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Flattening Unemployment Curve in Nigeria: The Role of Human Capital Financing

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Abstract— This paper looked at the role of human capital financing in unemployment reduction in Nigeria. The study used annual time-series data from 1991-2018. The stationarity test revealed that all the variables became stationary after first differencing, hence Johansen cointegration method and Vector Error Correction Model (VECM) were applied to show the speed of adjustment of the system to their equilibrium position in the long-run. The analysis revealed that the relationship between human capital financing and unemployment existed in the long and short-run during the study period. Specifically, in the long-run, the estimated coefficients indicated that health financing exerted a positive influence on unemployment rate while education financing had a negative effect. The Granger causality test showed that an interaction mechanism existed between education and health financing; and monetary policy rate. Consequently, the study argues that for unemployment rate to be flattened in Nigeria, government should prioritize human capital financing by increasing yearly budgetary allocation to education and health sectors since they are significant components of human capital financing in a country.

Keywords—Human capital, Financing, Education, Health, Unemployment.

I. INTRODUCTION

The concept of human capital financing revolves around investment in people's education and health to become economically active. Education and health financing create the pool of funds for human capital development which eventually lower unemployment rate in a country [26]. This is because a healthy and well-educated workforce possess the strength, requisite knowledge, skills and techniques required by potential employers. Hence, human capital financing is generally seen as investment efforts geared towards empowering people to be fully engaged in economically productive activities to earn a living [2]. Thus, human capital financing through education and health expenditures sets in the fundamental building blocks for greater productive, employable and vibrant labour force [21]. It then implies that a resource endowed nation would have a healthy, educated and fully employed labour force since they are blessed with the financial strength to bolster investments in human capital.

In enhancing economic productivity, investments in human capital has been one of the key objectives of every country [21]. Hence, a successful process of human capital financing depends on efficient allocation of funds to viable investments in education and health services. As such, human capital financing through actual government budgetary allocation to education and health sectors has gained prominence. Unfortunately, the level of financial commitment to human capital development in Nigeria has not been commensurate with what is required to equip its teeming population for gainful employment. In fact, over many decades, education expenditures in Nigeria have always been below the minimum of 26% of total expenditures prescribed recommended by the United Nations while annual health expenditures in Nigeria has been paltry compared to above 25% maintained in other developing countries.

Theoretically, the supply-leading (finance-growth induced) hypothesis explains the potency of finance in an economy. The theory posits that supply of financial resources to key economic sectors is paramount to economic growth [18]. In fact, the supply-leading hypothesis proposes flow of funds to high-growth sectors to trigger entrepreneurial responses [7]. As such, regarding human capital financing and unemployment nexus, the supply-leading hypothesis implies that government should increase funding to education and health sectors through its annual budgetary allocation to facilitate processes that would yield skill acquisition, broaden knowledge base, improve technical know-how and ensure healthy living which in turn help people to gain employment. This was supported by the endogenous growth model that achieving economic objectives is largely dependent on internal factors such as availability of funds [25].

Experience from developing countries like the Asian Tigers (Singapore, Taiwan, Hong-Kong and South Korea) shows that human capital financing is fundamental to

reducing unemployment. For instance, at independence, Singapore, was highly stricken by poverty with rapid population growth and virtually endowed with no natural resources, apart from its deep-sea port. But, presently, reports from the World Bank as well as the Organization of Economic Corporation and Development (OECD) shows that Singapore is among the top developed nations in Asia because their government was able to prioritize human capital financing in its long-term strategic economic plans [21], [24], [27]. This indicates that Nigeria with its vast population and natural resource endowment ought to be resting on a gold mine of human capital resources [10]. Ironically, the potentials of its large population have remained relatively untapped even with the Economic Recovery Growth Plan (ERGP) for 2017-2020 aimed at stabilizing the Nigerian economy [6], [13].

Indeed, beyond every aspect of human capital development, education and health financing is of great importance. There are evidences that investments in education and health matters bolsters human capital and reduces unemployment rate [17], [26]. On one hand, it is argued that a well-educated people perform much better than the less educated ones and employers have less incentive to fire employees with specific trainings than those with less or no training [17]. On the other hand, more employment opportunities are availed to healthy (physically and mentally) fit labour force [8]. It then implies that a well-educated and healthy labour force are more competent and preferred by employers of labour. This shows that with poor financial commitment to the education and health sectors in Nigeria, unemployment would persist. This pinpoints why rising unemployment rate has been a major scourge hindering economic progress in Nigeria, especially in recent history.

In all of these, a major problem is that human capital has been poorly financed over the years. In fact, on average, government spending on education and health to total government expenditures had decreased from 5.16% in 1991 to 2.67% in 2018 [9]. Nigeria being a monocultural economy that is dependent on crude oil, poor human capital financing has been strongly linked to low government revenue generation due to the decline in crude oil prices as well as corrupt practices on the part of government officials that are charged with the responsibility of disbursing such funds [23]. Based on the foregoing, it can be said that human capital financing corroborates with the supply leading hypothesis that economic stability is finance induced. Though, there are myriad of works addressing the nexus between human capital financing and unemployment in Nigeria, most of the studies focused on education financing without incorporating health financing in the model. In a time when Nigeria is experiencing series of economic upheavals, a search for a lasting solution to unemployment through human capital financing becomes expedient. This study contributes to the existing studies by showing that human capital financing through funds allocation to education and health sectors is paramount to the long-term fight against rising unemployment rate in Nigeria.

The remaining part of this paper is structured as follows, Section II captures the review of related works, details of the methodology is contained in Section III, Section IV presents the results and discussions arising from the data analysis while the conclusions and future directions were contained in Section V.

II. RELATED WORK

Rising unemployment rate in Nigeria is known to have caused high rate of poverty, inequality, criminality, and general low standard of living in the country [29]. Nigeria's unemployment rate rose from 13.1% in 2000 to 14.8% in 2003 and subsequently, to 23.9% in 2012 and 27.1% in the second quarter of 2020 [27]. Apart from the fact that high unemployment rate represents a colossal waste of nation's manpower resources, leading to low economic output [4], [28]. The realization of this fact stressed the importance of human capital financing in driving employment generation in Nigeria.

With the persistent upward trend in unemployment rate in Nigeria, the role of government cannot be overemphasized. In fact, [31] had stated that poor government financing of primary education and healthcare in Nigeria was pro-poor. Hence, government can intervene in the scourge of unemployment by expending resources towards ensuring people are well-equipped to undertake economically productive ventures. Unfortunately, being a mono-economy heavily dependent on oil revenue, Nigeria's public expenditures have been very low due to volatility of oil price, leading to low funds allocation for human capital development [17].

The conceptual framework as displayed in Figure 1 portrays how human capital financing on education and health sectors influence unemployment rate. The Figure shows that adequate human capital financing generates knowledgeable, technical skilled and healthy labour force are employed, hence reduction in unemployment rate.

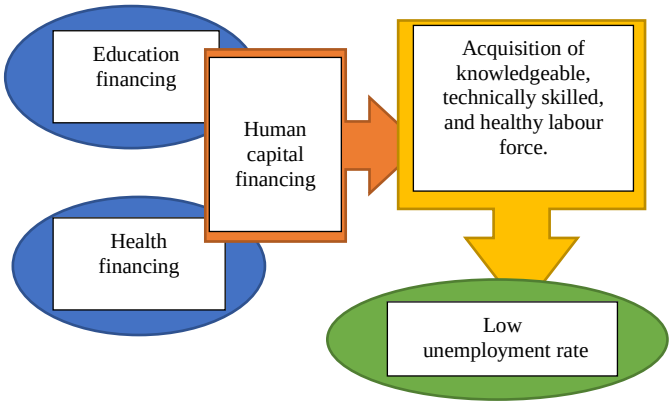

Figure 1: Conceptual framework

Several works on development in human capital have shown widened gap between the developed and less-developed countries due to inadequate financing of human capital development components, especially the education and health sectors [4], [6], [10], [14]. Evidently, many developing countries, Nigeria inclusive has been lagging behind in terms of human capital financing. Recently, Nigeria's human capital development index was ranked at 151st position, yet it remained among the top exporter and producer of petroleum as well as being the largest economy in Africa [21]. As such, Nigeria's low human capital development presents a paradox as unemployment rate in the country is rising amidst wealth of natural resources. This dismal performance is an outcome is the consequence of low investments in education, health, infrastructural facilities, political instability, etc., especially at the highest echelon of government [27]. In an empirical study, [28] showed that a long and short-run relationship existed between the development of human capital and sectorial development in Nigeria. In Pakistan, [30] showed that increase in technical education improved labour productivity.

The potency of finance in various aspects of the economy is much debated. A study by [14] revealed that while economic expenditure, social expenditure as well as transfer expenditure all had inverse relationship with human development index only social expenditure was statistically significant in relation to human development index in Nigeria. Also, using regression analysis, [4] indicated that public expenditures on education caused unemployment rate to diminish in Nigeria. Similarly, [17] averred that Government spending on education and health need to be enhanced in quantum as both variables had no significant influence on unemployment rate in both the long and short-run. [3] indicated that increase in education expenditures caused unemployment rate to reduce significantly in Nigeria. In consonance with the supply-leading hypothesis, [1], [20] revealed that Government expenditures significantly explained changes in unemployment in Nigeria. Amidst government spending, there was significant upward trend in unemployment and poverty rate in Nigeria [19]. In Pakistan, it was found that both education and health financing had a significant impact on employment [26]. Similarly, using regression analysis, [29] showed that financing is effective in reducing the rate of unemployment in Nigeria.

Despite the relevance of human capital financing, empirical studies on the subject remains scarce. It appears that there are divergent views regarding the extent to which prior literature can explain the linkages between human capital financing and unemployment. Obviously, there are theoretical divergences on the concept of human capital financing and its measurement from the empirical studies reviewed. Meanwhile, similar disagreements in various theories also influenced the policy focus and outcomes of the studies reviewed.

III. METHODOLOGY

This study applied the *ex post facto* research design. *Ex post facto* which is also known as "after the fact" design attempts to identify specific outcomes without manipulating the variables since information or data on such variables are already published. This shows that the event under investigation had already taken place. Consequently, to establish the effect of human capital financing on unemployment using yearly time series data from 1991 - 2018, the ordinary least squares (OLS) technique was used. The OLS is a statistical approach for estimating an unknown parameter in a linear regression model. A regression model provides an equation that expresses the functional relationship between the relevant variables. Using this model for this study implies that unemployment rate can be predicted given the values of education financing, health financing and monetary policy rate. Thus, this study adapted the multiple regression model, which involves one dependent variable and two or more independent variables. Hence, this paper modelled unemployment rate (UEMP) as a function of education financing (EDUC), health financing (HLTH) and the monetary policy rate (MPR). Earlier studies adopted this model but did not incorporate the effect of MPR in the process of human capital financing as this cannot be overruled in the allocation of investible funds [17], [22]. The regression model is delineated by equation (1) below:

$$\mathrm{UEMP}_t = \beta_0 + \beta_1 \ln(\mathrm{EDUC})_t + \beta_2 \ln(\mathrm{HLTH})_t + \beta_3 \ln(\mathrm{MPR})_t + \varepsilon_t \qquad (1)$$

Where,
β_0 = constant
β_1 - β_3 = coefficients of EDUC, HLTH and MPR, respectively.
ε_t = error term
ln = natural log
t = time (1991-2018)

Based on the supply-leading hypothesis, the coefficients are expected to be negative. This is because adequate human capital financing through investments in education and health brings about better learning environment and medical services that would help broaden the knowledge base and boost the health status of people for better service delivery to their employers. As such, sufficient education and health financing is expected to reduce unemployment rate. Since one of the major economic goal of government is to reduce unemployment rate, it is expected that a monetary policy that would trigger more employment generating investments would be pursued.

Decision Rule: If *the probability* value is less than *0.05*, Accept H_1 (alternative) and Reject *H*o (null) and vice versa. Alternatively, if *t* calculated value < *t* critical table value, Accept *H*o. If *t* calculated value > *t* critical table value, Accept H_1.

Table 1: Measurement of variables and sources of data

Variable	Measurement	Sources of data
UEMP	This indicates the number of unemployed persons expressed as a ratio of total labour force in Nigeria.	World Development Indicator
EDUC	Yearly government expenditures on the education sector.	Central Bank of Nigeria (CBN) Statistical Bulletin, vol. 29, December, 2018.
HLTH	Annual spending made by the government on the health sector.	Central Bank of Nigeria (CBN) Statistical Bulletin, vol. 29, December, 2018.
MPR	This is rate at which the Central Bank lend to banks in order to control money supply and ensure economic stability.	Central Bank of Nigeria (CBN) Statistical Bulletin, vol. 29, December, 2018.

The data analysis was carried out using EViews 10.0 econometric software. The first stage of the analysis is testing the stationarity of data. Stationarity of data refers to the statistical characteristics relating to the mean and variances of the dataset over time. The series are stationary if both the mean and variance are constant (i.e. absence of unit root). If the series are not stationary, differencing of the data produces other sets of observation that would be stationary at the first or second-differenced values. If stationarity is achieved without differencing the series, it is defined as I(0) (stationary at level or integrated of order zero) while stationarity after first difference is designated as I(1). To confirm the level of stationarity, the Augmented Dickey–Fuller (ADF) test was applied in this study [11].

This study applied Johansen & Juselius approach to cointegration testing [16]. This approach is suitable for non-stationary time series, especially a model consisting only first-differenced variables. This approach depends on two basic tests, viz; the trace and Maximum based Eigenvalue tests (Max-Eigen). The Maximum statistic investigates the null hypothesis of r cointegration against the alternative of $r+1$ cointegration for $r = 0, 1, 2 \ldots n-1$ as displayed in equation (2) below:

$$\mathbf{LR_{max}}\left(r/_{n+1}\right) = -\tau^{*}\log\left(\mathrm{i} - \widehat{\lambda}\right) \qquad (2)$$

Where, $\hat{\lambda}$ = Max-Eigen and τ = sample size
On the other hand, Trace statistics tests the null hypothesis of r cointegration as against the n cointegration. The Trace statistics is denoted by equation (3) below:

$$\mathbf{LR_{tr}}\left(\frac{\mathrm{r}}{\mathrm{n}}\right) = -\tau^{*}\sum_{\mathrm{i=r+1}}^{\mathrm{n}}\log\left(\mathrm{i} - \widehat{\lambda_{\mathrm{i}}}\right) \qquad (3)$$

Where, n denotes the number of variables in the model
If the Max-statistics and Trace statistics gives opposing outcomes, it is stipulated that the outcome of the Trace statistics should be upheld [5]. Under these tests, if $H_0{:}r = 0$ is rejected, repeat for $H_0{:}r = 1$. At the point when the $H_0{:}r = 0$ (null hypothesis) is accepted, it implies no cointegration, and vice versa. If the variables are cointegrated, the VECM (Vector Error Correction Model) becomes appropriate. This mechanism creates a platform for reconciliation of short-run disequilibrium dynamics of the system with their long-run behaviour [12]. The equations for the VECM are as follows:

$$\triangle Y_t = \alpha_1 + \mathrm{P}_1 e_i + \sum_{i-0}^{n}\beta_i \triangle Y_{t-i} + \sum_{i-0}^{n}\delta_i \triangle X_{t-i} + \sum_{i-0}^{n} Y_i Z_{t-i} \qquad (4)$$

$$\triangle X_t = \alpha_2 + \mathrm{P}_2 e_i + \sum_{i-0}^{n}\beta_i \triangle Y_{t-i} + \sum_{i-0}^{n}\delta_i \triangle X_{t-i} + \sum_{i-0}^{n} Y_i Z_{t-i} \qquad (5)$$

In VECM, the cointegration rank indicates the number of cointegrating vectors. A rank of two (2), for instance shows that the independent combination of two linearly I(1) series will be stationary. The coefficient of the error correction mechanism, denoted by ECM (i.e. e_{t-1}), is expected to produce a negative an significant coefficient which indicates that after a period of disequilibrium, the system converge back to equilibrium path [12].

The Granger causality specification is represented by a bivariate (X, Y) context expressed as follows:

$$\mathrm{Y_t} = \alpha_0 + \alpha_1 \mathrm{Y_{t-1}} + \cdots \alpha_i \mathrm{Y_{t-i}} + \beta_1 \mathrm{X_{t-1}} + \cdots \beta_i \mathrm{X_{t-i}} + \mu \qquad (6)$$

$$\mathrm{X_t} = \alpha_0 + \alpha_1 \mathrm{X_{t-1}} + \cdots \alpha_i \mathrm{X_{t-i}} + \beta_1 \mathrm{Y_{t-1}} + \cdots \beta_i \mathrm{Y_{t-i}} + \mu \qquad (7)$$

From equations (6) and (7), time periods are denoted by the subscripts and a white noise error is denoted by μ. The parameter "α_0" denotes the constant growth rate of Y and X in equations (6) and (7) respectively. Two possible outcomes are tied this analysis: the first is the one-way causality and the second is the two-way causality. The one-way causality or unidirectional causality arises if either of the null hypothesis associated with equation (6) or (7) is rejected. Bidirectional (two-way) causality, on the other hand, occurs if both null hypotheses are rejected.

IV. RESULTS AND DISCUSSION

Table 2 below displays the outcome of the stationarity test using ADF approach for unit root. Based on the outcome of the unit root test in Table 2, it is obvious that the variables are not stationary as their respective ADF t-Statistic were less than their Mackinnon critical values at 5% level of significance. The t-Statistic of the ADF test at first difference reveals that all the variables have t-Statistic values that are greater than the Mackinnon values at 5% level. This shows that all the variables attained stationarity at first difference, that is, I(1).

Table 2: Test for stationarity of data

Variables	**ADF @ Level**		**ADF @ First Difference**		
	Test statistic	**5% critical value**	**Test statistic**	**5% critical value**	**Decision**
UEMP	-1.719006	-3.595026	-3.687932	-3.612199	I(1)
ln(EDUC)	-3.325535	-3.587527	-6.880384	-3.603202	I(1)
ln(HLTH)	-0.890361	-3.632896	-6.219878	-3.632896	I(1)
MPR	-3.263547	-3.587527	-7.273954	-3.595026	I(1)

Note: if ADF > 5% Mackinnon critical value, accept null hypothesis (presence of unit root) and vice versa for the alternative hypothesis

In this situation, the Johansen cointegration and VECM approach to data analysis becomes suitable for the estimation. The optimal lag used for the cointegration tests is two (2) as suggested by most of the lag selection criteria. In this situation, the Johansen cointegration and VECM approach to data analysis becomes suitable for the estimation. The optimal lag used for the cointegration tests is two (2) as suggested by most of the lag selection criteria. As proposed by [15], if the model emerges with different lag-length, the AIC is preferred. Hence, the lag-order of two (2) was selected based on the AIC. It also implies that both dependent and independent variables are lagged till second year to denote the short-run effects/equilibrium on the dependent variable. The outcome of the lag selection criteria has been presented in Table 3 below:

Table 3: Lag selection criteria

Lag	**LogL**	**LR**	**FPE**	**AIC**	**SC**	**HQ**
0	-135.6974	NA	0.545853	10.74595	10.93950	10.80169
1	-61.36914	120.0686*	0.006264	6.259165	7.226931*	6.537846
2	-41.73258	25.67858	0.005233*	5.979429*	7.721409	6.481056*

* indicates lag order selected by the criterion
LR: sequential modified LR test statistic (each test at 5% level); Final prediction error (FPE); Schwarz information criterion (SC); Akaike information criterion (AIC); Hannan-Quinn information criterion (HQ)

The Johansen cointegration test results in Table 4 shows evidence of a long-run relationship amongst the I(1) variables. Based on the Trace and Max-Eigen statistics, $H_0: r = 0$ is rejected at 5% level because their values are greater than the 0.05 critical values at "none". This implies that there is one cointegrating equation in the system. In other words, the tests (Trace and Max-eigen) rejects the null hypothesis of no cointegration. Hence, the normalized long-run regression was estimated.

Table 4: Johansen cointegration test results

Trace Statistics			***Max-Eigen Statistics***		
Hypothesized Number of cointegrating equation(s)	**Test Statistic**	**0.05 (5%) Critical value**	**Hypothesized Number of cointegrating equation(s)**	**Test Statistic**	**0.05 (5%) Critical value**
None *	58.53624*	47.85613	None *	35.83517*	27.58434
At most 1	22.70107	29.79707	At most 1	15.99385	21.13162
At most 2	6.707211	15.49471	At most 2	4.771587	14.26460
At most 3	1.935625	3.841466	At most 3	1.935625	3.841466

Trace and Maximum Eigen tests indicates 1 cointegrating equation at the 5% level
* denotes rejection of the hypothesis ($H_0: r = 0$) at the 0.05 level

$$\underset{\{-5.8383\}}{\text{UEMP} = 0.13779 - 2.84285\ln(\text{EDUC})} + \underset{\{5.7679\}}{2.28246\ln(\text{HLTH})} \underset{\{-0.3996\}}{- 0.00880(\text{MPR})} \quad (8)$$

Note: t-tab = 1.710882

Equation (8) above specifies the cointegrating relationship in the system when UEMP is endogenous. Figures in {t-Statistic} represent the t-values. In the system, ln(EDUC) and ln(HLTH) exact significant influence on UEMP. Only ln(EDUC) followed the economic *a priori.* The long-run coefficients show that a 1% increase in EDUC leads to approximately 2.84% decrease in UEMP while a 1% increase in HLTH caused UEMP to increase by 2.28%. Individually, both HLTH and EDUC were significant determinants of UEMP as their absolute t-values (5.76790 and 5.83837) were greater than the t-tab. (1.71.882). The positive effect of HLTH could be attributed to the fact that

the Nigerian health sector has been poorly financed over the years [8]. Using equation (8) to predict long-run UEMP, it is found that Nigeria's unemployment rate would be decreasing by 0.431405 (4.31%) due to the interactions between HLTH, EDUC and MPR. This implies that prioritizing human capital financing in long-term strategic economic plans could help reduce unemployment. Hence, this study reiterates the opinion held by [21], [24], [27] that prioritizing human capital financing in long-term strategic economic plans could help to reduce unemployment rate.

After confirming the presence of cointegration, the study proceeded with the Vector Error Correction Mechanism (VECM) using lag 2 as suggested by the AIC in which both the explained and explanatory variables were lagged till second year to represent the short-run equilibrium/effects on the endogenous variables as presented in Table 5 below. Here, the focus is to first estimate the coefficient of the Error Correction, denoted by ECM(-1).

Table 5: VECM results

	Coefficient	**Std. Error**	**t-Statistic**	**Prob.**
ECM(-1)	-0.405785	0.122948	-3.300459	0.0049
D(UEMP(-1))	0.795357	0.171109	4.648244	0.0003
D(UEMP(-2))	0.539213	0.297554	1.812151	0.0900
D(ln(EDUC(-1)))	-0.611037	0.249950	-2.444632	0.0273
D(ln(EDUC(-2)))	0.253729	0.188963	1.342743	0.1993
D(ln(HLTH(-1)))	0.678380	0.301413	2.250669	0.0398
D(ln(HLTH(-2)))	-0.481385	0.228905	-2.102989	0.0528
D(MPR(-1))	-0.033443	0.018825	-1.776536	0.0959
D(MPR(-2))	0.025889	0.015364	1.685026	0.1127
C	-0.020205	0.081879	-0.246770	0.8084
R-squared	0.715507	F-statistic		4.191705
Adjusted R-squared	0.544811	Prob(F-statistic)		0.007204
Durbin-Watson stat	2.392673			

The VECM shows that the system equation is in tandem with *a priori* as the coefficient of ECM(-1) is significant and negatively with a value (-0.405785) that is less than one. That is, the UEMP, EDUC, HLTH and MPR system shows an adjustment to equilibrium in the long-run from previous periods of shocks. The value of the ECM indicates that approximately 40% of the disequilibrium in the system was adjusted each year. Thus, it takes about 2.46 years (i.e. 1/ECM) for the UEMP model to reach its long-run equilibrium which further justified the lag-length of two (2) selected for the study. The *R*-squared is 0.715507, which implies that approximately 71% of the variation in UEMP were collectively explained by the changes in EDUC, HLTH and MPR, while the remaining 29% was due to the error term (ε). The value of the F-statistic is 4.191705 with a probability value of 0.007204, implying that EDUC, HLTH and MPR were collectively significant in explaining the changes in UEMP.

Table 6: Pairwise Granger causality test

Null Hypothesis:	**Obs**	**F-Statistic**	**Prob.**	**Remark**
ln(HLTH) →UEMP	26	0.35349	0.7063	No causal relationship
UEMP ← ln(HLTH)		0.00306	0.9969	
ln(EDUC) →UEMP	26	0.50619	0.6100	No causal relationship
UEMP ← ln(EDUC)		0.06299	0.9391	
MPR → UEMP	26	0.11144	0.8951	No causal relationship
UEMP ← MPR		0.21147	0.8111	
ln(EDUC) → ln(HLTH)	26	4.96334	0.0172	Bidirectional (two-way) causal relationship
ln(HLTH) ← ln(EDUC)		11.3110	0.0005	
MPR → ln(HLTH)	26	5.18999	0.0147	Bidirectional (two-way) causal relationship
ln(HLTH) ← MPR		11.8751	0.0004	
MPR → ln(EDUC)	26	5.41719	0.0127	Bidirectional (two-way) causal relationship
ln(EDUC) ← MPR		8.55522	0.0019	

From the Granger causality test results in Table 6 above, there is two-way causality between ln(HLTH) and ln(EDUC), implying that previous values of HLTH have a predictive ability in determining the current values of EDUC, and *vice versa*. Similarly, a two-way causal flow existed between MPR and EDUC as well as MPR and HLTH implying that monetary policy has a predictive ability in determining human capital financing (HLTH and EDUC), and *vice versa*. These findings signify a significant interaction among the explanatory variables and that these variables are integral to the VECM.

V. CONCLUSION AND FUTURE SCOPE

The study investigated how human capital financing affect growth rate of unemployment in Nigeria using yearly time series data from 1991 to 2018. This study followed the tenets of the supply-leading hypothesis that finance is significant to achieving economic objectives. Using the Johansen cointegration test and VECM, a long-run relationship between human capital financing and unemployment rate was found. The negative and significant error correction mechanism indicates a speed of adjustment of the model variables to their equilibrium every year. Specifically, as shown by the cointegrating equation, unemployment rate reduced by 4.31% due to the interactions between education financing, health financing and monetary policy in the long-run, implying that policy makers should understand and apply the appropriate mix of these variables in managing unemployment rate in Nigeria. The above conclusion implies that sufficient funds should be allocated to the education sector to build capacity, especially in infrastructure and technical skills as this will help produce employable graduates in the country that are universally competent. Also, policy makers should collaborate with health professionals – including the Nigerian medical professionals in diaspora and form a strong force in creating long-term blueprint for adequate and proper financing in the health sector. These recommendations would ensure that the labour force is well-equipped to seize employment and productive opportunities both locally and internationally, hence reduction in unemployment rate in Nigeria.

The limitation of this study is that it only focused on public financing towards human capital development in Nigeria. Hence, future studies should build models that captures private financing for human capital development in Nigeria. This will further help policy makers develop the best strategies for human capital financing and fight against unemployment.

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