

ASPECTS OF METHODS OF QUANTIFYING ECONOMIC DEVELOPMENT AND WELL-BEING

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Abstract

The concept of socio-economic development of a state is most of the time associated with the indicator of gross domestic product. An economic development is considered positive if the totality of the production of goods and services increases compared to the previous referencemoment. In the current context of the globalization, through which business environments and the level of good status of the population become interdependent, aspects of economic growth must be based on sustainability and stability. At the beginning of the '90s, the specialized literature began to analyze the deficiencies of gross domestic product growth as an indicator of the increase in living standards, but this topic remains up to date, given that the research environment has developed in the last two decades a series of alternative evaluation methods.

In this context, we consider it opportune to expose the alternatives for calculating the standard of living, economic growth and human development, considering that this aspect cannot be totally regarded only through the mercantile point of view of the economic and financial indices. Through a comparison of the methods of assessing well-being, we will conclude the relevance of classical macroeconomic indicators versus their alternatives and the opportunities for use, depending on the context of the research.

Keywords: *gross domestic product, well-being indicators, quantifying economic development, macroeconomic indicators*

JEL Classification: *E27, E69, F49*

1. Introduction

Often when we refer to well-being, we associate this concept with income, economic performance and a positive evolution of financial indicators. The mechanisms of the society, starting from the individual to the international policies, aim at the state of well-being, having as main method of quantification the statistics referring to the economic and financial environment. At national level, the accepted classical indicator is gross domestic product (GDP), classifying states and their standard of living according to the performance of GDP.

GDP is indeed a barometer of society, but in such a complex mechanism of globalised and developed society, it becomes limited (Tarlberth and others, 2007). GDP expresses the volume of goods and services produced, but does not reflect the usefulness of consumption. In the methodology for calculating GDP, no distinction is made between expenditures that contribute to wealth and so-called defensive expenditure, and on the other hand this indicator does not estimate the sustainability of long-term economic growth. Last but not least, GDP is limited to reflecting the total value of goods and services, without, however, taking into account the degree of life satisfaction at the level of the individual or the opportunities of society for sustainable development.

For this reason, we believe that an analysis of a society should not be limited to the GDP indicator, if it is desired that the results of the study reflect the aspects of society and from the human and social perspectives. Currently, the number of alternative measures of economic development indicating varying degrees of social development is increasing, but they are still insufficiently accepted in public policies (Ivković, 2016).

Thus, this paper starts from the premise set out in the Report on Global Happiness prepared by the Institute on the Earth of Columbia University in 2012, according to which global happiness can be quantified taking into account six factors: GDP per capita, life expectancy, social aid, the impact of corruption on the individual, the level of empathy of society and freedom of decision-making (Helliwell and others, 2013). Identifying alternative

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methods for quantifying economic development aims to provide the academic environment with diversity in research activity and the opportunity to select the optimal methodology, defining also the key parameters necessary to validate statistical procedures (Troto, 2021)

2. Alternatives for quantifying economic development

The system of national accounts (SNC) is an instrument of analysing the economy at the macro level. It analyses the production, distribution, level of consumption and accumulation of goods and services in the context of the interconnection of processes carried out between the business environment, state bodies and households. They relate through exchanges of values, the SNC using the double recording mechanism. By reflecting the value of the transactions, as well as by quantifying the patrimony at a certain moment, the system of national accounts provides economic data to the business environment, describes the interdependencies and allows the development of economic and financial policies at macroeconomic level. The reports resulting from the SNC can be considered data sets that complement the GDP indicator, but with a limited probative value.

The Genuine Progress Indicator (PGI) was designed for a more detailed approximation of sustainable economic development, being a composite index that adapts economic development quantified by GDP with the positive and negative influences associated with it. The PGI takes into account income disparities, non-market benefits that are not included in GDP and negative effects such as environmental crises and environmental degradation, deterioration of human health and waste of leisure time. By using pgi, it is intended to eliminate the deficiencies that the gross domestic product indicator has, namely the lack of connection between consumption and quality of life, the ignoring of defense spending that does not improve well-being, the omission of the importance of sustainability, the elimination of non-commercial benefits and costs and the ignoring of social aspects related to inequality.

The Human Development Index (HDI) was founded with the aim of emphasizing the importance of people's capacities for assessing the development of a country, not just economic growth. The estimates using HDI are based on human potential, arguing the limitations of classical economic indicators by calling into question the situations in which two countries with similar macroeconomic indicators may end up having different results in terms of human development. The purpose of statistics based on the human development indicator is to stimulate debate on government policy priorities. The elements behind the methodology for calculating HDI are life expectancy, the degree of information of adults (quantified by the average of the years of adult schooling) and a decent standard of living (as measured by per capita income).

Sustainability Science was introduced as an academic discipline at the beginning of the XXI century, developing itself as part of environmental science, by aggregating this topic and monetizing it with the help of economic and financial indicators. The concept of sustainability becomes from year to year more complex, encompassing various activities of society, with direct impact on natural ecosystems. Starting from this idea, the Global Happiness Index (The Happy Planet Index (HPI) was introduced in scientific research, as a composite indicator of sustainability that aggregates statistical data on positive qualities, such as life expectancy and human well-being, with negative ones, such as environmental degradation.

Unlike the Human Development Index, which assesses the average achievements of a country in three dimensions of human development (health, knowledge and income), the global happiness index combines subjective measures and objectives of individual well-being, based on the components of life expectancy, experienced well-being and ecological impact. Finally, subjective well-being is assessed by surveys on life satisfaction and experienced impairment. (Radovanović, 2012)

The Gross National Happiness (GNH) is an alternative way of quantifying the well-being of a population. The concept introduced in 1972 in the specialized literature bases its calculation methodology on the introduction into the calculation of subjective aspects, combining objective quantitative indicators with qualitative aspects. Despite the rational principles based on figures, which define scientific research, the calculation methods existing in the specialized literature also accept this method, which considers that the economic paradigm underlying the calculation of gross domestic product, namely that the standard of living is represented exclusively from the level of material wealth, is a theory devoid of sustainability (Thinley and Hartz-Karp, 2019).

Even if the gross national happiness indicator is not widely used, being viewed with skepticism, the academic environment analyzes it and considers it as a pertinent point of view. In this sense, gross domestic product is a limited indicator, based only on growth, whose representativeness addresses economic activity in a competitive market and ignoring other aspects as important for the well-being of the population, such as ecological and social crises. Verma (2019) accuses the fact that approaches centered on the performance of the GDP indicator result in the deepening of economic inequalities and the exaggeration of individualism, and states that assessing through the prism of the principles of GNH, manifested by its multiple meanings, may be a wiser approach. Moreover, it is also used in extensive analyses and adjacent fields, exemplifying through Ngo's work (2021) which proposes the use of GNH as a possible principle in formulating a holistic approach in the resolution of commercial disputes between ASEAN and China, based on the argument of common cultural and social perspectives. Bedford (2021) is studying the principle of the gross national happiness index as part of education for sustainable development, a project supported by UNESCO, and Rosengren (2017) is setting out in her paper a proposal to apply GNH in Sweden's European business model.

Net Economic Welfare (NEW) is another alternative indicator of measuring economic growth, whose calculation methodology quantifies global national production and relates only to consumption and investments that make a direct contribution to economic growth. Through the quantification supported by this indicator, the research environment addresses economic growth through the importance of entrepreneurship, technological and IT development. It is considered complementary to gross domestic product and takes into account the value of leisure time, the informal economy and the costs of environmental damage. Well-being is the result of a convergence of factors, from good human relationships, to greater equality, as well as to a health of the social and natural environment (Wilkinson and Pickett, 2009). In his study of alternatives to the quantification of the economy by GDP, Kubiszewski (2018) concludes that "the future we want is within our reach, but not while we remain within reach of a measure of progress (GDP) that has clearly exceeded its usefulness.", pointing out that most literature uses gross domestic product to measure something we do not really want, the well-being of society and individuals depends on more than the figures shown by gross domestic product.

Cost-Benefit Analysis (CBA) is the analytical calculation method of comparing benefits and costs in order to assess the possibility of a project. This indicator calculates the capacity of a project to be implemented, if feasible, what is the optimal scale and what are the relevant constraints.

This indicator is not a novelty in the specialized literature, but it remains up to date given that economic, financial and investment decisions, regardless of the scale, are taken in the spirit of efficiency and profitability. Although the first concepts of maximizing the benefit over cost appeared in Europe around 1840, the concept of CBA is defined in the 1930s by the government of the United States of America, which introduces this indicator into the legislative framework. In 1936, the U.S. government requires engineers that the

sewer systems they design cost less than the value of the benefit they generate through their use. CBA's analysis methods evolved, and innovation in technology and high-volume databases that followed after 1990 provided new research opportunities based on cost-benefit analysis. (Mishan and Quah, 2020). In essence, CBA is based on the calculation of the present value of net future benefits, quantified in monetary terms. From a financial point of view, the cost-benefit analysis calculates the performance of the proposed project, in relation to a reference time interval and has as main purpose the identification of the financial resources necessary to support the project in the long term, taking into account the performance indicators. This type of supporting analysis involves the formulation and evaluation of an investment project, which includes a financial analysis that substantiates the conditions of financial eligibility that offer the proposed socio-economic benefits.

Cost-benefit analysis is essential in government decision-making actions and is seen as a technique in making decisions based on the use of society's limited resources. In practice, CBA is used in the investment sector, through which several aspects can be quantified through this indicator. A relevant example is considered to be the use of CBA by the European Commission to measure the objectives of the European Union in the sectors related to human resources, innovation, climate, education and well-being or as a fundamental analysis for the management of co-financing major projects included in the Cohesion Fund and in the operational programmes of the European Regional Development Fund.

Environmental aspects are also considered part of the development of a society, which is why a set of environmental performance indices (EPI) were introduced by the United Nations (UN) in 2006 to assess the ecosystem, the environment and the level of public health. The EPI reflects the level of quality of natural elements such as emissions, the greenhouse effect, water and air quality and the level of impact these indicators have on public health. These indicators provide a way to detect problems, set goals, track trends, analyze results and define the best government policies to maximize the profitability of environmental investments. The EPI is an essential policy tool supporting efforts to achieve the UN sustainable development goals and to move society towards a sustainable future.

Fordham's Index of Social Health was first published in 1987 in the United States, becoming a barometer of trends in the level of education and health in families, representing the degree of the human condition at the national level. Based on sixteen factors, the Fordham Index reflects a complex view of the condition of "human well-being", starting from the individual level. (Miringoff and Miringoff, 1999). For children, the index monitors child abuse, infant mortality and poverty levels. In the youth segment, the index looks at the rate of suicides among adolescents, drug use and the school dropout rate. The adult segment is monitored by the level of unemployment, income and health insurance. Older people are reported in terms of poverty and healthcare spending indicators. The Fordham index also takes into account for all age groups the suicide rate, fatal road accidents caused by alcohol consumption, the use of social benefits and the income gap between social classes.

The Better Life Index (BLI) was introduced in the literature in 2011 by the Organization for Economic Co-operation and Development (OECD). The purpose of this indicator is to overcome the limitations imposed by gross domestic product, an index preferred by most for quantifying living standards. It refers to a set of 11 welfare indicators, the concatenation of which is left to the discretion of the data users. BLI aims to assess the well-being of society beyond the financial aspect, answering questions such as: how clean and safe the environment is, how comfortable is the housing, how involved public institutions are or how easy is the access of children and the elderly to health services (Kerényi, 2011). The monitored categories involved in quantifying this index are: housing standards, health, living environment, income levels, the degree of socialization of individuals, life satisfaction, the quality of public management, public safety and employment opportunities. This indicator is

the result of the OECD's promotion over the last ten years of the concept of 'A better life beyond GDP', through these tools putting people's well-being in the spotlight and stimulating political debates towards a balanced society (Durand and Boarini, 2016).

The Legatum Prosperity Index (LPI) is another tool that aims to assess prosperity differently than through the prism of income. Introduced in the literature in 2010, the LPI compares the prosperity and standard of living of one population with that of another country. Introduced by the independent London-based legatum institute, the LPI is based on eight important categories: economy, business and opportunities, government, education, health, security and protection, personal freedom and social capital.

We consider that through this method of calculation the economic and financial factor is not ignored, but improved with other indices that complement the concept of well-being. Wage growth or a positive development in GDP does not guarantee a better livelihood for the population. Thus, the LPI measures the state of society beyond the scope of classical macroeconomic indicators, measuring prosperity holistically. The LPI takes into account nine different areas, which it considers essential in defining the well-being of society: the economic level, the state of the entrepreneurial environment, the quality of public administration, the quality of education, the public health sector, the safety and security of individuals, trust capital, democracy and environmental protection. In the 2018 Report published by the Legatum Institute, the LPI index, GDP per capita and the results of the country-by-country survey of citizens' satisfaction with their well-being are empirically tested by comparison.

In our opinion, the results of this study are as relevant as possible. From this comparative study it results that only 48% of the LPI variation can be caused by GDP and a percentage of 60% can be caused by the life satisfaction index.

In view of the above, in our opinion, the importance of indicators that reflect the quality of the environment and public health becomes a priority, this being confirmed by the changes taking place in the topic of international high-level meetings; if in previous years the G-20 summits had as main objective partnerships related to the economic and financial sectors and military strategies, we note that in recent years the priority topics are related to the social and environmental sector.

In conclusion, we cannot say that there is a method unanimously accepted in the specialized literature or in the statistical practice for the quantification of complex economic and social interactions, the research at this moment opting for the use of the best variants of assessing sustainability through different indicators.

3. Conclusions

With the aim of translating the economic and social reality into empirical analyses, the business and scientific environment has expanded the studies carried out at the macro level beyond the financial figures, coming in addition with human and social factors, with the aim of reflecting as accurately as possible the social interaction and the satisfaction of life.

In our opinion, humanity has reached a level of social, economic and intellectual development in which the primary needs, reflected in income and consumption, are no longer sufficient to conclude on the degree of well-being of society. We consider it essential in the research activity to define precisely what we want to highlight through the analyzed results, so as to use the appropriate research tools and methodology. As we indicated above, classical macroeconomic indicators are not enough to analyze the mechanisms of human society as a whole, and the limitations that an analysis of gross domestic product has requires the parallel use of other quantification alternatives.

Although they have the capacity to send a scientifically based message, alternative indicators of well-being and economic development highlight sustainability and are effective

in making political decisions. However, we must emphasize that economic and financial principles prevail in the current social organization, as a result of which the pragmatic results of the classical macroeconomic indicators are difficult to ignore in favor of alternatives that project in the more distant future.

In conclusion, in our opinion, established macroeconomic indicators, such as gross domestic product, remain, at least for now, the main source of information and decision-making basis in the case of macroeconomic policies. In this context, we recall the above-mentioned report, drawn up at Columbia University in 2012, on global happiness, which places gross domestic product per capita on the first of the six influencing factors of the gross domestic product per capita.

Without ignoring the importance of adjacent factors, we remain faithful to the idea that economic and financial statistical analyses should be based on absolute and objective figures, while studies aimed at the well-being of society as a whole socio-human should also deepen those factors that impact the subjective side of society, with the help of alternative indicators.

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