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Empirical Relationship between Manufactured Import and Non-Oil Manufacturing Sector Performance in Nigeria (1975-2012)

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Abstract

Thispaper investigates the impact of import of manufactured goods on non-oil manufacturing sector output in Nigeria over the period 1975-2012. The analysis starts with examining the stochastic characteristics of the time series using Augmented Dickey Fuller and Philip Perron test. The test revealed that all the series are non-stationary at level but stationary at first difference. Using Johansen's cointegration test it was established that there is long run relationship between the series. A negative error correction coefficient was also obtained from the Vector Error Correction model. The study was prompted due to the rampant increase in importation of manufactured goods which affects the development of Nigeria's manufacturing sector development in particular and the nation's development in general. The result shows there is negative relationship btw manufacturing productivity, Log of Import of Manufactured goods, Log of Manufacturing Capacity Utilization and Log of Government Expenditure to Manufacturing sector. The study therefore recommends that proper policy be adopted by government and policy makers in curtailing importation of manufactured goods thereby reviving Nigeria's manufacturing sector.

Keywords: Manufacturing Sector Output, Import, Exchange Rate, Cointegration, Vec Model

Background to the Study

Nigeria, a country with large number of manufacturing industries still rely on the importation of manufactured goods despite the skills, talents, resources and wealth at its disposal and the various move by successive governments to ban importation. This goes a long way in crumbling the manufacturing sector, making goods manufactured within Nigeria inferior and even more expensive. The Nigerian manufacturing sector has been neglected for a long time as the country relies on proceeds from oil sector since 1960's and does not also contribute much to export. According to Mike (2010) Nigerian economy depends heavily on the oil and gas sector, which contributes 99% of export revenues, 85% of government revenues, and 18.70% of the Gross Domestic Product (GDP) in 2009. This led to the neglect of manufacturing sector.

According to the Bureau of Public Enterprise (BPE) (2006), players in the Nigerian industrial and manufacturing sector can be classified into four groups, Multinational, National, Regional and Local. However, the Manufacturers Association of Nigeria (MAN) has categorized its industries into Large, Medium and Small Scales in line with the National Council of Industries (NCI) classification. According to MAN and Standard Organization of Nigeria (SON) classification of manufacturing sectors, the following products sectoral groups exist in Nigeria:

Food, Beverages & Tobacco; Chemical and Pharmaceuticals; Domestic and Industrial Plastic and Rubber; Basic Metal, Iron and Steel and Fabricated Metal Products; Pulp, Paper & Paper Products, Printing & Publishing; Electrical & Electronics; Textile, Wearing Apparel, Carpet, Leather & Footwear; Wood and Wood Products Including Furniture; Non-Metallic Mineral Products; Motor Vehicle & Miscellaneous Assembly.

However, all these items are also being imported. The manufacturing sector is expected to dominate, shape and define the core path of industrialization all over the world and it is a major determinant of economic growth. In Nigeria, the sector is experiencing decline in its productive capacity and at the same time facing competition from importation. This affects the performance of the sector and also reduces the rate of economic growth. For instance, contributions of manufacturing firms to the nation's Gross Domestic Product (GDP) have been on the declining trend, ranging from 9.2% in 1981-1985 to 6.3% in 1996-1998 (Anyanwu 2004). According to NBS (2012) the growth rate of manufacturing sector has increased marginally from 7.31% in 2010 to 7.32% in 2011 but an ugly scenario could be drawn when compared with 2008 and 2009 when growth rate was 8.39 and 8.13 percent respectively.

The import of the country grew from N0.7 billion in 1970 to over N562 billion in 1996 and later increased to N1, 266 billion in 2001, (CBN Annual Report, 2004). In addition, in 2005, Nigeria imported about US$26 billion of goods. In 2004, the leading sources in import were China (9.4 percent), The United States (8.4 percent), the United Kingdom (7.8 percent), the Netherlands (5.9 percent), France (5.4 percent), Germany (4.8 percent), and Italy (4 percent). Principal imports were manufactured goods, machinery and transport equipment, chemical and food and live animals.

The manufacturing sector productivity has not been increasing as expected compared to other countries of the world despite the era of advanced technology application. Its contribution to GDP has been insignificant given the number of industries existing in the country. In Nigeria, manufacturing productivity has fallen over the years (Anyawu, 2008) due to the failure to operate near full capacity. In the late 60s and early 70s, emphasis was placed heavily on the manufacturing sector such that the country was moving towards her path of economic freedom and social independence after political independence in October 1960.

Mike (2010) further states that the sector is reputed to be an important engine of growth, an antidote for unemployment; a creator of wealth,and the threshold for sustainable development. The manufacturing sector plays catalytic role in a modern economy and has many dynamic benefits that are crucial for economic transformation. It is an avenue for increasing productivity in relation to import substitution and export expansion, creating foreign exchange earning capacity, raising employment, promoting the growth of investment at a faster rate than any other sector of the economy, as well as wider and more efficient linkage among different sectors (Fakiyesi, 2005). Despite all these roles expected to be played by the sector, the Nigerian Manufacturing Sector is still facing decline in quantity of its output and faces a high level of competition with imported ones in the market. In Nigeria for instance, those products that are

manufactured locally are referred to as "Made-in-Nigeria goods" and are not often patronized by Nigerian. This is why Akingbola (1999) stated that manufacturers of locally made goods have to compete with imported ones in the market and devise strategies to maintain a competitive advantage, in order to remain in the market.

Research Problem

The inability to improve and develop the manufacturing sector of a country prevents the country from exploiting and utilizing its available resources and also makes it more dependent on foreign supply of finished goods and raw material. The Nigerian manufacturing sector is not improving in its performance and it is not responding to the needs of increasing population. This gives room to the developed countries and the Asian Tigers to penetrate their finished products into the Nigerian market. These problems accumulated together reduced the productivity of the manufacturing sector and created room for importation. The increase in importation on the other hand will further have negative impact specifically on the sector and on the nation in general. This is because with the importation of cheap manufactured goods there will be less demand for the nations' product which will lead to increase in stock, reduction in labor, increase in unemployment, closure of industry and increase in insecurity. With these problems, Nigerian economy will not be able to increase the share of manufacturing sector in export and GDP and also attain the vision 2020 goal. There is therefore the need to look into the impact of import on the productivity of manufacturing sector in order to ascertain the performance of our manufacturing sector and its contribution to Gross Domestic Product. The study therefore intends to contribute to literature in the following ways:

a) To show the actual relationship between import of manufactured goods and manufacturing sector productivity in Nigeria

b) To examine the role of government in development of manufacturing sector

The study consists of five sections. Section one is the introduction, section two is review of relevant literatures while methodology and model specification will be in section three. Section four comprises of presentation and discussions of empirical results and section five presents the conclusion and recommendations for the study

Relevant Empirical Literatures

There exist vast literatures conducted in studies both in manufacturing sector development and liberalization of the Nigerian economy. Though most of these studies looked at manufacturing sector development, they studied the overall import or the net volume of trade openness on the sectors performance. Example of such studies include Harrison (1996), Edward (1998), Ynikkaya (2003), Sinha and Sinha (2000), Njikam (2009) an Adebiyi (2006) among others. Some evidence show there is positive impact while others show there is negative impact.

Studies that argue there is negative impact of importation on manufacturing sector performance are Katrak (1980) for India, Amjad (1977), for Pakistan, Haddad et al (1996) for Morroco and Forotan (1996) for Turkey. Iscan, Talan (1998) analyzed the effect of trade openness on total factor productivity growth for Mexican manufacturing industries for the period 1970 to 1990 using Generalized Method of Moment (GMM). The results showed that after liberlization productivity growth has positive and significant relationship with exports, while change in

effective rate of protection was found negative but significant. It was therefore concluded that liberalization has positively affected productivity growth.

The study by Onakoya, Fasanya and Babalola (2012) examined the impact of trade openness on Nigerian Manufacturing Sector performance within 1975-2010, using Error Correction Model. The result shows that trade openness has a positive impact on manufacturing sector performance while exchange rate and inflation rate have a negative impact on the sector's performance.

Study by Semenick and Morrison (2009) showed that reduction in protectionism could be accompanied by a decrease in Industrial output since increased competition may force producers to exist instead of expanding.

Loto (2012) examined the relationship between global economic meltdown and the manufacturing sector performance in the Nigerian economy using descriptive analysis and pooled data. The result indicates that the global economic meltdown has insignificant effect on the manufacturing sector of the Nigerian economy. Adenikinju and Chete (1995) showed that in the Nigerian manufacturing sector, import liberalization has had a negative impact on total factor productivity growth. The reason for this was adduced to the fact that domestic manufactures are unable to compete with better quality and often imported products. Rasheed (2010) investigated the productivity in the Nigerian manufacturing subsector using co-integration and an error correction model. The study indicates the presence of long-run equilibrium relationship index for manufacturing production, determinants of productivity, economic growth, interest rate spread, bank credit to the manufacturing subsector, inflation rates, foreign direct investment, exchange rate and quantity of graduate employment. The empirical study by Odior (2013) shows that there is a positive relation between manufacturing sector productivity, Foreign Direct Investment and Credit to Manufacturing Sector while there exist a negative relationship between manufacturing sector productivity, exchange rate, inflation consumer price index. Humpage (2000), in his study claimed that there is a positive relationship between imports and economic growth. However, the direction of influence between imports and economic growth is less certain. According to his study, the direction of causality seems to run predominantly from income to imports at quarterly frequencies, not the other way around. Bamikole (2012) used cointegration analysis to analyze the Impact of Capacity Utilization on Manufacturing Productivity Growth in Nigeria (1975-2007)). The results of the co-integration analysis revealed that capacity utilization would in the long run negatively impact the manufacturing productivity growth because of low electricity supply and government's spending on uneconomically unproductive sectors. The above literatures show that most studies have not shown the relationship between import and manufacturing sector productivity.

Theoretical Literature

This study employs the dependency and liberal economic theories as its theoretical framework to demonstrate how these theories help in the accurate analysis of the dependency of the Nigerian economy on international competitive economic systems over which Nigeria has little control. First, dependency theory is predicated on the notion that there is a “center” of wealthy

nations and a "periphery" of poor and underdeveloped states, (Vincent, 2006). Resources are extracted from the periphery and flow towards the center in order to sustain the economic growth and wealth of the latter, and the poverty of the former. The main point here is that the economic development of the periphery is rendered impossible by the domination of the global economy by the already industrialized capitalist powers. Second, the major argument of the liberal economic theory is that economic liberalization will help in the increase of flow of foreign investment into developing countries, as a result of the easing of trade and exchange restrictions. The notion is that, in the process the political economy of every member state of the international community, the objective of creating a market society in a global scale is within reach (Biersteker, 1993). Again, one of the major objectives of liberalization is to reduce the resource gap in the LDCs, by improving the trade balance and encouraging a net capital inflow. Thus, the growing importance of international organizations such as the G7, International Monetary Fund, World Bank, and World Trade Organization is indicative of the influence of liberal economic internationalism in the post-cold war period (Van and Biessen, 1996). However, these powerful transnational bodies, which embody free trade liberalism as their governing ideology, impose free market structures on developing societies. Liberalism creates dependency and stifles the infant industry in the periphery to the advantage of the centre. Since they are the primary organizations which formalize and institutionalize market relationships between states; they lock peripheral states into agreements, which force them to lower their protective barriers (GATT and NAFTA for instance), thereby preventing developing nations from developing trade profiles which diverge from the model dictated by the supposed "comparative advantage" (Burchill, 1996). From these theories it can be seen that with liberalization of Nigerian economy, there is continuous supply of manufactured goods into the country and at a cheaper price than those produced nationally. All these are part of the factors that made the Nigerian manufacturing sector and economy weak and therefore necessitate excessive dependence on imports of manufactured goods.

Methodology and Model Specification

Secondary data was employed throughout the study ranging from 1975 to 2012. The relevant data are output of the manufacturing sector (MAN), import of manufactured goods (IM), real exchange rate (EXG), Foreign Direct Investment to manufacturing sector (FDI), manufacturing sector capacity utilization (MANC) and government expenditure to the manufacturing sector (MEXP). These data are sourced from Central Bank of Nigeria bulletin of various issues. Several statistical steps have to be taken because evidence in literature suggests that most economic series tend to be non-stationary.

Tests for Stationarity

The test for stationarity of the individual series in the economic model will be undertaken using the augmented Dickey-Fuller (ADF) and Phillips-Perron unit root test procedure in E-Views version 7. The test series is said to be non-stationary, if the ADF test revealed the Null Hypothesis could not be rejected against an alternative, and stationary if otherwise. Economic series are said to be integrated of order d, denoted as I(d), where the order of integration is the number of unit roots contained in the series or the number of differencing operations it takes to make the series stationary. Once stationarity is detected, cointegration test will be carried out.

Johansen's Co-integration test

The next stage in the examination of statistical properties of the series will be a test for cointegration among the variables. This was implemented in E-Views using procedures from Johansen (1992, 1995) system based techniques. This test is appropriate for time series data that are integrated of the same order. This explains why a linear combination of individual time series data that are non-stationary becomes stationary. Establishment of cointegration means there exist a long-run relationship between the variables. This leads to the next step which is Vector Error Correction model.

Vector Error Correction Modeling (VECM)

Having established that there exist a long run relation between the variables; the next step is to determine the short run dynamic relationship among the variables using a VEC testing framework. VEC is a restricted Vector Auto Regressive (VAR) designed for use with non-stationary data that are cointegrated. That is a VAR that incorporates cointegration is called the Vector Error Correction model.

Model Specification

Trade openness model used by Sinha and Sinha (2000) and adopted in the study by Onakoya et al (2012) was adopted and modified.

Their model is $MFG = B_O + B_1IG + B_2PG + B_3TG + B_4INF + B_5REER + e$
Where MFG = manufacturing growth, IG = Investment growth, PG= Employment growth, TG= Trade growth, INF= inflation growth, RER= Real Exchange Rate

The model for this study is $MAN = b_0 + b_1IM + b_2FDI + b_3EXG + b_4MANC + b_5MEXP + e$ and in log form it is presented as
$LMAN = b_0 + b_1IM + b_2FDI + b_3EXG + b_4MANC + b_5MEXP + e$ Where MAN = Manufacturing growth, IM = Import of Manufactured Good, FDI = Foreign Direct Investment to Manufacturing Sector, MANC= Manufacturing sector capacity utilization, EXR= Real Exchange Rate, MEXP= Government expenditure to the Manufacturing sector.

To examine the relationship between the import and the productivity of the manufacturing sector, the following hypotheses were tested:
H0: There is no relationship between import of manufactured goods and manufacturing sector productivity
H0: There is no relationship between government expenditure and manufacturing sector productivity.

Discussion of Empirical Results

From the ADF test statistics, the results in Table 1 shows that LMAN, LIM, LFDI, LEXG,LMANC AND LMEXP were integrated at order one, that is I(1) or they were stationary at first difference. Comparing the variables levels with their first difference (the ADF unit root test statistic and PP test) and various probabilities, the test statistics show that the variables are integrated at order of one. All the variables were statistically significant at 5% critical values in first difference.

Table 1: Unit Root Test Result

	ADF		PP		
VARIABLES	LEVELS	1ST DIFFERENCE	LEVELS	1ST DIFFERENCE	COMMENT
LMAN	-1.716	-5.0507	-1.6718	-5.0691	I(1)
LIM	-1.8278	-7.2094	-1.7218	-7.1894	I(1)
LFDI	-2.3656	-3.8575	-2.3174	-3.6554	I(1)
LEXG	-1.0043	-5.0182	-1.2819	-5.0143	I(1)
LMANC	-1.6559	-3.6302	-1.2097	-3.6160	I(1)
LMEXP	-2.0748	-4.8591	-2.0978	-4.9347	I(1)

Source: Author's Computation using Eviews

From the table above we cannot reject the null hypothesis of non-stationarity of the series at level but we rejected it at first difference for all the variables.

Cointegration Test Result

Having confirmed that all the variables are I(1) the Johansen's cointegration test was conducted. The optimal lag criterion was determined using the three selection information criteria (AIC, SIC and HQCR), the final prediction error and the likelihood ratio from the estimates of an unrestricted VAR in levels. We find the optimal lag length that makes the residuals free from autocorrelations to be one. From the Johansen's cointegration test result in Table 2, the trace statistics and Maximum Eigen value indicates the existence of one co-integration. This is accepted at 5% level of significance.

Table 2: Test for Cointegration

HYPOTHESIZED	TRACE	CRITICAL VALUES	MAX-EIGEN VALUE	CRITICAL VALUE
None	110.52	95.75	41.50	40.08
At most 2	69.02	69.82	31.29	33.88
At most 3	37.74	47.86	18.40	27.58
At most 4	19.34	29.80	12.63	21.13
At most 5	6.41	15.49	6.64	14.26
At most 6	0.07	3.84	0.07	3.84

Source: Authors computation using Eviews 7

By normalizing the cointegrating vector (CV) on LMAN, the CV is then identified as the long run relationship between LMAN and its determinants. The normalized equation is given below. Standard errors are in parenthesis.

LMAN = 11.57 -0.308LIM(-1) + 0.254LFDI(-1) + 0.081LEXG(-1) 0.361LMANC(-1)
(0.04710) (0.067)(0.0453) (0.1233) 8.635LMEXP (0.3533)

The result shows that LIM, LMANC and LMEXP have a dominant negative effect on the manufacturing sector growth while LFDA and LEXG have a positive effect on LMAN's performance. A 100% change in import will lead to 31%fall in the growth of manufacturing sector output. while a 100% increase in LMANC 36% fall in the growth of LMAN. in the longrun, the equation further shows that a change in LFDI induces a 25% increase in LMAN while LEXG has a positive effect of 8% on LMAN. This is similar to the work of Semmenik and

Morrisson, Adenikinju and Chete (1995) for import, Odior for FDI AND Bamidele (2012) for LMANC. From the long run result, the null hypothesis stated for this study will not be accepted.

Vector Error Correction Model Result

The short run dynamic model of ? LMAN and its determinants is presented in the table below. The adjustment coefficient in the model is statistically significant and correctly signed. It shows that the speed of adjustment (error correction mechanism) to the long run is high. Specifically, about 69.6% of the disequilibrium errors which occurred in the previous period are corrected in the current period

Table 3: Vector Error Correction Model Result

Variables	Coefficients	Standard Error	t-stat
C	0.159	0.091	1.742
ECM	-0.696	0.395	-1.763
? LMAN	1.319	2.540	0.519
? LIM(-1)	0.012	0.166	0.074
? LFDI(-1)	0.068	0.334	0.204
? LEXG(-1)	0.069	0.199	0.344
? LMANC(-1)	-0.178	0.656	0.271
? LMEXP(-1)	-13.527	24.813	-0.545

R^2 = 0.2094, Adj R^2 = -0.04, F -stat = 0.9836

The short run adjustment model from the table suggests that past changes in LMANC and LMEXP are negatively related to current changes in LMAN but not statistically significant. However lagged changes in LIM, LEXG and LFDI are positively related to current changes in LMAN. Though the predictive power is low 20.9% the overall effect of the lagged changes in the variable is strong 98.3%

Conclusion and Recommendations

This study examines the relationship between import of manufacture goods and the output of non-oil manufactured output in Nigerian economy using Vector Error Correction Modeling. It contributes to literature by specifically looking at only manufactured goods and the effect of its imported equivalent. The role of government was also captioned by introducing government expenditure to manufacturing sector. The unit root result indicates that all the variables are stationary at first difference. The cointegration test shows that they possess long run equilibrium relationship and that most of the variables have the correct sign. It showed that LFDI and LEXG positively affect the growth of manufacturing sector while LIM, LMANC and LMEXP negatively affect manufacturing sector performance.

The VEC result obtained using one-lag specification reveals that the parameter of the error correction term is statistically significant, correctly signed and possess a high rate of convergence. We therefore conclude that the negative longrun relation between LIM,LMANC, LMEXP and LMAN reveals the reason for having low contribution of manufacturing sector productivity to GDP.

The study therefore recommends that policy makers and government should device an efficient way of curtailing or banning the importation of manufactured goods. This can also be by increasing the effectiveness of exchange rate. The expenditure by government should be invested in the sector and should not be diversified in the form of corruption. Finally, modern technology, skilled and qualitative staff should be used by the sector in order to improve on the capacity utilization. The banning of imported manufactured goods will encourage the patronage of made in Nigerian goods which will lead to expansion in production. This will further increase employment opportunity and curtail social and economic insecurity in the country.

References

Adebiyi, M.A. (2006)."Trade Liberalization Policy &Industrial Growth Performance in Nigeria: An Error Correction Mechanism Technique". In Challenges of Nigerian Industrialization: A Pathway to Nigeria becoming a highly Industrialized country in the year 2015.

Akingbola, E. B. (1999), "Management Challenges of Private Business for Competitive Advantage in Liberalised Economy". Journal of Management in Nigeria. Vol. 42, No. 4, pp. 15 18.

Amjad,R.(1977). "Profitability and Industrial Concentration in Pakistan". The Journal of Development Studies, vol.13, pp.181-98.

Arize A. C., Chooekawong P., Prasanpanic V. (2000). "Foreign Trade Behaviour in Thailand: Stable or Unstable"? American Economic Rev., 44(2): 36-45.

Biersteker T. J. (1993). "Dealing with Debt: International Financial Negotiations and Adjustment Bargaining". Westview Press, Oxford.

Burchill S (1996). "Theories of International Relations". Macmillian Press Limited, London Central Bank of Nigeria, Statistical Bulletin, various issues

Fakiyesi O, Akan'O (2005). "Issues in Money, Finance and economic Management" University Press Lagos.

Foroutan, F. (1996) Turkey ,1976-85; "Foreign Trade Industrial Productivity and Competition". In Mark J. Roberts &James R. Tybout (eds), Indusrial Evolution in Developing Countries ,Oxford University Preess, Oxford

Haddad, M., de Melo, J. & Horton, B. (1996), "Morroco , 1984-89, Trade Liberalization, Export and Industrial Performance" in Mark J. Roberts &James R. Tybout (eds), Indusrial Evolution in Developing Countries ,Oxford University Preess, Oxford

Humpage, O.F. (2000). "Do Imports Hinder or Help Economic Growth? Economic Commentary, Federal Reserve Bank of Cleveland.

Iscan, Talan (1998), "Trade Liberalization and Productivity: A Panel Study of the Mexican Manufacturing Industry". Journal of Development Studies, Vol. 34, No. 5, pp.123-148

Johansen S (1992). "Determination of Cointegration Rank in the Presence of a Linear Trend". Oxford Bull. Econ. Stat., 54: 383-397.

Johansen S (1995). "Likelihood-based Inference in Cointegrated Vector Autoregressive Models". Oxford University Press, UK.

Loto, M. A. (2012). "Global Economic Downturn and the Manufacturing Sector performance in the Nigerian Economy". *Journal of Emerging Trends in Economics and ManagementSciences (JETEMS)*, 3(1): 38-45.

MAN, Manufacturers Association of Nigeria - Membership profile available from: http://www.manufacturersnigeria.org/membership. Htm

Njikam, O. (2009). "Trade Liberalization, Infrastructure and Industrial Performance in Cameroun". Faculty of Economics & Mgt University of Yaoundé

Odior, S. E. (2013); "Macroeconomic Variables and the Productivity of the Manufacturing Sector in Nigeria: A Static Analysis Approach". Journal of Emerging Issues in Economics, Finance and Banking (JEIEFB) An Online International Monthly Journal (ISSN: 2306 367X) Volume:1 No.5

Onakoya, B.A. et al (2012); "Trade Openness & Manufacturing Sector Growth: An Empirical Analysis for Nigeria". Mediterranean Journal of Social Science Vol. 3(ii)

Rasheed, O. A. (2010). "Productivity in the Nigerian Manufacturing Sub-Sector". *EuropeanJournal of Economics, Finance and Administrative Sciences*, 6(8): 1450-2275.

Semenick, A., Morrison, A. R., (2000), "Trade Reform Dynamics &Technical Efficiency; The Peruvian Experience". The World Bank Economic Review, Vol. 14, No2, pp309-30,

Sinha, D. & Sinha, T. (2000), "Openness, Investment and Economic Growth in Asia". The Indian Economic Journal. 49 , No.4 page 110-112

Van B. C. & Biessen G (1996). "Trade Possibilities and structure of foreign trade: the case of Hungary and Poland". Comparative Economic Studies 38(2,3):1-19.

Vincent, F. (2006). "Dependency Theory: An Introduction". Mount Holyoke College, South Hadley, M.A.

Yanikkaya, H. (2003), "Trade Openness and Economic Growth: a Cross Country Empirical Investigation". Journal of Development Economics72, pp. 57-89

Appendix

YEAR	LIM	LMAN	LFDI	LMEXP	LMANC	LEXG
1975	7.15937	7.065135	6.226932	1.955172	4.338597	-0.46755
1976	7.30081	7.289133	6.31119	1.986385	4.348987	-0.436
1977	7.571113	7.43578	6.556494	2.006304	4.365643	-0.50096
1978	7.818873	7.977906	7.141562	2.076676	4.289089	-0.51795
1979	7.6 45732	8.246845	7.246012	2.109831	4.269697	-0.60448
1980	7.873446	8.54912	7.315817	2.145828	4.249923	-0.49426
1981	8.17143	10.35603	7.441731	2.337569	4.294561	-0.39621
1982	7.999444	10.5039	7.561382	2.351747	4.152613	-0.32277
1983	7.798154	10.65029	7.66 2985	2.365587	3.906005	-0.26796
1984	7.39523	10.55374	7.654111	2.35648	3.7612	-0.11233
1985	7.515508	10.75355	7.731097	2.375235	3.64545	0.703382
1986	7.306196	10.74811	7.941011	2.37473	3.65842	1.39077

YEAR	LIM	LMAN	LFDI	LMEXP	LMANC	LEXG
1987	8.549351	10.89589	8.046325	2.388386	3.69883	1. 512207
1988	8.613358	11.2967	8.198914	2.424511	3.747148	2.000339
1989	8.960814	11.36381	8.595339	2.430434	3.779634	2.084156
1990	9.428294	11.58165	8.754476	2.449422	3.696351	2.293493
1991	10.90068	11.7166	9.070204	2.461007	3.73767	2.850615
1992	10.603 4	11.86979	9.184643	2.473996	3.640214	3.093361
1993	10.79276	12.0084	9.463827	2.485607	3.616309	3.085852
1994	10.74494	12.292	9.551082	2.508949	3.414443	3.085852
1995	12.24002	12.58575	10.22806	2.532565	3.377246	3.085852
1996	12.08836	12.75447	10.30274	2.545882	3.480009	3.085852
1997	12.54999	12.84291	10.35128	2.552792	3.414443	3.085852
1998	12.54744	12.87909	10.44883	2.555605	3.478158	4.529297
1999	12.57387	12.95156	10.49908	2.561216	3.543854	4.626004
2000	12.7001	13.04133	10.52765	2.568123	3.58629 3	4.717993
2001	13.04124	13.15921	10.53952	2.577122	3.754199	4.795544
2002	13.228	13.10314	10.59547	2.572852	4.005513	4.862572
2003	13.54874	13.00405	10.73028	2.565261	4.034241	4.894104
2004	13.46148	12.68039	11.54244	2.540056	4.01998	4.883915
2005	13 .79847	12.83513	11.80481	2.552186	4.00369	4.857108
2006	13.90837	12.96985	12.26778	2.562628	3.975936	4.834956
2007	14.13826	13.04895	12.29916	2.568708	3.977436	4.775477
2008	14.44058	13.16318	11.95722	2.577423	3.986017	5.003287
2009	14.19824	13.19709	12.06855	2.579996	4.009875	5.01262
2010	14.54422	13.23484	11.76057	2.582853	4.028917	5.015037
2011	14.29585	13.3019	11.28427	2.587907	4.041295	5.064283
2012	14.18463	13.38645	11.39774	2.594243	4.053523	5.050176

Source: Author's Computation from CBN Data