Monetary Policy Shocks and West African Countries' Industrial Output Performance

Atsuwa Ruth Ngukimbin[1]
Benue State Universit, Makurdi
&
AbdulkarimMusa [2]
Nova Southeastern University (NSU)

Abstract
Indicators of monetary policy that affect industrial production performance are analyzed in this study. A 40-year period from 1980 to 2019 was used, with a focus on 10 West African countries, to analyze the shock transmission mechanism between monetary policy indicators variables and industrial production performance in West African countries. Using descriptive statistics, correlation analysis, ADF unit root test, trend analysis, panel ARDL estimation, and panel VAR estimation, data from the World Bank Development Indicator database was examined. The analysis's findings indicate that while money supply trended primarily in the same direction as manufacturing sector output performance, real interest rates and monetary policy rates trended primarily in the opposite direction. Real interest rates in the service sector moved in the opposite direction of output performance from money supply and monetary policy rates, which typically moved in the same direction as output performance. Furthermore, the production of the manufacturing sector in a few West African countries is significantly impacted positively by the real interest rate and the interbank rate but negatively by the money supply and exchange rate. In the long run, both the money supply and the monetary policy rate have a major negative impact on the output performance of the service sector, whereas in the short term, only the monetary policy rate has a significant negative impact.This study comes to the conclusion, among other things, that monetary policy variables, particularly over the long run, have a more significant impact on the output performance of West Africa's manufacturing sector than they do on that of the service sector.

Keywords: Monetary Policy Shocks, Industrial Output Performance, Service Sector, Economic Growth.

1. Introduction

In order to achieve macroeconomic objectives like price stability, exchange rate stability, maintaining an equilibrium balance of payments, creating jobs, promoting output, and sustainable growth, economies have been stimulated using monetary policy, one of the two macroeconomic tools (the other being fiscal policy). According to Falade and Folorunso (2015), monetary policy is the deliberate effort made by the monetary authority to manage the availability of money and credit conditions in order to pursue a number of broad economic goals that could conflict with one another. In other terms, monetary policy refers to the measures taken by the monetary authorities or the Central Bank to control the quantity of money, the cost, and the accessibility of credit in the economy.

One of the areas responsible for innovation, development, and production of goods and services that have produced employment, wealth creation, increased income, consumption, and investment as well as reduced poverty among residents is the manufacturing sector. As demonstrated by the experiences of some developed and emerging economies like China, India, Malaysia, North Korea, and Singapore to name a few, the manufacturing sector has been acknowledged on a global scale as the source of growth and a catalyst for sustainable transformation and economic development, according to Simbo, Iwuji, and Bagshaw (2012). The Sustainable Development Goals (SDGs) 2030 can be achieved with the help of the manufacturing sector, which is also very important and has the necessary potential.In particular, the manufacturing sector may support SDGs 8, 9, and 12, which are collectively referred to as the achievement of a decent job and economic growth, industry, innovation, and infrastructure, and responsible consumption and production, respectively.

The industrial sector is frequently regarded as the best sector to propel the development of any country, region, or continent, particularly in the African region where it is economically sensible to use labor-intensive production methods for industries that are export-focused because this region is well-endowed with human capital. Therefore, there is no question that the development of industrial output, exportation levels, human capital, and the economic performance of a nation are all directly correlated (Obioma and Anyanwu, 2015).They both asserted that the manufacturing sector is more resilient to external shocks and more sustainable. The importance of the manufacturing sector to any economy in this regard cannot be overstated. The industry makes a significant contribution to the increase in output in the economy, in addition to creating work chances for the vast number of young people who are unemployed. The sector's contribution to Nigeria's GDP in 2018 was just 10%, with a 24% growth rate, or nearly twice as much as the year before (Central Bank of Nigeria, CBN, 2019).

According to the historical pattern for African nations, growth occurs as employees leave agriculture and the percentage of industries increases quickly (Weiss and Jalilian 2016). According to Kaldor (2016), the manufacturing sector is the engine of growth due to three laws: (i) productivity drives the growth of the manufacturing sector; (ii) productivity of the non-manufacturing sector is positively correlated with the growth of the manufacturing sector. The manufacturing sector is also the engine of GDP growth.Monetary policy is one of the main factors that contribute to economic expansion. In light of this, macroeconomic variables, notably industrial output, are impacted by monetary policy shocks. This shock can be the result of poor transmission of the tools of monetary policy, which causes an illogical response in inflation (Rabanal, 2007).

According to Mountford and Uhlig (2009), monetary policy shocks result in an unexpected increase in the number of monetary policy tools used by the monetary authorities to manage economic disturbances. Therefore, just like fiscal policy, monetary policy is an essential tool for achieving goals, and goals are founded on priorities. This may involve inflation targeting in certain nations, while it may involve output growth targeting in others (Punita Rao et al., 2006; Kandil, 2014).The question of what exactly makes up the channels of the financial transmission mechanism has not yet been answered. This includes developed nations like the United States of America (US), among others, where a lot of literature has been produced. This study focuses on analyzing how changes in monetary policy affect the performance of the industrial and service sectors in West African nations.

2. Literature Review

Monetary Policy and Transmission mechanism

Basically, the two types of monetary policy that are typically used by monetary authorities are contractionary monetary policy and expansionary monetary policy. Contractionary monetary policy is used by monetary authorities to lower inflation. By limiting the amount of money banks may lend, they diminish the money supply. Loans are costlier because banks impose higher interest rates. Growth is slowed by a decrease in borrowing by companies and people. To reduce unemployment and avert a recession, monetary authorities deploy an expansionary monetary policy.By supplying banks with more funds to lend, they boost liquidity. Banks reduce interest rates, lowering the cost of lending. In order to purchase machinery, hire personnel, and expand their operations, businesses borrow additional money. People take out more loans to purchase more automobiles, residences, and appliances. This raises demand and promotes economic expansion.

The process through which modifications to monetary policy instruments produce the desired outcome of price stability and real output growth is known as the monetary policy transmission mechanism. Ireland (2005) asserts that monetary policy's impacts on interest rates, exchange

rates, the prices of equity and real estate, bank lending, and company balance sheets serve as the channels via which monetary transmission takes place. These, in turn, have an impact on business, household, financial, and investment decisions, which change the level of prices and economic activity. But as Kokores (2015) noted, the global financial crisis highlights the inadequacies of contemporary macroeconomic analysis in modeling the function of financial intermediaries as crucial determinants in the operation of the monetary transmission mechanism utilizing a variety of monetary tools.

Industrial Output and the Theory of Infant Industry Promotion

The creation of a good or service for the economy is referred to as industry. The output of all manufacturing establishments in a nation is referred to as its industrial output. A subset of industrial output, manufacturing output is the product of all factories in a nation and is made up of primary industry, which focuses on extraction, and secondary industry, which focuses on transmission (Hunegnaw 2018).

When compared to the hypothesis of relative bit of leeway, the idea of newborn industry development gives a completely distinct vision of financial improvement. According to this theory, the underdevelopment of advantageous qualities is primarily caused by their need, and their development is seen as the embodiment of monetary progress.Although Ricardo's hypothesis was developed in the middle of the nineteenth century, many people may find it surprising that the hypothesis of newborn industry advancement is even more well-established than the Classical rendition of the hypothesis of similar favorable position, let alone the neoclassical adaptation. It was enunciated in the late eighteenth century.

The vast majority of developed countries today used the theory of the development of the baby industry to strengthen their economies. They refused to accept that they ought to stick to advancing their relative prospective advantage and successfully promoted endeavors in which they had no business engaging (as per the idea of near preferred position). It's not inaccurate to say that, mostly unknown to the general public, the rise of the baby business is the financial theory that has most significantly altered the world.

(2018) Hunegnaw examines how real exchange rates affect exports of manufactured goods from ten East African nations. To assess disaggregated manufacturing exports, the study combined pooled mean group and mean group estimators with an Autoregressive Distributed Lag process, in contrast to earlier studies that frequently examined aggregate exports by using antiquated empirical techniques that had a number of drawbacks. The results imply that the performance of exports in Eastern Africa is affected by exchange rate devaluation.

3. Methodology

Model Specification

In this study, manufacturing equation is formulated thus;

$MANUF_{it} = \propto_{it} + \propto_2 RINTR_{it} + \propto_3 EXR_{it} + \propto_4 MS_{it} + \propto_5 MPR_{it} + \propto_6 IBR_{it} + \propto_7 WOP_{it} + \propto_8 USRINTR_{it} + \mu_{it}$ ……..……1

$SERV_{it} = \propto_{it} + \propto_2 RINTR_{it} + \propto_3 EXR_{it} + \propto_4 MS_{it} + \propto_5 MPR_{it} + \propto_6 IBR_{it} + \propto_7 WOP_{it} + \propto_8 USRINTR_{it} + \mu_{it}$ ……..……2

Where:

MANUF = Manufacturing Value added

SERV = Services Value added

RINR = Real Interest Rate

EXR = Exchange Rate

MS = Money Supply (Broad)

MPR = Monetary Policy Rate

IBR = Interbank Rate

WOP = World Oil Price

USRINTR = United Nations Real Interest Rate(which captures foreign interest rate)

μ = Error Term

$\propto_1$ = Intercept

$\propto_2 - \propto_8$ = Parameter Estimates

i = Countries

t = 1980-2018

The domestic macroeconomic variables are represented by these seven variables. WOP and USRINTR are the two variables that represent the global macroeconomic factors, and USRINTR is the second of those two variables.

4.1 Descriptive Statistics

Table 4.1: Descriptive Statistics of Variables

Variables	Obs	Mean	Std. Dev.	Min	Max
MANUF	400	10.34173	5.440988	1.686448	21.49191
SERV	400	44.67077	9.808281	17.86371	67.59345
RINTR	400	4.397188	9.122436	-65.85715	33.46679
EXR	400	74.52784	237.0678	0	3520.368
MS	400	20.79488	7.766502	5.210061	43.29521
MPR	400	7.295475	7.934311	0	45
IBR	400	10.58565	8.239	0	36.5
WOP	400	41.39941	30.75542	12.76	111.63
USINTR	400	7.384375	3.603624	3.25	18.87

Source: Author's Computation (2023)

Table 4.1 provides descriptive statistics about the study's variables. The output for the manufacturing and service sectors is respectively 10.34173% and 44.67077%, with standard deviations of 5.440988 and 9.808281, minimum and highest values of 1.686488% and 17.86371 and 21.49191% and 67.59345%. The results also showed that the median values for GDP, real interest rates, exchange rates, money supply, monetary policy rates, interbank rates, world oil prices, and US interest rates were, respectively, 4.397188%, 74.52784, and 20.79488%, 7.295457%, 10.58565%, 41.39941, and 7.384375%.Standard deviations for real interest rates, exchange rates, money supply, monetary policy rate, interbank rate, world oil price, and United States interest rates were 9.122436%, 237.0678%, 7.766502% of GDP, 7.934311%, 8.239%, 30.75542%, and 3.603624%, respectively. The real interest rate's minimum and maximum values were -65.85715% and 33.46679%, the exchange rate's minimum and maximum was 0, the money supply's minimum and maximum was 5.210061% of GDP and 43.29521% of GDP, the monetary policy rate was 0% and 45%, the world oil price was 12.76 and 111.63%, and the US interest rate was 3.25% and 18.87%.

4.2 Panel Unit root Analysis

Table 4.3: *Panel Unit Root Test Result*

	TEST AT LEVEL		**TEST AT FIRST DIFFERENCE**		
Variables	**LLC**	**IPS**	**LLC**	**IPS**	**Order of Integration**
MANUF	-0.92050	-1.30924	-11.0048*	-11.7325*	I(1)
SERV	-0.15788	-0.39077	-11.8910*	-11.4566*	I(1)
RINTR	-4.69047*	-5.56416*	__	__	I(0)
EXR	-1.43389	-1.56826	-4.79876	-6.05151	I(1)
MS	1.47537	1.94415	-6.96115*	-10.6108*	I(1)
MPR	-2.62026	-0.85247	-14.4284*	-13.7559*	I(1)
IBR	-4.66045*	-4.83844*	__	__	I(0)
WOP	-0.50747	0.3059	-17.0391*	-13.9103*	I(1)
USINTR	-7.88230	-5.09282	__	__	I(0)

(*) connote rejection of unit root hypothesis at (5%) level of significance level

Source: Author's Computation, *(2023)*

Table 4.2based on the pooled observation of the chosen West African countries studied in the study, offers findings of the Levin-Lin-Chu (LLC) and Im-Pesaran-Shin (IPS) panel unit root test done in the study, both at level and at difference for each of the variables utilized in the study. In contrast to other variables like manufacturing sector output, service sector output, exchange rate, money supply, monetary policy rate, and world oil price, which are not stationary at level but become stationary after first differencing, real interest rate, interbank rate, and US interest rate are stationary at level as shown in table 4.2.Thus, interest rate, interbank rate, and US interest rate are all integrated to order zero, or I(0), indicating that, on average, none of them retain inventive shock that has been passed on them beyond the same period. The output of the manufacturing and service sectors, the exchange rate, the money supply, the monetary policy rate, and the price of oil in the world, on the other hand, are all integrated of order one, or I(1), indicating that on average these variables retained the innovative shock that was passed on them for a brief period beyond the same period, though they eventually tend to let go. Therefore, I(0) and I(1) variables in combination are used in this study for the sampled developing nations.

Analysis of Monetary Policy Indicators that Determines Industrial Output Performance in West Africa Countries

Table 4.3: Panel ARDL Estimation Result (Manufacturing Sector)

*DepVar***:** *D(MANUF)*

LONG RUN ESTIMATES					
PMG ESTIMATION			*MG ESTIMATION*		
Variable	Coefficient	Probability	Variable	Coefficient	Probability
RINTR	**.0396752***	**0.009**	RINTR	.976040	0.302
EXR	**-.280207***	**0.000**	EXR	.0677816	0.748
MS	**-.3634307***	**0.000**	MS	-2.15347	0.264
MPR	**.095751**	**0.323**	MPR	-5.085559	0.322
IBR	**.4699006***	**0.009**	IBR	1.042557	0.122
WOP	**.0020369**	**0.942**	WOP	.4218171	0.205
USINTR	**-.0089507**	**0.798**	USINTR	.0664585	0.426
SHORT RUN ESTIMATES					
Variable	Coefficient	Probability	Variable	Coefficient	Probability
ECT	**-.2423243***	0.001	ECT	-.465397	0.000
C	**.6587293**	0.012	C	1.43301	0.038
D(RINTR)	**-.0015778**	0.870	D(RINTR)	.0037452	0.794
D(EXR)	**-.0664914**	0.294	D(EXR)	-.041784	0.403

D(MS)	**.0323349**	0.743	D(MS)	.0924353	0.197
D(MPR)	**-.0596839**	0.163	D(MPR)	-.0499514	0.506
D(IBR)	**-.0960239**	0.211	D(IBR)	-.0995919	0.013
D(WOP)	**.0170859**	0.550	D(WOP)	-.0274735	0.357
D(USINTR)	**.0126788**	0.635	D(USINTR)	-.0227369	0.519
Hausman 1978 Test:5.31 (p= 0.4567 > 0.05)					

Source: Author's Computation (2023)

Note: *PMG= Pooled mean Group estimation, and MG=Mean group Estimation (*) connote significance at 5% level of significance*

The panel ARDL estimation result for monetary policy indicators that control industrial output expressed in terms of manufacturing sector output is shown in Table 4.3. The null hypothesis, that the difference in the coefficient is not systematic, was tested by the Hausman test shown in Table 4.3 by comparing the pooled mean group estimate result with the mean group estimation result. The pooled mean group is valid for this study because, as shown in the table, the chi-square statistics were 5.31 with a probability value of 0.4567, indicating that there is insufficient evidence to reject the null hypothesis that the difference in coefficient between the mean group and pooled mean group estimation is not systematic. So, as shown in table 4.3, the panel ARDL estimation is based on the mean group option.

Table 4.3's estimation results for the impact of monetary policy indicators on the output of the manufacturing sector included both the short- and long-term co-efficients as well as probability estimation. The long-term coefficient and probability for real interest rates were 0.0396752 and 0.009 (p 0.05), while for interbank rates they were 0.4699006 and 0.009 (p 0.05). This indicated that real interest rates and interbank rates have a positive, significant impact on manufacturing sector output over the long term. According to the coefficient and probability values of 0.095751 and 0.323 ($p > 0.05$) for the monetary policy rate and 0.0020369 and 0.942 ($p > 0.05$) for the world oil price, the long-term impact of these variables on manufacturing sector production is positive but minor.According to the coefficient and likelihood of -0.0280207 and 0.000 (p 0.05) for exchange rate and -0.3634307 and 0.000 (p 0.05) for money supply, these variables have a long-term negative substantial impact on the output of the manufacturing sector. United States interest rates' coefficient and likelihood of -0.0089507 and 0.798 ($p > 0.05$) showed that these rates had a long-term negative minor impact on the manufacturing sector.

The results further demonstrated that real interest rates, exchange rates, monetary policy rates, and interbank rates all had short-term, negligible effects on manufacturing sector output, with coefficients and probabilities for each standing at -0.0015778 and 0.0870 ($p > 0.05$), -0.0664914 and 0.294 ($p > 0.05$), -0.0596839 and 0.163 ($p > 0.05$), and -0.0960239 and 0.211 ($p > 0.05$). Money supply, world oil price, and US interest rate all have a short-term, positive, insignificant impact on manufacturing sector output, according to coefficient and probability values of

0.0323349 and 0.743 (p > 0.05), 0.0170859 and 0.550 (p > 0.05), and 0.0126788 and 0.635 (p > 0.05), respectively.According to the stated ECT(-1), the annual correction and incorporation of around 24.2% of the short-run inconsistencies into the long-run dynamic is shown by reported probability value of 0.001 0.05, which indicates a significant rate of adjustment at a 5% level of significance.

Table 4.4: Panel ARDL Estimation Result (Service Sector)

DepVar: *D(SERV)*

LONG RUN ESTIMATES					
PMG ESTIMATION			*MG ESTIMATION*		
Variable	Coefficient	Probability	Variable	Coefficient	Probability
RINTR	**.1267039**	**0.220**	RINTR	-.2988852	0.501
EXR	**-.1210833**	**0.682**	EXR	-.5439208	0.250
MS	**-1.32669***	**0.000**	MS	-1.149796	0.323
MPR	**-.7890962***	**0.009**	MPR	-1.692821	0.283
IBR	**-.7840369**	**0.156**	IBR	-.7628834	0.371
WOP	**-.0776059**	**0.470**	WOP	-.7628834	0.672
USINTR	**-.251941***	**0.044**	USINTR	.1828285	0.584
SHORT RUN ESTIMATES					
Variable	Coefficient	Probability	Variable	Coefficient	Probability
ECT	**.0163389***	**0.003**	ECT	.0523292	0.003
C	**-.1336976**	**0.665**	C	-.4136602	0.197
D(RINTR)	**.0006202**	**0.834**	D(RINTR)	-.0044093	0.443
D(EXR)	**-.0294764**	**0.167**	D(EXR)	-.0429666	0.080
D(MS)	**.050911**	**0.492**	D(MS)	.0612298	0.508
D(MPR)	**-.0536065***	**0.020**	D(MPR)	-.0396679	0.105
D(IBR)	**-.0178725**	**0.469**	D(IBR)	.001683	0.943
D(WOP)	**-.0256455**	**0.071**	D(WOP)	-.0389516	0.028
D(USINTR)	**.0141196**	**0.416**	D(USINTR)	.0109538	0.564
Hausman 1978 Test:8.22 (p=0.3140 > 0.05)					

Source: Author's Computation (2021)

Note: *PMG= Pooled mean Group estimation, and MG=Mean group Estimation*

(*) connote significance at 5% level of significance

The panel ARDL estimation result for monetary policy indicators that control industrial output expressed in terms of service sector output is shown in Table 4.4. The null hypothesis, that the difference in the coefficient is not systematic, was tested by the Hausman test shown in Table 4.4 by comparing the pooled mean group estimate result with the mean group estimation result. The pooled mean group is valid for this study because, as shown in the table, the chi-square statistics

were 8.22 and the probability value was 0.3140, indicating that there is insufficient evidence to reject the null hypothesis that the difference between the coefficient of the mean group and the pooled mean group estimation is not systematic. So, as shown in table 4.4, the panel ARDL estimation is based on the mean group option:

Table 4.4's estimation results indicate the probability estimation, short- and long-term coefficients, and impact of monetary policy variables on service sector output in a number of West African nations. The long-run coefficient and probability for interest rates were 0.1267039 and 0.220 (p > 0.05), according to the results, indicating that interest rates have a small but positive long-term impact on service sector production.According to coefficient and probability values of -0.1210833 and 0.682 (p > 0.05) for the exchange rate, -0.7840369 and 0.156 (p > 0.05) for the interbank rate, and -0.0776059 and 0.470 (p > 0.05) for the world oil price, the output of the service sector is negatively but insignificantly impacted by the exchange rate, interbank rate, and world oil price. Money supply, monetary policy rate, and US interest rate have a long-term negative significant impact on service sector output, according to the coefficient and probability of -0.132669 and 0.000 (p 0.05), -0.7890962 and 0.009 (p 0.05), and -0.251941 and 0.044 (p 0.05), respectively.

The short run coefficient and probability for interest rate was 0.0006202 and 0.834 (p > 0.05), for money supply it was 0.050911 and 0.492 (p > 0.05), and for the US interest rate it was 0.0141196 and 0.416 (p > 0.05), indicating that these variables have a positive but insignificant short run impact on service sector output. As shown by the coefficient and probability values of -0.0294764 and 0.167 (p > 0.05) for the exchange rate, -0.0178725 and 0.469 (p > 0.05) for the interbank rate, and -0.0256455 and 0.071 (p > 0.05) for the world oil price, the short-term effects of the exchange rate, interbank rate, and world oil price are negligible and insignificant.The monetary policy rate's coefficient and probability were -0.0536065 and 0.020 (p 0.05), indicating that it has a short-term, significant negative impact on service sector production. A reported probability value of 0.003 0.05 indicates a considerable speed of adjustment at a 5% level of significance, and reported ECT(-1) indicates that around 1.63% of the short run inconsistencies are fixed and incorporated into the long run dynamic annually.

5.0 Conclusion

Based on the results of this study, it can be said that the real interest rate, along with other monetary policy indicators, shifted over time in the opposite direction of the production of both the manufacturing and service sectors. However, whereas the monetary policy rate went primarily in the same direction as output performance for the manufacturing sector, it moved in the opposite manner for the service sector. There is a noticeable difference in the pattern of movement of output performance of the manufacturing sector and service sector, especially with respect to the monetary policy rate, even though the trend for other monetary policy indicators like the real interest rate and money supply is the same for both the manufacturing sector and the

service sector.Second, over the long term, monetary policy variables have a more significant impact on the manufacturing sector's output performance in West Africa than they do on the service sector's. However, in general, the performance of the industrial sector in West Africa is greatly influenced by monetary policy variables including real interest, the interbank rate, the exchange rate, and money supply.

According to the study's conclusions, the monetary authorities in West African nations should lower the money supply and the monetary policy rate in order to increase the output of the service sector. To support the output of the service sector, the money supply and monetary policy rate should be designed to increase consumer and company capacity to demand services.

References

1. Bhuiyan, R. (2008). Monetary transmission mechanism in a small open economy: A Bayesian structural VAR approach (No. 1183). Queen's Economics Department Working Paper.
2. Bolnick, B. (1991). Weak links in the monetary transmission mechanism: The case of Malawi, ODI/HIID Conference on Improving Monetary Policy in Africa and Asia, unpubished manuscript.
3. Cali, M., Ellis, K., &TeVelde, D. W. (2008).The contribution of the services to development and the role of trade liberalization and regulation (Working Paper, No. 298). London: Overseas Development Institute
4. Chaudhry, I. S., Qamber, Y., & Farooq, F. (2012). Monetary policy, inflation and economic growth in Pakistan: Exploring the cointegration and causality relationships. Pakistan Journal of Commerce and Social Sciences, 6, 332-347.
5. Cooray, A. (2009). Government expenditure, governance and economic growth. Comparative Economic Studies, 51(3), 401-418
6. Ćorić, B., Perović, L. M., &Šimić, V. (2012). Monetary policy effects on output and prices: International evidence. The young economists' seminar to 18th Dubrovnik Economic Conference organised by Croatian National Bank, University of Split, Faculty of Economics, Croatia.
7. Dabla-Norris, E. &Floerkemeier, H. (2006). Transmission mechanisms of monetary policy in Armenia: Evidence from VAR analysis. IMF Working Paper No. 06/248.
8. DTI. (2017). Briefing to portfolio committee on trade and industry state of manufacturing – 2017.
9. Ehigiator, B. O. (2017). The service sector in Nigeria: An escalator for new economic growth (unpublished master's thesis). School of Economics and Management, Lund University, Lund, Sweden.
10. Falade, O. E., &Folorunso, B. A. (2015). Fiscal and monetary policy instruments and economic growth sustainability in Nigeria. American Journal of Economics, 5: 1-8.

11. IMF (2016). African Economic Outlook. Sustainable Cities and Structural Transformation 15th Edition
12. Ireland, P. (2005). The monetary transmission mechanism.FRB of Boston Working Paper No. 06-1.
13. Kokores, I. (2015). Lean-Against-the-Wind Monetary Policy: The Post-Crisis Shift in the Literature. SPOUDAI - Journal of Economics and Business, 65(3-4), 66-99.
14. Laokulrach, M. (2013). The impacts of fiscal and monetary policies on service Sector employment: A study of Thailand from 1986-2011. IPEDR, 61(8), 35-40
15. Mishkin, F. S. (1995). Symposium on the Monetary Transmission Mechanism. Journal of Economic Perspectives, 3-10.
16. Mollentze, S. L. (1997). The monetary transmission mechanism: The state of thought. Bureau for Economic Policy and Analysis, Department of Economics, University of Pretoria.
17. Momiglianco, F. &Domencio, S. (1982). The Growth of Service Employment: A Reappraisal", BancaNazionale Del Lavorao Quarterly Review, No. 142, September.
18. Mountford, A. &Uhlig, H. (2009). What are the effects of fiscal policy shocks? *Journal of Applied Econometrics,* 24, 960-992.
19. Nel, E., Rogerson, C. M., & Marais, L. (2006). *Restructuring manufacturing in South Africa's lagging regions: The case of the free state.*
20. Obioma, B. K. &Anyanwu, U. N. (2015). The effect of Industrial Development on Economic Growth: An Empirical Evidence in Nigeria' *European Journal of Business and Social Sciences, 4(2),*
21. Ogundipe, A. A., Uzoma, O. A., &Bowale, E. E. (2017). Monetary Policy Shocks and Manufacturing Sector Output in Nigeria: A Structural VAR-Approach" Journal of Internet Banking and Commerce.
22. Pedersen, M. (2011). Propagation of shocks to food and energy prices: an international comparison.
23. Riddle, D. I. (1986). The Role of Service Sector in Economic Development: Similarities and Differences by Development Categories", in ed. Orio Gianni for the Services World Forum, Geneva, Pergamon Press, Oxford
24. Shelp, R. K. (1985). Service Technology Economic Development" in Economic Impact, 4
25. Simbo, A. B., Iwuji, I. I., &Bagshaw, K. (2012). The performance of the Nigerian manufacturing sector: a 52-year analysis of growth and retrogression. Asian Economic and Social Society 2: 1-17.
26. Ududechinyere, E., &Mbam, A. (2018). An analysis of the effect of manufacturing sector on the growth of the Nigerian economy