

From GDP to GPI: A Quest for Appropriate Indicators of Human Welfare

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Abstract

In trying to arrive at a more appropriate measure for real human progress, it calls into question the fundamental purpose of economic activity and the fundamental premises on which modern economic theory is based. Theory and measurement go hand in hand. Without sound theory, measures can result in misleading conclusions. In an effort to attain the value-free objectivity associated with physical science, latter day social scientists have overlooked the fact that GDP itself is founded upon inherently subjective judgments, equating crime and war with more food and better housing, pollution-prone fossil fuels with clean, renewable energy and assigning zero value to non-monetized activities that enhance welfare, such as caring for children and the elderly, or leisure time and family relationships that enhance well-being. In 1934, Simon Kuznets, the chief architect of the United States national accounting system, cautioned against equating GDP (Gross Domestic Product) growth with economic or social well-being. Since its creation, economists who are familiar with GDP and SNA methodology (System of National Accounts) have emphasized that GDP is a measure of economic activity, not economic well-being. Much of the criticism of GDP as a measure centers around the way it accounts or fails to account for important attributes of economic welfare. Economic policy based on GDP too often pursues goals that are different and even incompatible with human welfare and well-being and therefore there is full justification for urgently striving to evolve both new theory and new measures to reorient economics towards its true purpose.

Keywords GDP (Gross Domestic Product), SNA (System of National Accounts), GNH (Gross National Happiness), Index of Sustainable Economic Welfare (ISEW), GPI (Genuine Progress Indicator), HDI (Human Development Index)

1. Introduction

Where on the one hand, right measurement is a powerful instrument for social progress; wrong or imprecise measurement is a source of hazard and even havoc. They can result in wrong policy with disastrous consequences. The essential purpose of economic activity is the promotion of human development, welfare and well-being in a sustainable manner, and not growth for growth's sake, yet we lack effective measures to monitor progress toward these objectives. Advances in understanding, theory and measurement must necessarily proceed hand in hand. Success of physical and life sciences today are rooted in precise and adequate measurements married with sound theory. Measurements often generate paradigmatic changes in our understanding of Nature and in turn these changes influence the meaning and process of measurements. The deficiencies of GDP as a measure are well documented by leading economists Kuznets, Tobin, Tinbergen and many others; but, unfortunately, decision-making still remains largely based on GDP. This was valid during 1930-70 perhaps, but certainly inappropriate today. The challenge is to derive more appropriate indicators to reflect real, sustainable economic welfare, social development and human wellbeing. The efficiency of our tools is an index of our social development. The development of modern economy has been made possible by continuous development and refinement of tools and measures. While the general public may regard these tools as accurate measures of economic reality, economists recognize that they are in fact only rough, approximate indicators designed to reflect economic reality rather than accurately measure it. Right

measurement is a powerful instrument for social progress, which is why efforts are constantly being made to improve the power and precision of the tools used to measure economic welfare.

1.1 Economic Growth:

Economic growth is an increase in the capacity of an economy to produce goods and services, compared from one period of time to another. Economic growth can be measured in nominal terms, which include inflation, or in real terms, which are adjusted for inflation. Economic growth occurs when there is an increase in the multiplied product of population and per capita consumption. Economic growth is often and generally indicated by increasing real gross domestic product (GDP) or real gross national product (GNP).

1.2 Economic Welfare:

It broadly refers to the level of prosperity and living standards of either an individual or a group of persons. In economics, it specifically refers to utility gained through the achievement of material goods and services. The concept of economic welfare is employed to focus on the impact of economic growth on the material living standards of households and individual citizens, rather than on production. It includes in-kind services provided by government such as subsidized health care and educational services, while excluding defense spending and general government expenses which do not directly contribute to household consumption. It also emphasizes the importance of the distribution of income and wealth in society. Economic welfare is commonly measured in terms of per capita GDP or per capita household consumption expenditure at constant currency value. International comparisons are made in purchasing power parity equivalent. According to the UN, "the real objective of development should be to create an enabling environment for people to enjoy long, healthy and creative lives. Though this may appear to be a simple truth, it is often forgotten in the immediate concern with the accumulation of commodities and wealth."

1.3 Sustainable Development

The Brundtland Commission popularized the term sustainable development. Sustainable development was a call for a more holistic and integrated approach to measuring and managing economic, social and environmental factors in decision-making processes. It is defined as development that meets the needs of the present without compromising the ability of future generations to meet their own needs. It contains within it two key concepts: the concept of 'needs', in particular the essential needs of the world's poor, to which overriding priority should be given; and the idea of limitations imposed by the state of technology and social organization on the environment's ability to meet present and future needs (U.N. World Commission on Environment and Development, Our Common Future). While most commonly used with reference to the ecological carrying capacity of the natural environment, it is also applied with reference to economic, political, technological and social issues, including energy, water, mineral resources, climate, urban congestion, population, pollution, industrialization, technological development, public policy, health, education, and employment.



Source http://www.mssresearch.org/files/HEWI_Figure_3.PNG

2. Measures and Indicators

In social sciences, many of the parameters we seek to measure do not lend themselves to simple quantification. While most physical events can be accurately described in terms of a few parameters, human activities are far too complex for complete categorization. Therefore, in the social sciences, we must often seek for more effective ways to measure the complexity of social reality. This is what economists world over have been trying to attain and that is what has led to the quest for an appropriate measure that would aptly indicate human welfare.

The Indian example highlights the crucial need for additional and alternative methods. It also brings into focus a fundamental difference between economic growth and social development.

2.1 GDP

For more than half a century, the most widely accepted measure of a country's economic progress has been changes in its Gross Domestic Product (GDP). Gross domestic product (GDP) is the monetary value of all the finished goods and services produced within a country's borders in a specific time period. Though GDP is usually calculated on an annual basis, it can be calculated on a quarterly basis as well. GDP includes all private and public consumption, government outlays, investments and exports minus imports that occur within a defined territory. GDP is a broad measurement of a nation's overall economic activity. It is typically measured by adding together a nation's personal consumption expenditures (payments by households for goods and services), government expenditures (public spending on the provision of goods and services, infrastructure, debt payments, etc.), net exports (the value of a country's exports minus the value of imports), and net capital formation (the increase in value of a nation's total stock of monetized capital good).

Measurement: $GDP = C + G + I + NX$ Where, C-All Private Consumption

G- Sum of Government Consumption

I- Country's Total Investments

NX- Net Exports (Exports – Imports)

Pros: The genius of GDP is that it expresses all economic activity in terms of a common denominator, price or currency value. When adjusted for changes in price levels due to inflation, this permits comparisons over time. When adjusted for differences in costs of living in different countries, it permits comparisons between countries. Based on data that is easily gathered at the national level, it facilitates frequent measurement in a timely manner. Simplicity, universality, ease of application and timeliness are great strengths that should not be lightly discarded. GDP has also derived a symbolic capacity to precisely indicate changes in the underlying fields that it measures, such as consumer spending, housing, electronics, transportation and communication. It is thus, a simple and universal measure.

Cons: GDP has a role to play as an indicator of short term changes in economic activity. But it does not reflect real and sustainable economic welfare, social development and human well-being. Therefore, a need is felt to refine the measures so that the welfare aspect is also taken care of along with the economic aspect. The major flaw lies in imputing reliability and significance from GDP far beyond what the number really tells us, and consequently it turns out to be a basis for bad policy formulation and causes great harm to the society.

The problem with the GDP and money-based measures of progress is that they fail to measure those things that really matter in our lives. According to the GDP, the more we spend, consume and produce the more the GDP rises. Such a meter of economic progress is fundamentally flawed because it makes no distinction between production that contributes to genuine improved well-being and activities that degrade our personal, community and environmental conditions.

2.2 GNP: The Gross National Product (GNP) is another frequently mentioned measure of economic progress. The difference between GDP and GNP is the production boundaries used. GDP measures all goods and services produced in the country whether by domestic or foreign companies. It excludes goods and services produced in other countries. GNP measures all production by domestic companies regardless of where in the world that production takes place. Because its boundaries coincide with the boundaries used to measure a country's population and employment, GDP is more useful for setting domestic policies and evaluating programs. To simplify the discussion in this document, the term GDP will be used throughout this paper to refer to the measure of economic activity although at times in the past, the actual measure used was GNP.

Measurement: $GDP + NFIFA$ (Net Factor Income from Abroad)

Pros: It carries all the merits that are associated with GDP. Also it covers the international boundaries which are not taken care of while we take into account GDP.

Cons: It suffers from all the limitations that are linked with estimation of welfare with GDP as the basis.

2.3 ISEW

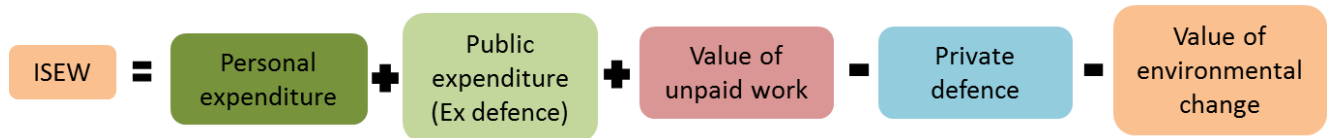
The Index of Sustainable Economic Welfare (ISEW) has been elaborated by Herman Daly and John B. Cobb in 1989. The ISEW was designed to approximate the progress of a nation's citizen more accurately than what GDP does. It is enrooted in Nordhaus and Tobin's work on a Measure of Economic Welfare. These works are based on the so-called "threshold hypothesis", according to which, up from a certain threshold of economic activity, the costs of growth are higher than the additional benefits from it.

ISEW is made up of two elemental categories:

Uncancelled benefits: 'net psychic income' as defined by Fisher (1906) => psychic services from wealth creation minus the associated psychic disservices.

Uncancelled costs: loss of natural capital services.

INDEX FOR SUSTAINABLE ECONOMIC WELFARE (ISEW)



Source: <http://www.economicsonline.co.uk/Global%20macroeconomics%20graphs/ISEW.png>

Measurement:

The ISEW is roughly defined by the following formula.

ISEW = personal consumption + public non-defensive expenditures – private defensive expenditures + capital formation + services from domestic labour – costs of environmental degradation – depreciation of natural capital.

Cons:

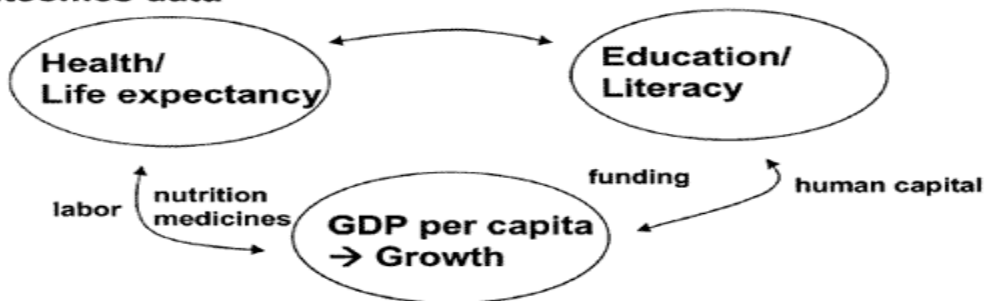
Weak sustainability indicator: Examination of the index components reveals that the ISEW is grounded in a ‘weak sustainability’ paradigm such that welfare improvements, as measured by the index, could be achieved as environmental assets are used up to grow consumption (Munday, Robert, 2007, p.353).

Individualist vision of collective welfare: This methodology does not allow for tackling the working collective conditions, social gratefulness, and more fundamentally, the collective processes underlying the consumption/production processes.(Ziegler, 2007)

2.4 HDI

The UN introduced the Human Development Index for this very purpose. The index attempts to elucidate what kind of surroundings people have in which to make a good life for themselves. The intention is to measure how long people can expect to live, how much knowledge they can acquire, and how high a living standard they can achieve. In practical terms it measures life expectancy, the proportion of illiterates, school attendance in years, and income. The World Bank endeavors in a similar way to evaluate people’s quality of life on the basis of life expectancy, malnutrition, access to clean water and sanitation, illiteracy and energy consumption. The US Bureau of Economic Analysis’ description of GDP states the purpose of measuring GDP is to answer questions such as “how fast is the economy growing,” “what is the pattern of spending on goods and services,” “what percent of the increase in production is due to inflation,” and “how much of the income produced is being used for consumption as opposed to investment or savings” (McCulla and Smith 2007).

- Food security
- Medicines
- Health care
- Research & journals
- Outcomes data
- Books, teaching materials
- Computation/communication
- Libraries
- Academic centers: journals



- Growth driven by innovation & information everywhere
- Particularly for latecomers

Source: www.climate-change-two.net/wealth-of-networks/figure-9-1.gif

UNDP's HDI is a composite statistic widely used by international organizations to evaluate and rank countries in terms of three main indicators of economic and social welfare, income, health and education attainments, utilizing readily available data.

Measurement:

3 main indicators each on a scale from 0 to 1.0:

- Economic and Social Welfare
- Income:
- Health and Education.

The income component adjusts per capita GDP as measured in constant international dollars at purchasing power parity (PPP) for inequality by discounting the income of countries that exceed the world average. Life expectancy at birth is used as an index of health. Educational attainments are measured by a weighted sum of literacy and gross enrollment rates at the primary, secondary and tertiary level, assigning two-thirds weight to the literacy subcomponent.

Scores on the three sub-indices are averaged to arrive at an overall score for HDI.

Pros: HDI is a relatively simple composite index with a transparent structure that readily lends itself to comprehension and analysis. It is primarily suitable as a normative tool for inter-country comparisons, especially those at the lower end of the scale, rather than as an aid to policy-formation and evaluation.

Cons: Since it is based on GDP data, HDI is subject to the same limitations as GDP.

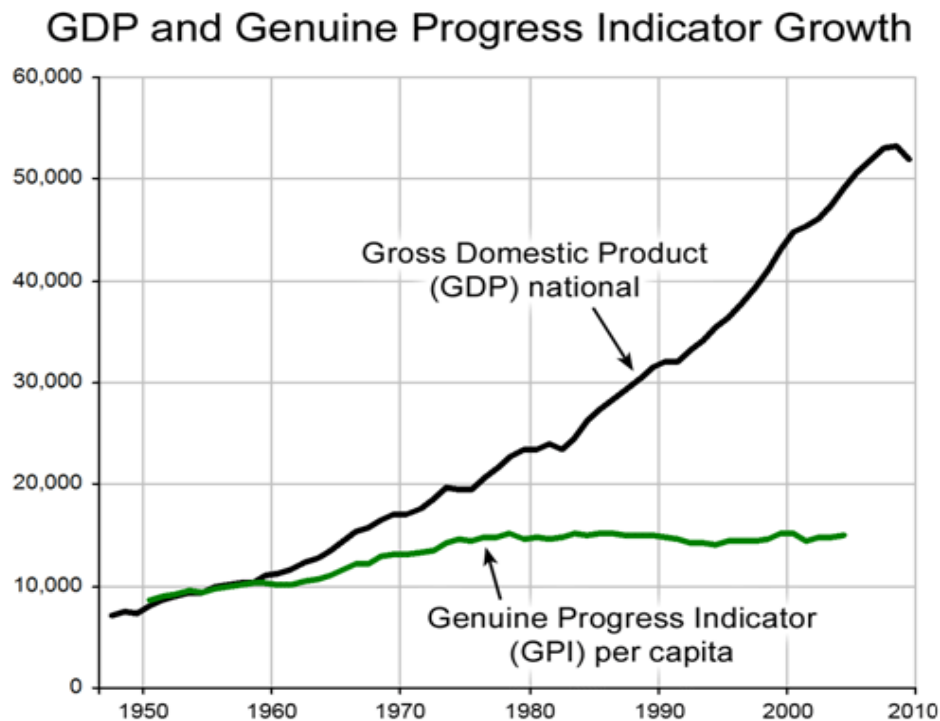
2.5 GPI

GPI is a complex, composite measure consisting of 51 indicators of economic welfare, sustainable development, social welfare and well-being, including consumption income, income inequality, consumer debt, underemployment, environmental degradation, and breakdown of families, crime, and the value of non-monetized household and voluntary work. It is based on the personal consumption expenditure component of GDP. It measures changes in inequality rather than absolute levels of inequality based on the Gini coefficient and Income Distribution Index. It also takes into account the costs associated with pollution, resource depletion, crime, car accidents and other defensive expenditures, including loss of leisure time. GPI assigns and incorporates a dollar value for every year of higher education, household work, parenting, volunteering. While GDP data is widely interpreted to show a near tripling of per capita income in the USA during second half of the 20th Century, GPI shows 63% rise from 1950 to 1970, then a gradual leveling followed by flat or negative growth from 1980 to 2000 as shown in Figure 1. The difference between the measures is largely the result of rising marginal costs associated with income inequality, natural capital depletion, consumer durable expenditures, defensive expenditures, undesirable side effects of growth, and net foreign borrowing since 1980 as reflected in GPI.²⁴ Comparison between GDP and GPI serves as an argument that policy-making and decision-making based on the use of GDP may have been appropriate during 1950-1970, but have since become inadequate and counterproductive. GPI accounting yields a comprehensive assessment of the total well-being of a society, its economy, and the natural environment. It considers the physical conditions of well-being that contribute to a high quality of life and a sustainable lifestyle. Raw time-series data from government, statistical agencies and other reputable sources are used to construct the accounts. These include conditions of personal health, social cohesion, intellectual capital, economic prosperity, and the sustainability of natural capital and the health of the environment. GPI accounts are developed along the lines of traditional accounting standards and represent a synthesis of many existing measurement systems. Their innovation stems from providing a more holistic and integrated accounting of the physical, qualitative and monetary dimensions of all living and produced capital.

Measurement:

The new GPI starts with the same personal consumption data that GDP is based on, but then it makes some crucial distinctions. It adds factors such as the value of household and volunteer work, which are excluded from GDP, as the value equivalent to the cost that would be paid for workers doing the same job. Furthermore, it subtracts factors such as the costs arising from crime, pollution, resource depletion, family breakdown, and the estimated cost of damage to human health and the environment.

Source: <http://geraldguild.com/blog/2012/05/23/happiness-as-measured-by-gdp-really/comment-page->



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Pros: The GPI accounts make the GDP more transparent by identifying the full costs and benefits of capital consumption. These accounts provide a holistic mirror that we can use to assess the true conditions of our economy, households, personal health, community health and environmental integrity now and retrospectively. The GPI accounts show that while economic progress has improved well-being in some areas, other areas have not fared so well.

Cons: There is no easy answer as to which indicators should or should not be part of a GPI account, nor are there prescriptions to indexing or solutions about the conditions that are revealed in these accounts.

2.6 GNH:

GNH attempts to measure national power and growth by happiness instead of production. The term is said to have been used first by Bhutan's King JigmeSingyeWangchuck in 1976, when he stated at the Fifth Conference of the Non-Aligned Countries that GNH is more important than GNP. He thought that simultaneous improvement of material and spiritual wealth is vital. From the 1960s to the early 1970s, Bhutan studied the experiences and models of developed countries. King Wangchuck eventually concluded that economic development often causing North-South confrontation, poverty, environmental destruction, and cultural loss does not always lead to happiness. So he decided not to use the GNP enlargement policy but the idea of GNH instead, which seeks people's happiness. "Progress should be people-oriented." That is the basic philosophy for progress as well as the final goal of progress, according to GNH.

Measurement:

Four pillars of the GNH:

- (1) Economic growth and development;
- (2) Preservation of cultural assets, and transmission and promotion of traditional cultures;
- (3) Preservation and sustainable use of the environment; and
- (4) Good governance.

The GNH measures the concept of happiness using the following nine elements (in random order): living standard, cultural diversity, emotional well-being, health, education, time use, ecosystem health, community vitality, and good governance.

3. CONCLUSION:

It's not just the economists and policy-makers who need new and better measures of economics and social progress. We all do. In democratic societies where ordinary citizens are bombarded by information and asked to support the best policies, the absence of clear, reliable measures of economic welfare and social progress lead to endless debate, confusion, obfuscation, recriminations and even despair. GDP and similar measures may be very useful tools for monitoring short term changes in industrial activity over the course of a few years, but they are grossly inadequate to reflect the complex structural changes that occur during the process of social development and the longer term implications and sustainability of the present mode of economic activity. A very wide range of individual indicators are now being monitored which purport to reflect economic and social progress. The OECD regularly monitors indices relating to fertility rates, migration, marriage and divorce, education, unemployment, income inequality, gender wage gaps, social spending, old age replacement rates, poverty, life expectancy, health expenditure, birth weight, infant mortality, health risks, life satisfaction, use of alcohol, drugs and tobacco, strikes, voting, public policies, work accidents, prisoners and many others. In addition there have been numerous attempts in recent decades to formulate composite indices of progress to supplement or supplant GDP. We cannot overemphasize the potential value of precise information for enhancing economic welfare. While national accounts data is available for all OECD countries and for 70 countries through the UN, net household savings, disposable incomes, unemployment and reliable enrollment rates are not available for many countries. Availability is one thing, reliability is another. Too often governments feel constrained to manipulate data to meet domestic political concerns or international pressures. The paucity of timely and reliable data is a serious impediment to immediate application of this and alternative measures on a global basis. Also that the data collected/available must always be validated by observable facts and confirmed by intuitive judgment. Ultimately, good measures must be judged by the policy decisions they engender. That is to say their practical utility must score over their technical perfection. Such that the measures can provide sound direction for policies that focus on what must be considered the most central objective of every society; enhancing human welfare, not economic growth for its own sake. There is a place and role for numerous approaches. The narrowest measures will help us to improve precision. The broadest serve as a constant reminder of the wider social and ecological context on which all economic activity is founded and carried out.

References

- Lomborg(2013),” Measuring human welfare”, Measuring the Real State of the World, pp. 45-49,Cambridge University Press.
<http://ebooks.cambridge.org/chapter.jsf?bid=CBO9781139626378&cid=CBO9781139626378A041>
- Wilson, *et al.*, Centre For The Advancement of The Steady State Economy, USA.
http://steadystate.org/wp-content/uploads/CASSE_Position_and_Signup.pdf
- Meaning of Economic Welfare, Wikipedia the free encyclopedia.https://en.wikipedia.org/wiki/Economic_welfare
- Index of Sustainable Economic Welfare (ISEW), Wikiprogress.
<http://wikiprogress.org/articles/economy/index-of-sustainable-economic-welfare-isew/>
- The Index of Sustainable Economic Welfare (ISEW), ULB Ecological Economics (2008), page 4, University of Brussels.
<http://tbauler.pbworks.com/f/Cours-ae-7bis-2008-09.pdf>
- Happiness as Measured by GDP: Really? <http://geraldguild.com/blog/2012/05/23/happiness-as-measured-by-gdp-really/comment-page-1/>
<http://www.investopedia.com/terms/g/gdp.asp#>
- Johnson, J. (2010). International Education Rankings Suggest Reform Can Lift U.S. US Department of Education.
- Central Intelligence Agency. The World Fact Book: GDP per capita adjusted for purchasing power parity (PPP).
- Anelski, Mark, (2001),” Measuring the Sustainability of Nations: The Genuine Progress Indicator System of Sustainable Well Being”, The Fourth Biennial Conference of the Canadian Society for Ecological Economics: Ecological Sustainability of the Global Market Place, Montreal, Quebec.
<http://www.anielski.com/Documents/Sustainability%20of%20Nations.pdf>
- “GPI, GNH, GCH: True Indicators of Progress”, JFS Newsletter No.63, 2007.
http://www.japanfs.org/en/news/archives/news_id027838.html