AN ASSESSMENT OF HUMAN DEVELOPMENT INDEX AND POVERTY PARAMETERS IN THE MILLENNIUM DEVELOPMENT GOALS: EVIDENCE FROM NIGERIA

BY

ADEDIRAN, OLANREWAJU ADEWOLE

DEPARTMENT OF ECONOMICS, COLLEGE OF SOCIAL AND MANAGEMENT SCIENCES, CRESCENT UNIVERSITY P.M.B. 2082, SAPON, ABEOKUTA, OGUN STATE NIGERIA Email Address: lanre0812@yahoo.com

ABSTRACT

This paper employed tools of empirical econometric analysis to examine the relationship between human development and poverty parameters of the Millennium Development Goals (MDGs) in Nigeria within the context of the United Nations Development Programme (UNDP) report. Regression models were specified from perceived functional relationship between Human Development Index (HDI) and vector of poverty indices and parameters MDGs. HDI was first regressed on each of the poverty parameters in MDGs in simple regression models. Subsequently, HDI was regressed on a vector of selected poverty-related indicators of MDGs. Estimation of model coefficients was facilitated by E-Views statistical package via ordinary least squares (OLS) techniques. The results showed unexpected reverse relationship with statistically significant effect at 10% and 5% levels of significance. The Augmented Dickey-Fuller (ADF) unit root tests were carried out to confirm stationarity in data time series. The test showed that all time series variables were stationary at levels for both intercept and deterministic trend. Consequently, appropriate policies were recommended to achieve poverty reduction and MDGs.

Key Words: Human Development, Poverty Reduction, Millennium Development Goals
JEL: I32, I38

I. INTRODUCTION

Human development plays a fundamental role and remains the most important factor in economic growth and development in countries of the world. The Human Development Index (HDI) is a composite statistic used to rank countries by level of “human development” and to separate countries into developed (high development), developing (middle development), and underdevelopment (low development) categories. The statistic is computed using data on life expectancy, education and per capita GDP, each as an indicator of standard of living. The Millennium Development Goals (MDGs) are the world’s time-bound and quantified targets for addressing extreme poverty in its many dimensions. They embody the deep aspirations and
commitment of the global community for significant improvements in the quality of human life (UNDP, 2009). The only way to reduce poverty in the Less Developed Countries (LDCs) without resort to international welfarism or international migration is through the development of productive capacities of the LDCs and concomitant expansion of productive employment opportunities within them (UNCTAD, 2006). Past researchers in this area have argued that global economic integration should help the poor since the poor countries have a comparative advantage in producing goods that use unskilled labour. In the last two decades, the percentage of the world’s population living on less than $1 a day has been halved, falling from 40 to 20 percentage points over the last twenty years (World Bank Official website).

During this period, countries increased their trade share and slashed tariffs. Yet one billion people still live in extreme poverty, and half of the world’s populations live on less than $2 a day (World Bank, 2005). There are two tendencies in analyzing the causes of poverty; one spectrum is microeconomic analyses of the causes of poverty focus on characteristics of the poor (such as illiteracy, living in remote areas, working in subsistence agriculture, etc.) and directing policies to address these in a way that is divorced from the broader macroeconomic context. The macro-context leads to simplistic and misleading assertions that “economic growth is good for the poor.” The eradication of widespread absolute poverty and reduction on income inequality is in the content of redistribution of Economic opportunities, which emphasizes the need to provide and guarantee a decent livelihood to majority of the populace; which include the provision of adequate food, shelter and clothing, access to health facilities and education and greater employment opportunities. Lack of these things is both a symptom and causal of absolute poverty and income inequality. (Todaro, 1989)

In Nigeria, the claim of the World Bank was that poverty in the period of 1982 – 1992 was a devastating phenomenon that resulted from a mismanaged economy that suffers a series of incorrect macroeconomic policies. The consequences, as expected, were visibly evident on the people and made life a groaning experience. The problem was serious enough that in Nigeria the middle class was virtually wiped off as an age old social classification. Development analysis could no more talk of social stratification in hitherto familiar rubrics expect to talk about the rich and the poor. As some said, the middle class was not wiped off in Nigeria but their classification was, as the situation in the economy could no more effectively guarantee them those good and services they used to enjoy. For example, middle class homes were denied the possession of a car, decent accommodation, decent school for their children, quality meals for their children, health in the hospital, etc. they all disappear during austerity year after year.

However, failure in the achievement of MDGs and basis causes of poverty are that there are simply not enough productive employment opportunities in the formal sector for a growing labour force which as the way to eradicate poverty and hunger. These the basis for the recognition of MDGs. Distinctive type of political system in which rivalries and struggles of powerful and willful persons, rather than impersonal institutions, ideologies, public offices or class interest, are fundamental issues.

The objectives of this paper include to examine the relationship between human development and poverty, and to assess its effect on MDGs targets and poverty parameters. In pursuance of these objectives, the paper attempts to address the following questions: What are the major human development indices? What are the MDGs? Is there any relationship between HDI and poverty parameters in the MDGs? What is the effect of human development on MDGs and poverty parameters?
For the purpose of sufficient evaluation and up-to-date assessment, the remaining part of this paper is divided into four sections. Section two clarifies relevant concepts and reviews related literature. Section three discusses sources of data used for analysis, states the hypothesis, specifies the relevant model and outlines estimation and evaluation techniques. Section four is the analysis of data and discussion of results, while section five dwells on summary, recommendation and conclusion.

2. REVIEW OF RELEVANT LITERATURE

Concept of human development of more significance

Human Development is a development paradigm that is of more significance than the rise or fall of national incomes. It is about creating an environment in which people can develop their full potential and lead productive and creative lives in accord with their needs and interests. People are the real wealth of nations. Development is thus about expanding the choices people have to lead lives that they value. Therefore, much more than economic growth which is only means of enlarging people’s choices (Mahbub ul Haq, 1998). Human development is related to economics and standards of living.

Human capital refers to the stock of competences, knowledge and personality attributes embodied in the ability to perform labour so as to produce economic value. It is the attributes gained by a worker through education and experience. Many early economic theories refer to it simply as workforce, one of three factors of production, and consider it to be a fungible resource – homogeneous and easily interchangeable. Other conceptions of labour dispense with these assumptions. Human capital theory predicts that more educated individuals are more productive. According to the theory, productivity of labour is high with educated individuals and consequently they contribute far more to the level of national income and also earn higher income than their uneducated counterparts. Furthermore, education is a good measure of human development and the relationship between human development and poverty level has a significant effect on economic growth and development in some selected countries of the world.

Human development index

Human Development (HD) and Human Development Index (HDI) are powerful concepts. The former refers to the process of empowerment in the possession of the capacity to build up oneself so as to be able to live a long life, be able to read and write and so participate in the societal affairs effectively and above all be gainfully employed to earn a living. The latter merely establishes how far a country has been able to achieve this for its citizens in numerical qualitative evidence represented by a real number. The fact is that earlier indices of development such as per capita income and its various derivatives have not been able to establish this effectively, especially for comparative purposes. HDI is an index fashioned out of education, life expectancy and income in purchasing power parity.
**Concept of poverty**

Poverty is multi-dimensional in nature. Therefore, it defies a unique definition. There is always difficulty in deciding where to draw the line between the poor and the rich.

Aluko (1975) refers to poverty as a lack of command over basic consumption needs, which means that there is inadequate level of consumption giving rise to insufficient foods, clothing and/or shelter, and moreover the lack of certain capacities such as being able to participate with dignity in society. Poverty is also defined as the inability to attain a minimum standard of living (World Bank Report, 1990).

It is viewed in terms of insufficient income for securing the basic necessities of life such as food, potable water, clothing and shelter. Poverty is more easily recognized than defined. Hence, a universally acceptable definition of the term has remained elusive but from a social perspective, poverty means the denial of choice and opportunities for a tolerable life (UNDP, 1997).

Poverty is a global phenomenon which affects continents, nation and people differently. It affects people in various depths and levels at different times and stages of existence; the main difference is the intensity and prevalence of this malaise. Poverty relates to a state whereby individual lacks the ability to cater adequately for his or her basic needs of food, clothing and shelter, unable to meet social and economic obligations, lack gainful employment, skills assets and self esteem and also has limited access to social and economic infrastructures such as health, education, potable water and environment protection (CBN- Economic and Financial Review, 1991).

**Human Development Report**

The first Human Development Report in 1990 opened with the simply stated premise that has guided all subsequent Reports: “People are the real wealth of a nation.” By backing up this assertion with an abundance of empirical data and a new way of thinking about and measuring development, the *Human Development Report* has had a profound impact on development policies around the world. The 2010 Report continues the tradition of pushing the frontiers of development thinking. For the first time since 1990, the Report looks back rigorously at the past several decades and identifies often surprising trends and patterns with important lessons for the future. These varied pathways to human development show that there is no single formula for sustainable progress. In other words, no single index could ever completely capture such a complex concept—and that impressive long-term gains can and have been achieved even without consistent economic growth. Looking beyond 2010, this Report surveys critical aspects of human development, from political freedom and empowerment to sustainability and human security, and outlines a broader agenda for research and policies to respond to these challenges.

The HDI is a composite measure of human development covering health and education as well as income. It was devised by the late Pakistani economist Mahbub ul Haq for the first Human Development Report in 1990. The new 20th Anniversary Edition of the Report revisits that original analytical exercise, using new methodologies and international data sources, also
looking back to 1970. The HDI 2010 report combines three dimensions: Longevity (a long and healthy life): measured by Life expectancy at birth; Knowledge (access to knowledge): measured by Mean years of schooling and Expected years of schooling; and Standard of living (decent standard of living): measured by purchasing power based on GNI per capita (PPP US$).

Human Development Index (HDI) 2010 ranks Nigeria 142nd position out of 169th listed low human development. Human Development (HD) concept takes into account all the products of development including education, health etc. Hence, Policy makers and government must be reoriented and tutor to know the enormity of the combination of HDI concept as a guide to development effort to achieve the concept itself.

POVERTY PARAMETERS IN THE MILLENNIUM DEVELOPMENT GOALS

The components of UNDP MDGs and associated targets are as follows:

1. Eradicating extreme poverty and hunger: The proportion of people earning less than US$2 and number of people who suffer from hunger. There is an increase the amount of food for those who suffer from hunger.

2. Achieve universal primary education: Number of pupils completing primary schooling and for the sake of fullness we can include the few indicators (net enrolment in primary school, number of drop outs and literacy rate in the country.

3. Promote gender equity and empower women. Targets include: Elimination of gender disparity in levels of education for the sake of fullness include the indicators; success ratio of boys to girls in primary, secondary and tertiary education, share of women in wage employment in non-agriculture sectors, and proportion of seats held by women in parliament.

4. Reduce child mortality. The targets: reduce under-five mortality rate, infant mortality and proportion of under five immunized against measles.

5. Improve material health. The targets include: reduce maternal mortality rate and achieve universal access to reproductive health given the indicators.

Maternal mortality rate, proportion of birth attendants by skilled health personnel contraception prevalence rate, adolescent birth rate, antenatal care coverage and unmet need for family planning.

7. Ensure environmental sustainability. Targets integration of principle of sustainable development into country policies and programmes, reverse loss of environmental resources, reduce biodiversity loss, reduce proportion of people without sustainable access to safe drinking water and basic sanitation, improvement in the life of slum dwellers.

8. Develop global partnership for development. Targets development of an open, rule-based and non-discriminatory trading and financial system, address the special needs of developing countries, including land-locked countries.

An appraisal of these targets and indicators shows that most if not all are based on poverty issues and issues. Although the list is not exhaustive, they give an indication of what to expect if they were to be adequately addressed. They also help to redress at a glance the frequently misconceived idea that poverty is mainly an income agenda.

AN ASSESSMENT OF POVERTY REDUCTION PROGRAMMES IN NIGERIA

Prior to the introduction of MDGs, the Nigeria government, especially at the national level introduced a number of programmes and policies to alleviate poverty.

The table below summaries a number of such programmes between 1986 and 2007

Table 2.1 POVERTY ALLEVIATION PROGRAMMES IN NIGERIA (1986-Till date)

<table>
<thead>
<tr>
<th>Programme</th>
<th>Year Est</th>
<th>Target Group</th>
<th>Nature of intervention</th>
</tr>
</thead>
<tbody>
<tr>
<td>Directorate of Food, Road and Rural Infrastructure (DFRRI)</td>
<td>1986</td>
<td>Rural Area</td>
<td>Feeder roads, rural water supply and rural electrification</td>
</tr>
<tr>
<td>National Directorate of Employment (NDE)</td>
<td>1986</td>
<td>Unemployed</td>
<td>Training, financing and guidance</td>
</tr>
<tr>
<td>Better Life Programme (BLP)</td>
<td>1987</td>
<td>Rural women</td>
<td>Training finance and guidance</td>
</tr>
<tr>
<td>Peoples’ Bank of Nigeria</td>
<td>1989</td>
<td>Underprivileged in the rural areas</td>
<td>Encouraging saving and credit facilities</td>
</tr>
<tr>
<td>Community Banks</td>
<td>1990</td>
<td>Rural resident and micro enterprises in</td>
<td>Credit facilities</td>
</tr>
<tr>
<td>Programme</td>
<td>Year</td>
<td>Target</td>
<td>Objectives</td>
</tr>
<tr>
<td>------------------------------------------------</td>
<td>------</td>
<td>---------------------------------------------</td>
<td>----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Family Support Programme (FSP)</td>
<td>1994</td>
<td>Families in rural areas</td>
<td>Health care delivery, child welfares, youth development etc</td>
</tr>
<tr>
<td>Family Economic Advancement Programme (FEAP)</td>
<td>1997</td>
<td>Rural areas</td>
<td>Credit facilities to support the establishment of cottage industries</td>
</tr>
<tr>
<td>National Poverty Eradication Programme (NAPEP)</td>
<td>2001</td>
<td>Unemployed youth as well as poor masses</td>
<td>Employ generation in rural sector and societal welfare.</td>
</tr>
<tr>
<td>National Economic Empowerment and Development Strategy (NEEDS)</td>
<td>2004</td>
<td>All citizen that are poor</td>
<td>Human and Economic Empowerment</td>
</tr>
<tr>
<td>Millennium Development Goals (MDGs)</td>
<td>2007</td>
<td>Low human development nations. The whole country Nigeria</td>
<td>Human development as a means of nation / national development</td>
</tr>
</tbody>
</table>

Source: Authors Compilation

The Nigeria government’s poverty reduction framework is named the National Economic Empowerment and Development Strategy (NEEDS), the state level framework is the State Economic Empowerment and Development Strategy (SEEDS), the local government is the Local Economic Empowerment and Development Strategy (LEEDS), the community level is the Community Economic Empowerment and Development Strategy (CEEDS), while at the household level is the Personal Economic Empowerment and Development Strategy (PEEDS). NEEDS has four pillars; empowering people and improving social service delivery; improving the private sector and focusing on non-oil growth; changing the way government works and improving governance; and value reorientation at all level (World Bank, 2007).

Nigeria has a growing country, moving towards reducing poverty and achieving of the MDGs would translate into significant giant in social and economic development for the whole of sub-Saharan Africa. (World Bank and DFID, 2005:1)

However, Nigeria is blessed with enormous oil wealth, a large and diverse population, sea and river access, forests and land. Nonetheless it has not been able to translate these advantages into sustainable peaceful development. This is largely the result of poor governance and weak state institutions, deeply embedded in the socio-political nature of society. Whether the national, state, local, community and personal development strategies could contribute to achievement of the
MDGs will depend on proper implementation of these goals as well as tackling head in the underlying causes of poverty-discrimination, corruption, patronage politics and the likes.

3. METHODOLOGY
This study is an empirical and exploratory analysis. The study employed regression models estimated via the ordinary least squares (OLS) techniques in assessing the relationship and effect of human development through MDGs selected parameters on poverty reduction in Nigeria between 1990 and 2010. Data for analysis were sourced from the UNDP’s Human Development Report (HDR) 2010 and some other issues, publications of National Planning Commission (NPC), United States Information Service (USIS) 2010, Human Development Report Official (HDRO), and United Nations Children’s Fund – UNICEF JMP official MDG Report, National Bureau of Statistics (NBS) and Central Bank of Nigeria (CBN).

Research Hypothesis
Hypothesis One

- $H_0$: There is no relationship between human development and poverty reduction in Nigeria.
- $H_1$: There is relationship between human development and poverty reduction in Nigeria.

Hypothesis Two

- $H_0$: Human development has no significant effect on poverty parameters of the millennium development goals in Nigeria.
- $H_1$: Human development has significant effect on poverty parameters of the millennium development goals in Nigeria.

Models Specification
For the purpose of this study, simple and linear regression models are specified within the context of MDGs HDI parameters and poverty indicators. This is to enhance the estimation and evaluation of the relationship between HDI (endogenous variable) and poverty parameters (exogenous variables) within the context of MDGs in Nigeria. Thus, Models 1 and 2 are specified.

Model 1
HDI is regressed on each of these human development indices and poverty parameters as a simple regression model.

\[ Y = \alpha_0 + \alpha_1 X_1 + \ldots + \alpha_{17} X_{17} \]

Where
- $Y =$ HDI – Human Development Index
- $X_1 =$ POV – Proportion of population living below $1 per day
- $X_2 =$ NEP – Net enrolment in primary education
- $X_3 =$ GBERP – Ratio of boys to girls in primary, secondary and tertiary
- $X_4 =$ UFMR – Under five mortality rate
- $X_5 =$ MMR – Maternal mortality ratio
- $X_6 =$ HIV – HIV prevalence among population aged 15 – 24 years
- $X_7 =$ LACF – Land area covered by forest
Model 2
This is a multiple regression model in which HDI is regressed on a vector of selected HDI indices and poverty parameters $X_1 - X_7$.

\[ Y = \alpha_0 + \alpha_1 X_1 + \alpha_2 X_2 + \alpha_3 X_3 + \alpha_4 X_4 + \alpha_5 X_5 + \alpha_6 X_6 + \alpha_7 X_7 + \mu \]

Where
- $Y = $ HDI – Human Development Index
- $X_1 = $ POV – Proportion of population living below $1 per day
- $X_2 = $ NEP – Net enrolment in primary education
- $X_3 = $ GBERP – Ratio of boys to girls in primary, secondary and tertiary
- $X_4 = $ UFMR – Under five mortality rate
- $X_5 = $ MMR – Maternal mortality ratio
- $X_6 = $ HIV – HIV prevalence among population aged 15 – 24 years
- $X_7 = $ LACF – Land area covered by forest

A Priori Expectation
From economic theories and conventions, it is expected that a relationship exists between HDI and MDGs parameters. Also, HDI is expected to have a negative relationship with each of the MDGs parameters.

Estimation and Evaluation Techniques
Techniques employed in estimating coefficients of the model are the OLS method. Evaluation, which leads to the choice of relevant hypothesis to adopt, is based on a series of diagnostic tests using relevant statistics like standard error tests or t-statistic of estimated coefficients, F-statistic and their probabilities, as well as coefficient of determination and Durbin-Watson statistics. However, to ensure the stability and robustness of the regression models, the Augmented Dickey-Fuller unit root tests are carried out to confirm stationarity in data time series values.

4. EMPIRICAL ANALYSIS

4.1 ESTIMATION OF ALL AVAILABLE MILLENNIUM DEVELOPMENT GOALS PARAMETERS AND POVERTY REGRESSED ON HUMAN DEVELOPMENT INDEX
<table>
<thead>
<tr>
<th>Variables</th>
<th>Constant coefficient</th>
<th>Correlation Coefficient</th>
<th>t - statistic</th>
<th>Prob</th>
<th>Durbin Watson</th>
</tr>
</thead>
<tbody>
<tr>
<td>POV</td>
<td>0.202</td>
<td>0.003</td>
<td>2.982755</td>
<td>0.0076**</td>
<td>1.415494</td>
</tr>
<tr>
<td>NEP</td>
<td>0.261</td>
<td>0.02</td>
<td>1.961717</td>
<td>0.0646*</td>
<td>1.292540</td>
</tr>
<tr>
<td>GBERP</td>
<td>0.203</td>
<td>0.252</td>
<td>2.750947</td>
<td>0.0127**</td>
<td>1.380154</td>
</tr>
<tr>
<td>UFMR</td>
<td>0.550</td>
<td>-0.0009</td>
<td>-2.369808</td>
<td>0.0285**</td>
<td>1.207686</td>
</tr>
<tr>
<td>MMR</td>
<td>0.616</td>
<td>-0.0002</td>
<td>-1.291027</td>
<td>0.2122</td>
<td>1.005909</td>
</tr>
<tr>
<td>HIV</td>
<td>0.342</td>
<td>0.113</td>
<td>1.581246</td>
<td>0.1303</td>
<td>1.193080</td>
</tr>
<tr>
<td>LACF</td>
<td>0.534</td>
<td>-0.009</td>
<td>-2.900550</td>
<td>0.0092**</td>
<td>1.241389</td>
</tr>
<tr>
<td>WNP</td>
<td>0.359</td>
<td>0.002</td>
<td>2.718483</td>
<td>0.0136**</td>
<td>1.324686</td>
</tr>
<tr>
<td>SANIT</td>
<td>0.325</td>
<td>0.001</td>
<td>1.326003</td>
<td>0.2006</td>
<td>0.983473</td>
</tr>
<tr>
<td>DEF</td>
<td>-0.775</td>
<td>-1.66E-0.6</td>
<td>1.329770</td>
<td>0.1993</td>
<td>1.007615</td>
</tr>
<tr>
<td>IFMR</td>
<td>0.398</td>
<td>-9.57E-0.5</td>
<td>-0.094663</td>
<td>0.9256</td>
<td>0.886200</td>
</tr>
<tr>
<td>GDPPPP</td>
<td>0.338</td>
<td>0.0003</td>
<td>2.424550</td>
<td>0.0255**</td>
<td>1.155387</td>
</tr>
<tr>
<td>INCI</td>
<td>0.107</td>
<td>0.812</td>
<td>1.769538</td>
<td>0.0929*</td>
<td>1.074212</td>
</tr>
<tr>
<td>LITR</td>
<td>0.398</td>
<td>-0.0001</td>
<td>-0.088296</td>
<td>0.9306</td>
<td>0.863670</td>
</tr>
<tr>
<td>GNIPC</td>
<td>0.275</td>
<td>7.25E-0.5</td>
<td>1.726610</td>
<td>0.1005*</td>
<td>1.058839</td>
</tr>
<tr>
<td>GGDP</td>
<td>0.356</td>
<td>0.007</td>
<td>2.284382</td>
<td>0.0340**</td>
<td>1.212244</td>
</tr>
<tr>
<td>ODA</td>
<td>0.383</td>
<td>5.16E-0.6</td>
<td>0.842081</td>
<td>0.4102</td>
<td>0.945335</td>
</tr>
</tbody>
</table>

Note: * 10% ** 5% - Statistically significant

4.2 ESTIMATION OF SELECTED MDGs INDICATORS AND POVERTY ON HDI

<table>
<thead>
<tr>
<th>Variables</th>
<th>Constant</th>
<th>Correlation Coefficient</th>
<th>t - statistic</th>
<th>Prob</th>
<th>Durbin Watson</th>
</tr>
</thead>
<tbody>
<tr>
<td>POV</td>
<td>0.727870</td>
<td>0.003114</td>
<td>1.703613</td>
<td>0.1122</td>
<td>1.926676</td>
</tr>
<tr>
<td>NEP</td>
<td>0.727870</td>
<td>-0.001570</td>
<td>-0.871116</td>
<td>0.3995</td>
<td>1.926676</td>
</tr>
<tr>
<td>GBERP</td>
<td>0.727870</td>
<td>-0.062252</td>
<td>-0.321263</td>
<td>0.7531</td>
<td>1.926676</td>
</tr>
<tr>
<td>UFMR</td>
<td>0.727870</td>
<td>-0.000101</td>
<td>-0.113376</td>
<td>0.9115</td>
<td>1.926676</td>
</tr>
<tr>
<td>MMR</td>
<td>0.727870</td>
<td>-0.000171</td>
<td>-0.874910</td>
<td>0.3975</td>
<td>1.926676</td>
</tr>
<tr>
<td>HIV</td>
<td>0.727870</td>
<td>-0.003379</td>
<td>-0.253696</td>
<td>0.8037</td>
<td>1.926676</td>
</tr>
<tr>
<td>LACF</td>
<td>0.727870</td>
<td>-0.010688</td>
<td>-1.242961</td>
<td>0.2358</td>
<td>1.926676</td>
</tr>
</tbody>
</table>

R-Square= 0.550931  Adjusted R-Square= 0.309125  F-Statistic=2.278400

Durbin-Watson stat= 1.926676  Prob(F-Stat)= 0.094820

INTERPRETATION OF THE ESTIMATION RESULTS

Considering the simple linear regression for the first model specified, we expect that the Human Development Index (HDI) will involve a change that is mirrored by the changes in the MDG indicators on offer. As the proportion of the population with US $2 per day grows, so does HDI as should be expected and the relationship is statistically significant just as the net enrolment (NEP) in primary education, girl/boy enrolment ratio in primary education (GBERP) women in parliament, GDP (at US Purchasing Power Parity), growth of GDP (GGDP). True one can argue
that HDI is only a statistical calculation of HDI but it is equally true that there is an underlying relationship of true human development identified that must be encouraged by policy and practice. Some of the poverty related indicators of MDGs behave in this way but not only as a statistical package and it is important therefore to elicit the attention of government. The current group includes gross national income per capita (GNIPC), and adult HIV prevalence rate. As this decreases HDI increases with the income index (INCI). Should the two income indicators be in this category for examination? Some argue but this only supports the contingency thesis of Anand and Sen (1994) that unless the public expenditure role of these variables are targeted they end up being an inferior indicator of human development. This is re-examined in this study. Some of the MDGs indicators - exhibit outright insignificance, and unless allowance is given to a low probability of significance as we did they would not have been included. This also includes official development assistance (ODA) in particular. This is not surprising as ODA has never played a significant role in Nigeria’s overall development.

This takes us to the areas where HDI and poverty related indicators of MDGs show a reverse and unexpected relationship but statistically significant all the same. We have for instance included under five mortality rate (UFMR) and land area covered by forest (LACF). The former is understandable, but the later does not immediately appeal to common reason when we argue that as land area covered by forest increases access to crop cultivation declines, an argument located outside sustainability. Where the forest constitutes a hindrance to agriculture, particularly in clearing which can be very expensive from all practical experience. This will make crop coverage to reduce, leading to lower HDI. This obviously gives support to any public policy that assists farmers with farm clearing subsidy. We can also look at relationships between HDI and poverty related parameters in MDGs that are positive but statistically insignificant. This includes HIV, a situation that calls for careful interpretation. As estimated adult prevalence rates decrease, the economic activities of the adult population will increase and this automatically lowers hunger and increases opulence, to use the language of Mum (Anand S. and A. K, Sen, 1994 : 4); hence the increasing nature of HDI in this case. This is one of many reasons why HIV is dangerous and must be fought by government policy and more action taken to bring its spread under control with a view to totally eradicating it through the achievement of the relevant MDGs. Sanitation has positive relationship with HDI but it does not received sufficient attention to be effective and is unable to push the HDI upward. Deforestation has negative correlation with HDI, and deforestation in fact opens up the land for farming as many people from such areas will testify and it therefore increases access of farmers to more farm area. More bountiful harvest resulting from this reduces hunger and increases human development, consequently HDI via poverty reduction. This is statistically significant because in the south where the issue is often raised, the extent frankly is yet to be a painful one. We also note that deforestation is not the same thing as desertification.

Government attention will seem to be that of reducing poverty and regulating the other, i.e. enrolment in primary school. Earlier, we found that as separate issues government will want to give significant attention to both but less to net enrolment in primary school. With the two in a contest of attention, government will treat net enrolment with a non-significant attention. Again poverty receives the attention as in contest for attention between poverty and maternal mortality rate. Significantly, looking back at the results for each of maternal mortality rate and under five mortality rate, the former had been significant and the latter not at all, which means that in a policy contest with the poverty indicator attention to maternal mortality rate has been a loser.
Form the second multiple linear regression analysis was equally employed to capture the effect of poverty and some selected MDGs on human development index in Nigeria for the period 1990 to 2010. In this study, selective choice of poverty parameter in relation to MDGs were carefully choosing those for which data are readily available and for which government can be challenged to act. The regression equation shows that there is negative relationship between endogenous variable and exogenous variables except for the intercept. The probability shows that infrastructural facilities provision was not adequate and proper policies measure to achieve MDGs are lacking as government focus politics, combating corruptions, reducing crime rate and militancy in Niger-Delta cum religion and ethnic fight in the northern part of Nigeria as the struggle to gain international recognitions to free from terrorist listed countries. The adjusted coefficient of determination ($R^2$) shows a fit with 30.9 percent of human development index explained by the variables in the equation. The reason for this is that little influence of the explanatory variables can not have meaningful effect on human development index, reduce poverty and cause development in Nigeria.

The Durbin Watson (D.W) statistics of 1.93 as it is significantly below the bench mark of 2.00, we can conclude that there is no auto correlation or serial correlation in the model specification hence, the linear assumption is not violated.

**ADF UNIT ROOT TEST RESULT**

The result for the of unit root in the time series variable using the Augmented Dickey-Fuller test developed by Dickey and Fuller (1979) is presented in the table below:

<table>
<thead>
<tr>
<th>Variables</th>
<th>HDI(-1)</th>
<th>D(HDI(-1))</th>
<th>D(HDI(-1),2)</th>
<th>D(HDI(-1),3)</th>
<th>D(HDI(-2),3)</th>
<th>D(HDI(-3),3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>0.243***</td>
<td>0.008</td>
<td>-0.023996</td>
<td>-0.023996</td>
<td>-0.023996</td>
<td>-0.023996</td>
</tr>
<tr>
<td>@ Level</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>@ 1st Diff.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>@ 2nd Diff.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trend</td>
<td>0.0045**</td>
<td>-0.00024</td>
<td>-0.00145</td>
<td>-0.00145</td>
<td>-0.00145</td>
<td>-0.00145</td>
</tr>
<tr>
<td>Coefficient</td>
<td>-0.746**</td>
<td>-1.311***</td>
<td>-3.425***</td>
<td>1.359**</td>
<td>0.715**</td>
<td>0.270*</td>
</tr>
<tr>
<td>AdjustedR²</td>
<td>0.33</td>
<td>0.64</td>
<td>0.93</td>
<td>0.93</td>
<td>0.93</td>
<td>0.93</td>
</tr>
<tr>
<td>D.W</td>
<td>1.88</td>
<td>2.09</td>
<td>2.93</td>
<td>2.93</td>
<td>2.93</td>
<td>2.93</td>
</tr>
</tbody>
</table>

Note: *, **, *** are significant at 1%, 5% and 10% Mckinnon critical values.

The unit root test result reveals the stationary at level for both intercept and deterministic trend of all time series variable on HDI.

In level, HDI is stationary at 1%, 5%, 10%, for intercept and at 1%, 5% level for trend. And HDI was found to reject the null hypothesis of no-stationary at level but strong and high degree of responsiveness of HDI and the poverty parameters in the MDGs at second difference Therefore, all the series are taken to be stationary at level for unit root models with intercept and trend.
5. CONCLUDING REMARK AND RECOMMENDATION

Conclusion

The conclusions of this study are fairly straightforward.

Data availability has not been a problem but it requires hard work to accomplish by locating them in statistical publications, reports produced by international development agencies and the web site of particular agencies. Sufficient time to accomplish this task is of essence.

On the substantive issues of the relationship of HDI and poverty parameters the following MDGs should be noted:

- In the main, government and the people (individuals and agencies) taken the decisions that give rise to what we have, but government policies are critical;
- So the data we have as evidence are a product of, in the main, the decisions and policies of government; and it follows that the results of technically produced relationships come about in a large part as evidence of what has been taking place, and so without doubt
- The results must be interpreted as much; consequently
- The issues within MDGs and the parameters of poverty come alive from government policies and decisions, as we combine variables for estimation, and as if government is taking to us the following parameters of poverty came out as those that have greatest influence on HDI: poverty as measured by those who earn less than US$2.00 per day, land are covered by forest, women in parliament, growth rate of GDP, gross national income (PPP) per capita, income index, net enrolment in primary education, ratio of girls to boys enrolment in primary school, under five mortality rate, HIV as adult prevalence rate, maternal mortality rate, sanitation in that order of importance; the significance of these variable when HDI is regressed on them singly is encouraging some and not for a few orders, the key ones are 7 or 8 in term of explaining the variation of HDI.
- However, we must not see this as explaining a large shunk of the variation of HDI. In most cases 60-70% of the variation has been left unexplained, this means that further studies need to be done to unearth the missing links;
- Significantly, the income variables are middle performance in terms of relationship with HDI, by and large the socio economic variables (poverty, land area covered by forest, women in parliament, girls boy enrolment ratio in primary education are still the issues that more influence HDI; the study will not continue.
- We could not have tackle all variables that are poverty parameters in MDGs; they are many and only some important ones were tackle because time is of the essence as we search out the necessary data; and finally
The results have shown that government has not achieved most of the MGDs taken into consideration the input of partners and he doesn’t seem to be serious about work out proper way for the reality and achievement of the goals.

Recommendations

HDI is too important to be under-rated in government policies and consensus must be sought to bring the development system to reason together on it;

- Government will need to convince itself that single issue parameters like GDP and its derivatives as a basis for decision making will lead a nation nowhere as evidence continue to show;
- Multiple variable indices provide a better guide to development policies and decisions;
- The constraint is that it forces government to prioritise its actions;
- Unfortunately such decisions often go to support the wrong issues because we must ask the question why maternal mortality falls behind in policies and actions or why net enrolment in primary school or even adult literacy etc lack sufficient concern and support, we ca multiply the list;
- Government cannot just look at HDI yearly and endorse it, it must do so with concern, asking itself and the agencies how it can do better; and lastly
- Because of corruption that is the order of the day in Africa (least developed and developing countries), United Nations Economic Commission for Africa (United Nations Economic Commission for Africa Curb Corruption - UNECACC) should form a unit that will partner with governments to monitor its policy of anti-corruption, proper report from these countries on the achievement MDGs in 2015, vision 2020 among other sustainable development programmes.
- However, if other listed least developed countries of the world can learn lessons from Nigeria by focus on human development, the sky will be there limit to achieve Millennium Development Goals but that is not to claim that Nigeria is not having other problem of energy, selfishness of politician to disturb government plans and programmes of sustainable development.
- Conclusively, African economy have tendency to be green economy and structurally transformed if MDGs are given serious consideration in the governments policies and transparent implementation.
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