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# PUBLIC EDUCATION RECURRENT EXPENDITURE AND PRODUCTIVITY IN THE MANUFACTURING SECTOR IN NIGERIA

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#### Abstract:

The debate on whether governments should increase their human capital investment is a popular topic within the realm of economics. This research seeks to solve this issue by looking into the importance of productivity in the manufacturing output as well as the function of productive expenditure. The study examines how the recurrent expenditure of public education in Nigeria between 1981 and 2019 affected manufacturing productivity. The study employed the Augmented Dickey-Fuller (ADF) unit root test and Auto Regressive Distributive Lags (ARDL) approach to analyse the relationship between public education recurrent expenditure, public health spending, trade openness, inflation rate, and the output of the manufacturing sector. The study reveals that public education recurrent expenditure is not significantly associated with manufacturing productivity. According to the study, the government should also concentrate on implementing policy frameworks aimed at improving manufacturing sector productivity by targeting public recurrent education spending.

# INTRODUCTION

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It cannot be overstated in public sector literature how important a role government expenditure plays in influencing the economy and promoting key macroeconomic dynamics. The government frequently influences the economy through a series of expenditures. It is also crucial if the expenditure is focused on the development of human capital, such as education, as human capital accumulation is necessary for economic productivity and, eventually, economic growth, in addition to human progress (Maitra & Mukhopadhyay, 2012; Baah-Boateng, 2013; Oyedokun, 2018; Flabbi & Gatti, 2018).

Public education expenditure has been recognized as a critical component of the majority of developing countries' fiscal outlays, particularly to the development of human capital, and includes both federal expenditures on educational institutions and public subsidies linked to education that are given to households and administered by educational establishments (Edame & Eturoma, 2014; OECD, 2021),



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between 2009 and 2019, the government has remained the largest contributors to education, accounting for over 82 per cent of total spending. Over the last two decades, the public share of these educational costs has been largely constant across all income classes (High, medium, and low-income group countries). In lower-middle-income nations, such as the portion of GDP allocated to public education spending stayed at 4.3 percent between 2010–11 and 2018–19, whereas it only marginally increased from 3.2 to 3.5 percent in low-income countries (Al-Samarrai, *et al.*, 2019; Rigolini, *et al.*, 2020; Conto, *et al.*, 2021).

There has been a substantial allocation of funds towards recurrent expenditure for education in Nigeria, but insufficient and inconsistent, despite the growing demand for formal education. As a consequence, the existing education infrastructure is inadequate to meet the rising need. As an example, both government and the ASUU acknowledged that the country's educational sector is plagued by a lack of infrastructure, which is demonstrated by the fact that much of the learning infrastructure that is currently available is used to a greater extent than it was intended to be, such as lecture halls, laboratories, workshops, and classrooms that they shared by numerous programmers across various faculties. Each state university would need to raise \$9484.58 per student for the 2009–2011 period, while all regular federal universities would need to raise \$3.91 billion. This was the deal between the government and ASUU. Unexpectedly, the government did not uphold its end of the bargain, leaving the system unaffected. The government promised to devote \$1.03 billions of this total to federal universities in each of the years 2009, 2010, and 2011, and \$1.29 billion. They also agreed that to sustain the educational system, the state and federal governments should allocate at least 26% of their yearly budgets to education, with at least 50% of that funding going to universities (Oseni, 2012; Oriakhi & Ameh, 2014; Heyneman & Stern, 2014; Matthew, 2016).

The number stated falls short of the UNESCO guideline of 29 per cent of national spending for education, as reported by Edame and Eturoma (2014). Despite a notable increase in the total enrollment of students across all educational levels, this discrepancy persists. Given the preceding, the study's objective is to look at the impact of public education recurrent expenditure on manufacturing productivity. The study demonstrates some policy importance by unravelling this issue. There are five sections to this paper.

An introduction is provided in the first section, followed by a review of relevant literature and an empirical analysis of the relationship between public education expenditure and average output in the manufacturing sector. Section three discusses the empirical model, methodology, and data issues. Section four focuses on the study of the empirical results. The paper is concluded in section five.

## LITERATURE REVIEW

De-Guzman (2020) conceptualized educational expenditure as the sum total of all state government expenditures for educational purposes, whether they be at the central, regional, or local levels. According to UNESCO (2016), government education expenditures refer to expenses paid by international sources to the government. This measure is employed to evaluate a government's prioritization of education in comparison to its investments in other sectors. This metric is valuable for assessing the level of importance placed on education by a government, either over time or in comparison to other economies.

In conceptualizing productivity in manufacturing, the works of Eatwell and Newman (1991) remain fundamental in their view of productivity in manufacturing as "a proportion of one output measure to another. Productivity is simply the arithmetic ratio of the amount produced to the amount of any resources used in the production process". The manufacturing industry is a demonstration of how nations can employ their natural and human resources to create products and services essential for the welfare of their citizens and economic advancement (Loto, 2012; Okeke, 2020).

There is a massive corpus of research on the interactions between public educational expenditure and average manufacturing output. Njoku, Ihugba, and Idika (2014) conducted a study on the connection between Nigeria's capital spending and the growth of its manufacturing sector over the period of 1971-2012. Using the ordinary least square method, they demonstrated the link between capital expenditure and output in the manufacturing sector. The study revealed a positive relationship between the GDP growth rate, capital expenditure, recurrent expenditure, economy's openness, money supply and output of manufacturing sector.

Mawufemor and Faisal (2016) investigated the impact of inflation on productivity in Ghana's manufacturing sector, using annual time series data spanning from 1968 to 2013. The study utilized different empirical analysis methods which revealed a strong and consistent long-run relationship between inflation and productivity in the manufacturing sector. However, the VECM revealed a weak short-run connection between inflation and manufacturing productivity. The findings demonstrated a negative and significant relationship between manufacturing productivity and inflation, implying the fact that inflation has strong effect on manufacturing productivity in Ghana.

Kimaro, Keong, and Sea (2017) used data from 25 different countries from 2002 to 2015 to evaluate the impact of government expenditure and efficiency on economic growth in low-income Sub Saharan Afric (SSA) countries, they applied the Generalized Methods of Moments (GMM) to their study. The study findings indicated that government expenditure has a positive effect on economic growth in low-income Sub-Saharan African countries. However, the study revealed that government efficiency does not amplify the impact of government spending on economic growth. As a result, governments in low-income Sub-Saharan African countries have demonstrated inadequacies in developing and implementing efficient policies for allocating government expenditure for rapid economic growth.

Durmaz and Pabuçcu (2018) examined the correlation between government expenditure on education and labor productivity, using both linear and nonlinear autoregressive distributed lag models to capture short and long-run effects. According to their findings, a nonlinear relationship exists between government educational expenditures and labor productivity, with a preference for the nonlinear model. It can be inferred that investing in education through government expenditure has a positive effect on labor productivity, and the returns are linear.

Madreseh, Alavijeh, and Jalaee (2018) examined the impact of government economic policies on labor productivity in a sample of OECD countries from 2000 to 2014. The findings indicate that, except for the quality variable of regulation, all variables except for government investments have a positive impact on labor productivity over the long term and economic openness is the most significant factor affecting labor productivity.

A study of the effects of government spending on agricultural productivity in Nigeria between 1981 and 2017. In a study conducted by Ayodele and Akinwale (2019), the effects of government spending on agricultural productivity in Nigeria between 1981 and 2017 was investigated by assessing their effects and causal interaction. The results indicated that different government spending components could have a positive effect on productivity in the Nigeria's agricultural sector. However, the current effects of these variables on agricultural productivity have been regarded minor. Moreover, the study found

that government expenditure on education has a decreased impact on agricultural productivity both in the short and long run in Nigeria. This highlights a gap between agricultural acquisition and implementation of knowledge in the country.

Ayodele and Akinwale (2019) investigated the influence of government expenditure components on agricultural productivity in Nigeria between 1981 and 2017 was investigated by assessing their effects and causal interaction. According to the findings, diverse government spending components were capable positively impacting agricultural output, nonetheless, the current effects of these variables on productivity in the agricultural sector were judged to be inconsequential. Furthermore, the study found a decreased impact of government expenditure on education on Nigeria's agricultural productivity both the short and long run, indicating a discrepancy which underscores a gap in Nigeria between acquiring agricultural knowledge and effectively implementing it in practice.

Using linear and nonlinear models, Atakan and Hakan (2019) explored the relationship between government spending on education and labor productivity in Turkey. The linear and nonlinear autoregressive distributed lag models were used to investigate the effects of short and long-run relationships. Their study found an asymmetric relationship between government education spending and labor productivity, indicating a preference for a non-linear model. Therefore, the results suggest that government expenditure on education leads to linear returns and enhances labor productivity.

Wijaya (2019) investigated the influence of trade openness on labor productivity in Indonesia between 1978 and 2017, using the Ordinary Least Squares technique to establish long-term relationships between the variables. The study revealed that trade openness and the export share of GDP positively affected labor productivity significantly. However, there was no evidence to suggest that the import share of GDP had any effect on labor productivity.

Jeff-Anyeneh, Ezu, and Ananwude (2019) used the Autoregressive Distributed Lag (ARDL) model to evaluate the long-run and short-run dynamics of government investment on manufacturing development in Nigeria from 1981 to 2016. The findings show that, despite a constant increase in government spending and different government efforts aimed at boosting industrial efficiency in Nigeria, government spending had no long-term or short-term positive impact on the country's industrial development.

Etale and Enemugha (2019) investigated the relationship between government education spending and national development in Nigeria from 2001 to 2017. Their study found that government spending on education has a large and favorable impact on national development. In contrast, it was discovered that inflation had no substantial effect on national development. According to the findings, government expenditure on education has a considerable and favorable effect on national development.

Ebenezer, Ngarava, Etim, and Popoola (2019) used annual time series data from 1983 to 2016 to investigate the impact of government expenditure on agricultural production in South Africa. According to the study, there is a significant long-run relationship between agricultural government expenditure and agricultural productivity. But the study found government spending on agriculture has been decreasing, implying that any anticipated productivity gain will only have a long-run impact.

In a study covering 12 West African countries; Akintunde, Akanbi, Oladipo, and Adedokun (2021) conducted a panel study using different econometric methods to investigate the connections between trade openness and manufacturing output from 1980 to 2019. According to the findings of the study, the rate of inflation has a considerable negative influence on the output of the manufacturing sector. The study, however, found no substantial relationship between trade openness and manufacturing sector output.

# METHODOLOGY

This study aims to look at how public education recurrent expenditure influences the manufacturing sector in Nigeria, this study adopts the methodology of Mankiw *et al.* (1992), which assumes that output in the economy is dependent on the level of inputs, which are represented by capital in the economy. The production function in the manufacturing sector can therefore be presented such that:

$$MO = f(GEX, HEX) \tag{1}$$

Where *MO* is represents the output in the manufacturing sector, *GEX* represents the government capital inputs, and *HEX* represents the human and physical capital inputs. This study follows Heshmati and Rashidghalam (2018) to determine manufacturing sector productivity using average manufacturing output. Such that:

Productivity in the manufacturing sector = 
$$AMO = \frac{MO}{L} = f(GEX, HEX)$$
 (2)

Where *L* is the labor stock, *AMO* represents the average manufacturing output. The equation presented earlier can be modified into the following form that is able to be estimated by assuming that there is a linear relationship among the variables mentioned before.

$$AMO_t = \beta_o + \beta_1 GEX_t + \beta_2 HEX_t + \mu_t$$
(3)

Where *AMO* is the average manufacturing output, *GEX* is government education spending, *HEX* is public health spending to measure human capital stock, *t* represents the period regarding what information is gathered for the country and  $\mu$ , explains the error term.

In order to achieve the objective, this study is expanding equation (3) to disaggregate the government education spending to public education recurrent expenditure. Thus, the model is given as:

$$AMO = f(GEXREC, HEX, TO, INF)$$
(4)

The justification for the inclusion of public health spending in our model is because of the theoretical standpoint that public healthcare expenditure can lead to improved provision of healthcare opportunities, which can strengthen human capital and improve productivity (Kurt, 2015). Inflation rate was included in the model and the justification for its inclusion is that inflation reduces the information properties associated with prices by making them a less efficient coordination mechanism, which diminishes productivity gains (Mawufemor *et al.*, 2016). In addition, inclusion of trade openness is based on the theoretical standpoint that an open economy avails the manufacturing sector the exposure to foreign technology and education on the most cutting-edge and effective production methods which also aids production at an efficient scale that typically typical downward movement of their cost curves (Amirkhalkhali & Dar, 2019).

Where *AMO* is the average manufacturing output, *GEXREC* is government education recurrent spending, *HEX* is public health spending, *TO* is trade openness and *INF* is inflation rate. Below is an estimable modification to the model:

$$AMO_{t} = \beta o + \beta_{1} GEXREC_{t} + \beta_{2} HEX_{t} + \beta_{3} TO_{t} + \beta_{4} INF_{t} + \mu_{t}$$
(5)

85



The logarithm transformation of the model can thus be transformed as stated below:

$$logAMO_{t} = \beta_{0} + \beta_{1} logGEXREC_{t} + \beta_{2} logHEXt + \beta_{3} logTO_{t} + \beta_{4} INF_{t} + \mu_{t}$$
(6)

The ARDL formulation of equation (7) is as follows, according to Pesaran et al. (2001):

$$\Delta LogAMO_{t} = a_{0} + \sum_{i=1}^{n} a_{1i} \Delta LogAMO_{t-1} + \sum_{i=1}^{n} a_{2i} \Delta LogGEXREC_{t-1} + \sum_{i=0}^{n} a_{3i} \Delta LogHEX_{t-1} + \sum_{i=0}^{n} a_{4i} \Delta LogTO_{t-1} + \sum_{i=0}^{n} a_{5i} \Delta LogINF_{t-1} + \beta_{1}LogAMO_{t-1} + \beta_{2}LogGEXREC_{t}$$
(7)  
+  $\beta_{3}LogHEX_{t-1} + \beta_{4}LogTO_{t-1} + \beta_{5}INF_{t-1} + \varepsilon_{t}$ 

The initial difference operator is denoted by  $\Delta$ ;  $\alpha_o$  for the drift component and  $\varepsilon_t$  for the residual. A short-run dynamic is indicated by the right-hand side expressions with the summation sign ( $\alpha_1 - \alpha_5$ ). A long-run connection can be seen in the ( $\beta_1 - \beta_5$ ).

The  $(\beta_1, \beta_5)$  correspond to the long-run relationship of the model.

## **EMPIRICAL RESULTS**

#### **Stationary Test**

Except for the measure of inflation, which is stationary at levels, the results in the above table demonstrate that at either 1% or 5%, each series had level-based unit roots and became stationary after initial differencing for the two methods of unit root testing used. As a result, for average manufacturing output, public capital spending on education, public recurrent expenditure on education, total public expenditure on health, and trade openness, the null hypothesis of a unit root may be rejected. The same result cannot be drawn for the measure of inflation, because this analysis fails to reject the null hypothesis of the unit root at levels.

Variables	Augmented Dickey Fuller (ADF)			Kwiatkowski-Phillips-Schmidt-Shin (KPSS)		
	Levels	1st Diff	Order	Levels	1st Diff	Order
AMO	-1.150	-5.528 *	I(1)	0.604 **	0.193	<i>I</i> (1)
GEXREC	-0.564	-10.375 *	I(1)	0.610 **	0.447 ***	<i>I</i> (1)
INF	-2.180	-7.785 *	<i>I</i> (1)	0.733 **	0.282	<i>I</i> (1)
HEX	-2.561	-7.791 *	I(1)	0.110	0.0611	<i>I</i> (1)
ТО	-1.892	-7.389 *	<i>I</i> (1)	0.370 ***	0.085	<i>I</i> (1)
INF	-3.352 **		<i>I</i> (0)	0.305	0.500 **	<i>I</i> (0)
Critical	1%; 5%; 10% are -3.615; -2.941;		1%; 5%; 10% are 0.739; 0.463;			
Values	-2.609 respectively			0.347 respectively		

Table 1. Result for Kwiatkowski-Phillips-Schmidt- Shin (KPSS) and Augmented Dickey-Fuller (ADF) and Tests

*Note:* \**P*< 0.01, \*\**P*< 0.05, \*\*\**P*< 0.10; *ED.: Education; Pub: Public; GDP: Gross domestic product Source: Authors, 2022* 

# **Correlation Matrix**

Testing of correlation among the variables is generally recognised as a way through which the existence of high collinearity or otherwise of a set of independent variables is detected (Oseni, 2016). In the presence of high multicollinearity, the parameter estimates become unstable. This study presents its correlation matrix in Table 2. According to this table, high correlation coefficients are not present in any of our variables. As a result, there is no problem with multicollinearity in our model, and thus there is a tendency for good regression estimates.

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	Correlation	AMO	GEXCAP	HEX	ТО	INF
	AMO	1				
	GEXCAP	-0.695	1			
	HEX	-0.155	-0.149	1		
	ТО	-0.471	0.264	0.169	1	
	INF	0.438	-0.305	-0.058	-0.056	1
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## Table 2. Correlation Matrix

Source: Authors, 2022

# **Co-integration Test Result (Bounds Test)**

F-statistics are used to compare critical values in Bound testing. The calculated F-statistic of 4.258 is more than both the lower and upper bound critical values of 3.29 and 4.37 at a significance level of 1%. The rejection of the null hypothesis that there is no cointegration suggests a long-run relationship between the variables.

Table 3. Result of Bound	Test for l	ong run	cointegration
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Dependent Variable	F-stat. (K = 5)	Optimal Lag	Signif.	Lower Bound	Upper Bound	Result
Average	4.258 * (1, 2		1%	3.29	4.37	Cointegration
Manufacturing		(1, 2, 2, 0, 2)	2.5%	2.88	3.87	
output (AMO)		-	5%	2.56	3.49	

*Note: F-stat. is F-statistics; \*P < 0.01; K: number of variables Source: Author, 2022* 

Dependent Variable: Average Manufacturing Output						
Variable	Coefficient	Std. Error	t-Statistic	Prob.		
Constant	-0.050	0.162	-0.311	0.759		
LN_AMO (-1)	0.746	0.086	8.630	0.000		
LN_GEXREC	0.040	0.140	3.507	0.005		
LN_GEXREC (-1)	-0.018	0.024	-0.724	0.476		
LN_GEXREC (-2)	-0.032	0.022	-1.508	0.144		
LN_HEX	0.123	0.086	1.429	0.166		
LN_HEX (-1)	-0.163	0.100	-1.631	0.115		
LN_HEX (-2)	-0.118	0.094	-1.244	0.225		
LN_TO	-0.064	0.041	-1.549	0.134		
INF	0.002	0.001	1.672	0.107		
INF (-1)	-0.003	0.001	-2.121	0.044		
INF (-2)	0.004	0.001	3.701	0.001		
R-squared	Adjusted R-square	ed Du	rbin-Watson stat.	F-statistic		
0.966	0.951		1.872	65.26*		

 Table 4.
 Long run result for the effect of public education recurrent expenditure on manufacturing productivity in Nigeria

## Note: \*P < 0.01 Source: Authors, 2022

The result of the estimation is reported in Table 4. It shows that, only public education recurrent expenditure, openness to trade, inflation rate, one-period lag of average manufacturing output and the one and two-period lag of inflation are significantly related to average manufacturing output in Nigeria, although they are different in their signs. The positive relation between public education recurrent expenditure and average manufacturing outputs is consistent with the *apriori* expectation.

In terms of magnitude, a 1 per cent increase in public education recurrent expenditure will increase average manufacturing output by about 0.040 per cent. This interpretation is so because we are estimating a log-log model, and in such cases, the model's functional form should be considered. The rate of inflation and trade openness have a non-significant relationship with average manufacturing output. However, the first and second-period lag of inflation is significantly related to average manufacturing output.

After establishing through the bound test that there is long-run convergence between average manufacturing output and the independent variables, the next step is to examine the speed of adjustment that occurs when the variables are moved away from the long-run position. Table 5 displays the results of the error correction estimation and relevant diagnostic tests. According to the error correction model, the speed of adjustment from a disturbance away from the long run, represented by ect(-1), is negative and significant, with a coefficient estimate of -0.254. This suggests that a one-year divergence from long-run equilibrium is rectified by 25.4%. This finding adds to the evidence that the variables in all of the models have a long-run relationship. There is a short-run relationship between average manufacturing output and public education recurrent spending, total public health expenditure, trade openness, and inflation rate at a pace of adjustment of 25.4%.

Dependent Variable: Average Manufacturing Output							
Variable	Coefficient	Std. Error	t-Statistic	Prob.			
D (LN_GEXREC)	0.038	0.018	2.136	0.043			
D (LN_GEXREC (-1))	0.032	0.017	1.896	0.070			
D(LN_HEX)	0.123	0.073	1.691	0.103			
D (LN_HEX (-1))	0.118	0.076	1.538	0.137			
D (INF)	0.002	0.001	2.192	0.039			
D (INF (-1))	-0.004	0.001	-4.461	0.000			
ect ( -1) *	-0.254	0.046	-5.537	0.000			
Diagnostic tests							
Serial Correlation	Normality	Heter	oscedasticity	Functional Form			
Breusch-Godfrey: F-stat. (0.529) Prob. F-stat. (0.596)	JarqueBera: 0.707	B-P-G: F- Prob. F-st B-P-G: O Prob.: 0.7	estat. (0.569) tat. (0.836) bs. R <sup>2</sup> (7.402) 666	Ramsey RESET: t-statistics. (2.068) Prob: (0.150)			
Breusch-Godfrey: Obs. R <sup>2</sup> (1.627) Prob.: 0.443	JarqueBera Prob.: 0.702	Glejser: F-stat. (0. Prob. F-s Glejser: C Prob.: 0.5	759) tat. (0.675); 0bs. R2 (9.264) 98	Ramsey RESET: F-statistics. (1.826) Prob: (0.150)			

 Table 5.
 Short Run result for the effect of public recurrent education expenditure on manufacturing productivity in Nigeria

*Note: CointEq: cointegrating equation; B-P-G: Breusch-Pagan-Godfrey; F-stat: F-statistics; Prob: probability Source: Authors, 2022* 

Further, the adjusted R – Squared of 95.1 per cent and Durbin Watson statistics of 1.87 respectively show that the model has high goodness of fit. Our independent variables can explain about 95.1 per cent variation in average manufacturing output, and the serial correlation issue is not present in the model. The significance of the F-statistics reveals that when our variables are combined, they are significant determinants of average manufacturing output. This study uses the Breusch-Godfrey serial correlation LM test, Breusch-Pagan-Godfrey and Glejser's heteroscedasticity test, Jarque-Bera test for normality, and Ramsey RESET test to determine whether autocorrelation, heteroscedasticity, normality, and the functional form are present. The result of the post-estimation tests reveals that our independent variables explain the variation in average manufacturing output in the absence of serial correlation and heteroskedasticity.

The Jarque-Bera normality test reveals that the series is normally distributed, while the Ramsey RESET test indicates that the model is not functionally misspecified. In final, The CUSUM and CUSUM of squares tests are used in this study to check the stability, endogeneity, and structural invariance of the model while figures 1 and 2 display the outcomes. As depicted in the figures, the CUSUM and CUSUMSQ lines lie between the 5 per cent significance boundaries, indicating that each stable coefficient in the error correction model.



# **Stability Test**

## Figure 1. CUSUM



#### Source: Author, 2022

#### Figure 2. CUSUM of Squares



Source: Author, 2022

# **DISCUSSION OF FINDINGS**

According to our findings, the result shows that public education recurrent expenditure positively and significantly affects average output in the manufacturing sector in Nigeria. This result proves that when other factors are held constant, the average manufacturing output can be raised through public education recurrent expenditure in Nigeria. The result of a positive effect of public education recurrent expenditure is consistent with the findings of education expenditure is in line with the previous findings of Anthonia, 2012; Njoku, *et al.*, 2014). However, the findings of this study contradict (Emmanuel & Oladiran, 2015; Kareem *et al.*, 2014).

The findings suggest that indicate a lack of a significant relationship between trade openness and productivity in the manufacturing sector, as measured by average manufacturing output. The finding is in line with the outcomes of Akintunde *et al.* (2021) and contradicts the findings of Samargandi (2018), Amirkhalkhali and Dar (2019), and Wijaya (2019). Similarly, the study found no significant relationship between the inflation rate and manufacturing sector productivity, which aligns with the results obtained in Madresehet al. (2018) but contradicts the results of Iheanacho (2017), Kumar *et al.* (2012), Mawufemor *et al.* (2016), and Tang (2014). The lack of a significant relationship between trade openness and productivity in the manufacturing sector suggests that monetary authorities are not promoting manufacturing sector production due to credit shortages available to manufacturers at higher prices, as reflected in the non-significance of inflation rate, which reduces both domestic production and foreign supply of goods.

# CONCLUSION AND RECOMMENDATIONS

It is necessary to anticipate long-term growth in productivity in the Nigerian manufacturing sector through growing public education recurrent expenditure. This is because recurrent public education spending is strongly related to manufacturing productivity. We can conclude that recurrent public education spending leads to the required growth in manufacturing productivity in the long run. Furthermore, the frequent recourse to increasing recurring public education expenditure is likely to have a lasting impact on productivity in the manufacturing sector. Based on the significant positive relationship found between public education recurrent expenditure and manufacturing productivity in Nigeria, the study suggests that the policymakers should prioritize public education spending in order to promote growth and productivity in the manufacturing sector over time. This could include investing in the education system to ensure a skilled workforce that can make a meaningful contribution to the expansion of the sector, as well as implementing policies that encourage firms to invest in research and development to improve their productivity.

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# JAVNO OBRAZOVANJE, STALNI RASHODI I PRODUKTIVNOST U INDUSTRIJSKOM SEKTORU U NIGERIJI

#### **Rezime:**

Debata o tome da li vlade treba da povećaju ulaganja u ljudski kapital je popularna tema u oblasti ekonomije. Ovo istraživanje nastoji da reši ovaj problem razmatranjem značaja produktivnosti u indsutriji, kao i funkcije produktivnih rashoda. Studija ispituje kako su stalni troškovi javnog obrazovanja u Nigeriji između 1981. i 2019. godine uticali na produktivnost industrije. Studija je koristila Augmented Dickei-Fuller (ADF) jedinični korenski test i pristup autoregresivnog distributivnog kašnjenja (ARDL) za analizu odnosa između tekućih rashoda za javno obrazovanje, javne zdravstvene potrošnje, otvorenosti trgovine, stope inflacije i aktivnosti industrije. Studija otkriva da tekući rashodi za javno obrazovanje nisu značajno povezani sa produktivnošću industrije. Prema studiji, vlada bi takođe trebalo da se koncentriše na implementaciju okvira politike koji imaju za cilj poboljšanje produktivnosti sektora industrije usmeravanjem javnih tekućih troškova za obrazovanje.

#### Ključne reči:

tekući rashodi za obrazovanje, proizvodnja industrije, ekonomski rast

#### JEL klasifikacija:

I22, L60, O47