Nexus between Public Debts, Poverty and Unemployment Rates in Nigeria: A Vector Auto-Regression (VAR) Approach

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Abstract: Notwithstanding the upsurge in public debts, it is absurd and worrisome to note that socioeconomic indicators like poverty and unemployment have shown gloomy pictures in Nigeria. The absurd situation makes it unclear on the precise nexus between public debts and unemployment rate on the one hand and poverty rate on the other hand. Consequently, this paper analysed the nexus between public debts, poverty and unemployment in Nigeria. Secondary data of public debts (measured by internal and external debts), poverty and unemployment rates were obtained from the Central Bank of Nigeria statistical bulletin and National Bureau of Statistics during the period 1981-2021. Using an unrestricted vector auto-regression model, the study indicated that neither internal nor external debts had any significant impact on poverty; however, they influence the level of unemployment rates in Nigeria. Impliedly, most of the public debts incurred within the period of investigation were not growth-oriented and could partly be explained by the fact that most of the borrowings were mainly to finance trade deficits, which were mainly consumable goods. The paper recommended that the current debt-to-gross domestic product ratio of less than 20 percent should be sustained to ensure that debt remains within the internationally recommended threshold for developing economies like Nigeria. Also, future public borrowings should be targeted at specified productive sectors of the economy that would engender growth in the long-run in terms of job creation and poverty alleviation; this can be achieved via the procedure of tying every public borrowing to specific growth-driving project that are oriented towards job creation and alleviation of poverty.

Keywords: Public debts' Poverty; Unemployment; Job creation; Economic growth

JEL Classification: H63; J64; I32

INTRODUCTION

Over the years, Nigeria has been confronted with the conundrum of capital and infrastructural dearth. To ameliorate this situation, past and successive governments engaged in both internal and external borrowings (public debt). Public debt is the sum of a nation's debts of local, state and national government. Matiti(2013) opined that public debt is a commitment denoted by a financial instrument or its equivalent or a debt, which emanates from money borrowed by a government. It can either be internal (borrowed from institutions or corporate individuals within the country) and/or external (from international markets or organizations outside the country of origin to finance investment)

Public debts according to Igberi, Idenyi and Ifeyinwa (2016), serve as indicators of assessing how much government expenditures is funded by borrowing as an alternative to taxes. In early 1970s, developing nations borrowed to finance their current account deficit and other economic activities and such borrowings were aimed at raising growth and development (Ogisi, Oghotomo, Tarurhor & Inoni, 2007). As public debts piled up, the international financial institutions from the 1980s started providing both technical and financial debt-management assistance to debtor nations. These efforts as observed by Essien, Agboegbulem, Mba and Onumonu (2016) were aimed at promoting economic growth and to lessen debt burden, unemployment and poverty levels.

While these measures succeeded in substantially reducing external debt burdens of many middle-income nations, a different scenario played out for many of their poor counterparts (Isibor, Babajide & Akinjare. 2018). On the other hand, not much attention was given to domestic debt; thus some nations, Nigeria inclusive, have been witnessing increased domestic debt, which has culminated into unemployment, poverty, and sluggish economic growth (Amadeo, 2019). In recent times, poverty and unemployment are dreaded global trends affecting people in various depths and levels at different times and phases of existence.

Nigeria is the most populous nation in sub-Saharan Africa with a population of about 140 million based on 2006 census (UNCTAD, 2006); its per capita income is $2,222 in 2019 and as a result of this it was classified as the largest economy in Africa. Despite having, the largest economy in Africa, unemployment and poverty has been rising (CIA World Fact Book, 2020); thus the Nigerian economy has remained largely underdeveloped despite its huge debt which should have helped in mitigating poverty and unemployment (Amadeo, 2019; Isibor *et al*. 2018; Taiwo & Agwu, 2016; and Okhiria & Obadeyi, 2015). The miseries of unemployment and poverty are disturbing as various macroeconomic policies by the government have been unable to cure the ills of unemployment and poverty.

Decades after decade, the Nigerian government has failed to reduce poverty incidence more or less resolve the peculiar problem of acute unemployment and poverty (Amadeo, 2019; and Taiwo & Agwu, 2016). The persistent high level of unemployment and poverty can be traced down to policy errors, which is largely caused by the failure of government to modify and fine-tuning the macroeconomic doctrines to suite Nigerian context (The International Labour Organization, 2018; and Holden & Sparrman, 2013).

Economic theories like the Keynesian and Liberal theories suggest that reasonable levels of public debt by developing nations are likely to lessen poverty and unemployment (Bassey, Maji & Clement, 2013). Hence, whether this is the case in Nigeria, is an issue that calls for empirical investigation. In view of this, the study was carried out with the view to analyzing the nexus of public debts (internal and external), poverty and unemployment as well as the direction of causality between public debts, poverty and unemployment rates in Nigeria.

REVIEW OF RELATED LITERATURE

Public Debt

The term 'public debt' refers to the sum of a nation's obligation (local, state and national). Igberi, *et al* (2016) see public debt is an indicator of how much government expenditure is financed by borrowing as an alternative to tax revenues. Wagner (2012); and Matiti (2013) see public debt as a commitment represented by a financial instrument or its equivalent, which results from money borrowed by a government. Public debt can be internal (domestic) or external(foreign); this paper employed both measures of public debt(internal and external).

First, external debt refers to financial resources borrowed from foreign countries other than the country own resource (Igberi, *et al,* 2016). It refers to as any kind of business-funding a nation acquire from sources outside the country. Second, internal debts are monies that borrowed within the country by the government and it involves same currency (Amadeo, 2019). All borrowing of federal, state and local government internally is regard as domestic debt. Hence, public debt is seen as all claims against government, either by her citizens or by foreigners, whether interest-bearing or not (Obademi, 2012; and Amadeo, 2019).

In broader term, every obligation of a government is included in public debt; such obligations encompassed currency, short-term debts, floating and funded debts (Tajadeen, 2012). Public debt can be domestic or foreign, gross or net, marketable or non-marketable, short-term, medium-term or long-term, interest bearing or non-interest bearing debts. In the context of this study, public debts was measured as the aggregate of all domestic outstanding debts of federal, state and local governments and external debts.

Nigeria's indebtedness dates back to pre-independence era. The debts incurred before 1978 were relatively small and mainly long-term loans from multi-lateral and official sources like World Bank (Adofu & Abula, 2010). The loans were majorly obtained on soft terms and therefore did not constitute a burden to the Nigerian economy (Essien, Agboegbulem, Mba & Onumonu, 2016). However, due to the fall in oil prices and oil receipts, the

country in 1977/78 raised the first jumbo loan to the tune of US$1.0 billion from the international capital market (Adesola, 2009; Fosu, 2009; Okoro, 2014; Okoro, 2016; and Isibor, *et al*, 2018). The loan was used to finance diverse medium to long-term infrastructural projects.

In Nigeria, debt management had hitherto been carried out by Central Bank of Nigeria (CBN) and the debt management strategy adopted at that time led to inefficiencies resulting in fundamental challenges (Ekperiware & Oladeji, 2012). In consideration of these numerous challenges, the Nigerian government established an autonomous debt management office (DMO) in order to realize efficient debt management practices in the country. DMO was thus established to centrally co-ordinate the management of Nigeria's debt for all the tiers of government. While the state governments' external borrowing is guaranteed by federal government, their domestic borrowings required analysis and confirmation by the federal government based on clear criteria and guidelines that the states can repay based on monthly allocations from Federation Account Allocation Committee (FAAC) and internally generated revenue (IGR).

The past couple of decades have witnessed rising concern on the increase in Nigeria's public debt (Isibor, *et al*, 2018). The first most significant rise in the country's debt occurred in 1987 when the total debt rose from ₦133.32 billion to ₦137.58 billion. In 1986, total debt which was hitherto driven largely by the domestic debt witnessed a reversal and was being driven by the external debt. Thus, the dominance of the external debt as well as the steady rise in total debt remained till 2005 when the country was granted debt pardon by Paris Club (Amadeo, 2019; and Okoye & Ani, 2017). The debt forgiveness saw Nigeria's total debt and external debt plummeting by 59.0 per cent and 90.8 per cent, respectively between 2004 and 2006 to ₦2,533.47 billion and ₦451.5 billion.

Incidentally, as external debt shrunk, domestic debt continued to grow unabated such that by 2011, total debt which was being driven by the domestic debt had exceeded the 2004 level and stood at N6,519.65 billion. By 2012, Nigeria's total debt had hit an all-time high of N7,564.4 billion. Between 2006 and 2012, the domestic debt had accounted for 82.2 to 87.2 per cent of the total debt. By second quarter of 2018 Nigeria's external debt stood at $22.08 billion while domestic debt stood at N15.63 trillion (NBS, 2019); the figure continues to rise year after year.

Current debates on fiscal consolidation emphasized the crucial role of prudential limits on public debt-to-GDP ratios. A debt-to-GDP ratio of 60 per cent is quite often noted as a prudential limit for developed countries, while for developing and emerging economies, a ratio of 30.0 per cent was maintained before 2008 and 40 per cent was being applied since 2009 (DMO, 2013). These ratios are not sacrosanct as countries are encouraged to adapt different strategies to achieve fiscal consolidation (IMF, 2011). Most of Nigeria's domestic debt which was mostly long-term in 2010 became more of short-term, that is, they had maturity of less than one year. This led to increased debt service burden. As at end of 2012, the Nigerian total public debt service/GDP ratio stood at 0.5 per cent.

With the debt forgiveness in 2005, Nigerian foreign debt which was hitherto being driven by Paris Club was being dominated by the multilateral debt. In Nigeria, several factors have been advanced to explain the changing debt profile between the 1960-till date. The major factor include high budget deficits, low output growth, large expenditure growth, high inflation rate and narrow revenue base witnessed since the 1980s, resulting in borrowing from the CBN (Isibor, *et al*, 2018; and Essien, *et al*, 2016). The DMO statistics showed that public debt increased in 2018 from ₦24.38 trillion to ₦24.94 trillion in 2019; an indication that public debt marginally increased by ₦560 billion in the country. However, these never transformed economic growth either poverty or unemployment which are the miseries of the present-day Nigeria confrontation.

Poverty

There is hardly a universal way of defining poverty because it affects many aspects of human existence; however, there is a conventional conceptualization of poverty. According to World Bank (1996), poverty portrays an economic condition in which people live below a specified minimum income level and are inept to provide basic necessities of life required for an acceptable standard of living. Taiwo and Agwu (2016) see poverty as a plaque, which affects people all over the nation, though predominantly seen as one of the indexes of under-development. Aderonmu (2010) defines poverty as lack of command over basic consumption needs, having inadequate level of consumption, and inability of a person to attain a minimum standard of living and high status in a society (World

Bank Report, 1990).

Nevertheless, to attempt a concession conceptualization of poverty, it can be seen as a condition where a person is unable to cater adequately for his/her basic needs (food, clothing and shelter) and unable to meet social and economic obligations, lacks gainful employment, skills, assets and self-esteem. Additionally, such a person has limited access to social and economic infrastructure (education, health, potable water and sanitation), and consequently has limited chance of advancing his/her welfare to limit of his/her potentials and capabilities.

There are two (2) broad schools of thought to causes of poverty: low economic growth and market imperfections. The low economic growth is linked with increased unemployment and underemployment when the income of those affected may usually not be adequate for them to sustain adequate standard of living (Taiwo & Agwu, 2016). Contrarily, market imperfection has to do with institutional distortions, which would not make for equal chance to productive assets (Okoro & Ejuvbekpokpo, 2012). The institutional distortions causing market imperfect encompassed ignorance, culture and the inequitable income distribution (Okhiria & Obadeyi, 2015).

Several factors have been identified as causes of poverty to include inadequate access to employment opportunities, access to means of supporting rural development in poor region, access to markets for goods and services that the poor can sell (Olotu, Salami &Akeremale, 2015). Besides, factors like low endowment of human and physical capitals, destruction of natural resources, inadequate access to assistance for those living at the margin and those victimized by transitory poverty due to drought, floods, pests, war, and more recently pandemic, among others are factors causing poverty.

There are diverse approaches to measuring poverty (such as poverty headcount ratio, gross domestic product (GDP) per capita, multidimensional poverty index, purchasing power parity, etc.). However, this study measured poverty by GDP per capita annual growth. This measure has been used by prior studies (Wieser, 2011; and Loayza & Raddatz, 2010) and this measure attempts to represent the welfare of persons living below minimally acceptable level of consumption or income (World Bank, 2015).

Unemployment

In developing countries and particularly Nigeria, unemployment is a very serious issue and has occupied a central place in economic discuss. In literature, unemployment refers to the number of people actively searching for a job as a percentage of the labour force (Silvia & Forte, 2012). Simply defined, unemployment refers to the state of being without work or the number or proportion of unemployed to employed people. According to the United States (US) Bureau of Labour Statistics (2019), unemployment is defined as people who do not have a job, have actively looked for work in the past four weeks, and currently are available for work. Also, people who are temporarily laid off and were waiting to be called back to that job are included in unemployment statistics.

Unemployment according to Yelwa, Okoroafor and Awe (2015), is a term referring to people who are employable, and seeking a job but are unable to find a one. Oseni and Oseni (2015) argued that people are considered unemployed when they are aged between 15 and 64years and are unable to be engage productively in an economy. This view is supported by liberal theory that age is a vital determinant of employment as well as the marginal productivity of workers in an economy.

Davis and Miguel (2014) asserted that unemployment is an anti-macroeconomic tool; however, with high educational level, it reduces the chances of unemployment in a given nation. Prior researchers (Igberi, *et al*, 2016; Silvia & Forte, 2012; and Reinstadler & Ray, 2010) have used diverse means of measuring unemployment; however, the most predominant measure of unemployment in extant literature is the percentage of labour force. However, in this study, unemployment was measured using percentage of labour force.

Theoretical Framework

The paper was hinged on Keynesian theory of public debts and liberal theory of public debts and unemployment.

Keynesian Theory of Public Debt

The economic disaster shaped by the great depression of 1930s was in part responsible for growth for modern theory of public debt. The conventional view that stable unbalanced budget and fast increasing public debt impaired the stability of nations, slowly gave way to Keynesian ideology (Keynes, 1936). Keynesian theory suggests that a large public debt is a national asset rather than a liability (David & Miguel, 2014; Osterling, 2007) and that stable deficit spending is vital to economic progress (Obademi, 2012; Jernej, Aleksander & Miroslav, 2014; Egbe & Aganyi, 2015). Keynes (1936) criticized the view of the classical theorists that economy tends to equilibrium at full employment and further argued that if there were unemployed resources, which the private sector could not employ, the resources can be put into use by unbalancing budget.

Keynes is of the view that increase in public debt via the multiple effects would raise national income (Reinstadler & Ray, 2010) and that the increase in national income can lessen poverty and unemployment (Igberi, Odo, Anoke & Nwachukwu, 2016; Okoro & Egbunike, 2017). The Keynesian theory linked public borrowing with deficit financing and agreed that government should borrow for all purposes (e.g. promoting investment, lessening unemployment and poverty) so that efficient demand in the economy is increased which will result in increased employment and output.

Liberal Theory of Poverty and Unemployment

Liberal theory of poverty and unemployment centers on the ideology that market distortions triggers poverty and unemployment (Jefferson, 2012; and Jung & Smith, 2007). In the views of Granville and Mallick (2006); Davis (2007); and Machin (2009), growth is probable to reduce poverty and unemployment since it will raise income levels of people. In a liberal perspective, poverty and unemployment are mainly explained by the misfortune of certain minorities who fall out of work, are not expected to, although they wish to work.

The liberal theory contended that poverty and unemployment can be a reflection of market failures that under certain circumstances justify redistributive taxation in cash and kind. However, the theory assigns unemployment as a primary source of poverty on the logic that if individuals do not receive income, they are more likely to be poor (David & Miguel, 2014). This sensitivity of poverty to unemployment according to the liberalists, can actually be amplified if poor individuals tend to experience uneven, short employment throughout their lifetime; the incomes obtained throughout their lifetime is likely to be insufficient for maintaining the standard of living above poverty line(Pemberton, Sutton & Fahmy, 2013; and Aassve, Burgess, Dickson & Propper, 2005).

METHODS

The model based on Keynesian and Liberal theories using Vector Auto-Regression (VAR) was adapted from the works of Granville and Mallick (2006); and David and Miguel (2014) and restricted to incorporate the effect of public debts (internal and external) on poverty and unemployment in Nigeria; to test the causal link, the following models were specified:

$$Povr = f(Pubd) \qquad eq. (1)$$
$$Uner = f(Pubd) \qquad eq. (2)$$

In order to capture the stated study objectives (1-2), equations (1-2) for public debt-poverty and unemployment nexus is represented in a VAR model as:

$$POVR_t = a_{10} + \sum_{j=1}^{k} a_{ij}POVR_{t-j} + \sum_{j=1}^{k} b_{ij}PUBD_{t-j} + \mu t \qquad eq. (3a)$$

$$UNER_t = a_{10} + \sum_{j=1}^{k} a_{ij}UNER_{t-j} + \sum_{j=1}^{k} b_{ij}PUBD_{t-j} + \mu t \qquad eq. (3b)$$

Equations 3a-3b were re-estimated as equations 4a-4b in order to capture the causality between public debt, poverty and unemployment.

$$PUBD_t = a_{10} + \sum_{j=1}^{k} a_{ij}PUBD_{t-j} + \sum_{j=1}^{k} b_{ij}POVR_{t-j} + \mu t \qquad eq. (4a)$$

$$PUBD_t = a_{10} + \sum_{j=1}^{k} a_{ij}PUBD_{t-j} + \sum_{j=1}^{k} b_{ij}UNER_{t-j} + \mu t \qquad eq.\ (4b)$$

Furthermore, taking the natural logarithm form of equations 4a-bb with respect to *Pubd*, equations 5a-5b below with "*In*" standing for the natural logarithm were re-estimated in order to avoid scaling problem.

$$InPUBD_t = a_{10} + \sum_{j=1}^{k} a_{ij}InPUBD_{t-j} + \sum_{j=1}^{k} b_{ij}POVR_{t-j} + \mu t \qquad eq.\ (5a)$$

$$InPUBD_t = a_{10} + \sum_{j=1}^{k} a_{ij}InPUBD_{t-j} + \sum_{j=1}^{k} b_{ij}UNER_{t-j} + \mu t \qquad eq.\ (5b)$$

The results are directed towards the existence of Granger causal relationships among public debts, poverty and unemployment indicators. The statistical analysis was conducted by means of Microsoft Statistical Software – STATA 13.0 version.

Definition of Variables/Justification for the Model

In this study, *Pubd* is public debts measured by external and domestic debts while *Povr* is poverty (measured by GDP per capita annual growth) and *Uner* unemployment (measured by percentage of labour force). The multivariate VAR and Granger causality approaches were used; these approaches were sued to assess the effect of public debt on poverty and unemployment. Also, the Granger causality approach was used to ascertain the direction of causality between public debts, poverty and unemployment.

Furthermore, to examine whether domestic or external debt affect poverty and unemployment autonomously, we disaggregated public debts into domestic and external debts. The rationale is that it will assist in making useful recommendations whether domestic or external debts component helps to promote and enhance poverty and unemployment in Nigeria.

Data Source and Estimation Techniques and Procedures

This study used secondary data obtained from the CBN statistical bulletin and the National Bureau of Statistics (NBS) during the period 1981-2021. Given the fact that the study data are time series in nature, the estimation techniques and procedures conducted include stationarity and unit root test, co-integration test, vector error correction mechanism (VECM), granger causality test and unrestricted VAR equation using two (2) lag lengths

RESULTS

Table 1: Summary of Descriptive Statistics

stats	inexd	inind	uner	povr
mean	10.18368	2.647368	11.42026	6.703947
p50	10.34	2.655	12.1	6.45
max	10.56	4.04	26.78	137.7
min	9.27	1.07	0	-73.3
sd	.3897984	.932821	9.063754	31.70024
skewness	-.9396001	-.0332905	.3735661	1.51389
kurtosis	2.507207	1.666669	1.717879	9.693369
sum	386.98	100.6	433.97	254.75

Source: Researcher's Computation via STATA 13.0

Table 1 shows the result of summary of descriptive analysis. To ascertain the distribution of the data used, descriptive analyses were performed. *First,* logarithmic transformations were carried out for some of the variables

(public debts: external and domestic). The skewness and kurtosis results showed that all the variables were normally distributed at 5% level. Also, to test for the stationarity of the variables to ascertain their order of integration, the Augmented Dickey Fuller (ADF) and Philip-Perron(P-P) tests were carried out on each of the variables.

Table 2: Unit Root Test

Variable	Level	ADF Test 1st Diff.	Order of Integration	No. of Lags	Trend/ Intercept
lnedx	-2.866*	-3.675**	I(1)	1	Intercept
lnind	-1.316*	-3.617**	I(1)	1	Intercept
uner	-0.367*	-2.617**	I(1)	1	Intercept
povr	-3.706*	-3.969**	I(1)	1	Intercept
Variable	Level	P-P Test 1st Diff.	Order of Integration	No. of Lags	Trend/ Intercept
lnedx	-4.847	-3.421	I(1)	1	Intercept
lnind	-1.444	-3.782	I(1)	1	Intercept
uner	-0.455	-2.668	I(1)	1	Intercept
povr	-5.330	-3.972	I(1)	1	Intercept

*Source: Researcher's Computation via STATA 13.0 * implies not significant @5% ** implies significant @5%*

The unit root test in Table 2 considered whether the variables were intercept or trend stationary. The result indicated that all the other variables were found to be stationary with the intercept in both ADF and P-P tests. With this evidence that all the variables were of a higher order (I(1)), we proceeded with the VAR estimation for the system. We estimated an unrestricted VAR equation using two (2) lag lengths. Then we proceeded to carry out some tests such as optimal lag length selection, residual and stability tests for the model.

Table 3: Lag Length Selection Criteria

lag	LL	LR	df	p	FPE	AIC	HQIC	SBIC
0	-266.372				12794.6	15.1318	15.2239	15.3957
1	-250.741	31.261*	4	0.000	6724.24*	14.4856*	14.6391*	14.9255*
2	-248.005	5.4729	4	0.242	7259.66	14.5558	14.7707	15.1716

Lagrange–multiplier test

lag	chi2	df	Prob > chi2
1	2.4934	4	0.64581

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

The test for the optimal lag length shows that all the test criteria (SIC, LR, HQ, AIC, and FPE) selected one lag length. Further tests using higher lags did not yield any different result. Specifying lag lengths lower than five resulted in the test criteria selecting lag one as the optimal lag length. Due to the sample size of the data used for analysis, we adopted the selection made by all the test criteria of one-lag length for re-estimating the VAR equations. Using the lag length of k = 1, were-estimated the VAR model and tested for the stability of the model. To further probe on the model, we used the autocorrelation LM test of the residuals, which shows that there were no serial autocorrelation in the model.

Table 4: VAR Granger Causality Wald Test

Equation	Excluded	chi2	df	Prob > chi2
uner	povr	.36565	1	0.545
uner	ALL	.36565	1	0.545
povr	uner	.30147	1	0.583
povr	ALL	.30147	1	0.583

Source: Researcher's Computation via STATA 13.0

Table 4 shows the results of the VAR granger causality Wald tests on the estimated VAR model. The test showed that poverty (POVR) and unemployment (UNER) does not Granger caused by the past values of either external or internal debts. The result of the Wald test implies that any increase in the external and internal debts for Nigeria would not impact on poverty and unemployment levels which have buttressed the impact of public borrowing on the nation's economy.

Table 5: VAR Result

Equation	Parms	RMSE	R-sq	chi2	P>chi2
uner	5	2.45477	0.9336	520.5398	0.0000
povr	5	32.8849	0.0681	2.705175	0.6083

	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
uner						
uner						
L1.	.7136859	.1291969	5.52	0.000	.4604647	.9669071
povr						
L1.	-.0080951	.0133872	-0.60	0.545	-.0343335	.0181432
inexd	-2.835632	1.034553	-2.74	0.006	-4.863318	-.8079453
inind	2.734778	1.243752	2.20	0.028	.2970678	5.172488
_cons	25.46035	11.37341	2.24	0.025	3.168883	47.75182
povr						
uner						
L1.	-.9502903	1.730763	-0.55	0.583	-4.342523	2.441942
povr						
L1.	.0569762	.1793387	0.32	0.751	-.2945211	.4084736
inexd	20.87827	13.8592	1.51	0.132	-6.285265	48.0418
inind	9.627748	16.66171	0.58	0.563	-23.02859	42.28409
_cons	-221.6338	152.3618	-1.45	0.146	-520.2574	76.9898

Source: Researcher's Computation via STATA 13.0

Presented in Table 5 is the estimated VAR result of disaggregated public debt components (internal and external), poverty and unemployment rates. The VAR result shows R^2 of 0.9336 and 0.0681 for unemployment (uner) and poverty (povr), suggesting that the independent variable explained about 93.4% and 6.8% of the systematic variation in unemployment and poverty respectively. Furthermore, an examination of Wald Chi2 suggests that unemployment significantly explained the short-run changes at $P<0.0000$ while poverty insignificantly explained short-run changes at $P>0.6083$; the correction coefficients in unemployment and components of public debt (internal and external debts) were statistically significant except poverty. This implies that during the period under review, unemployment and components of public debt adjust significantly due to exogenous variation in the variable past values and the opposite was found in the case of poverty.

DISCUSSIONS

This study investigated the nexus of public debts (internal and external), poverty and unemployment in Nigeria during the period 1981-2021. In view of the analysis of data, the study had some insightful revelations. *First,* we discovered that poverty and unemployment do not Granger caused by the past values of either external or internal debts. Impliedly, an increase in public debt (external and internal) would not impact on poverty and unemployment levels in Nigeria. *Second,* correction coefficients in poverty and components of public debt (internal and external) were statistically insignificant. *Third,* unemployment correction coefficient and components of public debt (internal and external) were statistically significant.

The correction coefficients in poverty and components of public debt (internal and external) findings deviate from Keynesian and Liberal economic postulations. However, the correction coefficients in unemployment and components of public debt (internal and external) findings corroborate with Keynesian and Liberal economic postulations. According to economic postulations, an increase in public debt increases national income, which in turn should lessen poverty and unemployment levels. Aside conformity and/or non-conformity of the findings of the study, it was revealed that the result of public debts and unemployment conforms to prior studies conducted by Igberi, *et al* (2016); Pemberton, *et al* (2013). On the other hand, the results of public debts and poverty corroborates with prior studies done by Leigh and Travis (2016); Ibrahim and Umar (2008).

CONCLUSION AND RECOMMENDATIONS

The essence of public sector borrowing is to promote growth and development in an economy, particularly in areas of improving poverty and employment situations. According to economic postulations, when certain limits or thresholds are reached further borrowing may hamper growth and even development. This study analyzed the nexus of public debt on some socioeconomic variables (poverty and unemployment). From the econometric analysis, we found that neither external nor internal debt had any impact on poverty in Nigeria during the period under consideration. This implies that most of the public borrowings carried out within this period were not growth-oriented. This could be explained by the fact that most of the borrowings prior to year 2005 were mainly to finance trade deficits which were mainly consumable goods. The study also fails to support the hypothesis that public debt reduces poverty and unemployment.

Despite our finding that both external and internal borrowing insignificant impact on poverty, it was established that unemployment responded positively to shocks in innovations from external debt and negatively to innovations from internal debt. The outcome of both internal and external borrowing on government expenditure, however, largely depends on whether such expenditure was deployed on the provision of capital goods and/or recurrent expenditures. The study concludes that while the level of external and domestic debts had no significant impact on poverty, they influenced the level of unemployment in the economy within the study horizon. Following from our findings and analysis, we proffer the following recommendations:

1. That the current debt-to-GDP ratio of less than 20 percent should be sustained to ensure that debt remains within internationally recommended threshold for developing economies like Nigeria.
2. That further public borrowing in the future should be targeted at specified productive sectors of the economy that would engender growth in the long-run in terms of job creation and poverty alleviation. This could be achieved via procedure of tying every public borrowing to specific growth-driving projects that are oriented towards creating jobs and lessening poverty.
3. That the government borrowing should not be used for purposes that could enlarge the economy, such as

recurrent expenditures, but should be channeled towards provision of basic infrastructure and goods that would increase the level of economic activities.

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