Gross Domestic Product is a Poor Measure of Growth – A Study of GDP's Inadequacies and its Alternative

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Abstract

This paper gives an overview of the history of the Gross Domestic Product (GDP) and the reasons countries all over the world adopted this flawed measure. It talks about the various inadequacies of GDP and how we, as a society, have failed in measuring actual well-being and progress of economies by equating the same with GDP. This paper is a call for the replacement of GDP which has been in use for over eight decades. It also studies the opinions of various authors and experts in this field and draws conclusions based on those opinions, as to which alternative is best to replace GDP. This paper also talks about the alternative most suggested by the authors - The Better Life Index, its details, framework and use. It also examines how the Index is better than GDP. This paper advocates to put an end to the misuse of GDP and to replace the 80-year-old measure with a more modern one which not only reflects the current economic scenario, but is also dynamic enough to change with the ever-changing economic conditions. For this purpose, co-operation among governments and policymakers all over the world is required, which will help them in formulating right policies, which will benefit the citizens and ultimately lead to economic prosperity. However, government and policymakers are not the only ones responsible for this. The citizens of the country should also be supportive and co-operative with the authorities. A harmony between the government and the people is what will make this transition process a smooth one. It is the need of the hour to measure the right things in the right way and to work towards formulating and implementing policies for the betterment of the people and the society at large.

Key words: Gross Domestic Product, Inadequacies, Alternatives, Better Life Index, Progress, Well-being

JEL Classification: D60, O11

Introduction

If a man marries his maid, then, all else equal, GDP would fall. – Paul Samuelson.

In the early editions of one of his economics textbooks, Paul Samuelson had joked about the above statement (N.A., The Economist, 2016). The absurdity of the Gross Domestic Product (GDP), being referred to as the Gross Domestic Problem in recent times, is reflected in this statement.

The foundation of GDP was first laid in 1934 by Simon Kuznets, a Russo-American economist, when he was asked by the USA government to calculate the output of the US economy for the past three years, during the Great Depression (Lehmann, In These Times, 2016). Before global economies could recover from the Great Depression, the Second World War began in 1939. During this period, John Maynard Keynes made an appeal to the UK government to measure the cost of war and private consumption in the article titled "*How to Pay for The War*" (Keynes, 1931). Keynes had adopted the basic principles of Kuznets' GDP, with a few changes in it – Keynes defined GDP as the aggregate of private consumption and investment, and government spending. However, Kuznets' take was that government spending (which mostly consisted of spending on the war during those periods) should be considered as a cost to the private sector (N.A., The Economist, 2016). However, Keynes' GDP won over various governments.

Once the Second World War ended, most of the economies were shattered. Almost all the money was spent to finance the war, and none was left to revive the economies. USA was the only country which was not significantly damaged. The USA then designed a program – the Marshall Plan, officially known as the European Recovery Program, whose main purpose was to revive the Western European economies damaged during the Second World War. Under this plan, USA provided direct financial aid to the fallen economies. However, in order to avail this aid, countries had to produce an estimate of GDP (N.A., The Economist, 2016).

Further, the Bretton Woods Conference in 1944 established international financial institutions - IMF and World Bank, and this was when GDP officially became the standard tool for measuring an economy (Dickinson, Foreign Policy, 2011). In 1953, UN published "A System of National Accounts and Supporting Tables", which laid down the guidelines for measuring economic performance. In other words, this was a manual that countries had to follow in order to measure and analyse their economic performance. This further widened the adoption and use of GDP. Today, all countries use this flawed indicator to measure their economic growth and well-being.

The two major mistakes we have made in considering GDP a good measure is:

i. GDP is a highly inaccurate measure that not only excludes a lot of positive activities, but also does not factor the negative ones into it.
ii. Politicians, statisticians, economists and common people are responsible for the maximalist use of GDP. The "P" in GDP stands for product, meaning, it measures the level of production in an economy (Lequiller, December 2004 - January 2005). However, over the years, we have associated GDP with societal well-being and progress, which is absolutely wrong.

Policymakers use GDP figures to formulate policies which leads to uninformed decision-making. They do not realise that economic growth is a means to an end, and not an end itself (Robert Costanza M. H., A Short History of GDP: Moving Towards Better Measure of Human Well-Being, 2014). Policymakers should focus on using economic growth to increase people's well-being instead of focusing on economic growth alone, irrespective of whether the people in the country are happy or not. Doing this will ensure the well-being of a country, in terms of economic activities as well as people's happiness.

Methodology

This study is based on secondary data collected from various journals, websites, papers, among others. For the purpose of this study, various articles/papers were taken into consideration. All these papers were studied in depth to understand the authors' point of observation regarding GDP. The authors' criticism of GDP, its inadequacies, its alternatives and suggestions were compiled after understanding their viewpoints. All of the suggestions of alternatives to GDP given by the authors were analysed and the most recommended alternative to GDP – the Better Life Index, was then studied thoroughly. Also, a comparison between GDP and the Better Life Index was drawn to understand how the Better Life Index is preferred as a measure of progress and well-being over GDP.

Analysis

Before GDP came into the picture, there were similar estimates adopted by countries, especially the United Kingdom and France, since the 15th century. The commonality between these estimates and GDP, apart from the rudimentary principle, was that these measures were adopted by countries during war times to keep a track of their resources, and how much money was to be raised through taxes to fund the wars. GDP is a wartime measure which is still being used during times of peace. This mere fact is enough to prove that GDP is not a suitable metric for measuring today's economies. However, there are various other reasons which highlight the inadequacies in GDP:

i. **Ignores Environmental Degradation**: GDP ignores the negative effects of production activities that cause environmental degradation. A lot of producers undertake activities that seriously harm the environment. However, GDP only considers the value of the output of the production process, and not its ill-effects. Taking the example of China. China's economy grew at 9.2 per cent year-on-year in 2011 (N.A., China Daily, 2012). However, this decent level of growth caused colossal environmental damage. A study commissioned by Greenpeace found that emissions from Coal plants in China increased air pollution to such hazardous levels that it resulted in premature death of 250,000 people in 2011 (Duggan, 2013).

ii. **Ignores Depletion of Natural Resources**: GDP entirely ignores the natural resource depletion caused by processes that use up limited natural resources. In order to increase production and output, countries use up large chunks of the finite natural resources – all this to increase GDP. However, countries do not realize the cost they have to pay for resorting to such unsustainable means to increase GDP. This is what happened with Nauru, a small island-nation in the middle of the Pacific Ocean. Since phosphate deposits were first discovered on the island in the 19th century, miners went on a spree to mine it, mining 80 per cent of the land. This caused depletion of the resource within no time. Moreover, the government did not utilize the proceeds for the development of other industries or for the betterment of the people, which ultimately resulted in an economic collapse at the beginning of the 21st century, when there was no more phosphate left to mine (Sokhin, 2015-2016)

iii. **Ignores Digitization**: GDP does not factor into it the benefits of the advent of new technology and digitization. In recent years, a lot of new technology has come up that has made the lives of people easier. However, the arrival of such technology has jeopardized the productivity of traditional businesses. For example – previously, consumers had to pay exorbitant rates to make long distance or international calls. This added to the GDP of a country. However, when free-of-cost communication applications like WhatsApp, Facebook Messenger, among others were developed, consumers had to pay nothing (apart from the internet data charges) to avail such features. This, in a way, reduced GDP, even though this benefitted both the consumers and the economy at large. Thus, even though economies are headed in a better direction with the introduction of new technological products and services, GDP numbers will not reflect this, thereby providing an inaccurate picture of the economy.

iv. **Amorality**: One of the major inadequacies of GDP is that it does not differentiate between good and bad spending. This can be easily understood with an example. Which of these is better - On one hand, Pennsylvania, USA is building a large prison facility, the second-largest construction project in the state. The entire project has cost the government approximately $370 million (DiStefano, 2016) On the other hand, New South Wales announced in 2017 that it would spend $5 billion to build new education and schooling facilities as public school enrolments are expected to grow by 21 per cent by 2031 (Gerathy, 2017). Both these expenditures will contribute to the growth in GDP. Although the difference between both these amounts is substantial, the fact that is being highlighted here is that both these expenditures are considered to be same under the GDP number. This does not provide a completely accurate picture of a country's economy.

v. **Ignores Inequalities in Income Distribution**: Another inadequacy in GDP is its ignorance of inequality in income distribution among the citizens of a country. An increase in a country's GDP does not reflect which parts of the society are actually benefiting from the increase. Also, such benefits are usually enjoyed only by the rich people, whereas the rest of the population hardly benefits from this. This inequality in the distribution of income results in social imbalances. As a result, a country which is characterised by high inequality in income distribution will have greater chances of thefts, homicides, etc. Moreover, to curb such crimes, a country will then have to deploy additional police force. Also, more and more households will start installing security and alarm systems in their homes. An increase in the police force and security systems in homes will add on to the country's GDP. Thus, even though GDP numbers will be high, the numbers will not reflect the fact that the increase was caused as a result of activities undertaken to curb crimes in the country.

vi. **Gives preference to Quantity over Quality**: Since GDP was developed in a period dominated by mass-manufacturing, its basic principle is - higher the production, higher will be the GDP. Hence, GDP gives preference to the quantity of goods produced and services rendered during the period of time taken into consideration. The quality of goods and services is completely ignored. This does not provide an accurate picture of the economy. Taking the example of China – China is also known as "The World's Factory" for its humongous exports all over the world. Low-cost labour manufacture these goods on a large scale and export them to various countries. However, as many of us are aware, the quality of many of these products is not up to the mark. Chinese suppliers change product specifications without asking the importers in order to produce those goods at a lower cost. This reduces their quality to a huge extent. The suppliers see quality as a barrier to greater profitability (Midler, 2012). Thus, even though an increase in the quantity of goods produced leads to an increase in GDP, the quality of these goods is poor, which is not reflected in the GDP numbers.

After considering the above inadequacies, it can be said that GDP is not the right tool for measuring an economy's growth.

Review of Literature

The authors of the papers/articles taken into consideration for this study have varied opinions when it comes to using GDP as a measure of growth. However, most of them do believe that it is flawed and needs to be replaced by its alternatives. Table - 2 summarises their opinions.

TABLE – 1: Opinion of the authors.

Author	Title	Criticism (Inadequacies)	Alternatives	Suggestion/Comment
N.A. (N.A., The Economist, 2016)	The Trouble with GDP	Ignores Sharing economy, digitization, quality	-	-
Chris Lehmann (Lehmann, In These Times, 2016)	The Case Against Using the GDP As a Measure of Economic Health	Mild criticism	Criticizes HDI	GDP should not be replaced, only improvements should be made
Francois Lequiller (Lequiller, Is GDP a Satisfactory Measure of Growth, December 2004-January 2005)	Is GDP A Satisfactory Measure of Growth	Ignores the effect of inflation	-	Replace with suite of indicators
Mark Thoma (Thoma, CBS News, 2016)	Why GDP Fails as A Measure of Well-Being	Ignores technology	Talks about China's green GDP, Index of Sustainable Economic Welfare, Genuine Progress Indicator, Happy Planet Index, GNH, National Well-being Accounts; no specific suggestions	Alternatives are not sufficient; GDP will not be replaced anytime soon
Stephen Schmidt (Interviewer) & Lorenzo Fioramonti (Interviewee) (Schmidt, 2013)	The Gross Domestic Problem	Ignored depletion of natural resources and environmental degradation	Talks about Inclusive Wealth Index, GNH, HDI; no specific suggestions	A dashboard of indicators should be developed; a sound system of global governance is required
Edward Jung (Jung, Project Syndicate, 2014)	Misleading Indicators	Ignores innovation, digitization	-	-
Editors – Bloomberg View (Editors, Bloomberg View, 2013)	GDP: An Imperfect Measure of Progress	Amoral, ignores environmental degradation	-	Suite of indicators of welfare

Peter S. Goodman (Goodman, The New York Times, 2009)	Emphasis on Growth Is Called Misguided	Ignored environmental degradation	-	-
Tim Dean (Dean T. , 2014)	Dethroning GDP As Our Measure of Progress	Amoral, ignores income inequality, environmental degradation	Suggests Genuine Progress Indicator	-
Stephanie Thomson (Thomson, World Economic Forum, 2016)	GDP A Poor Measure of Progress, Say Davos Economists	Mild Criticism	-	-
Charles Bean (Bean, VOX CEPR's Policy Portal, 2016)	Time to Rethink the Way We Measure Economic Activity	Ignores digitization	-	-
Diane Coyle (Coyle, World Economic Forum, 2016)	The Problem with Measuring A 2016 Economy With 1940s Methods	Ignores digitization	-	-
Jennifer Blanke (Blanke, World Economic Forum, 2016)	What Is GDP, And How Are We Misusing It?	Amoral, ignores inequality of wealth distribution, depletion of natural resources	-	-
Ross Chainey (Chainey, World Economic Forum, 2016)	Beyond GDP – Is It Time to Rethink the Way We Measure Growth?	Mild Criticism	-	-
Diane Coyle (Coyle, OECD, 2014)	The Ups and Downs Of GDP	Ignores pollution, innovation, inequality of wealth distribution	Suggests Better Life Index	Recommends creation of a suite of indicators, and not combine all indicators into one measure
Michael B. Porter (Porter M. E., 2014)	Better Measuring a Country	Less Criticism	Suggests Social Progress Indicator; criticises HDI	-
Ben Beachy & Justin Zorn (Zorn B. B., 2012)	Counting What Counts: GDP Redefined	Amoral, ignores environmental degradation	Suggests Genuine Progress Indicator, Sustainable Economic Welfare, Quality of	One benchmark with all indicators should be created instead of a dashboard of many separate variables

			Development Index; criticises Subjective (GNH, etc.) and Objective (HDI) indices	
Robert Costanza, Maureen Hart, Ida Kubiszewski and John Talberth (Robert Costanza M. H., A Short History of GDP: Moving Towards Better Measure of Human Well-Being, 2014)	A Short History Of GDP: Moving Towards Better Measures of Human Well-Being	Ignores environmental degradation, depletion of natural resources, inequality in wealth distribution	Gives a brief description of all alternatives; no specific suggestions	Global economies should build consensus and arrive at new measures
Joe Miller (Miller, BBC News, 2014)	Move Over, GDP. How Should You Measure a Country's Value?	-	Suggests Social Progress Indicator, Better Life Index	-
Robert Costanza, Maureen Hart, Stephen Posner and John Talberth (Robert Costanza M. H., 2009)	Beyond GDP: The Need for New Measures of Progress	Amoral, Ignores natural resources depletion, voluntary work, quality	A list of all alternatives along with descriptions; no specific suggestions	-
David Pilling (Pilling, Financial Times, 2014)	Has GDP Outgrown Its Use	Amoral, ignores depletion of natural resources	Suggests Better Life Index, HDI; criticises GNH	For the time being, no replacements will occur
John Thornhill (Thornhill, Financial Times, 2009)	A Measure Remodeled	Amoral, ignores quality, depletion of natural resources, environmental degradation	Talks about HDI; no specific suggestions	-
Barry Libert & Megan Beck (Beck, Harvard Business Review, 2015)	GDP Is a Wildly Flawed Measure for The Digital Age	Ignores digitization; quantity over quality	-	-
Zachary Karabell (Karabell, Harvard Business Review, 2014)	Forget GDP: We Need Numbers That Matter for The Questions We Have	Maximalist use	Talks about GNH, HDI; no specific suggestions	New national indicators are not needed, policymakers have to start looking at the right numbers

Selin Kesebir (Kesebir, Harvard Business Review, 2016)	When Economic Growth Doesn't Make Countries Happier	Less Criticism	-	-
Chris Meyer & Julia Kirby (Kirby, Harvard Business Review, 2011)	Is GDP The Right Measure of Wealth and Well-Being	Ignores environmental degradation	Talks about Prosperity Index; no specific suggestions	-
Lisa Napoli (Napoli, Harvard Business Review, 2010)	Beyond GDP	Mild criticism	Talks about GNH and its criticisms, Genuine Progress Indicator; no specific suggestions	Alternatives should be realistic, rather than subjective
Chris Meyer & Julia Kirby (Kirby, Harvard Business Review, 2011)	Beyond GDP: How the World Economies Stack Up	Very little criticism	Talks about Prosperity Index; no specific suggestions	-
Ian Castles & Treasury (Treasury, Economic Growth: Is It Worth Having?, 2014)	Economic Growth: Is It Worth Having	Ignores environmental degradation, natural resource depletion	-	-
Justin Fox (Fox, The Economics of Well-Being, 2012)	The Economics of Well-Being	Ignores natural resource depletion, environmental degradation	Talks about HDI, GNH, Prosperity Index; no specific suggestions	-
Diane Coyle (Coyle, The Globalist, 2014)	Warfare and the Invention of GDP	-	-	-
Elizabeth Dickinson (Dickinson, Foreign Policy, 2011)	GDP: A Brief History	Does not suit current economic scenario	Talks about GNH, HDI, China's Green GDP, State of the USA; no specific suggestions	-

From Table – 1, it can be observed that, although a lot of authors have talked about various alternatives to GDP, only some of them have specifically suggested a few. The same has been compiled into Table – 2.

TABLE – 2: Suggestion from reviews of literature.

Author	Title	Suggestion
Tim Dean	Dethroning GDP As Our Measure of Progress	Genuine Progress Indicator
Diane Coyle	The Ups and Downs Of GDP	Better Life Index
Michael B. Porter	Better Measuring a Country	Genuine Progress Indicator
Ben Beachy & Justin Zorn	Counting What Counts: GDP Redefined	Genuine Progress Indicator, Sustainable Economic Welfare, Quality of Development Index
Joe Miller	Move Over, GDP. How Should You Measure a Country's Value?	Social Progress Indicator, Better Life Index
David Pilling	Has GDP Outgrown Its Use	Better Life Index, HDI

Out of all the authors who suggested various alternatives, 30 per cent trust the Better Life Index to be the best alternative to replace GDP (as shown in Figure 1)

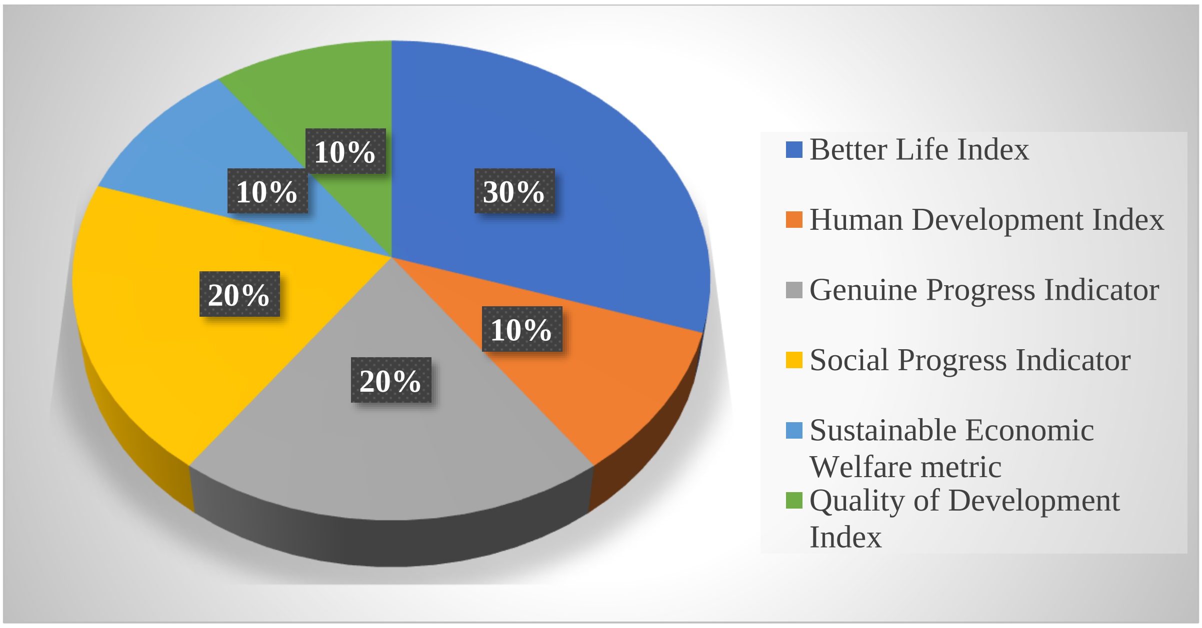

Figure 1 – Suggestions of authors of the papers/articles selected for the study

So, what exactly is the Better Life Index?

The Better Life Index

The Better Life Index, which took almost a decade to go from conceptualisation to implementation, is a dashboard of 11 indicators developed by the Organization for Economic Co-operation and Development (OECD) in May 2011, on its 50th anniversary. It is an interactive tool which enables people to see how a country is performing based on the importance they give to each of the 11 indicators. The 11 indicators, along with the tools within each indicator are as follows:

→ Housing (Housing expenditure, dwellings with basic facilities, rooms per person)
→ Income (Household financial wealth, household net adjusted disposable income)
→ Job (Job security, personal earnings, long-term unemployment rate, employment rate)
→ Community (Quality of support network)
→ Education (Years in education, student skills, educational attainment)
→ Environment (Water quality, air pollution)
→ Civic Engagement (Stakeholder engagement for developing regulations, voter turnout)
→ Health (Self-reported health, life expectancy)
→ Life Satisfaction (Life satisfaction)
→ Safety (Homicide rate, feeling safe walking alone at night)
→ Work-Life Balance (Time devoted to leisure and personal care, employees working very long hours)

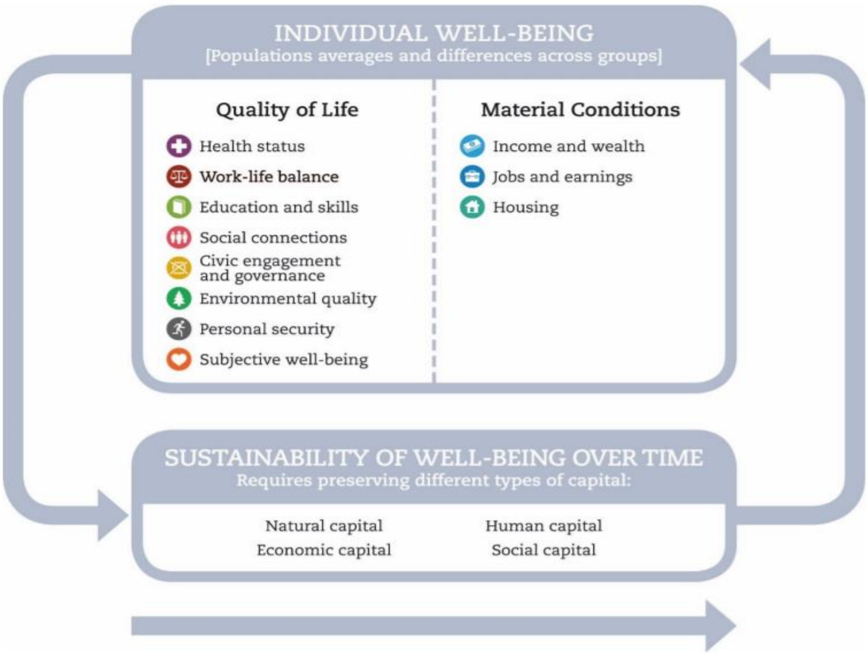

Figure 2 – Better Life Index's framework for measuring well-being and progress (*Source: OECD*)

Symbolically, each country is represented as a flower consisting of 11 petals (as shown in Figure 3), each petal representing the 11 indicators. The length of the petal indicates the score of the country in the area of that particular indicator – the longer the petal, the higher the score and vice-versa. While viewing which country has what score in the 11 different areas, based on the level of importance one gives to each indicator, one can also get a detailed information pertaining to the 11 indicators, about the country they select.

Figure 3 – The Better Life Index representation (*Source: OECD*)

The Better Life Index incorporates both subjective and objective aspects into it. All data pertaining to the objective aspect is collected from official sources such as OECD's database, National Accounts of countries, among others. Whereas, in case of the subjective aspect, the data is collected from unofficial sources – mainly from the Gallup World Poll.

Moreover, people can visit the website and give their inputs by ranking the 11 indicators based on their preferences. The inputs thus given by different people gets recorded, country-wise, and the aggregate can be viewed by the governments and policy-makers to understand what the citizens of their country want, and formulate policies accordingly. This is the only metric that lets people chose what they want to measure. This interactive system enables the citizens to be a part of their country's planning and decision-making system.

The Better Life Index applies to all 35 countries of the OECD along with Brazil, Russia and South Africa. The Index also plans to cover the OECD's other key partners viz. China, India and Indonesia over the coming years (N.A., OECD Better Life Index, n.d.)

Discussion

It is quite evident now, that the Better Life Index is a better measure of a country's well-being and progress as opposed to GDP. The following points validate this statement:

i. The Better Life Index is an interactive metric. People all over the world can view the ranking of countries based on the importance they give to each of the 11 indicators. Moreover, the Index records people's responses (of their ideal index) which can be viewed by governments to understand their people's wants and formulate policies accordingly.
ii. The Index incorporates into it, various factors that were absent in the GDP. This includes the environmental aspect, safety, people's level of life satisfaction, among others.
iii. The Index is a subjective as well as an objective one. It is not all about numbers, unlike GDP. It considers people's feelings and opinions too.
iv. The Index considers outcomes instead of inputs and outputs (Durand, 2017). For example – Country A spends a lot more on healthcare than Country B does. However, the people of Country B are healthier than those of Country A. Hence, the Index takes into consideration the outcome of the spending and not the size of spending.
v. The Index ranks countries differently across its dashboard of 11 indicators. As a result, there is no No.1 country according to the Better Life Index. There are only rankings of countries based on the indicator/s one chooses to view.

All the above points prove that the Better Life Index is, in fact, a better measure of progress and well-being that GDP. This measure can be easily adopted by countries, as no major changes need to be made in the statistical measurement process. Moreover, it will be a smooth transition as citizens will support this change, as a result of which there will be co-operation between the government and the people.

Conclusion

GDP was developed during a period dominated by wars and mass manufacturing. The scenario is no longer the same - global economies are relatively peaceful, and we have transitioned from manufacturing economies to those dominated by services. According to the World Bank, services, in 2015, accounted for 69 per cent of GDP as against manufacturing, which accounted for a mere 15 per cent (It is ironical to use these figures in this paper; however, this has only been done for the purpose of comparison.) Global economies have undergone such a huge change over the past century, yet, we are still using the same methods of measuring economic growth as we did 80 years ago.

In order to bring about a change, we have two options before us – either replace GDP or stop using it as a measure of well-being. However, in spite of Simon Kuznets himself issuing caveats as to not equate GDP with well-being, we as a society have ended up doing just that. Over the years, other economists, statisticians and experts have also warned us not to use GDP the way we do, however, we did not heed these warnings. Hence, the only option left is to replace GDP entirely.

The Better Life Index has emerged as the best alternative to GDP, according to the study undertaken in this paper. Moreover, the adoption of this Index by countries will be easy as they need not make major changes in terms of statistical measurement, and also, the citizens will support this change as a result of which the transition will become smooth.

GDP is not wrong, it is wrongly used (Joseph Stiglitz). Governments and policymakers need to understand that running only behind numbers will not do any good. It is high time we replace a measure that has been in place for over eight decades with a metric that is dynamic in nature. This metric should be one which takes into consideration not only the present economic conditions, but also has scope to incorporate into it future economic conditions in order to keep up with the ever-changing global economic scenario.

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