

Theoretical Underpinning

The neo classical and Keynesian proposed that a nation should accumulate debt and run deficit budget when the economy is down. Nation should also run surplus when the economy is friendly. If growth shock continues in the economy, the counter-cyclical fiscal policy will in the long run generate inverse relationship between the public debt and growth. (Akos & Istvan, 2019). The classical economist opined that, public debt will likely affect capital accumulation, current and future consumption pattern.

Debt overhang hypothesis: Krugman (1988) evaluates that increase in public debt will lead to higher tax which become a disincentive to production of goods and services. This crowd-out private investment and growth of the economy. Invariable, the accumulated debt stock of a nation discourages potential investors. Reinhart & Rogoff (2010) highlight that the resources used to service debt should have been used for production process. The cost of servicing debt takes greater percentage of government revenue, which has been drawing back the growth of developing countries.

Debt crowding –out effect:When the government reduces tax and increase the borrowing to fund spending, it crowd-out potential private investors, through higher interest rate and further lead to higher demand for money and loanable fund and higher prices of goods and services. There will be fall in investment as a result of low turn. Also fall in investment in the long run will affect the supply side of the economic growth. When debt service grows, foreign creditors remove their profit from the investment in local economy. This will affect inflow of foreign direct investment (FDI) and affect capital formation. Inversely debt service, shift accumulated wealth of borrower's nation to the international arena. The crowding –out effect has really affected the economy of the under developed African countries

EMPIRICAL REVIEW

Mohammad and Abdulullah (2020) investigate the impact of external debt service in Nigeria economy growth using a time series data from 1985 to 2018, Real per capital income was used to proxy external debt as a percentage of GNI, external debt as a share of export, real exchange rate. Result shows that in the long run external debt service will negatively affect economic growth, conclusion was that debt service requirement should not be allowed to increase above the debt stock, the loan should be efficiently managed and be devoted to the infrastructural development.

In a similar context, Abdul karim (2020) explores the effect of public debt on economic growth of Nigeria. time series data was used between 1980 to 2018, result shows that the external debt stock constitutes an impediment to long term growth while there is negative relationship in short run. Both long run and short debt service payment shows a retardedness in the economy, effort should be made to boost domestic revenue generation. And execute fiscal transformation that reduces the public debt and deficit financing.

Also, Ohiomu (2020) examine the external debt and economic growth nexus. Autoregressive distributed lag (ARDL) result, shows that the debt-overhang variable and crowding out effect variable. The study recommends that Nigeria should embark on strict debt management policies and improve investment drives for economic expansion and sustainable development. Moreso, Akpansung (2020) the empirical study highlights the causal link and impact of government debt on growth of the economic. The time series data covers 1981 to 2018. The study did not find any causal relationship between public domestic debt, debt to GDP ratio and real gross domestic product (RGDP) growth rate. In agreement to debt effect, Didia and Ayokunle (2020) analyse the impact of publicly guarantee debt on the economic growth. The work shows that domestic debt has significant positive relationship with economic growth and it is not statistically significant. Domestic debt is more beneficial to the economic therefore the government needs to pay more attention to domestic debt than external debt.

Orji (2018), observe the external debt effect on Nigeria economic growth, the study found out positive but insignificant relationship between foreign debt stock and GDP. But found negative relationship between the external debt servicing and the gross domestic product (GDP) conclusion was that external debt should be exclusively on economic consideration.

In a related study by Ebeh (2021) whose result shows Debt is inverse relationship with economic service spending, positive between internal debt and economic service. He recommended that the government seeking for domestic loan instead of foreign debt, capital project should be done in term of public private partnership, tax system should be reformed and that government should embark on diversification of the economy. In a seemingly similar context by Stéphane, Aurélien, and Paul (2017) whose study uncover that there is existence of negative relationship between external debt and Nigeria economic growth. Also, Chukwu and Ogbonna (2021) identify the relationship between annual growth rate of GDP, the rate of external debt to GDP, the ratio of debt service stock to GDP and the ratio of national expenditure

to GDP and real exchange rate. A study by Austin (2014) explore statistical relationship between debt service and economic growth, result shows that debt payment to Nigeria creditors have a significant negative impact on gross domestic product (GDP).

In conjunction, Ejigayehu (2013), uses the debt overhang and crowding out effect to analyze selected eight- indebted Africa countries. The study found that external debt affects the economic growth through debt crowding out rather than through debt overhang. In agreement, Ajayi & Oke (2012), with the use of the ordinary least square (OLS) techniques, the study found out that external debt liabilities had adverse effect on revenue and per capital income of the nation. Furthermore, Ayadi and Ayadi (2008), focuses on Nigeria and South Africa, generalized least square was used for statistical analysis. The result revealed negative impact of debt and its servicing requirement on the economic growth. Also no causal relationship between external debt and economic growth in Nigeria. however, Sulaimon and Azeez (2012), use endogenous variables to measure economic growth as a function of external debt. Ratio of external debt to export, inflation and exchange rate proxy as exogenous variables. No long run relationship among the variables. Error correction model (ECM) shows that external debt has contributed positively to the Nigeria economy.

In view of debt effect, Adesola (2009), assess external debt service and sustainable economic growth. Debt payment to multilateral financial creditor, Paris club creditor, London club creditor, promissory notes holders and others creditors (non-Paris creditor). The result shows that debt payment to local creditor Paris club creditor, promissory notes holder and other creditor have significant impact on gross domestic product (GDP) and gross fixed capital formation (GFCF). The researcher recommends that any debt dealing should be with open transaction and it must have a greater impact on trade and investment which will stimulate the private sector as well. government should ensure economic and political stability and debt should be acquired for economic reasons. In continuation, Soludo (2003), opined that countries borrowed for two reason. To finance investment or high consumption and to circumvent hard budget constraint. Indicating that an account borrows to boost economic growth and alleviate poverty. He highlights that when debt gets to certain ratio level of the GDP, it becomes an adverse effect.

Majority of the debt collected by Nigeria government are deadweight debt that has no economic impact. The debts are diverted or used for personal interest, which lead to wide income

inequality, because most of the debt money are not invested locally. Such money circulating within 1% of the population are used to influence the local institutions. In conjunction with Oke (2012) debt that are economical, are used in the procurement of asset or infrastructural development. Such debt has higher multiplier effect on the growth of the economy. Servicing such debt will not affect the annual budget allocation or national reserve of the economy.

Our research work observed that external debt should be the end result to financing. A situation where the creditor country will be dictating to the debtor country on trading activities, such as importing goods and services to the value of the loan borrowed, irrespective of price differential. More so the debtor country will not export any goods or services in exchange. Furthermore, in the process of repayment of the loan, the earning form the exportation to other countries will be used. Such a system in an unstructured economy with self-centered leaders will be drawing back the economy from attaining the millennium goal. Such system will never block the savings gap and foreign exchange earning gap of the nation. Invariable debt that are productive and properly managed will be positively related to economic growth and development through national income improvement.

METHOD AND MATERIAL

The Research Design

The study used ex-post research analytical tools to analyze the dataset

Techniques of the Analysis:

The study adopts both inferential statistic and linear regression analysis for the secondary data. Fully modified Ordinary least square (OLS) and dynamic Ordinary least square were adopted as a result of its mechanism. Easy to understand, simple interpretation and it has been used in a wide range relationship with statistical result, more so it is a component of econometric techniques.

Model Specification

$$PGDP = F[DF, DL, RT, EXR, FDI] \dots\dots\dots 1$$

Introducing the constant and white noise

$$PGDP = \beta_0 + \beta_1 DF + \beta_2 DL + \beta_3 RT + \beta_4 EXR + \beta_5 FDI + \mu_t \dots\dots\dots 2$$

Considering the lag of the dependent variable

$$PGDP = \beta_0 + PGDP_{-1} + \beta_1 DF + \beta_2 DL + \beta_3 RT + \beta_4 EXR + \beta_5 FDI + \mu_t \dots\dots\dots 3$$

Taking the summation of the variables

$$\begin{aligned}
 PGDP &= \beta_0 + \sum PGDP_{-1} + \\
 &\sum \beta_1 DF + \sum \beta_2 DL + \\
 &\sum \beta_3 RT + \sum \beta_4 EXR + \\
 &\sum \beta_5 FDI + \mu_t \dots\dots\dots 4
 \end{aligned}$$

Table 1: List of Variables, Meaning, and the Source of Dataset

VARIABLES	MEANING	SOURCE
PGDP	per capital gross domestic product	WDI
DF	Foreign Debt	WDI
DL	Local Debt	WDI
RT	Total Reserve % DF minus gold reserve	WDI
EXR	Exchange Rate	WDI
FDI	Foreign Direct Investment	WDI

PRESENTATION AND DISCUSSION OF EMPIRICAL RESULT

Table 1: Descriptive statistics

Variables	PGDP	DF	DL	EXR	RT	FDI
Mean	1415.407	3.13E+10	3983.795	93.49790	2.32E+08	-2.68E+09
Median	1268.383	3.14E+10	1525.907	126.2577	-8.63E+08	-1.96E+09
Maximum	3098.986	5.48E+10	14272.64	148.4532	1.39E+10	-2.10E+08
Minimum	270.2240	1.30E+10	84.09310	4.536700	-1.05E+10	-8.02E+09
Std. dev.	930.5384	9.97E+09	4517.446	55.99871	6.34E+09	2.24E+09
Skewness	0.254942	0.288883	1.033625	-0.649327	0.591919	-0.898449
Kurtosis	1.546043	2.903493	2.619614	1.580885	2.743478	2.684920
Jarque-Bera	3.066384	0.443205	5.706867	1.895232	1.895232	4.298819
Probability	0.215846	0.801234	0.057646	0.387664	0.387664	0.116553
Observations	31	31	31	31	31	31

Source: authors' computation 2022

The descriptive analysis shows that local debt (DL) has the highest mean value of 3983.8 while the FDI has the lowest mean value from the model. The local debt variable also has the maximum value with 14,272.6 while the FDI has the minimum value. The standard deviation shows that debt source locally is the most volatile with a value of 4,517.45 and the least volatile variable is the FDI inflow into the economy with a value of 2.24. the skewness statistic shows that only the exchange rate is negatively skewed while other variables are positively skewed. The foreign debt value is leptokurtic, having greater kurtosis than the normal distribution.

Table 2: Correlation matrix

VARIABLE	PGDP	DF	DL	RT	EXR	FDI
PGDP	1.0000					
DF	-0.1716	1.000				
DL	0.7464	0.4328	1.000			
RT	-0.0047	-0.0833	-0.0341	1.000		
EXR	0.8198	0.0237	0.6661	0.2140	1.0000	
FDI	-0.6439	0.6251	-0.1534	-0.1210	-0.5912	1.000

Source: authors' computation 2022

The correlation matrix of the model shows a negative relation between the foreign debt and per capital GDP of the economy indicating that the foreign debt has an inverse effect on the growth which is mainly as a result of corruption. The local debt is positively related to the growth likewise the exchange rate. The reserve total and FDI inflow are also inversely related to the growth. Only the reserve total of the economy is significant at 5%. Fully modified least square is robust to capture the multi collinearity of matrix (EXR & DL, EXR & PGDP) where the value is greater 0.5.

Table 3: VIF analysis

Variable	VIF	1/VIF
FDI	4.22	0.236876
EXR	3.82	0.261855
DF	3.32	0.300826
DL	2.77	0.360389
RT	1.13	0.883792
MEAN VIF	3.05	

Source: authors' computation 2022

The variance inflation factor (VIF), is a measure of the amount of collinearity in a set of multiple regression variables. With the mean value (3.05) less than 4.0, it shows that there is no multi collinearity between the variables in the model

Table 4: Unit root test

Variables	ADF Test			PP Test		
	Level	First Diff	Status	Level	First Diff	Status
PGDP	-0.7505 (0.8185)	-3.6686*** (0.0103)	I(1)	-0.8348 (0.7945)	-3.6502*** (0.0107)	I(1)
DF	-2.5717	-3.3892***	I(1)	-1.5275	-2.8404**	I(1)

	(0.1102)	(0.0198)		(0.5062)	(0.0651)	
DL	-1.3451 (0.5921)	-0.7345** (0.0200)	I(1)	0.5175 (0.9845)	-3.0054** (0.0462)	I(1)
RT	-5.0796 (0.5567)	-5.5737*** (0.0001)	I(1)	-2.5955 (0.1050)	-5.5056*** (0.0001)	I(1)
EXR	-1.3967 (0.5705)	-4.7334*** (0.0007)	I(1)	-1.3931 (0.5722)	-4.7321*** (0.0007)	I(1)
FDI	-1.7838 (0.3809)	-6.5550*** (0.0000)	I(1)	-1.8325 (0.3582)	-6.4694*** (0.0000)	I(1)

Source: authors' computation 2022

The result of the stationary test using Augmented dickey fuller test (ADF) and Philip Peron (PP) analysis at first different. For the variables under review in the model, the study applied constant, intercept and trend terms. The optimal lag length of each variable is chosen, using the Schwarz information criteria (SIC).

None of the variable is stationary at level, all the variables in the model are stationary at first different. The result shows by ADF and PP calculated statistic for the variables in absolute terms are is greater than the ADF critical value at either 1% or 5% level of significant as denoted by *** and ** respectively. Tis implies that the variables are variables in the model are integrated at order 1 denoted by I(1).

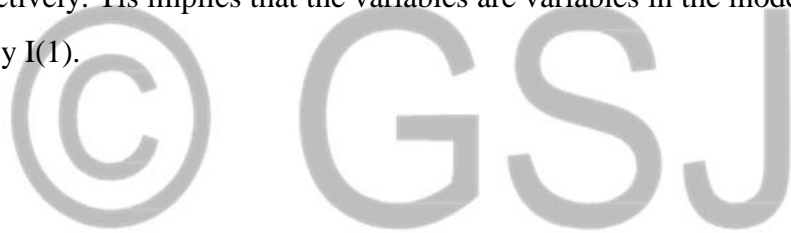


Table 5: Johansen Cointegration Test Results: Unrestricted Cointegration Rank Test

TRACE			MAXIMUM EIGENVALUE	
Hypothesised No of CE(s)	Trace statistic	Prob**	Max-Eigen Statistic	Prob**
None *	165.6712	0.0000	70.68324	0.0000
At most 1 *	94.98794	0.0002	39.20705	0.0105
At most 2 *	55.78089	0.0076	33.66384	0.0073
At most 3	22.11705	0.2921	16.45312	0.1995
At most 4	5.663922	0.7348	5.585087	0.6668
At most 5	0.078835	0.7789	0.078835	0.7789

Source: authors' computation 2022

The probability of Johansen unrestricted cointegration rank test (trace test and Eigenvalue) shows that we reject the null hypothesis at none that there is no cointegration with the probability value of 0.0000 (1% significant). We also reject the null hypothesis at atmost 1 with the probability of 0.0105 (5% significant), also reject the null hypothesis that there is no

cointegration, at atmost 2 with the probability of 0.0073 (5% significant). We accept the null hypothesis for at most 3,4 and 5 that there is no cointegration.

Table 6: DEPENDENT VARIABLES: PGDP

VARIABLES	FMOLS	2SLS
DF	-4.27E-08*** (-5.85)	-4.25E-08*** (-4.54)
DL	0.1389*** (9.45)	0.1424*** (7.54)
RT	-1.57E-08** (-2.33)	-1.51E-08* (-1.76)
EXR	6.3709*** (4.44)	6.005*** (3.36)
FDI	-2.17E-08 (-0.5932)	-2.15E-08 (-0.46)
C	1552.965*** (6.05)	1564.060*** (4.75)

Source: authors' computation 2022

Fully modified least square (FMOLS) and the two stage least square (2SLS) eliminate the problems caused by the long run correlation between the co-integration equation and stochastic regression. From the model, foreign debt is inversely related to the growth (PGDP) of the economy but significant at 1%. Debt source locally are positively related to the growth and also significant at 1%. Total reserve (RT) and foreign direct investment (FDI) have inverse impact on the growth of the economy but RT is significant at 5% and 10% respectively. The exchange rate is positively related to growth but not economic viable it is both significant at 1%.

Table 7: Robustness check

DEPENDENT VARIABLES: PGDP

VARIABLES	DMOLS	CCR
DF	-8.99E-08** (0.0512)	-4.29E-08*** (0.0000)
DL	0.2092*** (0.0069)	0.1390*** (0.0000)
RT	-4.26E-09 (0.9006)	-1.56E-08 (0.0519)**
EXR	9.3945** (0.0284)	6.3721*** (0.0004)

FDI	4.34E-08 (0.7474)	-2.01E-08 (0.6553)
C	3122.546*** (0.0442)	1562.388*** (0.0000)

Source: authors' computation 2022

The stock Watson dynamic OLS and CCR result of the robustness, shows that foreign debt into the economy is inversely related to the growth (PGDP) but statistically significant at 5%(DOLS) and 10%(CCR). The local debts are positively related to the growth, for every 1% growth increase, DL contributes 20.9% and 13.9% respectively. Total reserve of the economy is inversely related to growth and not statistically significant. exchange rate is positively related under DOLs and CCR. FDI also has positive relationship but they are not significant at either level. It shows the impact of capital flight from the economy.

Table 8: Granger Causality Test

HYPOTHESIS	OBS	F-STATISTICS	PROB
DF \nRightarrow PGDP	29	0.1631	0.8504
RGDP \nRightarrow DF		1.2054	0.3171
DL \nRightarrow PGDP	29	0.3603	0.7011
PGDP \nRightarrow DL		15.4672	5.E-05
RT \nRightarrow PGDP	29	1.9014	0.1712
PGDP \nRightarrow RT		0.0495	0.9518
EXR \nRightarrow PGDP	29	2.8828	0.0755
PGDP \nRightarrow EXR		0.0991	0.9060
FDI \nRightarrow PGDP	29	4.4224	0.0232
PGDP \nRightarrow FDI		1.8173	0.1841
DL \nRightarrow DF	29	0.6697	0.5211
DF \nRightarrow DL		4.6866	0.0191
RT \nRightarrow DF	29	0.0540	0.9475
DF \nRightarrow RT		3.8173	0.0364
EXR \nRightarrow DL	29	0.0588	0.3761
DL \nRightarrow EXR		0.0284	0.7199
FDI \nRightarrow DL	29	3.6515	0.0413
DL \nRightarrow FDI		0.4174	0.6634
EXR \nRightarrow RT	29	0.8222	0.4514
RT \nRightarrow EXR		0.8029	0.4597
FDI \nRightarrow RT	29	3.3955	0.0503
RT \nRightarrow FDI		0.2961	0.7464
FDI \nRightarrow EXR	29	0.3097	0.7365
EXR \nRightarrow FDI		0.4437	0.6468

Source: authors' computation 2022

The granger causality test shows the causality between the variables in the model. Due to bad economic system, the result shows no causality between the local debt, foreign debt and growth

(PGDP) of the economy There is a unit causality between Foreign direct investment and PGDP. foreign inflow into the economy granger caused the PGDP at 5% but the PGDP does not granger caused foreign inflow as a result of deficit trade balance of the economy. foreign debt of the economy granger caused the local debt at 5% but the local debt does not granger cause foreign debt. Foreign debt also granger caused reserve total of the economy but the reserve total does not granger cause foreign debt.

CONCLUSION

Countries uses loan (local or international) mainly to finance capital project which has multiplier effect on the growth of the economy. The inverse relationship between the foreign loan and the growth of Nigeria economy shows that most of the loan are not getting to the shore of the country. The loans are either diverted or used to compensate the politician for their support. The local debts are highly correlated, indicating effective utilization in the economy. Total reserve and foreign direct investment are not contributing to the growth. Major foreign inflows are into trading and most of the profit are repatriated back to the sister countries without further investment in the local economy.

RECOMMENDATION

For positive impact of the variables on the growth of Nigeria economy,

The government should source most of the loan locally than going outside for financial assistance or for capital project execution as a result of the causality between the local loan and growth of the economy. To ensure check and balances, there should be strict monitoring of government officials technology needs to use for proper monitoring of the system, there should be independent of corruption agency, where no politician can influence the agencies decision. Development of infrastructural facilities should be a priority to the government especially electricity which have high multiplier effect in the economy. Transparency and accountability of the governing system is very essential in order to reduce the leakages of the economy. Diversification of the economy to change the country from mono economy and lastly, Improvement in research and development center.

REFERENCES

- Adegbite, E. O., Ayadi, F. S., & Ayadi, O. F. (2008). The impact of Nigeria's external debt on economic development. *International journal of emerging markets*.
- Adesola, W. A. (2009). Debt servicing and economic growth in Nigeria: An empirical investigation. *Global Journal of social sciences*, 8(2), 13-30.
- Aiyedogbon, J. O., Zhuravka, F., Korneyev, M., Banchuk-Petrosova, O., & Kravchenko, O. (2022). Impact of public debt profile on economic growth: evidence from Nigeria.
- Ajayi, L. B., & Oke, M. O. (2012). Effect of external debt on economic growth and development of Nigeria. *International journal of business and social science*, 3(12), 297-304.
- Akpanung, A. O., & Gidigbi, M. O. (2020). Domestic Public Debts and Economic Growth Nexus in Nigeria: Further Empirical Evidence from Causality and Structural
- Austin, D. (2014). Medical debt as a cause of consumer bankruptcy. *Me. L. Rev.*, 67, 1.
- Breaks Analyses. *Nile Journal of Business and Economics*, 6(15), 39-58.
- Coulibaly, B. S., Gandhi, D., & Senbet, L. W. (2019). Is sub-Saharan Africa facing another systemic sovereign debt crisis?.
- Daher Alshammary, M., Abdul Karim, Z., Khalid, N., & Ahmad, R. (2020). Debt-growth nexus in the MENA region: Evidence from a panel threshold analysis. *Economies*, 8(4), 102.
- Didia, D., & Ayokunle, P. (2020). External debt, domestic debt and economic growth: The case of Nigeria. *Advances in Economics and Business*, 8(2), 85-94.
- Dombi, Á., & Dedák, I. (2019). Public debt and economic growth: what do neoclassical growth models teach us?. *Applied Economics*, 51(29), 3104-3121.
- Ebeh, J. E. (2021). Comparative study of debt service payment and economic growth relationship between Nigeria and south Africa. *interdisciplinary journal of African & Asian studies (IJAAS)*, 7(1).
- Ejigayehu, D. A. (2013). The effect of external debt on economic growth: a panel data analysis on the relationship between external debt and economic growth.
- Fry, M. J. (1993). Foreign debt accumulation: financial and fiscal effects and monetary policy reactions in developing countries. *Journal of International Money and Finance*, 12(4), 347-367.
- Jayasuriya, K. (2003). post-crisis east Asia. *Politics and Markets in the Wake of the Asian Crisis*, 315.
- Johnson, I. O., Olowo, S. O., Hassan, C. O., Aderemi, T. A., Olaoye, O. P., & Alejo, A. (2021).

- External Debt and Exchange Rate Fluctuations in Nigeria (1990-2017). *African Journal of Business and Economic Research*, 2021(si1), 167.
- Kahn, J. R., & McDonald, J. A. (1995). Third-world debt and tropical deforestation. *Ecological Economics*, 12(2), 107-123.
- Kentikelenis, A., Gabor, D., Ortiz, I., Stubbs, T., McKee, M., & Stuckler, D. (2020). Softening the blow of the pandemic: will the International Monetary Fund and World Bank make things worse?. *The Lancet Global Health*, 8(6), e758-e759.
- Krugman, P. (1988). Financing vs. forgiving a debt overhang. *Journal of development Economics*, 29(3), 253-268.
- Kur, K. K., Chukwu, N. O., & Ogbonna, O. E. (2021). Impact of external debt on sectoral performance: Comparative study of Nigeria and Botswana. *African Social Science and Humanities Journal*, 2(4), 217-232.
- Ndung'u, N., Shimeles, A., & Manda, D. K. (2021). Growing with Debt in African Economies: Options, Challenges and Pitfalls. *Journal of African Economies*, 30(Supplement_1), i3-i13.
- McCubbins, M. D., & Moule, E. (2010). Making mountains of debt out of molehills: The pro-cyclical implications of tax and expenditure limitations. *National Tax Journal*, 63(3), 603-621.
- Ogunmuyiwa, M. S. (2011). Does external debt promote economic growth in Nigeria. *Current research journal of economic theory*, 3(1), 29-35.
- Ohiomu, S. (2020). External debt and economic growth nexus: Empirical evidence from Nigeria. *The American Economist*, 65(2), 330-343.
- Orji, A., Ogbuabor, J. E., & Anthony-Orji, O. I. (2018). Macroeconomic Indicators and Capital Formation Growth in Nigeria: A New Evidence. *Journal of Social Economics Research*, 5(2), 39-50.
- Quader, S. M., & Abdullah, M. N. (2020). How financial market in Bangladesh appraises efficiency?. *Economic Change and Restructuring*, 53(3), 475-494.
- Reinhart, C. M., Reinhart, V. R., & Rogoff, K. S. (2012). *Debt overhangs: Past and present* (No. w18015). National Bureau of Economic Research.
- Stéphane, A., Aurélien, E., & Paul, G. (2017). *Debt Hangover in the Aftermath of the Great*

Recession (No. 2017-61).

Sulaiman, L. A., & Azeez, B. A. (2012). Effect of external debt on economic growth of Nigeria. *Journal of Economics and sustainable development*, 3(8), 71-79.

World Bank. (2021). *Global economic prospects, January 2021*. The World Bank.

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