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A GENDER ANALYSIS OF THE EFFECTS OF HUMAN CAPITAL DEVELOPMENT ON ECONOMIC GROWTH IN NIGERIA

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ABSTRACT
The study analyzed the differential effects of male and female human capital development on economic growth in Nigeria between the periods of 1981 to 2014. Descriptive and Auto Regressive Distributed Lag (ARDL) method of analysis were employed using annual secondary data for the period 1981 to 2014. Human capital using education and health indicators were employed. Education was measured using gender disaggregated enrollment rate at secondary school and tertiary level to capture adult literacy rate, while health was proxy by gender disaggregated survival rate, and economic growth was measured by gross domestic product per-capita. The findings from the study show that the trend in literacy rate and adult survival rate among male and female has improved during the period under review. Despite the improvements, national goals and objectives for sustainable development in these areas are yet to be met. Further results from the ARDL analysis shows that different levels of male and female school enrolment will affect the economy differently; specifically, male secondary school enrollment rate and female tertiary enrollment rate have a significant positive effects on economic growth both in short-run and long-run. While both female secondary school enrollment rate and male tertiary enrollment rate have a significant negative effects on economic growth both in short-run and long-run. The results for both male survival rate and female survival rate show positive but insignificant effects on economic growth both in short-run and long-run. The study therefore, concludes by suggesting that human capital investment in both the education and health care sectors should be developed in terms of infrastructure in order to produce quality manpower for sustainable development. In addition, policies in these sectors should be designed specially to cater for the specific needs of both the male and female gender. And lastly, the Nigerian education system be restructured to be more practical oriented.

***Keywords**: Male, Female, human capital development, Education, Health, Economic growth*.

INTRODUCTION
Trend in global developmental agenda (MDG 3 and SDG 6) has in recent times indicated gender equality as essential for global sustainable development. Given the current challenges of falling price and falling demand for crude oil at world market confronting the global economy, most especially the developing nations (Soubbotina, 2004). The importance of human capital as the center piece of sustainable economic development is vital and the quality of such human resources

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is believed to be significant to economic growth. This is because human capital is an active resource that put the passive resources (natural resources) to use (Adamu, 2002).

The empirical evidence of the importance of human capital to economic growth are the reality case of countries such as Malaysia, Bangladesh, Dubai, and the Asian Tigers (Taiw1.an, Singapore, South Korea and India, e.tc.). These countries have excelled economically and technologically through their conscious efforts in developing human capital (Nnadi, 2014). However, realizing the importance of human capital to economic growth; the Nigeria government also has made some concerted efforts in this direction through various policies and strategies put in place in education and health sectors such as Free Universal Basic Education and Health for all (Primary Health Care Scheme) and many other empowerment programmes; as no country can develop beyond the education level of her citizens (UNDP, 2010).

The role of human capital as a major the factor inputs in economic growth has made it to gain considerable attention among researchers Harry (2010). The studies of scholars such as Solow and Swan (1956); Schultz (1961); Mankiw, Romer and Weil (1992) have demonstrated and established the contribution of human capital to economic growth in their endogenous growth model. Several studies (Oladeji and Adebayo, 1996; Adamu, 2000; Dauda, 2010; Apanisile and Akinlo, 2014) have been carried out on the subject matter to provide both theoretical and empirical foundation for the contributions of human capital to economic growth. Although several studies have been able to establish that there is a relationship among these variables, there is yet to reach a consensus among empirical studies on how human capital has affected economic growth. In addition, many of the empirical studies on this topic focused the relationship between aggregate human capital development and economic growth without much consideration for the relative impact of male and female human capital development on economic growth. Hence, this study builds on the works of following researchers; (Barro and lee 1994, 1997; Knowles et al, 2000; and Cooray and Mallick, 2011 etc.) by examine the differential effects of male and female education and health human capital development on the economic growth of Nigeria between 1981 to 2014.

Against this background, this study examined the trends in education and health human capital development among male and female gender. And analyzed the differential effects of male and female human capital development on economic growth using Nigeria as a case study. The rest of the study is organized as follows: section two reviews the literature on the relationship between male and female human capital development and economic growth. The empirical model, methodology and data description are discussed in the section 3, while section 4 presents data analysis and interpretation, section 5 presents the conclusions.

DIFFERENTIAL EFFECTS OF MALE AND FEMALE HUMAN CAPITAL

Empirical evidence on the differential effects of male and female human capital has been demonstrated by different authors, for instance Barro and Lee (1994) investigating the relationship between gender-separate human capital and growth found a significantly negative effect of female secondary and higher schooling on growth. Also, the findings of Sadeghi (1995), using a simple model to investigate the role that gender gaps in literacy levels and enrolment rates on GNP growth, found that narrowing gender gap in education results in greater income growth. Similar to the

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previous research findings, Caseli, Esquivel and Lefort (1996), found that the female education variable captures both (positive) fertility effects, and (negative) human capital effects, however, the former outweighs the latter. Male education, on the other hand, only represents a human capital effect. However, contrary to the past studies on the topic the result of a study by Birdsel, Ross and Sabot (1997) on Gender-neutral human capital as a determinant of growth across countries (1960-1985) indicate that there is no significant difference between the coefficient values for males and females. Similarly, Barro (1997) show that female education at various levels is not significantly related to subsequent growth. This suggests that increasing primary school enrollments for girls is just as effective in stimulating growth as increasing primary enrollments for boys.

Also, a study by Klasen (1999), shows that the initial female-male ratio of schooling achievements as well as the female-male ratio of expansions in the level of schooling has a significant positive impact on economic growth. A similar study by, Stephan Klasen (1999) indicates that gender inequality in education has a significant negative impact on economic growth and appears to be an important factor contributing to Africa's and South Asia's poor growth performance over the past 30 years. In addition to increasing growth, greater gender equality in education promotes other important development goals, including lower fertility and lower child mortality. Dollar and Gatti (1999), the causal effects of gender gaps on economic growth or per capita income; found that female secondary education does positively and nonlinearly affect growth while the impact of male education is both insignificant and negative. To contribute to the discussion, Longelly (1999, 2000), Concluded that, it appears that female education and female life expectancy (as well as aggregate life expectancy) have a positive effect on the long-run level of income per worker, while the role of male human capital, however, is less clear. Cooray and Mallick (2011), found that the impact of human capital disaggregated by gender has a differential effects on economic growth. Male human capital showed a positive and significant effect on growth while female human capital has no significant effect when the openness variables are considered. A similar study by Gazi Hassan and Arusha Cooray (2012): The main finding is that male life expectancy has a positive effect on the growth of income while female life expectancy has a negative effect.

RESEARCH METHOD

This study is located within the labour augmented theoretical framework of Mankiw et al (1992, 2000) which accommodated human capital as an independent factor of production into the augmented Cobb- Douglas production function of an endogenous theory. The general form of the human capital augmented Cobb-Douglas production is shown below:

$$Y_t = K_t^{\alpha} H_t^{\beta} \left(AL\right)_t^{1-\alpha-\beta} \quad \alpha < 0, \beta > 0, \alpha + \beta < 1 \ldots \qquad 1$$

Here, Y = output, K = physical capital, H = human capital, L = labour force (number of workers), A = Level of technology. The $(AL)_t$ component implies the effective units of labour and is expected to grow at the rate of n + g. α is the elasticity of capital with respect to output, β is the elasticity of human capital with respect to output. It assumes that there is decreasing return to capital i.e. $\alpha + \beta < 1$; also a constant fraction of output is invested. If we log-transform equation 1, we have:

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$\log Y_t = \alpha \log K_t + \beta \log H_t + (1-\alpha-\beta) \log (AL)_{t+} e_t \ldots$ 2

log Y measures Economic growth proxied by Gross Domestic Product Per-Capita (GDPPC), log K is a measure of Gross Fixed Capital (GCF), log H is a measure of Human Capital and it is proxy by gender disaggregated enrollment rate at secondary school (MSE and FSE) and tertiary level (MTE and FTE) to capture adult literacy rate (DALR), and gender disaggregated adult survival rates(DASR)- male and female survival rate (MSR and FSR); log AL_t is effective Labour force (LAB) measured by the labour force participation rate in the country, while, e_t is the error term. The apriori expectations are; $\alpha_1, \beta_1, \beta_2 \ldots\ldots\ldots \beta_6 > 0$.This shows that human capital development variables have positive functional relationships with economic growth proxy by GDP per capital. n and g could however be either positive or negative because they represent intercept values which could assume either negative or positive values if all the exogenous variables take zero values. Equation 2 above can be modified to accommodate other additional variables. Hence, we have thus;

$InGDPPC = f(InGCF_t, InDALR_t, InDASR_t, InLAB_t) \ldots.$ 3

Equation 3 above can be re-written thus,

$\ln GDPPC = \alpha_0 + \alpha_1 \ln GCF + \beta_1 \ln DALR + \beta_2 \ln DASR + \beta_3 \ln LAB + \varepsilon t \ldots$ 4

This research uses autoregressive distribution lag (ARDL) bounds testing model that was developed Paseran and Shin (1997, 1999, 2000). The generalized ARDL (p,q) model can be shown as follows (Green, 2003):

$$Y_t = c + \Upsilon_t + \alpha_o Y_{t-1} + \ldots \alpha_p Y_{t-p} + \beta_o X_t + \ldots \beta_q X_{t-q} + e_t \ldots \quad 5$$

Where c, t, and e_t are intercept, time trend and white noise error terms respectively and Y_t and X_t are stationary variables i.e gender disaggregate enrollment rate at secondary school, tertiary level to capture adult literacy rate and gender disaggregated survival rates respectively. The above model is "autoregressive" since it includes p lags of dependent variable. At the same time, it is also a "distributed lag" model because it includes q lags of explanatory variable. After testing the existence of a long run relationship between the variables through the Bound Testing, then Error Correction model (ECM) will be formed. Following the ARDL approach proposed by Pesaran and Shin (1997, 1999 and 2001), the following model was specified in order to test the long run co-integration relationships between the variables.

$$\Delta InGDPPC_t = \beta_0 + \lambda_1 InGDPPC_{t-1} + \lambda_2 InGCF_{t-1}$$
$$+ \lambda_3 InDALR_{t-1} + \lambda_4 InDASR_{t-1} + \lambda_5 InLAB_{t-1}$$
$$+ \beta_1 \sum_{i=1}^{n} \Delta InGDPPC_{t-1} + \beta_2 \sum_{i=0}^{n} \Delta InGCF_{t-1} + \beta_3 \sum_{i=0}^{n} \Delta InDALR_{t-1} + \beta_4 \sum_{I=0}^{n} \Delta DASR_{t-1} + \beta_5 \sum_{i=0}^{n} \Delta InLAB_{t-1}$$
$$+ \beta_6 t + e_t \ldots \quad 6$$

Where,

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$\lambda_1, \lambda_2, \lambda_3, \lambda_4, and \lambda_5$ are coefficients measuring long run relationship. While, $\beta_1, \beta_2, \beta_3, \beta_4, \beta_4, and \beta_5$ are the coefficients that measuring short run relationships. The hypotheses are shown below; $H_o = \lambda_1 = \lambda_2 = \lambda_3 = \lambda_4 = \lambda_5 = \lambda_6 = 0$. This means there is no long run relationship among the variables. $H_a \neq \lambda_1 \neq \lambda_2 \neq \lambda_3 \neq \lambda_4 \neq \lambda_5 \neq \lambda_6 \neq 0$. This means there is a long-run relationship among the variables. The non – standard F- statistics was used to test the above hypothesis. The critical values of the F-statistics for this test are available in Pesaran and Shin, and Smith (2001). If the computed F-statistics is higher than the appropriate upper bound of the critical value, the null hypothesis of no co-integration will be rejected. If it is below the appropriate lower bound, the null hypothesis cannot be rejected, and if it lies within the lower and upper bounds, the result would be inconclusive. After confirming the existence of long run relationship among the variables, the following stable long run model was estimated:

$$InGDPPC_t = \beta_o + \beta_1 \sum_{i=1}^{n} InGDPPC_{t-1} + \beta_2 \sum_{i=0}^{n} InGCF_{t-1} + \beta_3 \sum_{i=0}^{n} InDALR_{t-1} + \beta_4 \sum_{I=0}^{n} InDASR_{t-1} + \beta_5 \sum_{i=0}^{n} InLAB_{t-1}$$

$$+\beta_6 t + e_t \ldots\ldots \qquad 7$$

The next step was to estimate the error correction model that indicates the short run dynamic parameters (adjustment parameters that measure the speed of correction to long run equilibrium after a short run disturbance). The standard ECM is estimated as follows:

$$\Delta InGDPPC_t = \beta_o + \beta_1 \sum_{i=1}^{a} \Delta InGDPPC_{t-1} + + \beta_2 \sum_{i=0}^{b} \Delta InGCF_{t-1} + \beta_3 \sum_{i=0}^{c} \Delta InDALR_{t-1} + \beta_4 \sum_{I=0}^{d} \Delta LDASR_{t-1} + \beta_5 \sum_{i=0}^{e} \Delta InLAB_{t-1}$$

$$+\beta_6 t + \delta ECT_{t-1} + e_t \ldots \qquad 8$$

Where, $\beta_1, \beta_2, \beta_3, \beta_4, \beta_5, and \beta_6 =$ Coefficients that represent the short run dynamics of the model. ECT_{t-1} = Error correction term lagged by one period. e_t = vector of white noise error terms and $(n-g)$ denotes the optimal lag length of each variable in the autoregressive process. δ = Error correction parameter that measure the speed of adjustment towards the long run equilibrium. The error correction term (ECT) is derived from the corresponding long run model whose coefficients are obtained by normalizing the equation. After estimating the long run and short run model, misspecification test, normality test, serial correlation test, heteroscedasticity test will be undertaken to check the robustness of the model. In order to estimate the models specified in equation (3.6), (3.7) and (3.8) above and to perform the pre- estimation and post- estimation diagnostic test, Microfit 4.1 and Eviews9 statistical packages will be used.

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FINDINGS AND DISCUSSION

This section examines the differential effect of male and female literacy rate and adult survival rate on economic growth in Nigeria. To achieve the aim of the section, the researcher first considers the unit root and co-integration tests of the time series variables.

Time Series Properties of Data

Testing for the existence of unit roots is a principal concern in the study of time series models and co-integration. The presence of a unit root implies that the time series under investigation is non-stationary, while the absence of unit roots shows that the stochastic process is stationary (Iyoha and Ekanem, 2002). More often than not, most time series data are not stationary at levels as some variables may be too small or large to the extent that they never return to their expected mean. This has necessitated the need to carry out unit root test or stationary test whenever dealing with time series data. However, in an attempt to test for the stationarity of the variables; this study employed both the Augmented Dickey-Fuller (ADF) test of Dickey and Fuller (1981) and the Phillip-Peron (PP) test (Phillips and Peron, 1988) with constant and linear trend. The results of the ADF and the PP tests are as shown in table 1 below. The decision rule adopted here is that if the probability value of ADF test or that of the PP test is lesser than 5% critical value, then it is adjudged that the tested variable is non-stationary. If on the other hand, the probability value of the ADF test or that of the PP test is greater than the 5% critical value, then it is adjudged that the tested variable is stationary. Hence, the purpose of the unit root test was to test whether the variables are I(0), I(1) or I(2). Results from table 1, show that all the variables are stationary (no unit root) at first difference. This indicates that all of the variables in the study are integrated of order one i.e I(1).

The results of the analysis in table 1 provides useful insights into the importance of human capital and physical capital development in achieving sustainable economic development in Nigeria.

Table 1: Unit Root Test Results: Augmented Dickey-Fuller and Philips-Peron Method

	ADFTest				PP Test	
Variables	Level	First Diff	Status	Level	First Diff	Status
GDPPC	0.2829	-4.338		0.032	-4.3241	
	[0.9739]	[0.0017]*	I(1)	[0.9552]	[0.0017]*	I(1)
GFC	0.2851	-4.0236		-0.2068	-4.0236	
	[0.9740]	[0.0038]*	I(1)	[0.9282]	[0.0038]*	I(1)
LAB	-1.4477	-6.3503		-1.4605	-6.3213	
	[0.547]	[0.0000]*	I(1)	[0.5411]	[0.000]*	I(1)
FSE	1.6692	-4.6524		1.6258	-4.6382	
	[0.9994]	[0.0007]	I(1)	[0.9993]	[0.0007]*	I(1)
MSE	-0.1391	-4.5399		-0.03512	-4.4755	
	[0.9367]	[0.0010]*	I(1)	[0.9486]	[0.0012]*	I(1)
FTE	-1.2843	-7.2492		-1.1958	-8.4937	
	[0.6254]	[0.0000]*	I(1)	[0.6648]	[0.0000]*	I(1)
MTE	-1.3867	-8.087		-1.0976	-11.2629	
	[0.5772]	[0.0000]*	I(1)	[0.7054]	[0.0000]	I(1)

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FSR	-1.1914	-3.2528		1.7501	-1.3572	
	[0.8959]	[0.092]***	I(1)	[0.9995]	[0.590]***	I(1)
MSR	-1.7439	-3.5447		2.4907	-1.5258	
	[0.7086]	[0.0509]**	I(1)	[1.0000]	[0.5083]**	I(1)

Source: Author's Computation, from Eviews 9.0. *Note 1: GDPPC, GFC, LAB, MSE, FSE, MSR, FSR, MTE, FTE represent gross domestic product per capital, gross fixed capital formation, labour force participation, male secondary school enrollment, female secondary school enrollment, male survival rate, female survival rate, male tertiary enrollment, and female tertiary enrollment rate respectively. Note 2: The values in the square bracket [] are the probability values; (*) indicates significant at 1% level, (**) indicates significant at 5% level, while (***) indicates significant at 10% level.*

However, the results of the unit root tests of Augmented Dickey-fuller and Phillips-Perron show that all the variables (GDPPC, GFC, LAB, MSE,FSE, MSR,FSR,MTE and FTE) are stationary at first difference I(1) and at 5%. Except FSR which is only significant at 10%. These results provide a reasonable justification for the application of ARDL bound testing approach to co-integration. Furthermore, the result of the co-integration test shows that gender disaggregated human capital vis-à-vis education and health human capital development, gross fixed capital formation, labour force participation rate and gross domestic product per capita have long run equilibrium relationship. This means that any policy implemented towards improving government spending and commitment on these independent variables not only affect economic growth in the short run but also in the long run.

Lag Length Selection Criteria

The selection of the lag length is based on the outcome of Schwarz Information Criteria (SIC) because SIC imposes a harsh penalty than other information criterion (Brooks, 2012), others used include Final Precision error (FPE) and Hannan-Quinn (HQ). Like Akaike Information Criteria (AIC), the lower the value of SIC, the better the model. From Table 2, it is evident that the various lag selection criteria depicts an optimal lag length of one (1) Drawing from the justification for SIC, this study chooses the lag length of one for the independent variables as indicated by the SIC and it is used to estimate the ARDL model.

Table 2: Lag Length selection criteria

Lag	LogL	LR	FPE	AIC	SIC	HQ
0	-209.6166	NA	1.93e-07	12.91862	13.36755	13.07172
1	141.7627	475.3955*	9.30e-14*	-1.868395*	3.069831*	-0.184318*

Source: Authors' Computation from Eviews9, 2017

ARDL bound test Result

The ARDL bound test is used to test for co-integration or long-run relationship among variables. Table 3 shows the result of bound test and critical values provided by Peasan et al. (2001).

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Specifically, the F-statistic is then compared with the critical bounds at 5% level of significance with unrestricted intercept and no trend (Upper bound is 3.39 and Lower bound is 2.22).

Table 3: Bound Test Result

Variables	**F-Statistics**	**Cointegration**
F(GDPPC/GFC,LAB,FSE,MSE,FTE,MTE,FSR,MS)	3.729506	Co-integration
Critical Value	Lower Bound	Upper Bound
1%	1.95	4.1
5%	2.22	3.39
10%	2.79	3.06

Source: Author's computation, 2016.
Note: The lag length k=8 was selected based on the Schwarz criterion (SC).
However, the F-statistic (3.7295) is greater than the upper bound (3.39) and this implies that there is evidence to reject the null hypothesis of no long run relationship among the variables. Hence, the alternative hypothesis is accepted that there is long run relationship among gender disaggregated literacy rate, adult survival rate and economic growth and other variables such as gross fixed capital formation and labour force participation rate.

The Result of the ARDL
Since there is co-integration among the variables, the estimated result of ECM is presented below (see table 4). The short-run and long-run results are thus; male secondary education (MSE) shows positive and significant effect on economic growth with $p < 0.1$; hence a unit increase in the variable will bring about proportionate increase in economic growth in Nigeria. Meanwhile, the female secondary education (FSE) result shows negative and significant effect on economic growth with $p < 0.1$. The variable dumped economic growth by the same proportion of its value; this could be the result of gap(s) in schooling between genders at secondary school level.

Table 4: The Result of the ARDL

Dependent Variable:LGDPP	SIC: ARDL(1,0,0,0,0,0,0,0,0)		
	Coefficient	T-Statistics	P-Value
Long-run Estimate			
GFC	0.0787	2.9258	0.0074*
LAB	-0.0423	-3.0906	0.0050*
MSE	0.0018	1.8582	0.0754***
FSE	-0.0032	-3.1914	0.0039*
MSR	0.0162	0.8574	0.3997
FSR	0.0153	0.8601	0.3983
MTE	-0.3413	-2.2131	0.00367**

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FTE	0.2161	1.7776	0.0881***
Short-run Estimate			
Δ(GFC)	0.0575	2.6225	0.0149**
Δ(LAB)	-0.0309	-3.8072	0.0009*
Δ(MSE)	0.0013	1.8518	0.0764***
Δ(FSE)	-0.0023	-2.6736	0.0133**
Δ(MSR)	0.0118	0.8385	0.4100
Δ(FSR)	0.0112	0.8457	0.4061
Δ(MTE)	-0.2494	-2.1084	0.0456**
Δ(FTE)	0.1579	1.7172	0.0981***
ECT(-1)	-0.7308	-5.2243	0.0000*
R^2	0.9832		
Adj. R^2	0.9769		
F-Stat	155.9479		0.0000*

Diagnostic Test Statistic

Test	Value	P-value
χ^2 Serial	1.6863	0.1941
χ^2 ARCH	8.2601	0.5082

Source: Author's Computation, 2016. *Notes 1: * Statistical significance at 1% level; ** Statistical significance at 5% level; and *** significance at 10%. Note 2; GDPPC, GFC, LAB, MSE, FSE, MSR, FSR, MTE, FTE represent gross domestic product per capital, gross fixed capital formation, labour force participation, male secondary school enrollment, female secondary school enrollment, male survival rate, female survival rate, male tertiary enrollment, and female tertiary enrollment rate respectively.*

However, the result of male tertiary education (MTE) shows a significant negative effect on economic growth with $p < 0.1$. This could be as a result of raising rate in the level of unemployment, mismatch of labour force or inadequacy on the paths of Nigeria higher institutions to develop appropriate stocks of human capital among the male tertiary graduates. The female tertiary education (FTE) result shows positive and significant effect on economic growth with $p < 0.1$; hence a unit increase in the variable will bring about proportionate increase in economic growth in Nigeria. This is because the higher the level of schooling attainment by female gender, the better the fertility rate, lesser the child mortality rate and higher the income per capita which in turn leads to economic growth. Meanwhile, male adult survival (MSR) and female adult survival rates (FSR) results revealed positive but insignificant effects on economic growth in Nigeria with $p > 0.1$. This means that the variables do not have any meaningful effects on economic growth in Nigeria. This could be traceable to the effects of poor health condition in the country as manifested in dilapidated state of health care system and inadequacy in health care policy implementation. The gross fixed capital formation (GFC) shows positive and significant effect on economic growth with

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$p < 0.1$; meaning that investing in physical capital will increase economic growth. While, the result of labour force participation rate (LAB) shows a significant negative effect on economic growth. By implication an unnecessary increase in the variable dumped economic growth by the same proportion of its value. The result of LAB on economic growth could be as a result of high level of unemployment and under-employment rate in the country. Lastly, the coefficient of error correction term (ECT) is the speed of adjustment of economic growth to variations in gender disaggregated literacy rate, adult survival rate and other independent variables in the model. The condition for ECT is to be negative and statistically significant to ensure convergence to long run equilibrium. Specifically, the speed of adjustment indicates a stable process of adjustment to long run equilibrium and it shows that 73% of the preceding period's disequilibrium is corrected annually.

CONCLUSION

In conclusion, the research findings of this study has been able to show the differential effects of gender disaggregated human capital development on economic growth in Nigeria with a particular reference to female gender both in short-run and long-run. However, it was established that female human capital development has a significant effect on economic growth in Nigeria both in short run and long run. Also, it was established that physical capital contributed positively to economic growth in Nigeria both in the short-run and long-run. While,the results of this study on gender human capital development pointed that human capital development in Nigeria has not been given high priority. And with the Human Development Index report (2016) revelation that Nigeria is ranked 152nd out of 188 countries, the result from this study is revealing that human capital development is yet to have an expected contribution to economic growth in Nigeria. This can also be confirmed by the result of labour force participation rate which shows a significant negative effect on economic growth both in short-run and long-run. The study therefore concludes that concludes by suggesting that human capital investment in both the education and health care sectors should be developed in terms of infrastructure in order to produce quality manpower for sustainable development. In addition, policies in these sectors should be designed specially to cater for the specific needs of both the male and female gender. And lastly, the Nigerian education system be restructured to be more practical oriented.

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