

Budget Implementation and Human Capital Development in Nigeria

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Abstract:

The issues of low literacy rate, reduction in gross enrolment rate, low life expectancy at birth and increase in infant mortality rate have been attributed to low or lack of adequate budget implementation in the key sectors namely: education, health, agriculture and science and technology which are considered relevant to human capital development by the United Nation Development Programme (UNDP) and it is a common phenomenon affecting development in all Africa economies. It is expected that when the budget is implemented fully, it will drive human capital development components in these sectors. Therefore, the study examines the nexus between budget implementation and human capital development in Nigeria. We used data of education, health, agriculture and science and technology sectors ranging from 2003 to 2019. Evidence from Autoregressive Distributed Lag (ARDL) model showed that budget implementations in health, agriculture, technology, had positive and significant effect on human capital development in the short run. The results further showed that in the long run, budget implementation in agriculture had positive and significant effect on human capital development. The study recommended that budget implementations in these sectors should be given utmost priorities and performed with focus on achieving human capital development.

JEL Classification: H30, I10, J10

Key Words: Budget Implementation; Education; Health; Agriculture; Science and Technology; Human Capital Development; Nigeria

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1. Introduction:

Conceptually, what budget implementation connotes is the execution of the proposed plan of actions in the budget which has been initially expressed quantitatively and meant to be in operation usually for a one – year period. It is the means through which programs and policies of the government are executed. It gives room for any government on how fund should be spent and generated (Ihenetu and Sotonye, 2019). It is an essential stage in budgeting process that defines the performance of the budget. Even though a budget is formulated to provide required finance for development projects and support public service administering, it must be implemented adequately to show the capacity government to promote social-economic wellbeing of people, above all enhance human development (Kamau, Rotich & Anyango, 2017). Therefore, budget implementation must be carried out by giving consideration to budget goals and objectives in order to make meaningful impacts on the people.

It has been generally agreed that the objectives of a budget could be achieved if it is designed efficiently, implemented effectively and monitored adequately. For any development to be achieved through budget implementation, it must support the lives of the citizens which means that budget implementation should have effect on human capital development. As an expectation, relationship between budget implementation that is fully carried out and human capital development primary components such as life expectancy, literacy rate, infant mortality, and secondary components like child malnutrition and employment in service, should be positive. Thus, budget implementation should serve as a yard stick that will determine whether or not there will be substantive progress in human capital development.

However, regrettably, as it may sound, the dwindling budget implementation in Nigeria has been the cause of a slow pace and a long delay in the achievement of human capital development in Nigeria. The poor implementation has led to many projects being abandoned, which have continued to affect the achievement of developmental objectives and goals of the nation as a whole (Onyaiah, Ezeamam, Ugwu & Mgbodile, 2016). The issue of budget implementation can affect the welfare of the people and cause hindrance to human capital developmental programs. Whereas, the implementation of budget should be to realise the budget objectives and missions of government for human capital development. Subsequently, the disparity between the budget implementation and its accomplishments have been in disharmony for several years now

(Isaboke & Kwasira, 2016; Odewole & Salawu, 2020), making human capital development a mirage without an ending positive result.

There is paucity of studies on the relationship between budget implementation and human capital development in Nigeria particularly on the level of budget implementation which determines the extent to which human capital development may be achieved was ignored in their scope. Few studies that examined the relationship between budget implementation and human capital development (Ilemona and Sunday, 2018; Ihenetu and Sotonoye, 2019; Twawili, Ugwuanyi and Efanga, 2021) failed to link their studies to particular sectors of relevance such as education, health, agriculture and science and technology and also studied the relationship at the aggregated level of human capital development without focusing on its main components for policy realisation. Also, the use of each sectorial output of budget implementation allows for drawing conclusions on the main objectives and behaviours of each variable vividly, and for making different policies based on the performance of each variable.

2. Literature Review

There have been several studies with conflicting results on the nexus between budget implementation and human capital development. Also, the issue of low budget implementation and inability of the government to make progress in human capital development as shown from the UNDP human development index reports affect and is related mostly to developing countries. However, studies that portray the true picture of the situation better in the recent years were reviewed. Onyiah, Ezeamam, Ugwu and Mgbodile (2016) which investigated the impact of budget implementation and control reforms resource management, level of productivity and efficiency and personnel costs in Nigeria. The structured questionnaire was targeted at accountants and economists in the federal civil service, with a total number of 308 respondents formed the sample size. The study revealed that poor project conceptualisation, planning practices led to low resource management. It also found that there no reduction in the personnel and costs budget allocated to the public service. This against the objective of budget reform, which put a limit of 60% on the total allocation to be awarded to public service.

Ezeagba and Patrick (2015) attempted to provide measures capable of stopping the current low budget implementation in Nigeria. Through the administration of questionnaires and the employment of chi-square statistical tools for analysis, the study revealed that factors such as late presentation and passage of the appropriation bills, delay in the release of funds for a capital

project, ineffective planning and corruption have contributed to low budget implementation in Nigeria.

Muli and Gladys (2016) established effective financial management practices on-budget implementation. The study examined the extent to which regulation, accounting system, financial management and budget planning impact on budget implementation. Simple random sampling was used to draw 100 respondents from the three groups of employees, which fall into the top management, middle level and low-level employees. Primary data were collected through a structured questionnaire and interview, while the secondary data were collected through a data collection guide. They provided the findings, which include that budget law gives a guide that improves efficiency and accountability. The cash systems, accounting, internal control systems, financial planning and well-trained staff promoted successful implementation.

Ilemona and Sunday (2018) examined the implementation of the budget and economic growth in Nigeria. Using ex-post factor research design, data on public capital expenditure, recurrent public expenditure and public debt expenditure were collected to assess their impact on economic growth. The analysis was done using multiple regression. The results showed that PCE and PRE have a significant impact on GDP. In comparison, PDEX does not have any impact.

Considering the main subject matter, Ihenetu and Sotonye (2019) examined the impact of budget implementation on human capital development. The effect of recurrent and capital expenditure on human capital development showed that there was significant impact of recurrent expenditure on human capital development whereas capital expenditure and debt recovery had no significant impact on human capital development. The general impact of budget implementation considering the effect of recurrent showed that standard of living can be transformed with the salary increases, monthly payment of stipends to unemployed and free education to the masses. An assessment of budget implementation from the expenditure being allocated portrays the impact in a myopic and dissimilar way from the use of human capital index which infuse all aspects development in explaining the state of progress.

Twawili, Ugwuanyi and Efanga (2021) assessed the relationship between budget evaluation and economic growth in Nigeria. The data was analysed through OLS model which tested the

relationship between budget assessment and human capital development. The independent variables are recurrent expenditure, capital expenditure and budget implementation rate, and the dependent variable is human capital development. The result of the study shows that budget assessment has a favourable influence on economic growth. The study concludes that government should continue to increase the capital and recurrent expenditure yearly. There is need for government to put in place monitoring and assessment mechanisms to ensure that the rate of budget implementation is increased which can only justify for the persistent rise in expenditure at the both sides. However, this study was different in the sense it deviated from the previous studies which concentrated on human capital index while budget implementation level for each sectorial expenditure and its effect on human capital development components has been ignored. In terms of methodology, the available studies in Nigeria had not considered the use of Autoregressive Distributed Lag model (ARDL) to examine both the short run and long run effect of budget implementation on human capital development components.

The theoretical framework of the study is based on agency theory which emphasizes the needs for the interests of the masses to be satisfied for any government to make progress in its economic and social promises. The interests of the masses are currently being assessed through human capital development which can be driven through budget implementation. In public setting, agency theory recognized the interest of the principals i.e the citizens which is the provision of services to better their well beings. The indicators of human capital development which are inherent in education, health, agriculture and science and technology connote the interests of the people and the link between these and budget implementation gives credence to agency theory. Hence, the masses are in the position of the principals who wish their interests will be served through divergent government services. The government, which represents the agents are expected to ensure that the activities designed for execution are those that will serve the interests of the people and better their lives and that their implementation are adequate to record tangible progress.

3. Methodology and Data Source

The agency theory formed the theoretical framework for this study. It assumes a linear relationship between the interest of an agent and his principal which can be formulated to capture the components of human capital development as they are being affected by budget implementation as an instrument used by the agent to achieve the interested of the principal. The relationship is therefore stated as thus:

$$HCD_t = \beta_{0t} + \beta_1 BIE_t + \beta_2 BIH_t + \beta_3 BIA_t + \beta_4 BIT_t \quad (1)$$

Where HCD is Human capita development in period t, BIE is budget implementation in education in period t, BIH is budget implementation in health in period t, BIA is budget implementation in agriculture in period t, BIT is budget implementation in science and technology in period t. This study made an assumption that the relationship can be affected by other variables. Therefore, the equation (1) above includes other variables.

$$HCD_t = \beta_{0t} + \beta_1 BIE_t + \beta_2 BIH_t + \beta_3 BIA_t + \beta_4 BIT_t + \beta_5 DB_t + \beta_6 CPI_t + \beta_7 INFR_t + \epsilon_t \quad (2)$$

Where DB is debt burden as a ratio of external debt to export in period t, CPI is corruption perception index in period t, and INFR is inflation rate at period t

By modifying equation (2), the natural logs of some of the variables are included in the model and stated thus:

$$HCD_t = \beta_{0t} + \beta_1 LOGBIE_t + \beta_2 LOGBIH_t + \beta_3 LOGBIA_t + \beta_4 LOGBIT_t + \beta_5 DB_t + \beta_6 CPI_t + \epsilon_t \quad (3)$$

Since the focus of this study is on human capital development components, subscript i will be added to human capital development

$$HCD_{it} = \beta_{0t} + \beta_1 LOGBIE_t + \beta_2 LOGBIH_t + \beta_3 LOGBIA_t + \beta_4 LOGBIT_t + \beta_5 DB_t + \beta_6 CPI_t + \epsilon_t \quad (4)$$

The human capital development components that were investigated are: Literacy Level (LRL), Infant Mortality Rate (INMR), Life Expectancy (LFE), Child Malnutrition (CHM) and Employment in service (EMS).

Equation 4 was specified in terms of each component of human capital development and sectorial budget implementation, thus,

$$LRL_t = \beta_{0t} + \beta_1 LOGBIE_t + \beta_2 CPI_t + \beta_3 DB_t + \beta_4 INFR_t + \epsilon_t \quad (5)$$

$$LOGINMR_t = \beta_{0t} + \beta_1 LOGBIH_t + \beta_2 CPI_t + \beta_3 DB_t + \beta_4 INFR_t + \epsilon_t \quad (6)$$

$$LOGLFE_t = \beta_{0t} + \beta_1 LOGBIH_t + \beta_2 CPI_t + \beta_3 DB_t + \beta_4 INFR_t + \epsilon_t \quad (7)$$

$$LOGCHM_t = \beta_{0t} + \beta_1 LOGBIA_t + \beta_2 CPI_t + \beta_3 DB_t + \beta_4 INFR_t + \epsilon_t \quad (8)$$

$$LOGEMS_t = \beta_{0t} + \beta_1 LOGBIT_t + \beta_2 CPI_t + \beta_3 DB_t + \beta_4 INFR_t + \epsilon_t \quad (9)$$

Secondary data were employed for this study. Data were extracted from the budget performance reports, annual audited financial statements of the federal government, CBN statistical bulletin, National Bureau of Statistics reports, debt management reports and human development report between 2003 to 2019.

4. Empirical Results

It is a well-established fact in literature that regression result will be spurious if the data used are not stationary in nature. To avoid the problem of non-stationarity of data, unit root test was performed to check the time series properties of all the variables. Using Kwiatkowski-Phillips-Schmidt-Shin test, from table 1, the result of the unit root test shows that all the variables are combination of I(1) and I(0) variables. Giving the result of mixture of I(1) and (0) variables, Autoregressive Distributive Lag (ARDL) model was used to analyse equation 3

Table 1. Unit Root Test

Variables	KPSS		Status
	Levels	First difference	
GER	0.598124	-	I(0)
LRL	0.45064	-	I(0)
LINF	0.667061	0.377333*	I(1)
LLFE	0.673775	0.129746*	I(1)
LEMA	0.667628	0.117082*	I(1)
LCHM	0.67398	0.085585*	I(1)
LEMS	0.658376	-	I(0)
LNMP	0.670616	0.089578*	I(1)
BIE	0.372399	-	I(0)
BIH	0.393557	-	I(0)
BIA	0.141542	-	I(0)
BIT	0.17664	-	I(0)
DB	0.227052	-	I(0)
CPI	0.541231	-	I(0)

LINFR	0.081211	-	I(0)
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Note ‘*’ means significance at 5 % level, KPSS= Kwiatkowski-Phillips-Schmidt-Shin test.

Lag length of 2 based on Newey-west bandwidth was used.

Table 2 presents the short run and long run result of budget implementation in education, health, agriculture and science and technology and other control variables on human capital development components. In the short run, budget implementation in education (BIE) has positive and significant effect on literacy level (LRL). Furthermore, budget implementation in health (BIH) has positive and significant infant mortality rate (INMR) and life expectancy (LFE). Also, budget implementation in agriculture (BIA) has positive and significant effect on child malnutrition (CHM) while budget implementation in science and technology (BIT) technology has negative effect on employment in service (EMS). In addition, CPI has positive and significant effect on infant mortality and child malnutrition, but it has negative and significant effect on literacy rate, life expectancy and employment in service.

However, DB has negative and significant effect on human capital development components considered in this study except life expectancy. INFR has negative and significant effect on literacy level, life expectancy and employment in service but negative effect on infant mortality and child malnutrition. The coefficient of error correction term (ECT) - 0.036962, -0.054117, 0.163786, -0.010791 and 0.000809 for literacy level, infant mortality rate, life expectancy, child malnutrition and employment in service respectively showed that the short run disequilibrium of the model can be corrected at 3%, 5%, 16%, 1 % and 0.0000081%

In the long run, budget implementation in education, corruption perception index, debt burden and inflation rate have no significant effect on literacy level. Budget implementation health, has negative and significant effect on infant mortality, however corruption perception index and inflation rate have positive and significant effect on infant mortality rate. In contrast, budget implementation in health, corruption perception index and inflation rate have positive and significant effect on life expectancy, but debt burden recorded positive and significant effect on life expectancy. Budget implementation in agriculture, corruption perception index and inflation rate have positive and significant effect on child malnutrition except debt burden that has negative effect on child malnutrition. Budget implementation in science and technology, corruption perception index, debt burden and inflation rate recorded positive but

no significant effect on employment in service respectively indicating lack of attention in terms sufficient allocation to the sector.

Table 2. Short Run and Long Run Nexus between Budget Implementation and Human Capital Development Components in Nigeria

Variables / Sectors	LRL	D(LOGINMR)	D(LOGLFE)	D(LOGCHM)	LOGEMS
Short run					
D(BIE)	0.000634 (0.0559)				
D(BIH)		0.0000624 (0.0045)	0.0000176 (0.1438)		
D(BIA)				0.000009 (0.0027)	
D(BIT)					-0.000009 (0.0114)
D(CPI)	-0.153293 (0.0836)	0.019034 (0.0006)	-0.061324 (0.0201)	0.00124 (0.1368)	-0.004203 (0.008)
D(DB)	-0.212173 (0.055)	-0.008926 (0.0072)	0.043109 (0.0141)	-0.009491 (0.0004)	-0.034084 (0.0016)
D(INFR)	-0.005573 (0.0979)	0.000857 (0.0005)	-0.002409 (0.0168)	0.00017 (0.0028)	-0.000898 (0.0019)
ECT (-1)	-0.036962 (0.0459)	-0.054117 (0.0002)	0.163786 (0.0124)	-0.010791 (0)	0.000809 (0.0017)
Long run					
BIE	0.327578 (0.5242)				
BIH		-0.002237 (0.0113)	0.000421 (0.1078)		
BIA				0.001463	

				(0.0092)	
BIT					0.084623 (0.8402)
CPI	185.8144 (0.55)	0.648831 (0)	0.579123 (0.0093)	0.399864 (0.0033)	-15.47356 (0.8467)
DB	137.8265 (0.3979)	-0.083411 (0.546)	-0.100014 (0.1787)	-0.500347 (0.0181)	3.107855 (0.8285)
INFR	40.60835 (0.4879)	0.02055 (0.0064)	0.009232 (0.0856)	0.002842 (0.7918)	2.323392 (0.8417)

Note: the values in parenthesis represent coefficient. *, ** and * are significant at 10% 5% and 1% significant levels respectively.**

Source: Authors' computation using E-view 10

5. Conclusion and Recommendations

This paper examined the nexus between budget implementation and human capital development. Four sectors were considered for the study. The sectors are; education health, agriculture and science and technology. The result shows that budget implementation in education, health and agriculture have positive and significant effect on literacy level, infant mortality, life expectancy, child malnutrition and employment in service in short run respectively except budget implementation in science and technology that has negative and significant effect on employment in service in the short run. Moreso, budget implementation in health, agriculture and science and technology has positive and significant effect on life expectancy, child malnutrition and employment in service in the long run respectively while budget implementation in health has negative and significant effect on infant mortality in the long run. No significant relationship between budget implementation in education and human capital development in the long run. This shows that education in Nigeria cannot bring changes to human capital development.

Findings from this study pointed to the fact that budget implementation all the sectors considered can drive human capital development in the short run, policy makers and those in charge of ensuring that the budget is implemented need to enforce adequate implementation of the budget so as to achieve human capital development. Also, the budget implementation is an

avenue through which human capital development goals can be realised in a nation like Nigeria that is often ranked low.

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