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Determinants of Public Policies and the Manufacturing Sector in Nigeria (1997-2013)

Andabai, Priye. W: - Department of Finance and Accountancy, Niger Delta University, Bayelsa State, Nigeria
Tel: 08037046538
E-mail: priyehc@yahoo.com

Abstract

The study examined the determinants of public policies and the manufacturing sector in Nigeria using 17years time series data spanning (1997-2013). Secondary data used for this study were sourced from CBN statistical bulletin and other relevant publications. Hypotheses were formulated and tested using the Ordinary Least Square (OLS) estimation technique. The result shows that, there is a negative significant relationship between excise duty, and capacity utilization. There is also a negative significant relationship between employment rate and capacity utilization. The study is also reveals a positive significant relationship between lending rate and capacity utilization. Therefore the study recommends that, local manufacturing industries should be protected from multiple taxations by persuading the Federal Government through the National Assembly that will define the taxing powers of the three tiers of government in the country. Government should create long-term funding windows in the

manufacturing sector especially the SMIs. Policies that should develop the manufacturing sector must conform to the standard of international best practices especially in the area of employment generation. Policy advocacy should be established to link between the maximum banks lending rate and the minimum rediscount rate (MRR) of the Central Bank of Nigeria.

Key words: Determinants, Public, Policies, Manufacturing, Sector and Nigeria.

Introduction

According to Jhingan (2004), public policy refers to the instrument by which government use to regulate or modify the economic affairs of the country in order to achieve macroeconomic objectives. Andabai (2010) states that, public policy also used to assess the behaviour of the economy as a whole and to seek ways to which its aggregate performance might be improved. According to him the major public policies in any modern economy are: fiscal, monetary and income policy. Ugwuh (2004) earmarked that, for decades Nigeria's economy was characterized by the growing dominance of the public sector, over-reliance on a single commodity (oil) and the pursuit of a highly import dependent policy, and import substituting industrial strategy. Andabai (2011) posited that, these policy thrusts were justified at their inception, but experience has shown that growth based expansionary public expenditure; import substitution and industrialization policies were relied on the export of a few commodities were neither efficient nor sustainable. Egbon (2008) also stated that, manufacturing sector presents the easiest growth impetus based on our market opportunities and enormous resource endowments available locally.

Consequently, according to Andabai (2011) the present manufacturing sector is highly import dependent with an average import content of 55 percent, contributing only 7 percent to GDP, with a growth rate of 5.8 percent in 2003 and generating total employment of 1.4 million. Okeke (2002) stressed that, despite the poor statistics, manufacturing sector still presents one of the best prospects, opportunities and

potential for growth and development within the Nigerian economy. Adenikinji and Chete (2002), conducted an empirical analysis of the performance of the Nigeria manufacturing sector over 30 years period and observed that the sector was performing with satisfactory growth levels from 1970 -1980 despite the limiting factors, According to him, after that phase there was a sharp decline in the growth and profitability of the manufacturing sector. The climax of this was in 1983 due to the negative effect of the oil price. Adejugbe (2000) confirmed that, after the observation of the decline in performance of the manufacturing sector, the government took a significant step to make the Nigeria trade regime liberal and also promote the manufacturing and import-export activities. However, the steps taking by government were through the various public policies such as monetary, fiscal and income policies (Andabai, 2010).

Anyanwu (2000) also reaffirmed that, the collapse of the world oil market in the early 1980s and the prolonged economic recession led to a fall in the performance level of the manufacturing sector in the country. However, Manufacturing Association of Nigeria (MAN) also revealed that there was a general negative trend in the growth of the Nigerian manufacturing sector during the period of 1980-1989. The question now is why this downward trend in the manufacturing sector and the answer may be that the public policies are too heavy for the firms. Because the limiting factors are internal and external does it actually have any relationship in the performance of the manufacturing sector or there are other variables that impeded the activities of manufacturing industries that are still unidentified. If these factors are the causes of the downward trend in the growth and performance of the manufacturing firms in the industry, what measure should be adopted to overcome them in order to improve the performance of the sector? However, for the purpose of reliable data and analysis, we proxy manufacturing sector to capacity utilization monetary policy to lending rate, income policy to employment rate and fiscal policy to excise duty.

Empirical review

A study conducted by Egbon (2004) discovered that, a country cannot be termed developed if its industrial sector, especially manufacturing is not performing according to the capacity of a country industries output because manufacturing makes it not only developed but also less dependent on the country's output. Amaechi (2003) stressed that, Nigerian manufacturing sector has not been performing well, due to a myriad of reasons enunciated earlier; including inadequate funding that is why the manufacturing sector has failed to meet the expectations of the Nigerian society in terms of its contribution to the Gross Domestic Product and providing overall gainful employment expected from the private sector-driven economy. Rather than being a leading growth sector and a key factor in socio-economic transformation, the sector has remained a major consumer of foreign exchange, with a high level of dependency on imported raw materials and capital goods, and making relatively minor contributions of foreign exchange earnings (Andabai, 2010). Dipak and Ata (2003) discovered in their studies that, bank preferred to default in their credit allocation to manufacturing firms and pay the penalty fees because of the relatively long maturity period of such loans to industry. Abumere et al (2002) also confirmed that, the escalation of the bank lending rates following interest rate liberation of 1999-2002 and 2008, as high as 35-40%, also discouraged private sector participation in real activities.

Adenikinju and Chite (2002) conducted a study and also discovered that manufacturing's contribution to GDP, hovers about 8% but it is the sector with the potential to drive rapid economic growth the most, and absorb labour migrating from agriculture productively, but performance of the sector currently could do with considerable improvement. According to Boardman et al (2000), the Regional Programme on Enterprises Development (RPED) survey, Africa Region, by the World Bank, returned interesting results for Nigeria. The survey, conducted in 2001, showed that, the domestic private sector's performance is below that of the foreign owned firms

operating in Nigeria and that the large number of micro-small firm have value added that are below the average for all firm in the sample. Another investigation carried out by Andabai (2011), observed that, firms with foreign equity do better than firms without foreign equity; the most value added per worker is achieved in the food processing sub-sector which appears the least complex; capacity utilization is not up to 70% in any firm group and averages 53% for all firms surveyed. The best performers, very large firms, have the most foreign participation. Over a ten-year period, manufacturing employment has been declining in all firm categories (Egbon, 2004).

Anyanawua (2000) asserted that, in any economy whether developed of developing, the role of private sector for sustained economic growth and development is always at the forefront because the present global economic experiences reaffirmed the place of the market in accelerating growth process in a sustained manner. (Amaechi 2003) stressed that, some transition economies in Eastern Europe and other parts of the world, the conviction that free market allocation through increased private sector prominence, contrary to central planning, guarantees higher efficiency, grows output and ensures better living standards, has been the driving force behind the desires to transform their economic. Boardman et al (2006) in their cross-sectional studies discovered that, many countries the new private sector has played a major role in recovery and growth especially in countries like Albania (before the crisis of 1997-98), Croatia, Estonia, and Hungary. Lithuania (Since 1996), Mongolia (since 1995), Poland and Slovenia. In the commonwealth of independent states (CIS) the sector made up of mainly small and medium companies in the sector, contributed to the economy's overhaul. In the Baltic State and central Asian Republics of Azerbaijan, Kyrgzstan and Uzbekistan such policy became satisfactory too, and spurred the recent recovery Dipak and Ata (2003).

Jhingan (2004) asserted that, the rapid growth of a resilient and competitive manufacturing sector is a key component of a sustainable economic reform programme. Nzotta (2004) stressed that, the present democratically elected government in Nigeria has put in a lot of efforts to diversify the nation's economic base, reduce the relative dominance of the oil sector and strengthen the linkages between the formal and informal sectors. Furthermore, since its indicate its desire to increase the share of manufactured goods in total exports and generally create a vibrant private sector that can respond to the rigours of market forces, as its engine of growth. Government has taken a number of step towards realizing these objective Egbon (2004). Nnanna (2004) stressed that; the relevant of vibrant manufacturing sector in any modern economy cannot be over-emphasized. Unfortunately in Nigeria, the manufacturing sector is still struggling under the shackles of low capacity utilization as a result of lack of effective public policies such as monetary, fiscal and income policies. Therefore, it is against this background that the study attempts to assess the impact of public policies on the manufacturing sector in Nigeria.

Research Methodology

Data

Secondary data was used for this study and they were sourced from CBN statistical bulletin, CBN economic and financial review and CBN annual reports and statement of account. The descriptive and analytical methods of data analysis were used in testing the hypotheses.

Tools of analysis

The ordinary least square technique was used for the analysis to know the coefficient of correlation; coefficient of determination, t-test, F-test and Durbin-Watson. The purpose of using ordinary least square (OLS) in a study is to capture the relationship between dependent and

independent variables so as to obtain the best linear unbiased estimates of our parameters (Ibenta, 2012).

Specification

Model specification involves the determination of the dependent and explanatory variables that based on specified theoretical expectation of sign and size of the parameters. The study proxy manufacturing sector to capacity utilization as the dependent variable while, excise duty, employment rate and lending rate were used as public policies variables (independent). The regression equation was also stated to see the extent to which the independent variables (excise duty, lending rate and employment rate) can predict the dependent variable (capacity utilization) in Nigeria.

Such as $$CPU = a + b_1 LDR + b_2 EMR + b_3 EXD + \mu.$$

Where, **CPU** is Capacity Utilization,

LDR is Lending Rate,

EMR is Employment Rate and

EXD is Excise Duty.

The formulated hypotheses are as follow:

H_{01}**:** There is no significant relationship between lending rate and capacity utilization.

H_{02}**:** There is no significant relationship between excise duty and capacity utilization.

H_{03}**:** There is no relationship between employment rate and capacity utilization.

Results and Discussion

Table 1: Public Policies and Manufacturing Sector in Nigerian (1997 -2013).

Years.	Capacity Utilization (%)	Lending Rate. (%)	Employment Rate. (%)	Excise Duty. (%)
1997	33.5	36	8.21	1.1
1998	29.3	21	7.2	1.2
1999	10.4	20	7.6	2.1
2000	19.5	19.2	6.1	2.4
2001	29.6	13.5	6.0	2.0
2002	26.8	17	6.6	2.7
2003	22.3	21	6.5	3.8
2004	58.6	21	6.3	5.2
2005	13.3	21	6.2	6.0
2006	21.0	20	6.3	8.1
2007	11.0	21	6.0	9.8
2008	59.8	21	5.9	10.3
2009	63.1	16	6.0	12.2
2010	63.4	22	8.4	14.3
2011	64.3	22	7.2	13.9
2012	66.4	18	7.8	12.1
2013	68.6	22	8.2	14.2

Sources: (i) *CBN, Statistical bulletin, (various issues).*
(ii) *CBN Economic and Financial Review (various issues).*
(iii) *CBN, Annual Report and Statement of Account (various issues).*

Table 2: Model Summary [b]

Model	R	R^2	Adjusted $(R)^2$	Std. error of the estimate	Durbin-Watson
1	.764n	.583	.487	177.87241	1.918

Source: computed by the researcher

The data in table 2 shows that, capacity utilization and public policies variables are related and that the relationship is positive. The value of

R^2 shows that about 58% of the variations capacity utilization is explained by public policies variables in Nigeria. This also implies that a good portion of capacity utilization trend in Nigeria is as a result of changes in public policies variables. Since the value of Durbin-Watson (DW) is equal to or approximate to 2, we say that the variables do not autocorrelate.

Table 3: Coefficients

Model	Unstandardized coefficient		Standardized coefficients		
	B	Std. Error	Beta	t	Sig
(constant)	-451.596	351.374		-1.285	.221
LDR	29.682	25.358	.224	1.171	.263
EMR	67.874	55.565	.220	1.222	.244
EXD	30.024	9.190	.602	3.267	.006

Source: computed by the researcher

CPU = a+b$_1$ LDR + b$_2$ EMR +b$_3$ EXD + μ.

CPU = -451.596 + 29.682 LDR + 67.874 EMR + 30.024 EXD

Where: CPU is Capacity Utilization,

LDR is Lending Rate,

EMR is Employment Rate and

EXD is Excise Duty

Test of hypotheses:

H$_{01}$: There is no significant relationship between lending rate and capacity utilization.

Table 4: ANOVA[b]

Model	Sum of squares	df	Mean square	F	sig
Regression	436462.27	1	43642.272	.004	11.881
Residual	551025.49	15	36735.033		
total	987287.76	16			

a. Predictors: (constant), b. Dependent Variable c. D.F= 1, 15: Significant value = - 0.004$\geq$ F$\geq$: 11.8810 F.cal =.004.

Decision: Since the computed F of 0.004, is less than the calculated value of 11.881 therefore the null hypothesis is accepted. The result shows that there is a negative significant relationship between lending rate and capacity utilization. It means that an increase in lending rate will result to a decrease in capacity utilization and economy vise versa.

H_{02}: There is no positive significant relationship between excise duty and capacity utilization.

Table 5: ANOVA[b]

Model	Sum of squares	Df	Mean square	F	sig
Regression	206766.69	1	206766.689	.065	3.973
Residual	780721.0	15	52048.072		
total	8987487.76	16			

a. Predictors: (constant), b. Dependent Variable c. D.F= 1, 15: Significant value = - 0.65$\geq$ F$\leq$3.973. F.cal = 0.065

Decision: since the computed F of 0.065, is less than the calculated 3.973 value of therefore we fail to accept the hypothesis. The result also reveals that there is a negative significant relationship between excise duty and capacity utilization. It means that an increase in excise duty will result to a decrease in capacity utilization and economy vise versa.

H_{03}: There is no positive relationship between employment rate and capacity utilization.

Table 6: ANOVA[b]

Model	Sum of squares	Df	Mean square	F	sig
Regression	105123.71	1	105123.714	1.787	.201
Residual	882364.05	15	58824.270		
total	987487.76	16			

a. Predictors: (constant), b. Dependent Variable c. D.F= 1, 15: Significant value = - $0.201 \geq F \leq 0.201$: F.cal = 1.787.

Decision: since the computed F of 1.787 is greater than the calculated value of 0.201, therefore we fail to reject the hypothesis. None acceptance of the null hypothesis has led to the conclusion that there is a positive significant relationship between employment rate and capacity utilization in Nigeria. This implies that an increase in employment rate will lead to an increase in capacity utilization in the economy vice versa. Because an increase in the capacity utilization will result to an increase in the rate of employment in the economy

Conclusion

A country cannot be termed developed if its industrial sector, especially the manufacturing industries are not performing up to the required capacity in the economy. The capacity of a country to manufacture effectively makes it not only developed but also less dependent on other countries. Therefore, Nigeria's manufacturing sector has not been performing well, due to several reasons enunciated earlier, including policies summersault. There is a positive relationship between public policy and manufacturing sector in Nigeria, the relationship is strong because the coefficient of the explanatory variable is statistically above 5% significant level. The study also discovered that, there is a positive significant relationship between excise duty and capacity utilization. There is a positive significant relationship between lending rate and capacity utilization.

There is also positive significant relationship between employment rate and capacity utilization.

Recommendations

The study recommends that local Manufacturing Industries should be protected from multiple-taxation by persuading Federal Government through the National Assembly that will definite the taxing powers of the three tiers of government in the country. Government should create long term funding windows in the manufacturing sector especially the SMIs. Policies that will develop the manufacturing sector should conform to the standard of international best practices especially in the area of employment generation and capacity building. An effective policy advocacy should be established to link between the maximum banks lending rate and the minimum rediscount rate (MRR) of the Central Bank of Nigeria. Government should also set-up an effective machinery to ensure full compliance of implementing the formulated public policies in the manufacturing sector of the country. Government should formulate policies and programme that will enable banking sector to provide loans to the manufacturing sector of the economy

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