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ORIGINAL PAPER

Limits of the Relevance of the GDP indicator

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Abstract:
Often, in different economic and social analyses, GDP has come to take on the role of a complete indicator of the global development of society and progress in general. However, only the use of GDP as a measure of well-being necessitates an ongoing campaign to change the perspective to guide policies and evaluate progress. Is needed indicators that promote truly sustainable development that improves human life quality and correctly reflect the degree of social welfare. Citizens deserve an accurate sense of how well their economies are performing, with a view to long-term sustainability. GDP has and always will have valuable short-term insights, but to respond to 21st-century pressures we need modern economic indicators. Critiques of the GDP make way for other measures of progress and well-being to be recognized and used more comprehensively.

Keywords*: gross domestic product (GDP), welfare, indicators, limitations, sustainable development, index.*
JEL Classifications: H70, H75, I31

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Introduction

The gross domestic product (GDP) is one of the best-known instruments for measuring the degree of development of macroeconomic activity (Miladinov, 2020; Ediev, 2011; Stengos et al., 2008). Conceived in the 1930s, GDP has become a standard reference for policymakers around the world, being invoked very often in public debates. It is calculated according to a clear methodology, which allows comparisons to be made over time and between countries and/or regions. GDP can be considered a good ergometer of the economy, indicating how much effort is put into generating value (Dynan & Sheiner, 2018), regardless of whether the result means useful products and services or whether the result obtained generates negative externalities. At the same time, GDP has become an indirect indicator of the global development of society and progress in general (Marcus & Kane, 2007; McCulla & Smith, 2007).

However, given its nature and purpose, this indicator has a number of limitations because it cannot provide information on all topics that are the subject of public debates. Extremely important is the fact that GDP fails to measure the capacity of environmental sustainability or the degree of social inclusion (Stiglitz et al. 2009), the quality of governance or education, etc. (Fraumeni, 2022), these limits should be taken into account when the mentioned indicator is used in the analyses and debates regarding the economic and social policies that define the welfare of citizens.

> *For example, GDP takes a positive count of the cars we produce but does not account for the emissions they generate; it adds the value of the sugar-laced beverages we sell but fails to subtract the health problems they cause; it includes the value of building new cities but does not discount for the vital forests they replace. As Robert Kennedy put it in his famous election speech in 1968, "it [GDP] measures everything in short, except that which makes life worthwhile." (Kapoor & Debroy, 2019)*

In this regard, it is increasingly recognized that, if GDP is taken as a single benchmark, decision makers cannot benefit from a sufficiently detailed and faithful picture of how economic performance reflects on citizens or the long-term impact of economic growth on sustainable development.

Thus, the importance of measuring economic performance and societal progress beyond the boundaries of the GDP indicator is becoming an increasingly topical approach. As such, more and more often, there is a need to refer in the public discourse to an indicator or a set of indicators that capture and evaluate as faithfully as possible social welfare and the degree of sustainable economic development (Mitu, 2021).

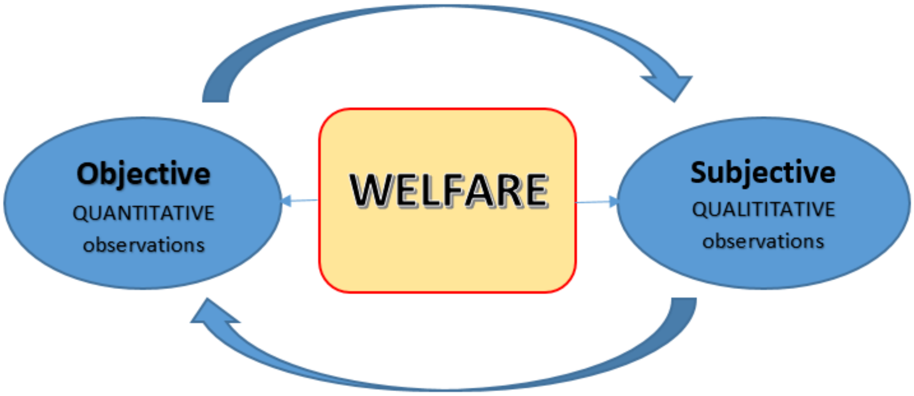
Since these are two different things – sustainable development and welfare – two altimeters are actually needed. Sustainability refers to a healthy world, now and in the future, solidarity between generations and is a condition; while welfare refers to social development and is a target variable. In the case of sustainability, it is sufficient to ensure the continuation of a long-term sustainable way of life (a development that meets the needs of the present without compromising the ability of future generations to meet their own needs), worldwide. If this condition is met, there is no need to pursue further sustainability. However, the welfare situation is different: a higher welfare is always preferable to a lower one, so striving for more welfare is rational.

Expression of welfare

Defining welfare at an individual or general level (equivalent to welfare or a high level of quality of life) is a multidimensional approach, this concept includes physical, material, social, emotional welfare and the degree of satisfaction with the activities carried out, all related to a recognized set of values (Conceição & Bandura, 2008; Felce & Perry, 1995).

Assessing welfare usually involves a double approach: subjective and objective. While the objective approach is used to compare the level of welfare between countries or regions and over different periods of time – external, quantitative observations; the subjective one is necessary to identify the determinants of welfare – citizens' perception, qualitative observations (Böhnke & Kohler, 2008).

Figure 1. Dual approach to welfare



Source: Authors' own compilation

GDP, an indicator obtained by processing some quantitative data, can respond to a greater or lesser extent to the determination of objective welfare, illustrating an image seen 'from the outside' by each citizen. In contrast, the subjective side of welfare, also known as stated welfare, encompasses a wide range of emotional and cognitive processes. Essentially, it illustrates people's 'internal' perception of quality of life. Typically, subjective welfare is measured by surveys designed to directly capture feelings, experiences, and emotions.

Welfare is undoubtedly a multidimensional concept, as it includes many aspects of human life, not just those related to income or consumption. Such aspects are health, education, environmental conditions, etc. Concept of 'welfare' have a long tradition of use in the lexicon of discourse on wellbeing.

In this sense there are divergent views among economists about the degree to which an increase in the size of GDP always translates into an increase in welfare. In other words, not always and not under all conditions if people consume more, they should be happier. What matters for a good life is the impact of a specific set of circumstances on how people value the quality of their lives, and is based on the view that the best judges of how their lives turn out are themselves, the people.

Therefore, viewed from this perspective, GDP becomes limited to provide a clear picture of such a multi-faceted concept (Toader et al., 2017). Starting from the fact that welfare is multidimensional, as it encompasses various aspects of human life, and noting that GDP is not a completely adequate measurement tool, the search for alternatives to this indicator was a natural step. Given that the need to conceptualize welfare in a much more holistic manner became apparent even before the aforementioned reports, researchers have tested several solutions in an attempt to address these shortcomings. It is therefore important to look at the limitations of GDP as an indicator of welfare and consider possible alternative approaches.

Limitations of GDP

Most of the limitations are due to the fact that, in essence, the GDP indicator fails to capture the subjective welfare that citizens really feel. Consequently, GDP fails to account for non-market transactions, wealth distribution, the effects of externalities, and the types of goods or services that are being produced within the economy. As a result the concept does not account for various important factors that influence social welfare.

To simplify things, according to Zeder (2020), among the most relevant limitations, the following can be listed:

Table 1. Relevant limitations of GDP

Limitations of GDP	Description of the phenomenon
GDP does not incorporate any measures of welfare	GDP only quantifies the value of all finished goods produced in an economy over a given period of time, usually a year. There are several ways to calculate and measure GDP, but none of them include any indicator of welfare. Even if not including such an indicator in the calculation does not necessarily mean that GDP cannot be an indicator of welfare, it must be remembered that GDP is used as a ‘proxy of a proxy’, this significantly affects its validity and eloquence.
GDP only includes market transactions	GDP does not account for domestic or voluntary work, even though these activities have a considerable positive impact on social welfare, as they complement the market economy and thus improve the standard of living. On the other hand GDP does not include black market transactions or other illegal activities that may have a substantial negative impact on overall social well-being.
GDP does not describe income distribution	To describe more accurately social welfare, it is essential to consider the distribution of income. In this sense, the Gini coefficient is illustrative. Gini coefficient (Gini index or Gini ratio) is a measure of statistical dispersion used to represent the income distribution of a nation's population, but especially to represent the disproportion in the distribution of income or wealth, being an index of inequality. If there is a high degree of inequality in the distribution of income, most people do not really benefit from increased economic output because they cannot afford to buy most of the goods and services created.
GDP does not describe what is being produced and ignores	Because GDP quantifies the value of all finished goods and services generated by an economy, it also includes products or services that generate externalities that can have negative effects on social welfare. For example, according to the European

externalities	Parliament (2022), the textile industry pollutes water and generates greenhouse gas emissions and waste, with disastrous effects on social welfare. The production of textile materials requires a high consumption of water, to which is added the land on which cotton and the rest of the fibres are grown. The global textile and clothing industry is estimated to have used 79 billion cubic meters of water in 2015 – while the needs of the entire EU economy amounted to 266 billion cubic meters in 2017. To manufacture a just one cotton T-shirt, it is estimated that 2,700 litres of fresh water are used – the drinking water needs of one person for 2.5 years. It is estimated that the textile industry is responsible for around 20% of global clean water pollution due to dyeing and finishing products. The fashion industry is also estimated to generate 10% of global greenhouse gas emissions – more than all international flights and shipping combined. This is also true for many other goods and services that can have negative effects on society.

Source: Authors' processed, based on Zeder (2020)

Also, according to Dynan & Sheiner (2018), the category of relevance limitations can also include:

GDP excludes much of home production and other 'non-market' activities such as leisure, even though most of these activities actually increase real household consumption and thus increase welfare.

GDP refers to domestic production, but some of this production is 'owned' by non-residents. From the perspective of citizens, however, welfare is closely correlated with the income they receive from the production they own, regardless of where it is produced, the production produced in the country for which the GDP is determined matters less.

GDP also includes production that offsets the depreciation of tangible assets. However, this part of production is intended to maintain the current capital stock rather than to increase the services consumed by households and thus welfare.

GDP includes government, business and household investment (through housing and consumer goods). Although these investments may provide future services, they are not services that citizens immediately enjoy.

If we consider these aspects (which are not exhaustive), the major problem with GDP as an indicator of welfare becomes quite evident. The claim that higher GDP always increases social welfare becomes obsolete, unrealistic because at some point the positive effects resulting from increased consumption opportunities may be outweighed by the negative effects associated with the limitations mentioned above. Therefore, while GDP may in some cases be a good proxy for social welfare, it results in a limited description that may lead to unfavourable conclusions.

To compensate for these problems, many organizations and international bodies have tried to identify different approaches to measuring welfare, the most significant of which are shown in table 2.

Table 2. Alternative approaches to measuring welfare

The name of the indicator	Characteristics of the indicator
Human Development Index (HDI)	It is an index that focuses specifically on people and their capabilities to assess a country's development and welfare. It measures achievements in three critical dimensions: life expectancy (health), average years of schooling (education) and gross national income per capita (standard of living). Thus, the HDI also includes an indicator of economic activity, but adds two complementary dimensions that result in a more comprehensive description of social welfare. However, it does not take into account factors such as protecting personal freedom, pollution levels or gender disparity. The HDI was created by the United Nations.
Gross National Happiness Index (GNH)	Sometimes called Gross Domestic Happiness (GDH), is a measure of economic and moral progress, a measurement of the collective happiness in a nation. It was builds on four pillars. The four pillars of GNH are: good governance, sustainable development, preservation and promotion of culture, and environmental conservation. These four pillars are further classified into nine areas (domains of measurement): psychological wellbeing; material wellbeing/standard of living; good governance; health; education; community vitality; cultural diversity and resilience; balanced time use; ecological diversity. A related but somewhat different indicator is the *Happy Planet Index (HPI)* (developed by the UK's New Economic Foundation) which looks at life expectancy, experienced wellbeing, inequality and ecological footprint to show how efficiently people in different countries are using environmental resources to lead long, happy lives. The HDI it was created by the government of Bhutan.
Social Progress Index (SPI)	The index provides an extensive framework that is based on three key dimensions: basic human needs, foundations of well-being, and opportunity. Again, social progress for each of those dimensions is measured by a multitude of indicators. Those include but are not limited to: nutrition, medical care, and safety (basic human needs), education, wellness, and sustainability (foundations of well-being), and personal rights, freedom, and tolerance (opportunity). The index is published by the nonprofit Social Progress Imperative.
Genuine Progress Indicator (GPI)	Is a metric designed to take fuller account of the well-being of a nation, only a part of which pertains to the health of the nation's economy, by incorporating environmental and social factors which are not measured by GDP. This indicator incorporates factors such as the cost of ozone depletion, crime or poverty on a nation's economic health. It nets the positive and negative results to decide whether economic growth has benefited the population overall, for example, balancing GDP spending against external costs. The GPI it was created by the US organization: Redefining Progress.

Thriving Places Index (TPI)	The Thriving Places Index is designed to provide a robust reporting framework that shows the conditions for wellbeing at a local level. It radically challenges the current paradigm that defines progress by purely economic and financial means. Instead of focusing on just growing consumption and wealth for a few, the Thriving Places Index, created by Centre for Thriving Places it's designed to focuses on all the things that help people and places to do well. It radically challenges the current paradigm that defines progress by purely economic and financial means.
Better Life Index (BLI)	The BLI allows for a comparison of wellbeing across 35 countries, based on 11 topics identified by the Organisation for Economic Co-operation and Development (OECD). These range from housing, income, community and education to environment, civic engagement and health. The index also allows a comparison of gender differences. The index includes 80 indicators of wellbeing that provide a comprehensive picture of natural, human, economic and social capital.
Inclusive Wealth Index (IWI)	The IWI is a metric for inclusive wealth within countries: unlike GDP, the IWI provides a tool for countries to measure whether they are developing in a way that allows future generations to meet their own needs. The inclusive wealth index measures the wealth of nations by carrying out a comprehensive analysis of a country's productive base. That is, it measures all of the assets from which human well-being is derived, including manufactured, human and natural capital. In this, it measures a nation's capacity to create and maintain human well-being over time. The IWI was developed by the UN.
Green GDP (GGDP)	Is an index of economic growth, implemented in China, with the environmental consequences of that growth factored into a country's conventional GDP. Green GDP monetizes the loss of biodiversity, and accounts for costs caused by climate change.
Genuine Savings Indicator (GSI)	GSI is a simple indicator to assess an economy's sustainability. The World Bank's savings analysis argues that factors such as public investments of resource revenues and the social costs of pollution emissions are equally relevant in determining the overall level of saving. The GSI encourages discussion around natural resources in a language familiar to finance policymakers.

Source: Authors' processed, based on relevant economic literature

Conclusions

The importance of measuring economic performance and societal progress "beyond GDP" is increasingly advocated in the current period. In this sense, it is increasingly recognized that, if GDP is taken as a single benchmark, decision makers cannot benefit from a sufficiently detailed and faithful picture of how economic performance reflects on citizens or the long-term impact of growth on sustainability (Mitu et al., 2007).

The weaknesses of GDP as an indicator are not only a reflection of the rapid transformation the world economy has seen this century, in the wake of the fourth industrial revolution, the climate crisis and COVID-19 (Olimid et al., 2022). The general use of GDP to measure the welfare of a nation has been questioned many times, even by its inventor, the American economist Simon Kuznets. The welfare of a nation can scarcely be inferred from a measure of national income (Kuznets, 1962, p. 29). More recently Stiglitz (2014) has gone further, reflecting concerns with the limitations of GDP, saying that not only is GDP not a good measure of welfare, but GDP is not a good measure of how well an economy is performing and that too much has already been sacrificed on the altar of GDP fetishism. Therefore, as Ban Ki-moon (2012) also noted we need to move beyond gross domestic product as our main measure of progress, and fashion a sustainable development index that puts people first.

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