

MEASUREMENTS OF ECONOMIC DEVELOPMENT: DOES HUMAN DEVELOPMENT INDEX MATTER IN THE CONTEXT OF NIGERIA?

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ABSTRACT

The economic development literature is replete with measures that capture the operationalisation of economic development, one of which is the Gross Domestic Product (GDP). The GDP is the most widely used metric for assessing an economy's performance, or economic development, as it measures the market value of all final goods and services produced within a country in a given period. Currently, there is the argument that GDP or its ally, the Gross National Product (GNP), is not an adequate measure of economic development because it does not measure progress in the well-being of people. Measures and measurements of economic development go beyond the mere expressions provided by the GDP, GNP or any other variants used in the ensuing model of GDP or GNP. The relatively current index, the Human Development Index (HDI), has been strongly expressed as a measure of economic development; but there are some limitations when the HDI is applied to all economic situations. It is against this backdrop that this paper proposes a HDI that will accommodate the peculiarities of Nigeria, given the poor level of education and health facilities in the country. To this end, the paper proposes modified variants of HDI, namely the standard of living and the education indexes which should be reviewed to reflect the aforementioned and identified level of development in the country. Beyond this, a comparable level of economic development with global best practices should spur up concerted and sincere efforts among stakeholders in building and developing human capacity through adequate educational funding across all levels, as well as providing good health-care facilities that will ensure human longevity and improved living standards of the people.

Keywords: Economic development, Gross domestic product, Gross national product, Human development index, Nigeria.

INTRODUCTION

Accounting has gone beyond considering only historical financial measures of performance but now includes strategic non-financial measures of performance, in order to determine areas that need improvement in the economic development of nations because without such improvements, nations and countries will be hunted by poverty and penury. Economic development remains a focal point of all countries – both developed and developing- because it is the means to determine the ‘welloffness’ of peoples of such countries.

Economic development has been variously described: The International Economic Development Council (IECD) (2001) described economic development as an attempt to enhance the economic well-being of communities and societies that make up a given country. Besides, and in general terms, governments initiate policy intervention efforts to improve economic and social well-being, which in turn improve the quality of life of people (Ofoegbu, Akwu, & Oliver, 2016).The development of an economy will be made possible by measuring its performance and continuous refinement of its measures (Jacobs & Slaus, 2010).Such refinements and improvements include the changes in the distribution of output and economic structures. These changes involve improvement in the well-being of the poorer half of the population, improvement in the education and skills of the labour force and technological advancement in the country (Nafziger, 2006). Therefore, economic development refers to enhancement in the economic activities in the community.

Globally, governments take action to improve their economies, societies, environments and the way of life by creating a better life for their citizens.Unfortunately, however, very little is done on the evaluation of the measurements of economic development indicators which have appeared in the literature. Economic development indicators in general terms have expressions of innovations instituted, investments, savings, international linkages, intellectual capabilities, infrastructure, employment, sustainability, fiscal and price stability, amongst others. These indicators, when raised, have the potentialities of achieving long-run economic growth and development objectives in ways that do not only ensure progress in economic goals but also benchmark performance against those of other nations (Smol, Whitehead, & Bascand, 2011)

The measurements of economic development have been expressed in Gross Domestic Product (GDP), Gross National Product (GNP) and Human Development Index (HDI) (Deb, 2015). Of these measures, the GDP is the most widely followed metric for assessing an economy’s performance and captures the market value of all final goods and services produced within a country in a period (Stefan, 2006). Currently, there is the argument that GDP and GNP are not adequate measures of economic development because they do not measure progress in the well-being of people Such a fundamental difference in the perception of GDP as an economic measure, led to the introduction of HDI in 1990 in the Human Development Report (HDR) by the United Nations Development Programme (UNDP) (Jahan, 2014). The UNDP’s establishment of the HDR expanded both the availability of measurement and comparison tools used by governments, Non Government Organizations(NGOs), professionals and researchers,alike (Stanton, 2007). HDI has been proposed as a better way to measure human well-being and

evaluate economic development than the traditional GDP or GNP (Gallardo, 2009). This is because HDI covers achievements in three basic dimensions of education, health and standard of living; this becomes true when viewed against the fact that economic development is beyond just expanding wealth and income (Kovacevic, 2010). But the use of HDI cannot be used hook, line and sinker without constraints, as such acceptance of its use as proposed in the UDR may not reflect the same defined indices of HDI that are comparable globally without the peculiarities of the individual world economies.

Given the foregoing, this study examines the HDI and proposes a modification of the components of this measure. To this end, section 2 addresses the concepts of Gross Domestic Product (GDP), Gross National Product (GNP) and Human development index (HDI). This is followed by section 3 which addresses the components of Human Development Index (HDI). Section 4 offers some suggestions for improvements. The paper is concluded in section 5.

The Concept of Economic Development

Economic development (ED) is a process where low income national economies are transformed into modern industrial economies; and it involves both qualitative and quantitative improvements in a nation's economy (Shodhganga, 2011). ED includes not only the rate of change in economic wellbeing but also to its level (Nafziger, 2006). In a seemingly narrow perspective, Smol et. al. (2011) identify six drivers of higher economic performance in nations to include, among others, better public services; a global competitive regulatory environment; an efficient and fair tax system; productive infrastructure investment; higher skills; support for science; innovation and trade. In a similar but broader perspective, ED is a process that influences growth and restructuring of an economy to enhance the economic well-being of a community. It involves ensuring jobs creation, wealth creation and improving the quality of life (IEDC, 2001). The major aim of ED is to improve the economic well-being in a society through efforts that entail job retention, job creation, quality of life and tax base enhancements.

ED has three core values which include: life sustenance, self-esteem and freedom (Shodhganga, 2011). The United Nations Human Development Report (1990) asserts that economic development creates an environment in which people can expand for both present and future generations. Such expansion takes into account both economic and non-economic aspects, as well as the removal of main sources of poverty, poor economic opportunities and systematic social deprivation, neglect of public facilities including intolerance or over activity of repressive states. Since economic development is concerned with economic, social and institutional mechanisms which are necessary for bringing large scale improvements in the levels of living of the masses, then measures of economic development are crucial and germane.

Measures of Economic Development

Economic development is a multi-dimensional concept with no sacrosanct single measure of economic development that completely captures the whole process (Shodhganga, 2011). The list of measures is not however restricted to the following:

- **Gross Domestic Product (GDP)**

GDP is a broad measure of aggregate economic activity, using the product approach, the expenditure approach, and the income approach (Maroni, 2011). It is a tool that

provides the government an estimate of the amount that could be spent and by how much revenues could increase without inflationary pressures in the economy. GDP includes market production and some non-market production and it is valued at market prices. Beyond this, GDP measures current production which is equal to the value of goods and services for final users. It is a gross measure and captures output produced. On ways of measurement, GDP can be measured in three different ways: first, as the sum of expenditures or purchases by final users, being used to identify the final goods and services purchased by persons, businesses, governments and foreigners. Second, GDP is used to examine the purchasing power of households and the financial status of business income. Third, GDP can also be measured either as total revenue less the value of intermediate inputs or as the addition of the value added at each phase of the production process (Bureau of Economic Analysis of U.S. Department of Commerce, 2015). However, Costanza, Hart, Posner and Talberth (2009) have argued that GDP could measure the monetary transactions related to the production of goods and services. Some have even described GDP as a measure of welfare or wellbeing (Stefan, 2006).

However, GDP measures only the market value of final goods and services produced in a country but does not really and truly capture economic development. It is argued that GDP does not reflect the basic quality of lives and human needs (Shodhganga, 2011). GDP accounts for production of output but fails to accommodate the roles of human capital, natural resources and the environment in the production base. Besides, there is a dearth of accurate data availability for GDP estimates due to the misleading inadequate and unreliable statistical information. Other major limitations are: (i) measurement of income produced in a country as against the income generated and received by the people in that country (ii) Accounting for the monetary transactions, including the estimates for those in the shadow economy, while it ignores many other activities such as caring for children or elderly at home, the value of leisure time spent relaxing or with friends and family.

Miklos and Jeroen (2014) criticize GDP as a measure of estimate of costs rather than a measure of estimate of benefits of all market-related economic activities. GDP does not capture various social costs. This negates the principles of proper accounting. Beyond this, GDP when used for inter- country comparisons of economic development based on official exchange rates, does not reflect local purchasing power. This makes it difficult to compare standards of living of people of various countries. In all sense, GDP, as a measure, ignores transaction costs, social costs, environmental impacts, income inequality, and this measure cannot show whether things seem to be getting better or getting worse (Guarav, 2014). Therefore, many agendas and global frameworks today recognize the need for a broader view of economic development that focus on the comprehensive economic and human well-being rather than only the economic well-being (Deb, 2015).

- **Gross National Product (GNP)**

GNP refers to an estimated value of the total worth of production of goods and services, generated by citizens of a country, on its land or on foreign land, calculated over the course of one year (Morgan, 2012). In general terms, GNP is the total market value of all business production and service sector industry in a nation, including its gain on foreign investment. This measure presents a full picture of the economic well-being of the country's

nationals and measures the income of the people in a nation and excludes the economic activity of foreigners.

GNP has some measurement approaches in the literature; one approach is the expenditure approach which determines the aggregate demand by summing up the consumption, investment, government expenditure and net exports. Another measure is the summation of wages, rents, interest, profits, non-income charges, and net foreign factor income earned, which reflect the income and output method. These three methods yield the same outcome because total expenditures on goods and services are equal to the value of goods and services produced which is equal to the total income paid to the factors that produced the goods and services. Expenditure method which is the most common approach for calculating GNP is mathematically shown as:

$$\text{GNP} = \text{GDP} + \text{NI (Net income inflow from abroad)} - \text{NO (Net income outflow to foreigners)}.$$

From the onset of modern national income accounting, it has been a contentious issue in deciding which products of human activity belong in GNP. There is the argument for including the goods that are scarce and legally exchanged in the market place (England & Harris, 2005). This accounting criterion is seen as an arbitrary one because lots of sources of human satisfaction remain unmeasured and undetected by national income accountants once the criterion is officially adopted. The GNP fails to account for environmental costs and values (dirt, air pollution with its attendant consequences such as deterioration, and so on (Learner, 2012). Other criticisms listed by Haque (2004) include the existence of perfect market competition which hardly exists, the cross-national comparison of GNP for a common currency (like the US dollar) which is problematic because the official exchange rates do not always reflect income and price differences among countries; inability of GNP to measure non-economic dimension of human welfare. The GNP is also discredited as a measure of economic development because there is no direct relationship between economic development and GNP growth rate. Stiglitz (2009) has argued that GNP imperfectly reflects society's total output, excluding other dimensions to human welfare.

- **Human Development Index (HDI)**

Kovacevic (2010) has argued that technological advancement increases the ability to live healthier and longer lives, leading to extraordinary decline in mortality rates at all ages, including the automatic reduction of fatal diseases and sufficient increase in life expectancy.

The first Human Development Report (HDR) of the United Nations Development Programme, released in 1990 (United Nations Development Programme, 1990; Sagar & Najam, 1998), was an important document that first resulted in the debate on the measurement of development. Eventually, it distilled various concepts that had been raised in earlier development discussions into a unified theme of 'human development'. It also provided a handy, if preliminary, framework for measuring performance on the dimensions of human development through the human development index (HDI).

Human Development Index (HDI) is arguably the world's best-known index of societal well-being (Osberg & Sharpe, 2005); and it measures a country's achievement in healthy and long life, knowledge and decent standard of living. These three (3) components have been captured in life expectancy at birth, school enrollment and literacy rates as well

as GDP per capital ((Byte, 2015). Morgan (2012) has argued that the focus for better measurement of economic development should not be fixed on purchasing power but rather on living power.

The idea on human development index was introduced in the Human Development Report (HDR) of 1990. The HDR (1990) was an attempt to take incorporating the view of human beings as ends in the accounting and assessment of development (Anand & Sen, 2000).The intent is to put people at the center of development and public awareness (Neumayer, 2001).

According to Radovanovic (2011), HDI emphasizes human capabilities as ultimate criteria for assessing the development of a country. The main capabilities for economic development are to live healthy and long lives, to be educated (knowledgeable), to have access to the social services and resources required for a decent living standard, and to be able to participate in life in a society (Sina & Moshtaghi, 2014). A person needs both the resources and the ability to use them in order to pursue their capability.

The Human Development Index is known to measure average achievement in basic human capabilities and has helped to expand the attention in appraising the process of economic development (Jahan, 2014). The index summarises a great deal of social performance in a single composite index, combining the three (3) indicators of longevity, education and living standards (Nafziger, 2006). This position is supported by Marone (2011) who in her later study found the HDI as truly a measure of healthy living and long safe life, being knowledgeable and having a decent standard of living. These dimensions and indices can be shown in the table below:

Table 1: Variables for each of the three dimensions of human development index

Dimensions of development	Human Development Index
Living standards	GDP per capita
Education	Adult Literacy
	Combined Gross Enrolment Ratio (primary, secondary and tertiary schooling)
Health	Life Expectancy

Source: Rahjou, Imani, & Sharifi, 2014

The Human Development Index has been used to rank development levels and comparing countries internationally (Sina & Moshtaghi, 2014). According to Ofoegbu, et al. (2016), the HDI is a measuring tool that ranks nations' levels of economic development base on three (3) criteria of Health Index, Education Index and Standard of living Index. The health index reflects and indicates the life expectancy of a particular country. The education index shows the enrolment rate at the level of primary, secondary and tertiary levels of people in a nation as well as the literacy rate with the standard of living index showing the GDP per capita income of a nation. HDI is one of the first indicators that challenges the supremacy of GDP, and has become widely referenced and used (PricewaterhouseCoopers Limited, 2016).

According to Neefs (2009), a nation's HDI arithmetically averages the three (3) indexes of health, education and standard of living, shown as that:

$$\text{HDI} = 1/3(\text{Standard of Living Index}) + 1/3(\text{Health Index}) + 1/3(\text{Education Index})$$

The HDI lies between the range of zero and one, and nations are rated based on how close their HDI is to one (Neumayer, 2001). At an HDI value of 0.51, Nigeria is classified as a low development country, given a rank of 152 amongst 188 countries in the world. Between 2005 and 2014 however, Nigeria's HDI value improved only marginally from 0.467 to 0.514 (PricewaterhouseCoopers Limited, 2016). This is however below the average Human Development Index of the world of 0.706!

Human Development index is not restricted to the real per capita GDP but it considers longevity (life expectancy) and educational attainment also. In summary, Human Development Index (HDI) is adjudged a better measure and indicator of the welfare of the people than simply national income. The HDI clearly shows the distinction between income and human well-being because it can give a more complete picture of the state of a nation's economic development than can GDP or GNP alone (Human Development Report, 2014).

- **Standard of Living Index (SoL)**

Income is seen as a means to human development and not an end by itself (Jahan, 2014). With little income, a lot can be achieved in economic development. The income component of the HDI has been used as an indirect indicator of some capabilities not well reflected directly or indirectly, in the measures of longevity and education. Income helps to provide adequate shelter, prevent hunger with respect to longevity and provide good education (Anand & Sen, 2000).

Standard of living Index is measured using the GDP per capita income; where GDP per capita income is derived dividing the GDP by the population of a country, adjusted for purchasing power parity (PPP) in dollars (Gallardo, 2009). The PPP-adjusted GDP per capita provides better approximation of the relative power to gain command over resources and to buy commodities for a decent living standard (Anand & Sen, 2000).

Critiques pointed out that GDP per capita includes all effects of economic activities whether they are negative or positive without questioning; and these often lead to double accounting for an economic activity and under-reports the true cost of economic activities (Kovacevic, 2010). The level of living standard is also criticized to have increased through increased level of leisure which is not accounted for in the GDP per capita figure. GDP per capita above the threshold value is also heavily discounted (Neumayer, 2001). In addition, calculating standard of living (SOL) index is more complex than other indices because the index is calculated using the logarithmic formula (Sina & Moshtaghi, 2014). However, the logarithmic formula is used based on the fact that people do not need excessive financial resources to enjoy a decent standard of living (Anand & Sen, 2000).

- **Health Index**

The Health Index shows the degree to which life expectancy (LE) in a region analyzed is above the minimum life expectancy (Min LE) as a proportion of the maximum difference between possible life expectancies. Globally, Min LE is set as 25 and maximum life

expectancy (Max LE) in the world is determined to be 85 (Ofoegbu, et. al., 2016; Kovacevic, 2010). Health Index is mathematically represented as:

$$\text{Health Index} = (\text{LE} - \text{Min LE}) / \text{Max LE} - \text{Min LE} \text{ (Nefs, 2009).}$$

Although, life expectancy is commonly used as the indicator for the Health Index, life expectancy does not capture all the aspects of the individual's current health which may limit and affect capabilities (Kovacevic, 2010). The indicators of health quality are difficult to obtain in measuring the multiple dimensions of the healthy state which influences the potential human capabilities. Therefore, the statistical adequacy of life expectancy can be questioned (Anand & Sen, 2000).

- **Education Index**

Basic education advances the participation and the efficiency of each individual. People with little formal education can carry out only simple manual work. Insufficient basic education can become a limitation on economic development, in which a country may find it difficult to move up through the value chain to produce and consume more advanced products and services, and thus makes the entire society lag behind (Kovacevic, 2010). Education helps in the acquisition of knowledge while knowledge is a core factor of production and a principal determinant of productivity. Acquisition of knowledge is an important dimension of human development because it is a critical means of building capability. Knowledge gap rather than the income gap is likely to be the most critical determinants of the fortunes of countries across the world (Arab Human Development Report, 2002).

The Education Index relies on two indicators for the knowledge dimension, which are: the combined gross enrolment ratio for primary, secondary and tertiary schooling and adult literacy rate (Elementary Education in India analytical Report, 2006-7). The enrolment ratio is the percentage of children of school-going age (Primary, Secondary and Tertiary) who go to school. The literacy rate is the percentage of people aged 16 years and above who are able to read, write and understand simple statements regarding their daily lives (Ofoegbu, et. al., 2016).

Nafziger (2006) again showed the literacy rate as the weight of two-thirds and the enrolment rate as the weight of one-third, such that the Education Index is mathematically represented as:

$$\text{Education Index} = 2/3 \text{ Literacy Rate} + 1/3 \text{ Enrolment Rate.}$$

The Education Index is seen to have many crucial divergences with respect to inter-country comparison for calculating educational achievements. The quality of education, length of the school year, effects of repetition, automatic promotion, continuing education and training are not the same in each country in the world (Kovacevic, 2010). This makes the basis for country comparison to be poor.

The HDI has been the subject of several critical reviews and critics have questioned whether HDI provides significant information beyond what is already available from the separate indicator like GDP. However, the suggestion is that the use of multiple indicators is essential to capture cultural, political, ecological and social aspects of development (England & Harris, 2005). Another skepticism with the HDI measures is that there are many crucial

divergences, even in the inter-country comparisons for calculating the GDP per capita, life expectancy and educational achievements (Anand & Sen, 2000). Since the HDI index is for a single country, and as such does not distinguish between different rates of development within a country, such as between urban and traditional rural communities. There is the disaggregation of the HDI in terms of gender, region, race and ethnic group.

HDI is seen to focus on long term human development outcomes at the expense of short term human development achievements. Also, HDI is said to focus on the three basic dimensions: health, education and standard of living, and cannot consider other important dimensions of human development like political freedom, human freedom, human rights and others. Economic development also covers areas on freedom, but the HDI does not directly measure this. For example, access to the internet might be regarded by many as a freedom that improves the quality of life of the people (Arab Human Development Report, 2002). In addition, the HDI excludes many aspects of social and economic life which could be regarded as constraining or contributing to economic development, such as corruption, poverty, deprivation, crime, and negative externalities.

One category of critiques of the HDI addresses poor quality of data, particularly in terms of the frequency of measurement errors, the thoroughness of data collection, infrequency of census data collection, a lack of complete coverage within countries and the possibility of inaccurate reporting (Stanton, 2007). Obviously, some vital information is lost in the construction of the index. Income above basic level of need counts for specific, very little health and nutrition data are not reflected except insofar as they affect life expectancy (England & Harris, 2005).

However, the HDI has its strength because it measures broader issues of human well-being, which can be used as a measure for economic development, compared to GDP per capita which can only be used to measure economic growth (Arab Human Development Report, 2002).

IMPROVING HUMAN DEVELOPMENT INDEX IN THE CONTEXT OF NIGERIA

The measure of Human Development Index (HDI) as an indicator of well-being of the society and economic development globally is recognized. The HDI has a focus for enhancing human lives and helping to influence policy thrust and direction at the regional, national and international levels. The limited scope of HDI in its neglects of sustainable development, notably in poor countries provides an incomplete picture of human development. A new version of HDI will serve as a better measure of economic development. It is expected that a new version of the HDI should better capture the current and potential future capabilities in education of modern societies, health and income that is available to a country. To this end, the following changes are proposed.

- The education dimension or component of HDI should emphasize quality education in addition to quantity of enrolment. This means that stakeholders, including the government, academic planners and academic institutions, on-governmental Organisations, to mention but a few, should have an academic summit on the quality of education and quantity of enrolment that will not only align with the global best practices but also account for the special peculiarities of Nigeria. Besides, it is expected

that the outcomes of such a summit should exist for cross-national assessment among countries. .

- In the standard of living dimension, the Gross Domestic Product (GDP) per capita should build into the Real Gross Domestic Product (GDP) per capita model a working population rather than the use of population. Real GDP is usually calculated at constant prices. It shows the changes in physical production in real terms. Per capita real GDP is the GDP at constant prices divided by population. To achieve the GDP at constant prices, governments at all levels must deploy the right fiscal and monetary policies to affect the desired constant prices.
- Efforts should be deployed to integrate and accommodate inequity/inequality considerations into the evaluation of performance models in each of the three dimensions and incorporated into the HDI index. Such distinct considerations required in the HDI should encompass metrics, as freedom index (human right), crime index (public safety rating), corruption index (degree of openness of their borders to international journalists and visitors, also public report) and poverty index (head-count of people below the standard required level of income).

CONCLUSION

The diversity of cultural richness and peculiarities in a country and among countries around the world call for a good measure beyond GDP and GNP, for economic development and well-being that can suit all and allow comparisons among countries overtime. Economic development encompasses a broad based index such as the Human Development Index, HDI with the core dimensions of Health, Education and Standard of Living Index. However, these components are not without limitations. The consideration of quality of education, in addition to the quantity of enrolment in the assessment of education index and the use of working population in the assessment of standard of living index are advised. Furthermore, the HDI can have an in-built of other indicators in the areas of inequality, poverty, gender, sustainability, human security and empowerment to make the HDI very robust as an economic development model.

For further studies, an empirical evaluation of Human Development Index as a measure of economic development is suggested to compare the empirical findings with this conceptual and current study.

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