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Trade Liberalisation, Growth and Poverty Reduction in Nigeria

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Abstract
This study traces the beneficial effects of trade-growth nexus and evaluates its indirect trend on the poverty periscope of the Nigerian economy (i.e the trickle-down theory of development), and in order to keep up with the 'stationarity' of the economic data employed, both individually and collectively, the Augmented Dickney Fuller (ADF), the Phillip Peron (PP) test, and the Johansen Juselius Cointegration tests were respectively employed. Contrary to expectation and in deviance to theoretical proposition, in the Nigerian context, an outward-oriented policy of trade liberalization has not been beneficial. This study, after all, lends more credence to the study of Kanayo, George and Adenuga (2004) which reports that there is no co-integration between trade openness and economic growth on the one hand, and with poverty reduction, on the other hand, both at 1 percent and 5percent significance levels. But, capital expenditure is the only variable that both impacts on growth and also trickles down to the 'common man' and thus reduces the poverty level of the Nigerian economy.
Keywords: Trade, Growth, Liberalisation, Poverty.
JEL CLASSIFICATION: O4, N7, I32

I. Introduction

The unanimous agreement on the beneficial effects on growth and poverty reduction of trade liberalization goes back to the emergence of the Washington Consensus in the early 1980s. The consensus emerged in response to the economic crisis affecting most developing countries at that time, triggered by the debt crisis. Nonetheless, economic growth is generally seen as being dependent on openness on trade. But literature on trade theory and policy has since the time of Adam Smith debated whether openness and trade liberalization provide the necessary ingredients for poverty reduction (Miller and Upadhya, 2000).

The existing literature supports the axiom that openness is directly correlated to greater economic growth with the main operational implication being that government should dismantle the barriers to trade. There are some good arguments suggesting that trade liberalization may improve resource allocation in the short term or raise growth rate permanently (and thus be beneficial to the poor), there are a number of other arguments suggesting the opposite (Jayne, 2001:13).

The key to sustained poverty alleviation is economic growth, as was widely accepted by economists and development practitioners (Fields, 1989; Ravallion, 1995; Bruno; Ravallion and Square 1998). These early studies were based on rather small samples, but recent work has extended the sample and reached exactly the same conclusions, although at the expense of great controversy. Most controversial has been the study by Dollar and Kraay (2002), which examines the relationship between growth and poverty both in levels across countries and in changes through time (national growth rates).They observed that although, growth can be un-equalizing, it has to be very strongly so if it is to decrease absolute poverty. This appears not to be the case either in general or for growth associated with free trade. The link that has seen the most sustained debate among economists, however, is that between greater openness and growth. While there is good deal of empirical support for the argument that trade liberalization stimulate long-run growth and income, the case has certainly not yet been completely proven. There is no evidence, however, that they are harmful to growth.

Observing the "trickle-down theory" of development, this study examines an aspect of Nigeria's interaction with the global economy. Nigeria is rich but its people are poor (World Bank, 1996). This irony has made it imperative to assess the poverty implications of Nigeria's trade liberalization's policies. This issue requires greater urgency as the population of poor people (living below the poverty line) doubled from 33 per cent (18million) in 1970 to 66 per cent (66million) of the population in 1999 (DFID; 2000). Recent United Nations and Federal Government estimates for the year 2008 suggested that as 2008, the trend has not changed (but rather worsen).

Furthermore, the severity of poverty more than doubled from 0.08 in 1980 to 0.207 in 1996 (Federal Office of Statistics; 1999 now National Bureau of Statistics). Thus, the unfortunate trend of rapidly growing population of poor people is further exacerbated by the worsening condition of living of poor people i.e. the poor are becoming poorer than they used to be. More worrisome is it that even since the openness of the Nigerian economy to trade, this trend has become more retrospective.

The justification as well as the motivation for this study chiefly stems from ascertaining whether Nigeria's openness policy on trade contribute significantly to this dismal state of poverty; considering the

distributional neutrality of growth (White and Anderson; 2001). While simple Heckscher -Ohlin Trade Theory suggests that in relatively unskilled labour-abundant countries like Nigeria, trade liberalization will relieve poverty. However in practice, trade liberalization may be accompanied by skilled-biased technical change which can mean that skilled labour may benefit relative to unskilled labour, hence, making the rich richer, the poor poorer. More so, Nigeria has very strong endowments of minerals and so liberalization may stimulate these sectors rather than labour-intensive ones. Also, if the unskilled are primarily employed in non-traded sectors, while exports draw mainly on the semi-skilled, a liberalization accompanied by real exchange rate depreciation could have adverse effects.

Besides, the dwindling light of the Nigeria industrial sector is of great concern. The relatively high growth in the index of industrial output in the 1970s was traceable to the promotion of industries through trade barriers and incentives which offered protection and concessions to the infant industries. However, in the 1980s, when Nigeria's economic crisis deepened, the plight of the industrial sector became more apparent. This is clearly shown by the large negative growth of industrial output in 1985 and since 1992 to date, the result is not significantly different (Sesan; et al., 2005). These stated concerns gave strong impetus for the essence of this study. Thus, accounting for how much trade liberalization has contributed to the pro-poor growth process in Nigeria would be highly justified.

This paper is divided into six sections with this introduction serving as the first. Section II addresses the review of existing literature concerning on the research topic, Section III traces the empirical review while Section IV considers the research methodology. Lastly, Section V focuses on the analyses of results with Section VI proffering the policy implications for this study.

II. Literatures Review.

The available literature on trade-growth nexus revolves around the neoclassical approach, the endogenous growth approach and the institutional approach.

The neoclassical approach to the trade-growth nexus involves general equilibrium models with constant or decreasing return to scale. Moreover, it is built upon the choices of rational individuals acting solely through markets. Trade patterns among countries are determined by comparative advantage either in the form of technology differences, as in Ricardian model, or resource endowment as in Heckscher-Ohlin models. The neoclassical models of international trade theory in general predict that a country will have a static gain from lowering its trade barriers. Perhaps, one of the most important static gains from trade liberalization predicted by neoclassical models is the increase in allocative efficiency. Since trade policy has an important impact on the transmission of international price signals, lowering trade barriers will lead to a reallocation of resources and resources are used more efficiently, and the welfare of the country as a whole will rise.

Another gain from trade liberalization predicted in some neoclassical studies linking trade and productivity is that lowering trade barriers concrete a so-called X-efficiency gain by having a positive impact on the efforts of workers managers in the economy. Increased foreign competition due to barriers has an invigoration effect similar to that of a "cold shower" and workers/manager has to raise their efforts to survive the fierce foreign competition. Yet, the gains from trade liberalization are by nature of the neoclassical model-static, and trade policy like other government policies has only level affects, not growth effect-a well known prediction of neoclassical growth model as in Solow (1956) and Swan (1956). However, the dynamic gains of trade liberalization are closely linked to writings on endogenous growth ("new growth") theory that have proliferated since the mid-1980s. Much has been made of the endogenous growth theory, however, in many ways it differs only slightly from the neoclassical model.

According to the endogenous growth theory approach, trade policy can impact on income and long-run growth through: (i) scale effects (ii) allocation affects (iii) spillover effects and (iv) redundancy effects. To focus on the scale of factor endowments (or the size of the markets), relative prices or technological designs or blue prints are fixed by assuming a Ricardian structure of the economy. Market expansion created by trade raises the profitability of research and development and leads to an increase in the growth rate.

In respect of spill-over effects, one important consequences of international trade is the diffusion and integration of technological knowledge. Integrating would market facilities access to the knowledge available in other countries. Technical progress embodied in goods represents an opportunity for countries engaging in international trade to learn from trading partners. More so, the redundancy effect of trade policy on growth is closely related to the characteristics of knowledge. Since knowledge is a non-rival good, opening the economy can reduce the unnecessary waste of resources devoted to research and development from a global point of view. Increased foreign competition in research and development as a result of trade liberalization can eliminate redundancy in research across countries.

Consequently, the global resources devoted to research & development will be used more effectively and the larger global stock of knowledge provides an extra boost to growth. Theoretical models in which the redundancy effect is used can be found in Grossman and Helpman (1991) and Rivera-Betiz and Roma (1991).

Finally with the resurgence of institutional economics in the 1990s, economists (and aid donors) have turned their attention to the role of institutional factors in examining the impact of change in levels of tariff and quotas on economic performance. In view of the new institutional economics (NIE), trade reform is institutional reform and changes in tariffs and quotas typically constitute only a small part of a much more complex process. Trade liberalization is associated with changes in the government's relationship with the private sector and with the rest of the world. Trade liberalization sets new rules and expectations regarding how these policy choices are made and implemented, and established new constraint and opportunities for economic policy.

Henceforth, the relationship between growth, income inequality, and poverty has been one of the central points of discussion in the development literature. There has been tremendous emphasis placed on the probable trade-offs between growth and income inequality. The relationship between growth and income inequality was proposed to resemble an inverted U-curve, that is, income inequality increase in the initial phrases of development, then declines as growth continues. This view was derived from the path-breaking work of Kuznet (1955) who investigated a time series of inequality indicators for England, Germany and the United States. There are some mechanics that may generate the famous Kuznets curve. One widely cited mechanism is the transfer of labour from a sector with low productivity and low inequality to another sector with higher productivity and higher inequality as in the proposal by the seminal work of Lewis (1954). The result would hold if the inequality between the sectors was substantially greater than the inequality within them.

Aghion and Bolton (1997) propose another mechanism with "trickle down effects of capital accumulation". In their work, the increased wealth of the rich implies more funds available for investments by the poor, and the accumulated wealth of the rich trickles down to the poor through borrowing and lending in the capital market. In the presence of imperfect capital market, their model can generate a Kuznets curve. The Kuznet hypothesis has been exposed to a large number of tests over the past five decades. Recent studies using data from developing countries generally refute the inverted U relationship between the level of income and level of income inequality.

III. Review of Empirical Studies

In Nigeria, earlier existing studies do not examine the various channels and circumstances under which trade liberalization may affect growth and poverty level. Okumadewa et al., (1999) and Ogundele (2002) do not examine the poverty implication of trade liberalization on growth and poverty level in Nigeria. Okumadewa et al., (1999) analyse the impact of trade liberalization on food securities while Ogundele (2002) examine its impact on exports. Fourantan (1993) discusses the sustainability of the process but does not analyse its impact on poverty. Also, Oyejide (1986) analyses the impact of trade liberalization on the three major sector's output: non-tradeable, importables and exportables.

However, in consonance with the potential dynamic gain of trade openness, most recent empirical studies have examined a set of trade openness measures and their correlation with each other and with economic growth but found a negative link. Obaseki (2000) posited that although the Nigerian economy has become more open over the years, its share of world trade has remained relatively low. He buttressed that the share of Nigeria's export in total world export was below 1 percent in the period 1970 to 1998, except in 1976-1980 with an average of 1.2 percent, and similar trend was exhibited by Nigeria's import trade.

He found that the share of Nigeria's import in total world trade was partly accounted for by the low export capacity of the economy. The undue dependence of Nigeria on crude oil export has limited the scope for the diversification of the economy while at the same time exposing the economy to shocks in the international oil markets.

Nigeria's low export performance, he noted, especially in the manufacturing sector is a major factor preventing the country from benefiting adequately from the integration of goods and services market across the globe. The lack of comparative advantage in manufacturing has limited the scope of specialization. With the mobility of all factors of production in the context of international specialisation, it is obvious that only those countries with the requisite skills would be able to compete in the global arena. He concluded that with the current low level of comparative advantage in manufacturing. Nigeria will continue to be marginalized in its economic relations with the rest of the world. To avoid marginalization, he portends, Nigeria would have to diversify its economy and take appropriate measures to raise manufacturing exports in order to improve the state of economic growth.

It should therefore be noted that Obaseki (2000)'s work is highly deficient of econometric and other sophisticated analyses as he only rests the bulk of his findings on mere trend analysis without ascertaining the veracity of his findings in the face of sound methodological technique.

The study of Kanayo, George and Adenuga (2004) stands out exceptional as it confronts trend issues with sound time series technique of co-integration where they observed, systematically, the direct link between openness on trade and the long-run growth in the Nigeria economy which is in line with the trickle-down theory of development with an envisaged and expected positive link between trade liberalization and economic growth

However, in the Nigerian context as observed by these authors (Kanayo et al., 2004), there is no co-integration between trade and openness and economic growth both at 1 percent and 5percent significance levels. This markedly differs from hypothesis and expectation that Nigeria being a member and signatory to many multilateral and regional trade banners reduce her tariffs and embark on outward oriented policies.

Their study, in the bid to observe the trickle-down theory of development, forgot to estimate the direct link between trade liberalization and poverty also suffers greatly from the endogeneity problem among variables. Manson (2006) did not portray a rather objective result. He presents a shoddy result of methodological misplacement where he concentrated mostly on theoretical basis and mere descriptive tool of cross-country researches earlier conducted by foreign researchers. Given the above mentioned debate about the role of trade liberalization in theory and policy making, it can be affirmed and predicted that negative impact of trade liberalization on economic growth and poverty is exacerbation as evidenced in the Nigerian economy.

The work of Bamidele (2005) reveals that the country has a small open economy. Rightly before the country embraced market system; total trade, as a percentage of GDP has been quite significant. From 38.2 percent in the 1975-1985 periods, economic openness recorded an unprecedented boost in the post-1989 period rising to 62 percent in the 1990-2000 periods but marginally by a 1.0 percent point to 61.0 percent in the 2001-2004 periods. The increased openness of the economy can be traced to the almost full embrace of market orientation by the country since the adoption of the Structural Adjustment Programme (SAP) in 1986. He posited that the economic openness portrays trade as an important component of the country's GDP considering GDP at 1991 factor cost and not using 1984 factor cost of previous empirical studies analysed. However, he submitted that manufacturing value added as a percentage of gross domestic product has been generally on the decline since increase openness of the economy derived from growth in manufacturing production was propelled mainly by crude oil exports, and capital goods and raw materials imports of the Nigerian economy. He elucidated that the share of manufacturing in total GDP dropped from an average of 10.9 percent between 1981 and 1985 period to 5.2, 0.9 and 0.1 percent respectively in the subsequent periods of 1986-1989, 1990-2000, and 2001-2002. The study concluded that a careful perusal of the relationship between economic openness on trade and the share of manufacturing value-added shows that they are not directly related. The corollary of this is that openness of the Nigeria economy does not derive an impetus from the manufacturing sector or economic openness does not directly translate into an increase in manufacturing output and that trade liberalization does not facilitate increase in the pro-poor growth of the Nigeria economy.

Oladipo (1998) merely adopts the abstraction of the production function as his model with poor theoretical framework. More so, Okoh (2004) only employed the use of Augmented Dickney Fuller for the stationarity of data coupled with Cointegration for long-run equilibrium relationship and later observed the Vector Error Correction Model (VECM) as a technique without citing any theoretical framework and nor review of empirical studies.

Conclusively, Folashade et al (2001) focused on the technological response of the manufacturing sector to trade liberalization in Nigeria. She reported that it seems trade liberalization has had the unintended effect of reducing the size and employment of the manufacturing sector. This was largely attributed to the influx of finished consumer goods and the fact that there has been no significant expansion of manufactured exports as a result of the lack of competitiveness among domestic manufacturers and the continued existence of trade barriers in industrial countries. The study confirms that exports were found to have greater incentives to upgrade their technological equipment than firms that did not export. The index of trade liberalization had a positive sign but was not statistically significant. It is obvious from the reviewed studies that emphases were not largely on examining the pro poor growth that could result from trade liberalization in Nigeria. Therefore this serve as major gap identified in the literature that our study tries to fill.

IV. Trend Analyses.

IV.1 Trend Review of Trade, Growth and Poverty in Nigeria

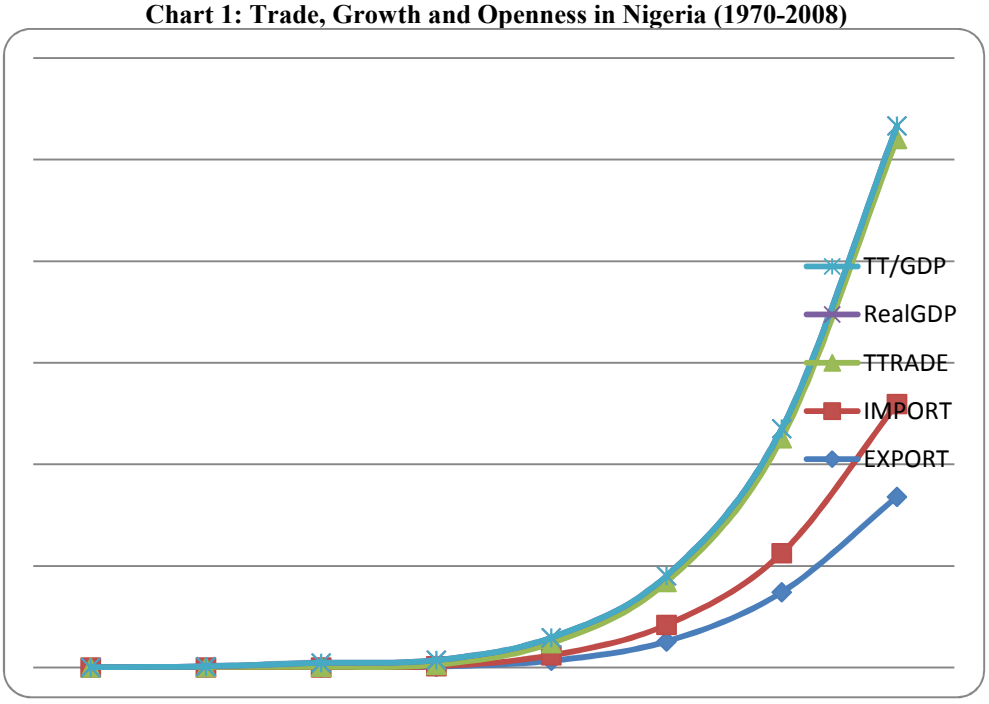
Table 1: Trade, Growth and Openness in Nigeria (1970-2008)

	₦ MILLION (Average figures in ₦'million)				PERCENT	
YEAR	**EXPORT**	**IMPORT**	**TTRADE**	**RealGDP**	**GDPgr**	**TT/GDP**
1970-75	2,775.5	1,583.7	4,359.2	10,321.47	6.67	0.422
1976-80	9,095.7	7,136.4	16,232.1	30,274.2	193.3	0.536
1981-85	11,768.32	7,855.28	18,623.6	195,005	544.13	0.096
1986-90	47,534.9	23,267.3	70,802.26	226,986.6	16.4	0.312
1991-95	340,527.5	263,331.3	603,858.8	273,687.2	20.6	2.206
1996-00	1,287,558.5	818,682	2,106,240.5	306,205	11.88	6.879
2001-05	3,709,867	1,927,802.9	5,657,670	471,847.6	54.10	11.99
2006-08	8,406,446.3	4,571,852	13,044,965.2	634,987.3	34.57	20.54

Source: Central Bank Statistical Bulletin (2008).

The tabular trend above (see Table 1) shows at five-year interval, how the economy is open for trade and the consequential movement in the growth of the Nigerian economy in relation to the total trading activities. The trend shows that there seem to be a positive relationship between trade liberalization and trading activities since as the economy becomes more open, so is the increasing trend in the trading activities. Between the intervals 1970-1975, 1986-1990 and 2001-2005, the economy opens up from 0.422 which plummeted to 0.312 and further open to 11.99 respectively necessitating an increasing trade in total trade with consequent increase in the growth process from 6.67 to 16.4 and 54.10 respectively. Also, the graphical trend below (see Chart 1) perfectly illustrates this tabular behavior.

Chart 1: Trade, Growth and Openness in Nigeria (1970-2008)



Source: Author.

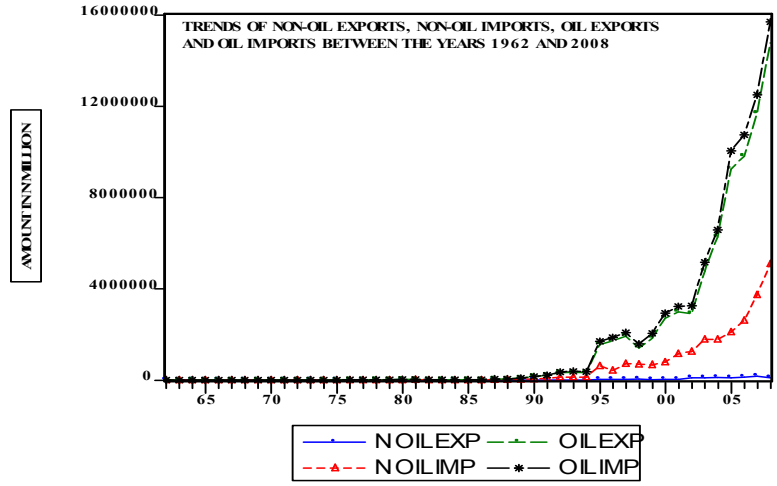
Table 2: Contribution of Oil and Non-Oil Exports and Imports: 1962-2008.

Years	OILEXP		NOILEXP		OILIMP		NOILIMP	
	₦'M	% of total	₦'M	% of total	₦'M	% of total	₦'M	% of total
1962-1968	96.83	21	354.29	78	35.63	7.7	424.14	92.3
1970-1974	1,694.98	82	360.42	18	45.08	4.3	1,002.4	95.7
1975-1980	7,859.7	94	539.50	6	147.03	2.2	6,643.48	97.8
1981-1985	9,189.84	96.6	318.36	3.4	170.22	1.8	9,180.72	98.2
1986-1989	30,007.33	93.4	2,111.38	6.6	3,139.68	16.5	15,898.13	83.5
1990-1992	141,622.8	97.2	4,054.9	2.8	11,135.6	12.0	81,650.17	88.0
1993-1998	759,759.3	97.4	19,999.57	2.6	123,707.8	22.3	430,848.47	77.7
2004-2007	6,692,894	98.1	130,642.5	1.9	716,968.4	6.9	9,714,136.6	93.1

Source: Author's Computations from Central Bank of Nigeria Statistical Bulletin (Various Issues).
OILEXP = Oil Export; NOILEXP = Non-Oil Export; OILIMP = Oil Import; NOILIMP = Non-Oil Import.

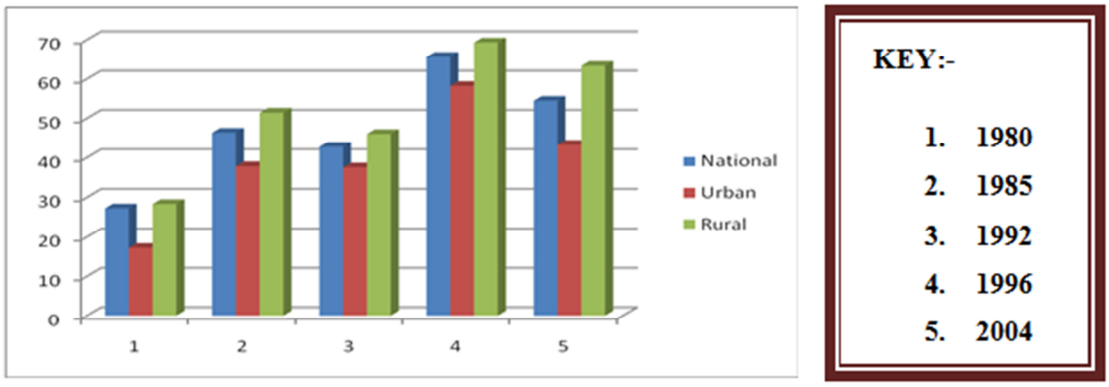
The tabular trend in Table 2 intends to ascertain which nature of trading activities truly accounts for its increasing behavior due to trade openness. As such the percentages of the oil and non-oil exports and imports were ascertained from the total. For the export, the non-oil export accounts for 78% of total while the oil exports accounts for 21% during the interval period of 1962-968 but this trend reverses from the interval period of 1970-974 with the oil-export accounting largely for 82% while its non-oil export accounts for 18%. Subsequently, this proportion increases wider for oil export with 96.6% for the 1981-1985 period and 98.1% for 2004-2007 while the non-oil export for these periods are 3.4% and 1.9% respectively. The implication of the above analyses is that the Nigerian economy only liberalized for oil activities and has failed in diversifying to other areas like the 1962-1968 periods were non-oil export accounts for larger proportion of export activities. However, the non-oil import shares the larger proportion of the total while its oil-import counterpart behaves erratically with increase and decrease in proportion to the total at different intervals with 16.5%, 12% and 22.3% at the periods 1986-1989, 1990-1992 and 1993-1998 respectively. This behavior is also graphically portrayed in the chart below (see Chart 2 below) where the non-oil export diverges greatly from its oil-export counterpart while the oil-import behaves in a parallel but erratic behavior to its non-oil import counterparts.

Chart 2 - Graphically;



IV.2 Trend Review of Poverty in Nigeria.

Chart 3*:* SPREAD AND TREND IN POVERTY LEVELS IN NIGERIA (1980-2004)



Source: Authors.

The graphical illustration of poverty in Nigeria as depicted above (see Chart 3 above) suggests that poverty in Nigeria is an exhibits an increasing trend phenomenon from 1980-1996 which only subside, but still at an increasing level, in 2004 and with rural poverty always having the largest share; possibly due to absence of basic socio-economic infrastructural facilities and amenities. This graphical trend is also captured in the tabular trend below (see Table 3 below) where national poverty increases from 27.2 level to 46.3 levels between 1980 and 1985; and to 42.7 in 1992; to 65.6 levels in 1996 but subsides in 2004 to 54.4.
(Insert Table 3 about here)

V. Methodology

The main issue in this study is an investigation of the economic relationship between trade liberalization and the growth process so as to confirm or refute the trickle-down theory of development (i.e. its possibility of being pro-poor). Simply put, the objective is to find out if trade liberalization has direct effect on economic growth and eventually trickle-down to poverty reduction in the Nigerian economy.
The model employed is as specified by Adeniyi (2005) and in consonance with the neo-classical growth theories as buttressed in Ricardo (1957) and Hecksher (1946) and Ohlin (1933). The model is thus specified as:

$$LOG(RGDP) = a_0 + a_1\ LOG(OPENT) + a_2\ LOG(FDI) + a_3 LOG(CEXP) + u_i \ldots\ldots\ldots (i)$$

$$LOG(PCI) = b_0 + b_1 LOG(OPENT) + b_2\ LOG(GDPGR) + b_3 LOG(INFR) + u_2 \ldots\ldots (ii)$$

Where;

RGDP = Real Gross Domestic Product.
OPENT = Openness on Trade (proxied as the ratio of Total Trade to RGDP).
FDI = Foreign Direct Investment.
CEXP = Capital Expenditure on Social and Economic Infrastructure.
PCI = Per Capita Income (proxied as the ratio of RGDP to population).
GDPGR = GDP Growth Rate.
INFR = Inflation rate (proxied as the Consumer Price Index)

It should be noted that equation (ii) above is as specified by Liang (2007). This is to better identify the multi-faced channels through which trade liberalization impact on poverty and to actually examine, through the per-capita income (as a proxy for poverty indicators), the truism as well as the situational position of the trickle-down theory of development of the classical.

The above equations are in their natural logarithm form so as to cater for the linear and non-linear relationship subsisting among the variables in the respective model. Also, the equations stated above are filled with error term of least squares with its basic assumptions. This is the unsystematic and unexplained part of the regression equation that is ignored and assumed to be equal zero. Hence, no relationship exists between the economic indicators and the error term.

To lend credence to this research work, we carried out the tests of analysis through the use of Augmented Dickney-Fuller (ADF) test of unit roots so as to purge our analysis of any spurious regression result(s) by conducting the stationarity test of economic data in their order of differencing.

Also, since the presence of a cointegration forms the basis of any error correction model specification, the Johansen and Juselius (1990) Maximum likelihood cointegration test is conducted for the long-run equilibrium relations of variables correcting for the effect of shocks which tends to have lasting impacts on the individual variables (Pesaran and Pesaran, 1997). These tests are essential to judge the validity and acceptability of the conclusions drawn from the model estimates.

In the course of investigating these relationships, the below stated hypotheses are found more adequate and thus employed to carry out these onerous task.

- Ho: There exists no significant relationship between openness on trade and pro-poor growth in the Nigerian economy.
  Hi: There exists a significant relationship between openness on trade pro-poor growth in the Nigerian economy.
- Ho:- There exists no direct significant relationship between trade and poverty in the Nigerian economy.
  Hi:- There exists direct significant relationship between trade and poverty in the Nigerian economy.

VI. Analyses of Results and Policy Implications

VI.1 Tests of Analyses: Augmented Dickney Fuller Test of Unit Root.

TABLE 3: SPREAD AND TREND IN POVERTY LEVELS

Poverty Levels	1980	1985	1992	1996	2004
NATIONAL	27.2	46.3	42.7	65.6	54.4
Urban	17.2	37.8	37.5	58.2	43.2
Rural	28.3	51.4	46.0	69.3	63.3
ZONE					
South South	13.2	45.7	40.8	58.2	35.1
South East	12.9	30.4	41.0	53.5	26.7
South West	13.4	38.6	43.1	60.9	43.0
North Central	32.2	50.8	46.0	64.7	67.0
North East	35.6	54.9	54.0	70.1	72.2
North West	37.7	52.1	36.5	77.2	71.2
Size Of Household					
0 – 1	0.2	9.7	2.9	13.1	12.6
2 – 4	8.8	19.3	19.5	51.5	39.3
5 – 9	30.0	50.5	45.4	74.8	57.9
10 – 20	51.0	71.3	66.1	88.5	73.3
20+	80.9	74.9	93.3	93.6	90.7
Educational Level Of Household Head					
No Education	30.2	51.3	46.4	72.6	68.7
Primary	21.3	40.6	43.3	54.4	48.7
Secondary	7.6	27.2	30.3	52.0	44.3
Higher than Secondary	24.3	24.2	25.8	49.2	26.3

Source: National Bureau of Statistics (2009).

Table 3; Model 1:

Variables	**ADF test statistic**		**Phillip Perron test**		
	Levels	**1st Difference**	**Levels**	**1st Difference**	**Order of integration**
RGDP	1.3888	-5.1769	1.3888	-5.4234	I(1)
OPENT	2.5565	-5.6289	2.5565	-4.6289	I(1)
FDI	4.5699	-	4.5699	-	I(0)
CEXP	1.2516	-5.3792	1.2516	-5.3792	I(1)

Source: E-Views Output.

Table 4; Model 2:

Variables	ADF test statistic		Phillip Peron test		
	Levels	1st Difference	Levels	1st Difference	Order of integration
PCI	-1.3082	-7.8094	-1.3082	-7.8094	I(1)
OPENT	2.5565	-5.6289	2.5565	-4.6289	I(1)
GRGDP	-6.1290	-	-6.1290	-	I(0)
CEXP	1.2516	-5.3792	1.2516	-5.3792	I(1)
INFR	-0.1683	-9.0887	-0.1683	-9.0887	I(1)

Source: E-Views Output.
NOTE: LEVELS; CRITICAL VALUES AT 1% = -3.6117, 5% = -2.9399
I(1): CRITICAL VALUES AT 1% = -3.6171, 5% = -2.9422
The ADF test includes intercept but not a trend.

VI.2 Johansen Cointegration Test (Order of Var = 1)

Table 5; Model 1: LOG (RGDP) LOG (OPENT) LOG (FDI) LOG (CEXP)

S/N	MAX. L.R. TEST STATISTICS	5% CRITICAL VALUE	1% CRITICAL VALUE	H_0: r
1	44.71	47.21	54.46	None
2	21.22	29.68	35.65	At most 1
3	9.11	15.41	20.04	At most 2
4	0.20	3.76	6.65	At most 3

Source: E-Views Output
***(**) denotes rejection of the hypothesis at 5 %(1%) significance level.**
LR tests reject any cointegration equation(s) at 5% significance level.

Table 6; Model 2: LOG (PCI) LOG (OPENT) LOG (GDPGR) LOG (INFR)

S/N	MAX L.R. TEST STATISTICS	5% CRITICAL VALUE	1% CRITICAL VALUE	H_0: r
1	46.92	47.21	54.46	None
2	18.82	29.68	35.65	At most 1
3	7.61	15.41	20.04	At most 2
4	1.69	3.76	6.65	At most 3

Source: E-Views Output
***(**) denotes rejection of the hypothesis at 5 %(1%) significance level.**
LR tests reject any cointegration equation(s) at 5% significance level.

The coefficients obtained in the Unit Root tests of Augmented Dickney Fuller and that of Phillip Peron inform that both tests actually converge; providing barely same coefficients of stationarity.

Virtually all the variable are non-stationary at levels (i.e unit-root in nature) but maintains stationarity at an integration of order one (1). However, the growth rate of Gross Domestic Product (RGDP) and the Foreign Direct Investment (FDI) are non-unit root. Specifically, the comparison of the test statistics and the critical values at both 1% and 5% levels show that the variables included in Model 1 such as the real gross domestic product (proxied as RGDP), the openness on trade (proxied as OPENT) and capital expenditure (proxied as CEXP) except the foreign direct investment (proxied as FDI) the former are, at levels, lesser than the latter values. The test statistics (both for the ADF and Phillip Peron) for these variables are 1.3888, 2.556, 4.5699 and 1.2516 respectively while the critical values, at levels, are 3.6117 and 2.9399 for the 1% and 5% significance levels respectively (Table 3 refers). These estimates indicate that only the FDI is stationary at levels since its test statistic is greater than the critical values at both 1% and 5% significance levels while for other variables; the test statistic values are lesser than the critical values at both significance levels of 1% and 5% respectively. However, when these variables are differenced at an order of integration one, the values of the test statistics for these variables are greater than their critical values counterparts at both 1% and 5% significance levels with the values of -5.1769, -5.6289 and -5.3792 for RGDP, OPENT and CEXP respectively while the critical values at these order 1 integration are 3.6171 and -2.9422 for both 1% and 5% significance levels respectively.

Similarly, the variables included in Model 2 (Table 4 refers) suggest that all except the growth of real gross domestic product (proxied as GRGDP) are non-stationary at levels since their test statistics values at levels are lesser than corresponding critical values at both the 1% and 5% levels. The Per Capita Income (proxied as PCI), the openness on trade (proxied as OPENT), the Capital Expenditure (proxied as CEXP) and the inflation rate (proxied as INFR) have -1.3082, 2.5565, 1.2516 and -0.1683 test statistic values respectively for both the Augmented Dickney Fuller (ADF) and Phillip Peron tests while the growth rate of gross domestic product (proxied as GRGDP) has -6.1290 while the critical value at 1% and 5%, at levels, are 3.6117 and -2.9399 respectively. However, all these other variables of PCI, OPENT, CEXP and INFR become stationary at an

integration of order 1 since their test statistic values of -7.8094, -5.6289, -5.3792 and -9.0887 are greater than the corresponding critical values of 3.6171 and -2.9422 respectively.

In furtherance of these tests of analyses, the cointegration test of long run equilibrium condition is conducted in order to ascertain if the variables included in the Models could co-move together and concomitantly ascertain the combined as well as the collective linear stationarity of the variables, even if the individual stationarity at levels remain elusive. In view of this, the cointegrating coefficients obtained above for the direct models of the trade-growth nexus (Table 5 above) and its indirect model through the trade-poverty nexus (Table 6 above) suggest that the likelihood ratio (LR) rejects any cointegrating equation at the 5% level of significance.

The LR statistics for both Models 1 and 2 shows that none of the variables included therein has a likelihood ratio that is greater than the critical values at both the 1% and 5% levels of significance. For Model 1, the variables of RGDP, OPENT, FDI and CEXP have 44.71, 21.22, 9.11 and 0.20 Likelihood ratios respectively which are lower than the corresponding 5% critical levels of 47.21, 29.68, 15.41 and 3.76 and 1% corresponding critical levels of 54.46, 35.56, 20.04 and 6.65 respectively while for Model 2, the variables of PCI, OPENT, GRGDP and INFR have 46.92, 18.82, 7.61 and 1.69 likelihood ratios which are lesser than the corresponding 5% critical levels of 47.21, 29.68, 15.41 and 3.76 and 1% corresponding critical levels of 54.46, 35.56, 20.04 and 6.65 respectively. Therefore, the null hypotheses that there is no significant relationship between openness on trade and pro-poor growth in the Nigerian economy and that there is no direct significant relationship between trade and poverty in the Nigerian economy are accepted at the both the 5% and 1% level of significance while the alternative counterparts are rejected.

The implication of these results is that the much thought about benefit(s) of an outward oriented trade policies adopted over time for the Nigerian economy has not been in any way beneficial, perhaps, because Nigeria is a mono-cultural economy which produces mainly primary commodities with petroleum serving as the mainstay of the economy. This study strengthens the work of Kanayo, George and Adenuga (2004) wherein they submitted that in the Nigerian context, there is no co-integration between trade and openness and economic growth both at 1 percent and 5percent significance levels. This markedly differs from the presumption and expectation that Nigeria, being a member and signatory to many multilateral and regional trade banners, would benefit a lot, should she reduce her tariffs and embark on outward oriented policies. Moreover, these submissions largely converge with the trend analyses; in terms of tabular illustration and graphical presentation analysed above; suggesting an harmonious conclusion of findings.

VI.3 Model Estimations and Discussion of Findings

Table 7: Estimates of Vector Error Correction Model (VECM) – Models 1 and 2.

VECM Estimates: Model 1				VECM Estimates: Model 2		
S/N	**Variables**	**Coefficients**	**T-statistics**	**Variables**	**Coefficients**	**T-statistics**
1.	ECM_{t-1}	0.1625	0.904	ECM_{t-1}	0.1372	0.7285
2.	INTERCEPT	0.0877	1.028	INTERCEPT	0.0687	0.8348
3.	$D(LOG(RGDP))_{t-1}$	0.0025	0.0088	$D(LOG(RGDP))_{t-1}$	0.0847	0.2905
4.	$D(LOG(FDI))_{t-1}$	0.0038	0.0559	$D(LOG(FDI))_{t-1}$	-0.0018	-0.0270
5.	$D(LOG(OPENT))_{t-1}$	0.0261	0.1207	$D(LOG(OPENT))_{t-1}$	0.0861	0.3976
6.	$D(LOG(CEXP))_{t-1}$	0.3284	2.0055	$D(LOG(CEXP))_{t-1}$	0.2947	1.7961
7.	$D(LOG(EXCHR))_{t-1}$	-0.1754	-0.6454	$D(LOG(EXCHR))_{t-1}$	-0.2693	-1.0297
8.	$D(LOG(INFR))_{t-1}$	0.1187	0.2542	$D(LOG(INFR))_{t-1}$	0.2060	0.4656
9.	Adjusted R^2	0.0113	-	Adjusted R^2	0.0259	-
10.	F-statistics	1.0556	-	F-statistics	1.1291	-

Source: E-views Output.

Estimates of the Vector Error Correction obtained from the models earlier specified suggest that the economy will quickly go back to equilibrium once affected by a shock in its productive capacity at a 90 percent rate and a 72.85% recovery rate if affected by the shock in its per capita income. The values of both 0.0038 and 0.0847 for $D(LOG(RGDP))_{t-1}$ and $D(LOG(RGDP))_{t-1}$ respectively suggest that the contemporaneous effect of the past values of both the growth process and the per capita income of the Nigerian economy do not have any significant effect on its present value going by the insignificance T-statistics values of 0.0088 and 0.2905 respectively. Also, the non-inclusion of these variables of foreign direct investment, trade liberalization, capital expenditure and exchange rates and inflation rates on the growth process is, on the one hand, unjustified with a T-statistics value of 1.028 while the non-inclusion of these variables of foreign direct investment, trade liberalization – openness, capital expenditure, exchange rates and inflation rates on the per capita income is also, on the other hand, unjustified with a T-statistics value of 0.835.

For Model 1, however, only the capital expenditure is found to be both positively and significantly

related to the growth process of the Nigerian economy with a 0.33 coefficient and 2.00 T-statistics value. Although, the foreign direct investment, trade openness and the rate of inflation are also positively related to the growth process with 0.0038, 0.0026 and 0.119 coefficients but insignificants at 0.06, 0.12 and 0.25 T-statistics values. These imply that FDI in Nigeria have not been directed to real economic activities that can stimulate growth while trade liberalization has not been, after all, favourable and that government policies on the internal stability of the Nigerian economy as depicted by the rate of inflation have, though being positively related to growth but, not being significant enough to drive growth in Nigeria. However, the policies on the external stability as denoted by the rate of exchange have been negatively linked, though insignificant, to growth with -0.175 and an absolute T-statistics value of 0.645.

Similarly, these variables exhibit the same behavior towards the per capita income with the capital expenditure seen as the only variable that is both positively related and significant too, to the level of poverty reduction in Nigeria. This finding is very instructive since this capital expenditure is expectedly on public goods that will get to every citizen since it considered free and the principle of non-excludability holds. However, foreign direct investment is negatively linked to per capita income with a -0.0018 coefficient and absolute T-statistics value of 0.0027; implying that foreign investment in Nigeria are either not for goods that will improve the living standard of the people or too expensive for the poor to get access to it. Also, trade liberalization with 0.086 coefficients and 0.397 T-statistics value does not significantly reduces poverty in Nigeria, though of positive impact; suggesting that trade openness has not been that favourable to the Nigerian economy, perhaps because Nigeria is a mono-cultural economy which does not have much to offer to the world market and with much goods coming in, into its economy. Both the internal stability (proxied as inflation) and external stability (proxied as exchange rate) of the Nigerian economy are of positive and negative links with insignificant impact on both growth and poverty reduction respectively.

On the whole, the adjusted R^2 and the F-statistics are insignificant at 0.01 and 0.03 for the former and 1.06 and 1.13 for the latter for models 1 and 2 respectively. These imply that these trade liberalization coupled with the inclusion of these other variables can only account for both 1% and 3% influences on the growth process and poverty reduction respectively in Nigeria, while values of the F-statistics corroborate this position.

VII. Conclusion and Policy Recommendations

Trade liberalization, solely, cannot take Nigeria to the "promised land". The truth is that countries that have applied sound economic policies coupled with openness on trade have benefited while those that failed to do so have been penalized. As a result, there is no option for any country than to strive to adopt policies that can work in tandem with the reality of rapid integration of the world's economies. Sequel to this, stable macroeconomic policies, good governance are points in sight. It is a common knowledge that trade liberalization increases the cost of macroeconomic distortion but enhances the reward of sound policies. The need for macroeconomic stability is to reduce budgetary imbalances through reduction in the size and role of government and greater reliance on the private sector development financing.

Also, good governance is essential to ensure that the rule of law prevails and that transparency and accountability are the bedrock of public administration. Excessive government interruption in economic management creates a fertile ground for corruption and rent seeking tendencies. A well-focused administration geared towards reducing bottlenecks on the path of the private sector would generate adequate impetus for the acceleration of economic growth.

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Appendix 3: Model 1 VECM Estimations.

Date: 01/26/12 Time: 07:03
Sample(adjusted): 1972 2010
Included observations: 35
Excluded observations: 4 after adjusting endpoints
Standard errors & t-statistics in parentheses

Cointegrating Eq:	CointEq1
LOG(RGDP(-1))	1.000000
LOG(FDI(-1))	-0.499409 (0.08870) (-5.63048)
LOG(OPENT(-1))	1.411628 (0.11647) (12.1198)
LOG(CEXP(-1))	-0.909930 (0.05635) (-16.1473)
LOG(EXCHR(-1))	-0.753023 (0.10447) (-7.20828)
LOG(INFR(-1))	2.128768 (0.39415) (5.40095)
C	-2.512836

Error Correction:	D(LOG(RGDP))	D(LOG(FDI))	D(LOG(OPENT))	D(LOG(CEXP))	D(LOG(EXCHR))	D(LOG(INFR))
CointEq1	0.162500 (0.17972) (0.90418)	1.349805 (0.53841) (2.50703)	-0.252447 (0.20311) (-1.24293)	0.490349 (0.13335) (3.67703)	0.025705 (0.15009) (0.17126)	0.039586 (0.10945) (0.36168)
D(LOG(RGDP(-1)))	0.002510 (0.28550) (0.00879)	-0.123329 (0.85531) (-0.14419)	-0.276095 (0.32265) (-0.85571)	0.070171 (0.21185) (0.33124)	-0.257587 (0.23844) (-1.08032)	0.024802 (0.17387) (0.14265)
D(LOG(FDI(-1)))	0.003811 (0.06820) (0.05588)	-0.116567 (0.20433) (-0.57049)	0.008358 (0.07708) (0.10844)	0.154088 (0.05061) (3.04470)	0.064644 (0.05696) (1.13488)	0.020051 (0.04154) (0.48274)
D(LOG(OPENT(-1)))	0.026147 (0.21657) (0.12073)	-0.964452 (0.64879) (-1.48654)	-0.188181 (0.24475) (-0.76888)	0.107191 (0.16069) (0.66705)	-0.267215 (0.18086) (-1.47743)	-0.037368 (0.13189) (-0.28333)
D(LOG(CEXP(-1)))	0.328436 (0.16377) (2.00550)	-0.125259 (0.49061) (-0.25531)	-0.197600 (0.18508) (-1.06767)	-0.008033 (0.12152) (-0.06611)	0.019513 (0.13677) (0.14267)	-0.057759 (0.09973) (-0.57913)
D(LOG(EXCHR(-1)))	-0.175362 (0.27171) (-0.64540)	1.573508 (0.81399) (1.93309)	0.570720 (0.30706) (1.85864)	-0.047660 (0.20161) (-0.23640)	0.296845 (0.22692) (1.30817)	0.035116 (0.16547) (0.21222)
D(LOG(INFR(-1)))	0.118698 (0.46700) (0.25417)	-3.112521 (1.39904) (-2.22475)	-1.078960 (0.52777) (-2.04439)	-1.429100 (0.34652) (-4.12415)	-0.215536 (0.39001) (-0.55264)	-0.315238 (0.28440) (-1.10843)
C	0.087723 (0.08537) (1.02755)	-0.000819 (0.25575) (-0.00320)	0.110103 (0.09648) (1.14121)	0.215566 (0.06335) (3.40299)	0.131639 (0.07130) (1.84634)	0.025154 (0.05199) (0.48382)

R-squared	0.214872	0.548474	0.461852	0.647017	0.182615	0.092129
Adj. R-squared	0.011320	0.431412	0.322333	0.555503	-0.029299	-0.143245
Sum sq. resids	3.502463	31.43388	4.473197	1.928376	2.442846	1.298957
S.E. equation	0.360168	1.078989	0.407031	0.267248	0.300792	0.219339
F-statistic	1.055614	4.685316	3.310301	7.070127	0.861741	0.391417
Log likelihood	-9.379919	-47.78226	-13.66106	1.063871	-3.074620	7.978418
Akaike AIC	0.993138	3.187558	1.237775	0.396350	0.632835	0.001233
Schwarz SC	1.348646	3.543066	1.593283	0.751858	0.988344	0.356741
Mean dependent	0.138766	0.000371	0.063065	0.199241	0.115352	0.011693
S.D. dependent	0.362224	1.430929	0.494446	0.400848	0.296480	0.205138

Determinant Residual Covariance	2.56E-07
Log Likelihood	-32.34781
Akaike Information Criteria	4.934160
Schwarz Criteria	7.333840

Appendix: Model 4 VECM Estimations.

Date: 01/26/12 Time: 06:59
Sample(adjusted): 1972 2010
Included observations: 35
Excluded observations: 4 after adjusting endpoints
Standard errors & t-statistics in parentheses

Cointegrating Eq:	CointEq1
LOG(PCI(-1))	1.000000
LOG(FDI(-1))	-0.479549 (0.08810) (-5.44342)
LOG(OPENT(-1))	1.334682 (0.11374) (11.7347)
LOG(CEXP(-1))	-0.872325 (0.05555) (-15.7038)
LOG(EXCHR(-1))	-0.544185 (0.10171) (-5.35013)
LOG(INFR(-1))	1.704969 (0.37909) (4.49748)
C	2.065044

Error Correction:	D(LOG(PCI))	D(LOG(FDI))	D(LOG(OPENT))	D(LOG(CEXP))	D(LOG(EXCHR))	D(LOG(INFR))
CointEq1	0.137177 (0.18830) (0.72849)	1.402293 (0.56874) (2.46559)	-0.276003 (0.21020) (-1.31307)	0.486465 (0.14422) (3.37299)	-0.006171 (0.15787) (-0.03909)	0.058228 (0.11469) (0.50769)
D(LOG(PCI(-1)))	0.084697 (0.29157) (0.29048)	-0.234545 (0.88066) (-0.26633)	-0.293822 (0.32547) (-0.90275)	0.054936 (0.22332) (0.24600)	-0.230620 (0.24445) (-0.94342)	0.019017 (0.17759) (0.10708)
D(LOG(FDI(-1)))	-0.001834 (0.06796) (-0.02698)	-0.115973 (0.20528) (-0.56496)	0.001848 (0.07587) (0.02436)	0.149193 (0.05205) (2.86610)	0.054776 (0.05698) (0.96132)	0.024903 (0.04140) (0.60159)
D(LOG(OPENT(-1)))	0.086088 (0.21651) (0.39761)	-0.987769 (0.65395) (-1.51048)	-0.197642 (0.24169) (-0.81776)	0.116442 (0.16583) (0.70218)	-0.243783 (0.18152) (-1.34300)	-0.043871 (0.13187) (-0.33267)

D(LOG(CEXP(-1)))	0.294689	-0.135531	-0.190420	-0.020794	0.016598	-0.054624
	(0.16408)	(0.49557)	(0.18315)	(0.12567)	(0.13756)	(0.09993)
	(1.79605)	(-0.27349)	(-1.03968)	(-0.16547)	(0.12066)	(-0.54660)
D(LOG(EXCHR(-1)))	-0.269282	1.471473	0.564898	-0.096491	0.260992	0.046404
	(0.26151)	(0.78986)	(0.29192)	(0.20030)	(0.21925)	(0.15928)
	(-1.02971)	(1.86295)	(1.93512)	(-0.48174)	(1.19039)	(0.29133)
D(LOG(INFR(-1)))	0.205988	-2.880054	-1.081502	-1.320491	-0.148595	-0.334614
	(0.44240)	(1.33622)	(0.49384)	(0.33884)	(0.37090)	(0.26946)
	(0.46561)	(-2.15538)	(-2.18998)	(-3.89709)	(-0.40063)	(-1.24180)
C	0.068722	0.020717	0.106576	0.224624	0.125141	0.024999
	(0.08232)	(0.24864)	(0.09189)	(0.06305)	(0.06902)	(0.05014)
	(0.83479)	(0.08332)	(1.15978)	(3.56258)	(1.81318)	(0.49859)
R-squared	0.226450	0.544737	0.479188	0.626941	0.182892	0.099187
Adj. R-squared	0.025899	0.426706	0.344163	0.530222	-0.028951	-0.134357
Sum sq. resids	3.474248	31.69400	4.329098	2.038050	2.442018	1.288859
S.E. equation	0.358714	1.083444	0.400421	0.274742	0.300741	0.218485
F-statistic	1.129142	4.615205	3.548877	6.482096	0.863339	0.424703
Log likelihood	-9.238371	-47.92649	-13.08804	0.095855	-3.068693	8.114991
Akaike AIC	0.985050	3.195799	1.205031	0.451665	0.632497	-0.006571
Schwarz SC	1.340558	3.551307	1.560539	0.807174	0.988005	0.348937
Mean dependent	0.116870	0.000371	0.063065	0.199241	0.115352	0.011693
S.D. dependent	0.363452	1.430929	0.494446	0.400848	0.296480	0.205138
Determinant Residual Covariance		2.80E-07				
Log Likelihood		-33.92103				
Akaike Information Criteria		5.024059				
Schwarz Criteria		7.423739				

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