figures in order to account for these components. Transformative indicators are indicators that focus primarily on human and natural values in the assessment of human welfare, rather than the monetary values that are mostly used in traditional assessments.

3. A New Substance-Based Approach

While both the origin-based and objective-based classification schemes have their merits, they also have their drawbacks. For one, the origin-based approach tends to oversimplify the current state-of-the-art in human well-being research, as it ignores the increasing level of interdisciplinarity in the research area. The objective-based approach on the other hand puts too much emphasis on GDP, while it is widely agreed upon that this indicator does a poor job in capturing either human well-being or economic welfare. More importantly, both classification schemes group indicators that aim to quantify fundamentally different concepts. For instance, both the Ecological Footprint and the Human Development Index are included in the objective-based approach as 'replacements' for GDP (Goossens et al., 2007), yet they the first is a measure of sustainability, while the second can be regarded as a measure of well-being.

A better way to classify the newly developed alternative measures for policy-making can be derived from the underlying concepts that these measures aim to quantify. The notions of well-being, economic welfare and sustainability that were introduced above (section 1) can be useful in this regard:

- *Well-Being*
  Measures of well-being aim to comprehensively evaluate either a single person's life situation or the life situation of a group of people. These measures are multi-dimensional by nature and can be linked to different theoretical conceptualizations of well-being.
- *Economic Welfare*
  Measures of economic welfare capture the contribution of a nation's economy to the overall level of well-being enjoyed by its citizens. They can thus be regarded as measures of the economic dimension of well-being.
- *Sustainability*
  Measures of sustainability investigate whether the current levels of well-being and economic welfare can be sustained into the future.

This new substance-based classification scheme will be worked out throughout the remainder of this section. The notions of well-being, economic welfare and sustainability are examined in greater detail and the different methodological approaches to measuring the notions are presented. These methodological approaches will allow for a further sub-categorization of the different measures.

3.1 Well-Being

Well-being is a rather vague concept that is hard to define. In general, the concept of well-being can be linked to the assessment of a person's life situation in the broadest way possible. A series of other terms is also being used to describe such an assessment: quality-of-life, happiness, life satisfaction and welfare are the most recurrent ones. Unfortunately, no comprehensive framework that links these concepts has been worked out in the literature and, to complicate things even further, the different terms are being used inconsistently. However, from the literature review, it is clear that well-being is a multi-dimensional concept, encompassing a wide diversity of elements. A proper measure of well-being should consequently look at a wide range of well-being dimensions.

In the new classification scheme put forward in this paper, the measures of well-being are categorized according to two dimensions: the measurement technique used in the data collection process and the theoretical conceptualization of well-being on which the methodological framework of the measure is built. In figure 1, the most widely used measures of well-being are put into the newly developed classification scheme.

Two different approaches to measuring well-being are often opposed to one another: the objective approach and the subjective approach. The objective approach looks at `hard' data, such as income per capita or gross enrollment ratios, while the subjective approach considers `soft' matters, such as an individual's satisfaction with income and his perceived adequacy of educational opportunities. The objective approach can be connected to the tradition of compiling social statistics, while the subjective approach stems from survey research (Veenhoven, 2002).

Even if the concept of well-being itself is hard to define, different conceptualizations are available from the literature on philosophy. These conceptualizations can be used to quantitatively capture the concept of well-being. Many different conceptualizations exist, yet the most important ones are utilitarianism (including both the ‘revealed preferences’ approach and the happiness approach), the fulfilment of human needs and capabilities and functionings. Gasper (2004) can be consulted for an extensive review of these conceptualizations.

3.2 Economic Welfare

As we have seen throughout the previous section, well-being is a multi-dimensional concept that is difficult, if not impossible, to capture in a single number. It is, however, possible to monitor and analyse different aspects of well-being separately. Such analyses

will provide useful information that can be used in the development of effective policy measures.

In the new classification scheme, the term `economic welfare' is used to refer to the contribution of a nation's economy to the overall level of well-being enjoyed by its citizens. Economic welfare can thus be seen as the economic dimension of well-being. Monitoring the level of economic welfare over time involves distinguishing between the costs and benefits of the economic process. The concept of income is mostly used to quantitatively capture economic welfare, yet some exceptions exist (e.g. Osberg and Sharpe, 2002). Different definitions of income have been developed over the years (economic income, sustainable income, psychic income). Each of these conceptualizations of income can be used to keep track of changes in economic welfare.

The most widely used measures of economic welfare are reviewed in this section. The different indicators are presented in figure 2, in which they are clustered according to the different conceptualizations of income that underlie their methodologies. A second parameter that is used to discriminate between the different measures of economic welfare is linked to whether or not the measures include adjustments for environmental issues (natural capital depletion and/or environmental degradation). It is important that measures of economic welfare do include such adjustments, as the difference in the treatment of human-made and natural capital ``reinforces the false dichotomy between the economy and the `environment' that leads policy makers to ignore or destroy the latter in the name of economic development" (Repetto et al., 1989).

3.3 Sustainability

Sustainability, in a general sense, is defined as the ability to maintain a certain process or state. The concept of sustainability applies to all aspects of human life and is commonly defined within ecological, social and economic contexts. With regard to well-being, the sustainability debate focuses on whether the current level of well-being can be experienced for the foreseeable future. An important feature in this debate is ecological sustainability, which relates to the ability of ecosystems to maintain ecological processes, functions and productivity into the future.

Measures of sustainability typically assess long-term changes in capital stocks. They need to be linked to specific criteria or rules that allow users to determine whether the current level of well-being can be maintained over time. In the SEEA-2003 (UN, 2003), three approaches to sustainability are presented: the three-pillar approach, the ecological approach and the capital approach. These approaches are used to differentiate between the various measures of sustainability (see figure 3).

4. Conclusions

In this paper, a new classification scheme for alternative measures for policy-making was put forward. It draws on the concepts of well-being, economic welfare and sustainability and their respective conceptualizations and measurement approaches. This substance-

based classification scheme overcomes most of the drawbacks of the existing schemes and can be used to comprehensively assess the progress of societies. Bleys (2009) can be consulted for an extensive review of the newly developed classification scheme.

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Figures

Figure 1 – Measures of Well-Being

	Utilitarianism	(Basic) Human Needs	Functionings and Capabilities
Objective Approaches	Gross Domestic Product Consumption Expenditures	Hierarchical Needs Fulfillment of Hierarchical Needs Index (Clarke 2005) Non-hierarchical Needs (Weighted) Index of Social Progress (Estes 1984; Estes 1997) Calvert-Henderson Quality-of-Life Indicators	Human Development Index (UNDP) Physical Quality-of-Life Index (Morris 1979)
Subjective Approaches	Happiness / Life Satisfaction World Happiness Database Global Values Survey Eurobarometer	Human Needs Assessment (Max-Neef 1992)	
Combined Approaches	Happy Life Expectancy (Veenhoven 1996) Happy Planet Index (New Economics Foundation)		

Figure 2 – Measures of Economic Welfare

	Economic Income	Sustainable Income (Hicks 1939)	Psychic Income (Fisher 1906)
Non-Environmentally Adjusted Measures	Gross Domestic Product (GDP)	Net Domestic Product (NDP)	Measure of Economic Welfare (MEW) (Nordhaus and Tobin 1972)
Environmentally Adjusted Measures		Environmentally Adjusted Net Domestic Product (EDP) Sustainable National Income (SNI) (Hueting 1995)	Economic Aspects of Welfare (EAW) (Zolotas 1981) Index of Sustainable Economic Welfare (ISEW) (Daly and Cobb 1989) Genuine Progress Indicator (GPI) (Cobb et al. 1995b) Measure of Domestic Progress (MDP) (New Economics Foundation)
Non-Income	Index of Economic Well-Being (Centre for the Study of Living Standards)		

Figure 3 – Measures of Sustainability

Three-Pillar Approach	Ecological Approach	Capital Approach
Sustainable Development Indicators (a) UN Commission for Sustainable Development (b) Eurostat (c) Federal Planning Bureau Belgium	Ecological Footprint (Wackernagel and Rees 1996) Environmental Sustainability Index (Universities of Columbia and Yale)	*Constant Capital Stocks* Genuine Savings (World Bank) *Critical Natural Capital* CRITINC (Keele University)