

# Human Development and its effects on Economic Growth and Development

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## Abstract

The focus of this study is to empirically examine the impact of Human Development on Economic Growth and Development in African countries, between 1990 and 2015. The key findings and results of the study suggested the existence of a positive and significant impact of human development on economic growth and development in Africa. The study employed Human Development Index as the main variable of interest; GDP was considered as the dependent variable; inflation, capital, investment and labour were considered as control variables. Random and Fixed effects method of estimation was used with Hausman test estimated to determine the appropriate model to use. The study also revealed that Labour and foreign aid also have a positive and significant relationship with growth as recorded by most researchers. It was recommended that more efforts should be placed on developing the human capacities in all areas.

*Keywords: Human development, economic growth, random effect, fixed effect*

## Introduction

Human development was initially characterized as "a procedure of developing individuals' decisions" that empowers them "to lead a long and sound life, to procure information and to approach assets required for a conventional way of life" (Hopkins 1991). The UNDP list (HDI) speaks of a synthetic measure in which the life expectancy at birth, education, and (the log of) per capital income – as a proxy for different dimensions of human development not specifically related to health and education (Fukuda-Parr (2003)) give a lower type of a country's accomplishments as far as human development is concerned.

The idea of human development was first advanced in 1990. Linking the enhancement of a person's skill and ability to decide his or her very own destiny to that of income level, has had a significant impact on the discussion on the best way to help improve the quality of life. The HDI – a composite of indicators of life expectancy, education and income – is the principle appraisal of Africa's human development. The 187 countries around the globe are arranged in four groups indicated as being of "very high", "high", "medium", or "low" development. Seychelles Island is the Africa nation which attained a high human development" positioning in 46th spot, ahead of wealthier states in Europe and the Middle East. Libya, Mauritius, Algeria and Tunisia were placed in the "high" category and ten African nations in the "medium" category. The rest of the 37 African countries (excluding South Sudan) are in the "low" human development category. Numerous countries that are currently in the "low" category are quickly improving; these include Angola, Burundi, Ethiopia, Mozambique, Rwanda, Sierra Leone and Zimbabwe. These countries have a rising life expectancy and incomes; however, low levels of education are holding them down<sup>1</sup>.

The human development worldview created by the United Nations Development Programme (UNDP) in 1990 essentially worries about the inability of human development programmes to empower citizens and individuals. Empowerment of the population can be accomplished by improving the fundamental human needs of health, knowledge and skills through investments in sports, social, cultural and political (Wilson 1996). Along these lines, the entire populace is the main target with which development programmes are undertaken.

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<sup>1</sup> [www.africaneconomicoutlook.org/en/outlook/human\\_development](http://www.africaneconomicoutlook.org/en/outlook/human_development)

The UNDP stipulates using the human development index (HDI) to quantify the level of human development. In the HDI, there are three composite indicators used to quantify the average achievement of a nation in human development: A long life, as estimated by life expectancy at birth; education, as estimated by normal long periods of schooling and the literacy rate of the number of inhabitants aged 15 years and over; an acceptable standard of living, as estimated by per capita income. HDI has been adopted by numerous nations to gauge the quality of the population. In the year 2010, after two decades, UNDP upgraded the HDI estimation technique (Maqin, Sidharta et al. 2017).

This paper lays emphasis on the relationship between human development and economic growth focused on Africa. The intention here is to understand this impact and the relationship by estimating the impact. Section II discusses the literature review relating to growth and human development. Section III starts by outlining the data and its sources, model specification and methodology. Section IV provides empirical findings and results. Section V deals with the conclusion and recommendations.

## 2.0 Literature Review

Due to globalization, economies around the world have been, to a great extent, incorporated. Numerous developing countries are experiencing rapid economic growth through developmental activities. These emerging countries are achieving globalization. Powerful human development of a nation can give it an edge over other nations and be the most significant factor for its economic performance. To achieve a pivotal role in the world economic market, emerging countries for the most part depend on the ability of their human capital (Oketch 2006).

In the course of recent decades, practitioners and scholars have carried out extensive investigations in the field of human development and an extensive number of literary works have been published confirming the importance of human development. There has been specific emphasis laid on human development issues in the development of economies. Further, a great part of the literature deals with both citizens and expatriates (Thang and Quang 2005).

### 2.1 Human Development and its Opportunities

Human Development influences individuals' economic and social lives from multiple points of view. Human Development improves labour market outcomes in terms of both employment rates and profit (McGuire 1999, Verick 2018). In addition to the career angle, Human Development extends to other aspects such as health, community, politics, etc. Low levels of Human Development result in poor health and lower participation in community gatherings and organisations; high levels of Human Development give individuals the belief that they have a voice that can have any kind of effect in social and political life (Evans and Heller 2015). These outcomes are similar over a number of countries, affirming that Human Development has a significant association with economic and social development. Human Development helps deal with inequality and advances social mobility. Investing in human capital is the most suitable method to achieve growth and spread its advantages (Heckman and Yi 2012).

Investing in Human Development is far less expensive, over the long term, than paying for poor health, low incomes, unemployment and social rejection – all of which result in lower Human Development (Gimmon and Levie 2010).

### 2.2 Human Development & Growth Relationship

In literature, many authors such as –Dreze and Sen 2002, Stiglitz, Sen et al. 2009, Ranis, Stewart et al. 2012, including the Human Development Reports of the United Nations Development Programme, have attempted to examine both the outcome of human development on economic growth and the effects of economic growth on human development, with exceptional emphasis on the role of income as well.

Clearly there exists a solid two-way connection between economic growth (EG) and human development (HD). As identified by Ranis, Stewart et al. (2000), there is a strong bidirectional relationship between human development and economic growth. Again, economic growth offers the means to support sustainable human development; moreover, sustainable human development is a very vital supporting determinant of economic growth (EG).

**Ranis (2004)** carried out an investigation on the connection between economic growth and human development, and clarified that human development had a significant positive impact on economic growth. Likewise, growth promotes a similar impact on human development along these lines; growth will improve human development. Ranis and Stewart (2005) affirm the

significance of the numerous experimental associations between economic growth and human development – one leading to the other and vice versa.

As shown by Dreze and Sen (2002), countries with lower income and lower growth can contribute to the improvement of human development when there are sets of policies, mostly those which give priority to 'human development' sectors.

New theories of growth established and recognized that economic growth and development will not reach an optimal level and improve without human resources development (Srinivasan 1978, Lucas, Wheeler et al. 1992, Benhabib and Spiegel 1994, Romer 1994, Barro, Sala-i-Martin et al. 1995, Stiglitz, Sen et al. 2009). Agarwal (2006) said education as well as training improve the skills and capabilities of individuals, and make them the centre of a country's economic development. Countries focusing on human capital formation have, over a few years, achieved higher GDP growth, including growth in per capita income (OECD/UNESCO 2002).

Economic growth, which signifies an essential commitment to human development, can be synchronized. In this manner, customary political measures, which contend that improving human development should hold up until economic growth increases, appear to be a blunder.

Ramirez, Ranis et al. (1997) assessed the association between economic growth and human development in a two-way process – from economic growth to human development and vice versa. They found a strong positive correlation in both directions. They also revealed that expenditures on social services as well as education are critical associations that decide the relationship between economic growth and human development, while investment rate and income dissemination associations are imperative to decide the connection between human development and economic growth.

Human development can be characterized as a process of growing individuals' opportunities. As indicated by the new worldview, (Sen, 2004) referenced by Daniela-Mihaela and Oana-Georgiana (2015) said human development can be viewed as a process of expanding the opportunities sought by the general population.

## 3.0 MODEL AND DATA

### 3.1 MODEL

The study integrates the above-mentioned variables in the subsequent growth model adopted by Solow 1956, Barro, Sala-i-Martin et al. 1995, using Random and Fixed effects estimations.

$$\text{Growth}_{it} = \alpha + \beta_1 \text{INF}_{it} + \beta_2 \text{CAP}_{it} + \beta_3 \text{HDI}_{it} + \beta_4 \text{AID}_{it} + \beta_5 \text{INV}_{it} + \beta_6 \text{LAB}_{it} + \text{eit} \dots (1)$$

Where Growth is the dependent variable, Human Development Index (HDI) measured in percentage as the variable of interest with Inflation (INF) proxied as Consumer price index measured in percentage, Capital (CAP) proxied as Government Capital formation measured in % of GDP, Aid (AID) proxied as official development assistant measured in current USD, Investment (INV) proxied as foreign direct investment measured as (% of GDP) and Labour (LAB) as control variables.

### 3.2 DATA

The data set and variables used in this study are spread over the period 1990-2015 and contain 5 African countries, including Kenya, Tanzania, Rwanda, Ghana and Cote d'Voire. For these countries, data set is accessible for all variables employed in this study, meaning there is a balanced data set for all estimations. World Bank development indicators and World Bank database are the source of data for the study. Variables used for the investigation are consistent with those by Suri, Boozer et al. 2011, Fatah, Othman et al. 2012, Grubaugh and Development (2015) which include Growth proxied as GDP measured in current USD as the dependent variable, Human Development Index (HDI) measured in percentage as the variable of interest with Inflation (INF) proxied as Consumer price index measured in percentage, Capital (CAP) proxied as Government Capital formation measured in % of GDP, Aid (AID) proxied as official development assistant measured in current USD, Investment (INV) proxied as foreign direct investment measured as (% of GDP) and Labour (LAB) as control variables. The table below gives a summary of the variables with their unit of measurement.

**Table 1: Summary of Variables**

Variables	Unit of Measurement	Sources of Data
Growth (GDP)	Current USD	WDI
Inflation (INF)	Percentage	WDI
Capital (CAP)	Percentage	WDI
Human Development Index (HDI)	Percentage	WDI
Aid (AID)	Current USD	WDI
Investment (INV)	Percentage	WDI
Labour (LAB)	Thousands	WDI

Source: Authors' own research

### 3.2 Methodology

This type of study is a descriptive one that tries to find out the significance and relationship between economic growth and human development index by assessing the factors that determine economic growth and development in Africa. Unit root estimations are conducted to determine the stationarity of the data by using the Im, Pesaran and Shin procedure in the estimation. Both Random and Fixed effects estimation technique are employed to analyse and assess the significance and relationship between economic growth and human development. Finally, a Hausman Test is conducted to determine the appropriate method for the model.

### 4.0 Empirical Analysis

**Table 2: Unit Root Estimation**

Im-Pesaran-Shin Unit-Root Test	Level Panel Means: Included		Level Panel Means: Included		1 <sup>st</sup> Dif Panel Means: Included		1 <sup>st</sup> Dif Panel Means: Included	
	Time Trend: Not Included	Time Trend: Included	Time Trend: Not Included	Time Trend: Included	Time Trend: Not Included	Time Trend: Included	Time Trend: Not Included	Time Trend: Included
Variables	T.Statistics	Prob	T.Statistics	Prob	T.Statistics	Prob	T.Statistics	Prob
Growth	5.0627	1.0000	1.6440	0.9499	-2.2947	0.0109**	-2.2070	0.0137**
INF	5.8220	1.0000	3.7397	0.9999	-0.6081	0.2715	-1.4610	0.0720*
CAP	-0.1002	0.4601	-0.8333	0.2023	-7.4579	0.0000***	-6.6338	0.0000***
HDI	5.7896	1.0000	0.6034	0.7269	-0.4323	0.3328	-0.8142	0.2078
AID	1.4535	0.9270	-0.4167	0.3384	-6.4025	0.0000***	-4.5893	0.0000***
INV	-0.4576	0.3236	-0.3863	0.3496	-7.0650	0.0000***	-6.5237	0.0000***
LAB	5.1381	1.0000	-3.4648	0.0003***	-1.2457	0.1064	-1.1154	0.1323

NB: \*\*\* Significant at the 1% level, \*\* Significant at the 5% level, \* Significant at the 10% level. Source: Authors' own research

Results from Table 2 indicate that all variables have unit root, meaning they were stationary at Level with and without Panel means and Time trend. It showed that the null hypothesis of variables having unit root was not rejected at Level. In the same vein, the hypothesis of variables have unit root; thus stationary was rejected after the 1st Difference of the variables were effected, meaning the data were non-stationary (no unit root) at 1st Difference with and without Panel means and Time trends. The variables were stationary in order I(0) and I(1).

**Table 3: Regression Statistics**  
**Dependent Variable: Growth (GDP Current USD)**

VARIABLES	FIXED EFFECTS	RANDOM EFFECTS
INF	2.38e+08*** (3.48e+07)	1.51e+08*** (2.05e+07)
CAP	2.73e+07 (1.16e+08)	-5.35e+08*** (1.31e+08)
HDI	-6.74e+10*** (1.29e+10)	6.37e+10*** (1.01e+10)
AID	3.810456*** (.9211475)	4.063006*** (1.375004)
INV	-4.40e+08 (2.89e+08)	-2.59e+08 (3.31e+08)
LAB	1817.153*** (474.7941)	695.7245*** (166.0174)
CONS	8.24e+09 (6.02e+09)	-2.28e+10*** (3.72e+09)
PROB	0.0000	0.0000
R <sup>2</sup>	0.5547	0.7999

NB: \*\*\* Significant at the 1% level, \*\* Significant at the 5% level, \* Significant at the 10% level. Standard errors are in parentheses.  
Source: Authors' own research

The above estimation gives a summary of statistics for both Random and Fixed effects. The Hausman test will be used to determine the appropriate model for estimations. Based on the result of the Hausman test, it can be noted that the fixed effects model is appropriate for the model. The results in Table 3 are estimated using both Random and Fixed effects. It can be noticed that inflation is significant and has a positive relationship with economic growth and development at a significant value of 1%. These results and findings go in line with that of Barro 1995, Jones, Manuelli et al. (1995) and contradicts a study by Gokal and Hanif (2004) and Pollin and Zhu (2006).

Again, from Table 3, capital (CAP) is seen to be positively related to Growth but insignificant at any level. Kutasovic (2017) recorded that capital (CAP) has a positive relationship and is significant on economic growth; this investigation goes contrary to this result which states that capital has no significance on growth. In the same vein, Blomstrom, Lipsey et al. (1993), Kendrick (1993) confirmed this result in their study on "Is fixed investment the key to economic growth?" and "How much does capital explain" respectively.

Many studies and literature propose that human development supports economic growth. Studies from Ghosh and Weekly (2006) and Saksena and Deb (2016) support the results and findings of this study. From Table 3, it is recorded that human development has a significant effect and is positively related to economic growth in the countries under study at a statistically significant value of 1% level. The estimated coefficient for Human Development (HDI) in Africa equation is -6.74e+10; a 1-unit increase in Human Development (HDI) in Africa would increase Growth by more than 100% when all variables are held constant.

Furthermore, the result and findings pertaining to Aid (AID) are consistent with studies conducted by Hansen and Tarp (2001), Minoiu, Reddy et al. (2010) which recorded that Aid (AID) is significantly and positively related to economic growth and development in Africa. The statistical results indicate that Aid (AID) has a coefficient of 3.810456 and is significant at 1%. This can be explained that a unit increase in the official development assistance provided by donors to Africa increase the growth and development in Africa by more than 100%. This result is contrary to that of Voivodas (1973) and Burnside and Dollar (2000) in their study on Aid and economic growth.

Moreover, it can be recorded that Investment (INV) has a non-significant position and is negatively related to growth in Africa. This result is confirmed by Borensztein, De Gregorio et al. (1998), Su and Liu (2016) and is contrary to that of Bengoa and

Sanchez-Robles (2003) who stated that despite the fact that FDI is positively associated with economic growth, host nations require minimum human capital, economic stability and liberalized economy to profit by long term FDI inflows. Interestingly, Bende-Nabende, Ford et al. (2002) found that direct long-term effect of FDI on growth is significant and positive for comparatively economically less propelled nations like Philippines and Thailand, yet negative in the more economically propelled nations like Japan and Taiwan.

In a nutshell, labour force (LAB) is defined as the currently active population within a country at a particular point in time and comprises of all persons who satisfy the criteria for inclusion amongst the employed. From the above results, it can be recorded that a percentage increase in Labour will directly lead to rapid economic growth of about 100% showing that Labour (LAB) has a significant and positive relation to economic growth. Statistically, Labour (LAB) recorded coefficient of 1817.153 and a probability value @ 1% significance level (Khan 2007). Manh, Dao et al. (2014) hypothesised that labour (LAB) has a positive impact on economic growth and this supports the findings in the same vein. Herman (2011) revealed the presence of low employment elasticity of economic growth in EU, yet this has significant contrasts across different nations.

Overall, it can be estimated that the model has an  $R^2$  of 0.5547 meaning that the independent variables under discussion can explain up to 55.5% of the situation under consideration.

**Table 4: Hausman Test Estimation**

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	464.73	6	0.0000

Source: Authors' own research

From Table 4, it is observed that there is a probability estimation of 0.0000 showing a significant value at a significant level of 1%. The estimation tosses out the nearness of a relationship between the individual effects and the independent variables at 1% level. Along these lines, the null hypotheses of the Random effect model being appropriate is rejected with the alternative hypothesis of Fixed effect model being appropriate is accepted, meaning the model for this examination is to be estimated with fixed effects estimations.

## Limitations

There are some limiting factors hindering the study. This study only dealt with five developing African countries which is not representative of the entire African Continent. Again, there was a problem of data availability for some countries under discussion such as missing data. Selection of factors and variables differ from other research studies and became a limitation since there were no data available for such variables and countries. Lack of funds for purchase of data other than what is available from international organizations was another limiting factor. Some unanswered questions have been visible in this study such as the connection between human development and economic growth. Finally, some recommendations are not applicable to some developing African countries because of different economic situations.

## Scope For Future Research

1. The variables utilized in this study should be further examined. Research studies in future can further refine and reinforce every parameter of the study for better understanding.
2. Future research can likewise concentrate on the refinement of scale used to quantify different parameters of the investigation. The alterations would likewise make it feasible for the specialists to test and improve zones avoided by existing examination because of different imperatives.
3. Future research can obtain examples from this study and feature the absence of existing data, which will add to the general improvement of information framework on human development.
4. This study proves that exploration on human development is deficient, which itself demonstrates the requirement for further research in this area.

## 5.0 Conclusions

This study highlighted the significance of human development in achieving economic growth and development proxied as Gross Domestic Product (GDP) measured in current USD. The model showed a positive association, statistically significant between Growth and human development (evidenced by human development index) as expected, according to UNDP.

Unforeseen are the negative connections between Capital (CAP) on Growth and Investment (INV) on Growth, a possible reason being the heterogeneity of the countries under study. However, the negative statistics of the prob value and the coefficients of both variables lead to the conclusion that the findings and results are confirmed against those of Blomstrom, Lipsey et al. (1993), Kendrick (1993) and Bengoa and Sanchez-Robles (2003).

Moreover, the model indicated positive influence of inflation on Growth which is contrary to most studies on Inflation and Growth. Inflation stimulates economic growth in the short term and normally in socialist economic countries. The model can be used as an alternative when conducting future studies on human development.

## **Applicability and Generalizability**

The findings and results of the study suggest that more governmental efforts should be placed on the development of human capital. For the area of life expectancy, governments of emerging economies should provide good and better healthcare policies and facilities for both the poor and the rich; an example is the implementation of health insurance scheme by the Ghana Government. Governments of emerging countries could adopt similar strategies to help improve the health conditions of their citizens.

Again, quality and affordable education should be easily accessible at all levels, be it primary, secondary or tertiary education since it's a known fact that education is the key to success. Governments of developing countries (as in the case of Ghana) should adopt the policy of providing free education at both the primary and secondary levels as well as subsidizing the expenses of tertiary education.

Lastly, there should be policies for financial development and improvement as well as poverty reduction strategies. Citizens should have easy access to funds for development of businesses; this should be part of the country's financial development and poverty reduction policy. For example, LEAP (Livelihood Empowerment Programme) undertaken by Ghana was initiated to help alleviate poverty and narrow the income inequality gap; the country also set up MASLOC (Medium & Small Scale Loan Center) as a financial development programme. Developing countries can adopt these strategies to improve the economy.

World Bank development indicators and World Bank database are the sources of data for the study. The request for good and quality statistical data continues to increase, and the World Bank database has been used by many researchers and organizations and declared as credible and authentic. Timely and reliable data are key inputs for good research and results. The World Bank helps developing countries to improve the capability, efficacy and value of national statistical systems.

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