Trade Liberalization and Economic Growth: A Time Series Approach for Nigeria.

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ABSTRACT

The relationship between trade liberalization and economic growth of developing countries has constituted a substantial debate for decades. Findings from some researchers opine a negative effect of trade liberalization policy on the LDCs. Hence, this research work focused on a country case study for Nigeria in investigating whether trade liberalization lead to long run economic growth over a period of 50 years. Using annual data for the period of 1960-2010, a vector error correction model (VECM) is estimated in analyzing the dynamic behavior of economic variables capturing both the short and long-run relationship among them, namely, the Gross Domestic Product (GDP), fiscal and monetary policy variables (G) and (M1), and the openness measure for trade liberalization. The findings reveal that trade openness is highly significant in determining economic growth in the long-run while its impact is negligibly small for the time period of the study. On the other hand, the main determinant of long term economic growth is evidenced to be the monetary policy variable and that the largest response comes from the fiscal policy in correcting for any previous deviation from the long-run equilibrium path of the economy. This may suggest that both monetary and fiscal policies may play a greater role in the long-run economic growth of Nigeria rather than trade openness.

Keywords: Trade Liberalization, economic growth, Vector Error Correction Model(VECM).

ÖZ

Ekonomik büyüme ile ticaretin liberalleşmesi arasındaki ilişki uzun zamandan beri literatürde sıkça tartışılan konular arasında yer almıştır. Bazı araştırma sonuçları, gelişmekte olan ülkelerde bu ilişkinin negatif yönde olduğunu göstermiştir. Bu çalışmada Nijerya için ticaretin liberaleşmesi ile ekonomik büyüme arasındaki ilişki araştırılmıştır. Bunun için 1960-2010 dönemi için yıllık veriler kullanılarak Vektör Hata Düzeltme modeli (VECM) tahmin edilmek suretiyle reel gayrisafi milli hasıla, para arzı, maliye politikası ve dışa açıklık arasındaki kısa ve uzun dönem ilişkiler incelenmiştir. Elde edilen bulgulara göre Nijerya'da ekonomik büyüme ile dışa açıklık arasında anlamlı uzun dönem ilişkisi bulunmuş ancak dışa açıklığın ekonomik kalkınmaya katkısının fazla olmadığı tespit edilmiştir. Diğer yandan, uzun dönemde ekonomik büyümede en önemli rolün para politikası olduğu, uzun dönem dengeden herhangi bir sapma halinde dışa açıklıktan ziyade maliye ve para politikalarının etkili olduğu bulunmuştur.

Anahtar Kelimeler: Ticaretin libarelleşmesi, ekonomik büyüme, vektör hata düzeltme modeli.

To

The Everlasting God

Through

Dr. Solomon Nwaka and my entire family.

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LIST OF ABBREVIATIONS

ADF	Augmented Dickey Fuller Test
CE	Cointegration
CBN	Central Bank of Nigeria
EP	Export Promotion
FOS	Federal Office of Statistics
FEVD	Forecast Error Variance Decomposition
G	Government Expenditure
GATT	General Agreement on Tariff and Trade
GDP	Gross Domestic Product
GNP	Gross National Product
IMF	International Monetary Fund
IRF	Impulse Response Function
ISI	Import Substitution Industrialization
LDCs	Less Developed Countries
LGDP	Log(GDP)
LM1	Log(M1)
LG	Log(G)
M1	Narrow definition of money supply
M	Imports
MFN	Most Favored Nation
NEEDS	National Economic Empowerment and Development Strategy

SAP	Structural Adjustment Programme
UNCTAD	United Nations Conference on Trade and Development
VAR	Vector Autoregression
VECM	Vector Error Correction Model
WTO	World Trade Organization
X	Exports

Chapter 1

INTRODUCTION

The rapid growth of some developing countries after the Second World War had attracted economists and researchers for long in studying the sources of such success stories. Most economists agree that economic growth for developing countries is enhanced by free flow of goods and services in the form of an outer oriented trade policy1. Yet, the connection between greater openness and economic growth has infact remained a long held argument in major scholarly academic works and researches for decades. Furthermore, another question is at what stage should a developing country open its market to international flow? Both theoretical and empirical researches have equally been advanced to substantiate this point.

Amongst the economists, major theoretical proponents of trade can be traced to classical economists like Adam Smith and David Ricardo, while Solow, Romer, Sachs and Warner, Edwards, Lucas, Krueger and Bhagwati joined the league later simply propagating outer orientation policies for countries[2]. Rodriguez and Rodrik (1999) and Rodrik (1999) are among the opposing voices on the positive impact of trade liberalization on economic growth of countries.

[1] See Little Scitovsky and Scoot 1970, Dollar (1992), Sachs and Warner (1995), Edwards (1918), Franckel and Romer (1999)

[2] See Romer P. (1993) on Openness and Inflation, Lucas, Robert (1988) The Mechanics of Economic Development and Solow, R. (1957) on Technical Change and the aggregate production Function and Jagdish Bhagwati(1999).

Over 1980-1990s with the removal of the protectionist trade policies of 1950s and 1960s; trade liberalization has remained a policy package of the World Trade Organization (WTO), World Bank and International Monetary Fund (IMF). The primary was to allow the flow of goods and services across borders devoid of any tariff impediments and barriers. However, empirical studies point out conflicting results which started the debate about the impacts of trade liberalization in Less Developed Countries (LDCs). India, China and some other developing countries that opened their economies experienced rapid economic growth and improvement in their living standards while some did not seem to benefit from the dividends of liberalization. Rather, some countries are even faced with worsening economic conditions judging from the poor growth as exemplified in sub-Saharan Africa. Such experiences in practice also led to the arguments about when to liberalize trade in order to be beneficial in LDCs[3].

In Nigeria, the main trust of such a policy package is the Structural Adjustment Programme (SAP) of which she religiously adopted in 1986; hence trade liberalization was inbuilt in the policy tailored towards export promotion, importation of inputs and of the exchange rate liberalization. The major expectation from the adoption of the policy was to help improving productivity while contributing positively to the economic growth of Nigeria through transformation and restructuring of the economy. As a labour abundant country, the main economic challenge of the programme stands as the improvement of labour productivity in addition to infrastructural investment. Since the adoption of the SAP, Nigeria's GDP exhibited a volatile yet growing trend over 20

[3] For instance, as reported in Dani Rodrik (2001), China and India liberalized trade after decades of growth

years. The volatile behavior of GDP had been attributed to the mismanagement of the programme and unstable political climate in the country.

1.1 Aims and objectives.

The general view that trade liberalization policies will spur economic growth of countries led to opening trade in LDCs. Hence, this study questions: to what extent does the implementation of trade liberalization policy through the adoption of SAP policy in Nigeria led to economic growth? Therefore, the aim of this study is to empirically investigate whether the implementation of the trade liberalization policy in Nigeria had any impact on the economic growth over 1960-2010 periods.

Heterogeneity problems arise due to differences in countries' characteristics like educational level, institutions, and macroeconomic frameworks. Following Srinivasan and Bhagwati (1999)'s view that most reliable evidence can be derived from individual case studies rather than cross-country methodology, Nigerian case is to be studied due to her unique characteristics like highly populated, different fiscal policies adopted since independence and several economic programs adopted including differences in her institutional and administrative framework. Moreover, Nigeria being a global player in oil exports will suffice well to analyze the effects of the liberalization policy on the domestic economy since price shocks in the international market affects countries with abundance of natural resources more. Also, a combination of monetary and fiscal policy device will be applied in the analysis to dictate which policy framework has more effect on economic growth.

Notwithstanding the observed lacuna, this study will boost the scholarly written works in this area while still affording me an infinite opportunity to contribute in the research works on the subject matter.

1.2 Structure of the study.

This research work is structured into six chapters as follows: Chapter two shall look into the review of related literature on the impacts of trade liberalization on economic growth with emphasis on developing countries. Chapter three will comprise general and specific issues on the Nigerian economy. Later, chapters four and five focus on the research methodology using the VAR framework and data analysis while chapter six reserved for conclusion and policy recommendations.

Chapter 2

LITERATURE REVIEW ON TRADE LIBERALIZATION AND ECONOMIC GROWTH.

This chapter will present a comprehensive review of related literature of the research topic. A proper understanding and conceptual framework of major facets of liberalization of trade in the LDCs will equally be explored including various empirical findings and conclusions.

2.1 Development in Trade Theory within the concept of liberalization.

Trade liberalization in general parlance is the removal of quotas, restrictions, import duties and some administrative constraints on goods and services in international trade. This is aimed at encouraging continuous flow of goods and services between countries. Accordingly, Bhagwati J. (1978) and Krueger (1978) sees trade liberalization as a policy leading to the eventual break away from a quota restrictive regime to an economy with a free flow of goods and services devoid of any obstruction to trade[4]. Jessop, B. (2002; 453) defines trade liberalization as an end product of neoliberalists who have consistently called for deregulation of economic activities. He continues further that any trade liberalization policy enables both capital and financial flows to the given economy through various unrestrictive measures such as removal of trade barriers. Adam Smith (1776) was one of the earliest economists who proposed free trade across borders by the publication of "The Wealth of Nations". Most of his ideas was that nations should

[4] It is equally seen as bringing an economy to the resemblance of a non governmental interference

specialize more on those goods they have an advantage over others. This stems from the "absolute advantage" doctrine. Also David Ricardo added to the Adam Smith's ideology by including the comparative cost advantage in his postulation which is all aimed at encouraging a free flow of goods and services across international borders. Heckscher and Ohlin (HO) (1919) further builds on David Ricardo's theorem by basing their arguments on the need to concentrate on abundant factors of production. However, after the Second World War, following the export pessimism doctrine, the evolution of import substitution industrialization (ISI) was a policy in practice for developing countries (Srinivasan and Bhagwati, 1999:p21; Caves and Jones, 1973.p551). After the ISI also was the export promotion strategy of the late 1960s which propagated an export led growth for LDCs (Caves and Jones, 1973: p561). Nevertheless, as globalization trends sweeps across the globe, there arose major researches by various economists on the economic shortcomings of the ISI strategy and a greater need to allow free flow of goods and services between countries. IMF and the World Bank prescribed a policy package for the LDCs which will correct those shortcomings of the ISI policy and reposition the LDCs towards the growth path. This was the circumstances that led to the adoption of the Trade liberalization policy. Yet, various economists and researchers have supported while some others opposed the policy package as a development route. Major critic is seen from the work of Rodriguez and Rodrik, (1999) while various supporters include Sachs and Warner, (1995), Bhagwati and Srinivasan (1999) amongst others.

Perhaps, some advantages of trade liberalization have been advanced by various authors. Grossman, G. and Helpman, E. (1991) established that openness enhances growth through expansion of intermediate goods with capital equipment, greater accessibility to

higher technology, and an increasing return to scale. Romer, P. (1994:5) holds that trade openness allows for the generation of dynamic gains through facilitation and acquisition of new inputs for production at a cheaper cost. Also a higher technology will guarantee a rise in the production level for countries that liberalized their trade. Furthermore, Adenikinju, A. et al (2002:1) is equally of the view that the benefits of trade liberalization are seen in its impacts on productivity to a given economy through specialization. They maintain that in the long-run, this will raise real GDP due to the reallocation of productive resources to more efficient areas (See Ehiegiene P. (2007); Soludo C. et al (2000); Oji G. (2003)). A cursory look into some evolutionary trade policies that dominated the economic literature before trade liberalization will be briefly discussed shortly.

2.2 Policy before Liberalization of Trade

Prior to the adoption of trade liberalization policy in 1980s, most economies of the world particularly some developing nations adopted a protectionist policy called Import Substitution Industrialization (ISI). ISI was initiated out of the curiosity of "learning by doing" and protection of domestic industries from foreign competition (Shafaeddin and Pizzaro, (2007)). The starting point of such a protectionist policy was ably captured from the writings and policy advice of one of the Latin American economist, Raul Presbisch in the 1950s who advocated for an import substitution strategy as a channel for the economic development of the developing countries[5]. Baer, W. (1972:95) holds that ISI is a development strategy meant to integrate the less developed nations into concentrating on their relatively cheap and abundant factors. As a result, several parts of

[5] Presbisch subscribed the ISI policy for the Latin American nations as a viable route to economic development. Major argument to his policy rests on the development of USA, Germany etc that took advantage of protectionist policies.

Asia, Africa and Latin America concentrated more on food and raw material exports while at the same time importing a variety of manufactured products in form of goods and services6. Import substitution policy was believed to comprise a comprehensive development model that stressed more on establishment of new manufacturing base for the economy and equally protecting infant industries on their tender stages of growth (Spanu, 2003:4).

Since the economies of the LDCs are mostly driven by the primary sector, various reasons for protectionist policy were attributable to the following: I) Economies of the LDCs are primary sector oriented and comparative advantage of these nations will mostly lie on primary mode of production if free trade is adopted. II) Price elasticity of demand and global income for primary productions were generally low, hence the doctrine of "Export Pessimism", III) Labour force of LDCs that engaged in the primary sector was unskilled with a zero or negative marginal product of labour (See Arthur Lewis (1954:141)). (IV). Relevance of capital accumulation as a growth catalyst through importation of capital goods at the early development stages and also the existence of structural imbalances between sectors, Krueger Ann (1997:4). Krueger (1997:5) continues that these reasons were generally accepted as a fact and subsequently made the LDCs to be incorporated into the General Agreement on Tariffs and Trade (GATT) article design in 1948 (see also Srinivasan and Bhagwati (1999)).

[6] Importation of manufactured goods mainly from the USA and Europe. These nations were seen to have developed economically through an ISI strategy, hence a need for such policy application in developing countries.

More so, Hammouda, H. (2004) equally laid more emphasis on the issue of import substitution industrialization. Amongst this is the historical growth rate of the developed nations who applied same strategy that led to their growth. Also, various goods exported by some developing nations were cheap as a result leading to decline in their generated revenue. Due to these facts, protectionist policies soared in Africa and some other developing nations. In Brazil, firms importing domestically were made to pay huge licenses; India also licensed imports with restrictions on any would-be importer while imports were also licensed in Turkey (See Krueger A. (1974), Bhagwati and Srinivasan, T. (1980), Bhagwati, (1974)).

Unfortunately, ISI strategy failed to achieve some stated objectives for which they were initiated. Hammouda (2004) contends that various reasons for such failure relate more to a poor industrial design and structure of the industrial base of the LDCs. In order to produce final goods, more reliance was placed on the importation of intermediate goods than export. As a result, this led to high deficits in the balance of payment accounts. Moreover, the unorganized markets and their inefficiency in providing a significant market for the infant industries even worsened the scenario (see Bruton, H. (1998)). Furthermore, the internal markets in the developing nations were limited to just a fraction of the urban middle class. Hence, emerging enterprises did not benefit from economies of scale thus leading to very low productivity. Arguing further, he equally mentioned how ISI was expensive for the developing nations to efficiently adopt. To develop manufacturing firms and other processing plants, a huge quantity of capital and technological knowhow is needed, of which the developing nations single handedly cannot afford to provide.

In another article, Ian Little et al[7] (1970) found that the import substitution was not only expensive but a high rate of discrimination against the exportation of primary products was observed. In addition, they equally showed how a protectionist regime failed to achieve some of the stated objectives and instead what ensured was a massive misallocation of resources, very poor growth, low yields on investments, underperformance of state corporations, and a very high debt profiles.

While some developing countries were adopting an import substitution strategy, some of the East Asian ones were seen to have adopted outward oriented trade policies that were observed to grow rapidly. For instance, Taiwanese government adopted the views of Professor Tsiang S.C. using comparative advantage doctrine and industrialization thereby opening up their economies to foreign and domestic flows across borders. The country which suffered from high rate of inflation, due partly to adoption of inward-oriented policies and an aid ridden economy miraculously transformed itself into an exporting economy[8]. Korean government also experimented on the Taiwanese success story by using various policy reforms in the early 1960s that had a great impact on export[9]. Major areas where such reforms was promulgated is on a drastic reduction in the protection rate especially on import competing goods while also allowing a duty free charges on the importation of intermediate raw materials towards encouraging more export. (Frank C. et al; (1975)). Consequently, a double digit growth rate was seen.

[7] Ian L., Tibor, S., and Maurice S. (1970) Industry and Trade in Developing Country: a comparative study.
[8] Part of government regulation was a 19 point programme of which liberalization of all trade regulation was one of them…See Fu- Lai Tony Yu, Taiwan's Economic Transformation, Evolutionary Perspective…
[9] Especially on the Korean success story of 1970s see Foreign Trade regimes and economic development of South Korea by Charles., Kwang Suk, Larry W. (1975)

Singapore and Hong Kong also interestingly joined the "Asian miracle" through policies that greatly encouraged export and even a higher economic growth more than expected. However, not until the 1980s that such success stories of these Asian countries began to make an appreciable difference (Panagariya, A.; 2000) on their economies. The economic recession and crisis of the 1980s had no negative impact on such economies due to many reasons as mentioned while other developing countries were observed to face high debt rates and balance of payment disequilibrium. Due to the limited impact of the ISI on some LDCs that adopted them, various questions regarding its practicability and viability to the growth of the developing nations became a research topic for economists and institutions in the 1970s and 1980s. Major concern was adopting a similar policy package like that of Asian tigers and repositioning the developing economies towards the growth path. Incidentally, this equally marked a policy change from ISI policy to export promotion type.

Inspired by the export promotion doctrine, SAP was thereafter implemented in sub-Saharan African countries with support from IMF and World Bank. Trade liberalization policy is built into the SAP of 1986. Therefore, trade liberalization was initiated to correct the various distortions of the inward looking trade regime of the 1960s and 1970s and further enhance a more competitive stance in contributing to the world market. This marked a major shift from the inward-looking trade regime to a more dynamic and outer- oriented trade policy. On the other hand, some economic research may have scored the usefulness of trade openness as partly ineffective in solving the economic challenges for which it was initiated. This difference is felt sharply when compared with the industrialized nations in terms of growth. Furthermore, in order to better understand

the reasons for the failure of open trade policy in such countries, we need to analyze the characteristics of the LDCs.

2.3 Trade Liberalization and the LDCs

In establishing a common characteristic of the Less Developed Countries (LDCs), their heterogeneous characteristics and differences in their income levels, nature of industries, population sizes and degree of liberalization and international trade also attract attention of researchers. Yet, a common characteristic of the LDCs include but not limited to low GDP per capita, high population growth rate, higher rate of agricultural/GDP share relative to other sectors. Also, infant mortality rate are naturally higher while life expectancy is relatively shorter compared to their developed counterparts. Furthermore, most developing countries are observed to be net exporter of primary products and thus their GDP exhibit high variability due to fluctuations in commodity prices. In such cases, high degree of openness usually leads to volatility in GDP and the price level of the country, which will be accompanied with greater uncertainty in the economy. For instance, report by the United Nations Conference on Trade and development (UNCTAD (2008)) on LDCs showed that the economic growth of the group in 2005 and 2006 was highly affected by trends in international markets and volatility of commodity prices; a phenomenal record of export is linked with high commodity prices and a significant level of capital inflows in form of aids.

However, examining different regions, one common attribute is on the nature of divergence between regions- especially the African and Asian countries. Most of all, there has been rapid diversification of the Asian economies away from the commodities to manufacturing industry and export led growth. On the other hand, most of the African

countries are highly dependent on export of primary commodities and exposed to a greater vulnerability to price fluctuations in the international market (UNCTAD (2008), Hammouda, H. 2004). Above all, despite an unprecedented growth rate of some African economies in the last decade, major concern rests on their increasing reliance on primary sectors and a very low export driven economy. Particularly, over the last decade, some African economies exhibited a "deindustrialization" proxied by a fall in the share of the manufacturing sector in GDP, worsening quality of life, poverty and infrastructural decay. As reported by Spanu, V. (2003), almost 70% of population in the LDCs that are employed at the primary sector are unskilled with low educational level. In essence openness to trade will create a direct link on human capital development where locally made products face stiff competition thereby wiping away the services of unskilled workforce. These and amongst others saw an episode of lingering debates on trade liberalization policy across the globe.

2.4 The Static and Dynamic Effects of Trade on Economic Development.

The main origin of the static effects of trade on economic development is seen from the traditional specialization and comparative advantage doctrine of the classical economists[10]. As the static doctrine goes, differences between domestic prices in a near autarky state and international prices of a particular good can increase the welfare of a nation when these countries specializes in exporting relatively cheaper goods while importing the relatively more expensive ones. As the LDCs are prone with labour abundant factors and a huge dependence on primary sectors, a static impact of trade through comparative advantage will further expand those sectors with abundant factor

[10] Adam Smith (1776) on Absolute Advantage while David Ricardo on Comparative Cost Advantage.

and indirectly lead to an increase in the labour intensive sectors. However, expansion of traditional sectors may not be beneficial to economic growth and development of such countries. One reason is that it is the development of the manufacturing sector which would bring knowhow and technology essential for productivity increase and growth. Another important disadvantage of the expansion of primary products is the possibility of long-run terms of trade deterioration which will wipe out the positive effects of trade. This may also lead to economic dependency on foreign technologically developed countries.

Therefore, with liberalization, the greatest potential impact of trade on development is on the dynamic aspect. This is generally seen from the rise in output resulting from a greater access to a relatively larger foreign market. Hence, LDCs will benefit from the economies of scale by further fast tracking development of infant industries into internationally competitive ones. Not limited to this, a greater channel is the development of human capital requirement needed to uplift these countries from poverty. Morgan C. and Kanchanahatakij, S. (2009) who measures human capital in terms of using educational levels, argue that countries with higher level of education benefits more from trade liberalization.

Yet, dynamic version may have negative effects on development as well. Economic factors are ignored resulting into higher costs and excessive imports of intermediate goods. Also, reliance on monoculture mode of production instead of varieties of

manufactured goods often leads to high degree of export instability and earnings[11]. More so, exchange rate fluctuations and price instability are also a cause on concern in the dynamic pattern. Hence a high number of single commodity exports also caused export instability[12]

In addition to static and dynamic aspects of trade liberalization on economic growth, several researches been have conducted in investigating its impacts on economic growth of various countries. Some investigations cling tenaciously that greater openness will further spur economic growth and improve living standard while some others are against this view. Going by the views that trade liberalization was good for an overall economic performance, many notable authors like Frankel J. and Romer (1999), Dollar, D. (1992), Edwards S. (1998), Krueger, A. (1997), Ben David (1993) and Sachs and Warner (1995) found a positive link between trade liberalization and economic growth. Their work constitutes major contributions and proponents of a more open trade regime.

Equally approaching these debates through an analytical framework developed by Winters L. et al (2002)) established the link between greater openness to trade and economic growth for countries. Various study channels was adopted which includes economic stability and growth, households effects (wages and employment) and revenue generated to the government through liberalization policies. They however mentioned that in the long run, greater openness will allow for economic growth of countries (also

[11] Export instability connotes variability of export prices in the international market. Such foreign exchange fluctuation is inimical to LDCs on high degree of openness.

[12]Most LDCs are found to be a net exporter of a single primary commodity like Zambia, Uganda, Cote de'Ivoire and Guyana; a drastic rise or fall in international commodity prices causes a rise or decline in export earnings. Copper, Coffee, Cocoa and Sugar constitutes 56%, 21%, 42% and 28% of Zambia, Uganda, Cote d'Ivoire and Guyana's export earnings.

see Ogujiuba, K. et al (2004)). They concluded that openness-growth link is more of an analytic and empirical matter than a theoretical one. Though literature on trade policies right from the classical economists have presented varying comments and conclusions hence the lingering debates (See Miller and Upadhya, (2000); Sachs and Warner, (1997)).

2.5 Other Difficulties in Establishing the Link.

Reactions from the opponents of trade liberalization policy have made their cases known also. Some have criticized trade liberalization as poverty inducing policy to very fragile economies, while others have also condemned the very keen competition between advanced technologies of the developed countries and the local system dominant in these regions. Laying further criticisms on such a link between openness and growth Rodriguez, F. and Rodrik D. (1999) argue that the measures used by various proponents of trade liberalization have a very weak econometric and analytical content. For example, they critically condemned the use of such indices as distortions and variability as ably captured in Dollar, D. (1992) research article. Distortions can only be used as a proxy for trade openness only in the absence of export taxes and subsidies, single price system and no difference in price levels of various countries. They conclude distortions are always seen in reality. Also different authors employed different measures of openness which gives different results. More so, in a single authored paper, Rodrik, D. (2000) also brought this argument to bare by proving that no concrete evidence exists on the positive correlations between trade openness and growth. However he suggests that countries in early stages should adopt a partial opening up of trade together with building up of enabling institution for such a policy to thrive. Furthermore, they point

out that LDCs are more fragile and thus exposed to external shocks with more open economies.

Tariffs and Tariff aggregation is another point in the debate. Winters, L. (2000)) notes that another shortcoming of liberalization policy is measurement of trade stances across borders in terms of tariffs and tariff aggregation especially if such an economy is near an autarchy one. By dismissing Sachs and Warner's use of tariff and non-tariff barriers as proxies for openness; Winters, further mentions to be able to aggregate tariffs correctly; a proper measure of the quantitative restrictions should be specific and understood. Moreover, proper mechanisms and frameworks for proper enforcement and revenue collection need to be built. Harrison, A. and Hanson, G. (1996) and Harrison, A. (1999) also confirms that the explanatory variables employed by Sachs and Warner (1995) is derived from the non-trade variables and so cannot be properly used as a proxy for openness while Pritchet, L. (1996) explains that these trade indicators used show very poor correlation with other indicators used in their research. Pritchet, L. (1996) is of the opinion that average tariff is a better indicator of openness in a cross country study.

Causation problem is also another issue in the debates. According to Winters.L. ibid "Does trade liberalization result in or from economic growth. Difficulty in establishing the exact cause of economic growth further prolongs the debate with a no definitive result. Rodrik and Rodriguez (2001) on the causation problem observe that country's geographic location, good macroeconomic framework, vibrant institutional arrangement and a sound monetary and fiscal policy mix could lead to growth more than trade liberalization policy. Adeola F. et al (2002, p2) also notes that the "term trade

liberalization have remained fluid and intensely polemical". It is of note that this causation issue on the exact relationship existing between Growth and liberalization is the major cause of a no definitive answer to the empirical results. (See Moon, B, (1997); Hsiao, M. (1987); Ram, R. (1985); Marshall (1985)).

Considering the relationship existing between trade liberalization and productivity, Harrison A. (1994; 424) gave a breakdown of the nature of such a relationship. According to him, productivity and imports have often shown a negative relationship, this is due to the estimation problem arising from what he called "simultaneity bias". Simultaneity arises due to the ability of countries to export and import goods of comparative advantage and disadvantage respectively.

Additionally, Baldwin, R. (2000) also comments that such biasedness could result from the quantitative measures used in openness. He continues that the limited scope of the quantitative data, disparity in the appropriate models used by a researcher and a sensitivity test of such results to an alternative model results leads to differences in results and conclusion. This is because when statements are made about the links between trade openness and growth, there is the need to really argue further the exact measures used and also see if it's in consonance with economic theory. Ogujiuba, K. ibid comments that the best proxy to openness in a time series analysis is the ratio of export and import to the GDP. However, they equally mention that it is often misleading to use such a proxy in a cross sectional analysis due to differences in countries' sizes13. In identifying when a country is open or closed, Ogujiuba et al(2004) further maintains

[13] Ratios differs by country sizes, larger countries have smaller ratios while a smaller country have a bigger one.

that economies with 45% of average tariff is seen as a closed one compared with an economy of 25% on average tariff rate[14].

Jin, C. (2000:7) summarized the review of the literature on trade openness and growth by looking at three considerations. First studies used cross country analysis making it almost impossible to dictate country specific characteristics- see Harrison A. (1994), Winters, A. (2001). Second consideration being many studies employed different measures of openness to find their relationship with economic growth. However, it is also difficult to find long historical data to measure openness. As a result, most measures are misguided and inappropriate and finally the appropriate measure for openness has been inconsistent. The third consideration is the use of a country case study which many authors have subscribed to be the best alternative in establishing a guided link between trade liberalization and growth. Therefore, theoretical literature is seen to have not given a sufficient idea on the relationships between trade and growth hence the empirical sides evolved.

2.6 Empirical Literature Review on Developing Countries.

Most empirical work on this field examining the relationship between trade openness and economic growth is based on cross country studies. However, as series accumulated over given time periods, country case studies have gained weight due to some criticisms to cross country regression methodology.

Considering the cross country case evidences, Edwards, S. (1992) carried a cross country study for 30 developing countries from 1970-1982. He used actual and predicted

[14] See Dollar and Kraay 2001 page 9 mentions about problems of tariff barriers in developing economies.

trade regime as proxy for openness which invariably captures deviations from countries' predicted trade. Edwards (1992) found a significant effect of openness on growth in output which is also positive. Quah, D. and Rauch, J. (1990) investigated the rate of openness and economic growth for 81 LDCs for 1960-1985 period using trade shares to GDP as proxy for openness. Results show that this measure is weakly significant on growth, but the coefficient of openness is positive. Barro, R. (1991) used investment as a share of GDP as a proxy for openness by applying a cross country study of 98 different countries. Consequently, the author found a positive relationship between trade and openness, which means it had a positive effect on GDP per capita. Equally, Sachs, J. and Warner (1995) studied cross country studies on sub-Saharan Africa for the period of 1965-1990. They also gave an account of both tariff and non-tariff proxy for openness in a given exchange rate premia used to capture closed economies. Finally they conclude that tariff reduction should promote economic growth.

Furthermore, while investigating the panel studies carried so far, Harrison, A. (1994) employed a panel study for LDCs from 1960-1984. While assembling different proxies for openness such as countries' trade reform, market premium, price distortions and the ratio of trade to GDP; findings show that these measures responded positively to economic growth of the LDCs. Similarly, in studying economic spillovers arising from international trade between countries, Vivek A. and Vamvakidis in 2005 carried out some quantitative estimates using panel data for 101 countries using countries' growth rates; the study used investment in physical capital, investment in human capital and general openness to trade as indicators. Estimates obtained showed that a 1% rise in the growth rate of a domestic economy's trading partners was linked to a 0.8% point rise in

the growth rate of domestic country. Likewise, after controlling for other factors, a developing country's growth rate was negatively correlated with her per capita GDP to the trading partners'. By implication therefore, a country with lower GDP per capita will receive a higher spillover effect than nations with similar GDP per capita to that of their trading partners.

Shegeyuki and Razafimahefa (2003) address trade and growth relationships in four different African countries, namely, Comoros, Madagascar, Mauritius and Seychelles. Using different time frame on each country and a VAR methodology, their results show that effects of openness on growth is felt more on a larger economy with lower trade share –Madagascar than other economies in the sample. Jin, J. (2000) on the impact of trade openness on economic growth of East Asian economies employed a multivariate VAR methodology framework. His findings show that the Impulse Response Functions and Variance Decomposition (VDC) do not significantly support that increasing openness promotes growth, rather, fiscal policy and foreign policy shocks had more impact on growth than openness shocks. Morgan, C. and Kanchanahatakij (2008) explored the degree of heterogeneity on 37 liberalized countries by using difference in difference approach on analysis. Results show that there was a limited effect of liberalization on growth but rather a country specific study should be more meaningful.
McCulloch N. (2005:13) explored the connection between trade liberalization and poverty reduction on the LDCs by using two different approaches in investigating such a link; an indirect link where empirical evidence is being established on the impact of trade liberation on economic growth, and finally impact of economic growth on poverty which according to him is a "two step chain" in addressing the empirical result. Finally,

McCulloch observed that barrier reduction on the average will encourage economic growth.

Several country case studies have equally been seen empirically carried out. Oladipo, O. (2011) analyzed the longrun relationship between trade liberalization and economic growth for Mexico. Using quarterly data from 1980:Q1 to 2008:Q4 with cointegration and error correction methodology, the study reveal that there exists a long-run relationship between trade liberalization and economic growth; however, labour force and human capital growth were weak in making a contribution to economic growth. He proposes for an adequate trade and educational reforms. In the same vain, Xu, Jiajun (2011) analyzed the dynamism in trade openness, financial development and economic growth of China using a time series approach from 1982 to 2009. Findings show that openness and capital flow promotes growth in China.

Some of the studies so far for Nigeria, Omisakin, Ademiyi and Omojolaibi (2009) examined trade openness, FDI and economic growth of Nigeria from 1970-2006. The authors used an aggregate production function using Toda-Yamamoto non-causality test and the Autoregressive Distributed Lag (ARDL) technique of cointegration. Results reveal an existence of unidirectional relationship from both the FDI to GDP and openness to GDP.

Finally, they concluded that FDI and greater openness need to be sustained for economic growth to be achieved. Omotola O. (2011) also studied financial development, trade openness and economic growth of Nigeria from 1960-2009 using cointegration and

Granger causality test. He also incorporated several indicators in his study such as ratio of broad money to GDP (M2), ratio of domestic credit to GDP and three trade measures, exports, imports and general openness (ratio of export and imports to GDP). Results depict that long-run equilibrium relationship exists between real income, trade openness and financial development. However, causality effects exist on the variables both in the long-run and short-run.

Finally, Nwafor, M. (2005) studied the impact of trade liberalization on poverty by using the Dynamic Compatible General Equilibrium Model (CGEM) on import tariff reduction and overall effects on households. His present findings indicated that a growing rate of poverty in Nigeria is observed especially using the time periods of 1988 to 1994 and 1995 to 2001.

This study will cover an extended period of 50 years between 1960 and 2010 in investigating the link* between economic growth and trade openness in Nigeria. Therefore, a summary of the major economic development events in the next chapter will help in understanding and interpreting the empirical results of the study.

Chapter 3

NIGERIAN ECONOMY

3.1 History and Development

Nigeria, a Federal Republic, British colony and Africa's most populous nation with total population of about 160 million people have had different historical development both economically and politically since her independence in 1960. Since then, Nigeria experienced political instability that prevented the proper adoption of sustainable efficient economic programmes till 1986 when the SAP was adopted. Summary of the main political events are presented in the table below. Table 3.1 summarizes these historical developments.

Table 3.1: Nigeria: Major Events 1960 – 2007

Date	Major Events
1960	Political Independence from the British Colonial rule
1964	Threats to Federal Unity and rising tension for freedom
1966-1999	Military intervention and military government rule[15]
1967-1970	Civil war between Nigeria and Biafra(Eastern Nigeria)
1986	Launching of controversial Structural Adjustment Programme (SAP)
1999	Transition from the military dictatorship to civilian government
2005	Paris club debt relief of $18billion (USD) out of $30 billion
2007	First ever transition from civilian to civilian government in the history of the country.

Source: Various Sources

As seen from Table 3.1, Nigerian economy had been affected by civil wars and military dictatorship until 1999 .The most important economic development over this period had been the adoption of the SAP programme that aimed at economic restructuring and diversification. Finally, the rule of the government was transferred to civilian government.

As a nation that used to be known for her reliance on the primary products as major source of revenue, by the time she gained her independence as of 1960, subsistence agriculture dominated the main stream of the nation's economy contributing more than 60% to the GDP and 90% of oil exports and 70% of food while still employing a majority of the labour force as posited by Lawal, A. (1997:195). This is especially seen in the light of her comparative advantage as a net exporter of groundnut, cocoa and palm

[15] However a Civilian government was also seen, though the military dictatorship comprised most decisions.

oil. Using the UNCTAD data, the economy accounted for about 16% and 43% of world share in cocoa and groundnut production respectively by 1960, making her quite self sufficient especially in the production of food and cash crops. This feature is almost maintained over the period of analysis. However, the economy was adversely affected as a result of the civil war of 1967. By the 1970s, there was a structural change from the agricultural to the oil industry as a result of the oil boom. Consequently, an episode of rising urbanization and a sudden quest for a better living standard further caused a huge departure from agricultural primary sector to other productive sectors especially oil sector.

Considering the general outlook of the economy, in 1960, share of agricultural products to GDP was 63% (Ekpo, H. et al) and share of oil products to GDP stood at less than 1% in 1960 (Adedipe B. 2004). The manufacturing sector accounted for 4.2% share of the GDP and about 1% of total exports. Between 1960 -1972, and 1970-1978, GDP grew at the rate of 3.1% and 6.2% respectively and in 2010 stood at an average of 7.6% (NBS 2010). Although GDP increased from 6.2% as of the end of 1970s to 7.6% in 2010, this can be attributed mostly to the export of a single sector, petroleum which has over the years been a major source of revenue to the Federal government. The export stance of this "black gold" as of 2007 was 2.327million barrels per day making the nation the 8th exporter of oil in the world (Economy Watch 2010).

Economic activities and the nation's wealth now revolve around oil. Even though such discovery was made in the 1950s, not until the 1970s that a substantial quantity began to make a meaning on the nation's economy. For instance, judging from about 0.5% in

1960 its contribution to the GDP increased rapidly to about 12%, 25% and 20% in 1970, 1975 and 1979 respectively. At the moment oil has remained Nigeria's most single export contributing for 95% to export earnings and over 80% of the national revenue. Sectoral development over the period can be summarized in Table 3.2 below.

Table 3.2: Sectoral Share to GDP in (%) 1960 – 2009

Sectors	1960-1970	1971-1985	1986-1999	1999-2009
Agriculture	55.09	29.43	37.24	41.09
Petroleum/Industry	11.83	39.92	39.26	27.14
Building /Construction	4.83	4.05	1.80	0.07
Whole Sale /Retail	12.76	15.47	13.98	14.49
Services	15.49	11.13	10.89	15.55

Source: CBN Data Base 2009

The table above shows the different sectors of the Nigerian economy and their corresponding percentage contributions to the GDP from 1960 to 2009. As can be seen agriculture played a prominent role in the 1960s with a share of 55% and 41% by the end of 2009 being the highest contributing sector to the GDP. Together with the petroleum industry, the primary sector's productions seem to dominate the overall production over the whole period. Petroleum as the main stay of the Nigerian economy shows an increasing trend till 1999 which could be attributed to the oil boom of 1975 and beginning of 1980s. However, building and construction sector's share in the GDP is negligibly small indicating low economic activities and development in Nigeria over the period. Services sector which is also important regarding the economic growth of an economy accounts for about 15% of GDP almost over the whole period. Comparing the 1960-1970 and 1999-2009 periods, the structural features of the economy seem to be

similar with 67% and 68% respectively of primary productions respectively. Meanwhile, there have been several development plans which have been adopted over the period with the aim of diversifying productions and export into several other sectors.

3.2 Development Plans in Nigeria

Furthermore, series of efforts by the Nigerian government to install achievable comprehensive development plans right after independence till date was amongst their top priority upon gaining freedom from the colonial masters. The core objective of promoting a macroeconomic stability and socioeconomic development have played out to be the eventual initiation of achievable national development plans spanning across different periods of Nigerian economy.

3.2.1 First National Development Plan (1962-1968)

The very first development plan after the Nigerian independence is seen as the First National Development Plan of 1962-1968. This reflects an ambitious programme primarily tailored towards the use of both human and capital resources to promote economic growth and improve standard of living. This plan aims at specializing in those sectors that use the abundant factor, labour, that is the development of labour intensive sectors. This was also planned to be realized by improvement in agricultural productions through an advanced farming and planting methods. Besides this, the development of the manufacturing sector was also another goal in order to diversify production from the primary sector. The ultimate goal of the programme is to maintain and possibly surpass an average growth rate of 4% per year of real GDP. Therefore in achieving this goal, the plan was to maintain 15% of Gross National Income (GNI) each year including a growth of about 3.5%per year of private consumption while government consumption and expenditure should be limited to 9% (Ona, F. (1962)). The overall implication of this

was an expected marginal saving ratio of 18.5% to be attained. The Federal government further planned to make an expenditure of 5% on primary products, 10.7% on trade and industry, 7.1% on education while 0.7% on social services. Projects initiated by such plan include the Kainji Dam construction, the Niger River Basin and a host of others. Other regional groupings also adopted specific policies for their individual regions.

Unfortunately, the ambitious project was not fully realized as planned due to poor planning and feasibility study, financial misappropriation and a huge chunk of public debt. Nobel laureate economist, Professor Arthur Lewis explained further by admitting the overbearing influence of the government in economic matters and poor recognition of the rural areas. He equally maintains that less attention was paid on how funds for such plan are to be raised including availability of the personnel to carry out the stated objectives.

3.2.2 Second National Development Plan (1970 -1974)

Just after the civil war, the Nigerian military government introduced another plan called second national development plan. A major emphasis for its implementation was primarily aimed at integrating and rebuilding the Nigerian nation state as a single entity through its cardinal objectives of reconstruction, restoration of production capacity, and the promotion of socio-economic development of the country. The damages caused by the secessionists' South Eastern part known as Biafra needed reconstruction arising from the war; this enabled an addition of an estimated US$900million as a replacement cost to these regions. Above the projections of about 6.2% annual GDP growth rate, 12.3% growth rate was recorded over the period. Exogenous factors prompted such an increase with particular reference to the rising of oil prices in 1974 which provided huge

revenues for further planning. From the N3.2 billion capital expenditure mapped out, 53.1% was allocated to the economic sector and 26.6% spent on social and regional development, Baje, A. (2003). With the import substitution industrialization and Nigerian Indigenization policies16, this period witnessed a reduction in import duties on intermediate goods while food prices rose rapidly due to rising oil prices and collapse of agricultural sector which hitherto used to be the backbone of the nation's economy.

3.2.3 Third National Development Plan (1975- 1980)

Not satisfied with the second national development plan, General Gowon17 on the 4th March announced another rolling development plan called the Third National Development plan from 1975 to 1980 (See Olaniyi J. (1998), Ayinla, (1998)) . Outlined in the ambitious plan is to expand all sectors of the economy ranging from agriculture, transportation, education and industry. Urban planning and development, water supplies to various urban and rural areas, health care facilities, rural electrification, community development, and other state programs were included to build a solid infrastructural base. The planned distribution of investments on government and several sectors are summarized in Table 3.3 below:

[16] Indigenization policy of 1972 was meant to transfer the ownership of businesses and enterprises from foreigners to Nigerians

[17] Gowon, a military head of state from 1966-1975.He was subsequently overthrown by a coup three months after adoption of the third development plan.

Table 3.3: Sectors Distribution Of Proposed Investment (1975-1980)(%)

Transportation and Communication	20
Manufacturing and Craft	19.4
Other Services	10
Government	10
Building and Construction	9
Mining and Quarrying	8.3
Agriculture	8.3

Source: Lewis, Olufemi (1977)

As can be seen above, most of the planned budget was diverted to public goods in the form of transportation and communication. Manufacturing was accorded 19% while the primary sectors had a limited 8.3% of the planned budget. Also revenues generated from the oil boom enabled the proposition of a N30billion capital expenditure on infrastructure and development against N2.2 billion and N3 billion mapped out for the first and second development plans respectively. Both corruption and misappropriation of funds by the government marred the effective implementation of the stated objectives.

3.2.4 Fourth National Development Plan. (1981-1985)

Fourth national development plan of 1981-1985 intended towards establishing a long term economic and socio-economic development of Nigeria. This it hoped to achieve through implementing family planning programmes, improvement in human capital development through education and an integrated urban and rural development with an overall balanced growth strategy. Infrastructural development was to be given much attention also. Ehigiene, P. (2007; p13) comments that after a major drop in oil prices in the international market, the country witnessed balance of payment problems, high debt

profile, a sharp drop in the external reserve, high unemployment rate and negative economic growth. To cushion the effects of such economic challenges, an ad hoc trade measure was put in place to stabilize the system, called Economic Stabilization Act of 1982. This measure adopted an import restrictive controls through an advanced deposit plan as a requirement for importation including the raising of tariff on some imported goods, (also see Agu, C. e tal (2005); Soludo C. et al (2003)). IMF/World Bank advice on a Policy shift from import substitution to export promotion in 1981 was debated upon although did not materialize due to the high conditionalities attached on their policy framework. Consequently, import dependence still made the BOP worse off by total reliance on imported raw materials for the manufacturing process.

Arising from deficit budget and rising inflation rate, the fourth development plan did not address the problems for which it was set up. Even though, oil prices fell drastically during these periods, there was also a greater reliance on imported products especially food items since agriculture was relegated after independence. Against a projected rise in total exports to 12.1% annually, exports fell to 5.6% annually throughout the plan period. More so, economic recession faced by major developed countries of the world further limited demand for imports from Nigeria. This also reduced the capacity to import heavy equipments for constructions and other associated needs. Agricultural contribution to GDP dropped from 40% in the early 1970s to 1.9% in 1983. Finances of the Nigerian government resulted into an extreme disequilibrium from 1981 to 1983. Unemployment rate rose from 2.5% in 1980 to 10% in 1985 while GDP per capita also fell significantly from US$1,010 to US$850 in 1980 and 1985 respectively. Also government expenditure fell from 24% in 1980 to 12% in 1985. The overall implication

of these is a negative growth rate from 0.35% of GDP to -5.18% and -5.37% in 1983 and 1984 respectively (NCEMA, 2010). Also, disruption of administrative head of government of 1983 and 198518 further recorded a very poor outing on such plan.

It then became glaring that the economic stabilization measure could not restore the Nigerian economy towards the growth path. This left the government with three different policy options as follows: (1) Continue with the Economic stabilization act of 1982, (2) accept the IMF/World Bank proposal on the Structural Adjustment Programme and conditionality or (3) Reject the IMF loan and possibly adopt a restructured economic package to revive the economy. This also resulted into series of debates by various stakeholders that saw the adoption of the SAP policy as the best option towards economic recovery and growth.

3.3 Post Fourth Plan Period- Structural Adjustment Program (SAP) and Beyond.

The Structural Adjustment Programme was introduced in June, 1986 to address the shortcomings of the depressed economy. SAP marked a sharp departure from previous development plans and the economic stabilization measure and aimed towards a diversified and stable economy. The production and perhaps consumption style in the economy was also meant to be restructured to meet the tenets of the SAP. Main reasons behind the SAP according to Anyanwu, J. (1992) are as follows: reducing dependency on oil sector and imports through restructuring and diversification, achieving fiscal and BOP viability, reduction in unproductive investments in the public sector (See Phillips,

[18] Overthrow of a Civilian President by a military leader General Buhari in 1983 and a subsequent coup by General Babangida in 1985

A. (1987)), the liberalization of trade and removal of tariff, exchange controls and amongst others.

These objectives were further implemented with a trade policy diversification loan of US$450million from the World Bank. Additionally, the main trust of the trade liberalization policy in Nigeria can be x-rayed more critically during this period. A seven year plan was put in place to restructure and ensure transparency and predictability of tariff rates, excise taxes and a proper functional customs services. This, the federal government called the consolidation decree of 1988-1994. Briggs, I. (2007, p8). Briggs, I. continues that imports under such regime also attracted ad valorem rates. This therefore, resulted in shortages from the importation on some domestic goods. Also, Oyejide, A. et al (1998) confirms that towards the early SAP era, about 40% of agricultural and raw materials were covered by tariff prohibition in terms of tariff lines. This appears to have been reflected on the Nigerian economic stance as the strict use of such import prohibition as a mechanism of trade policy which was designed to promote industrial growth, employment generation and the solution of balance of payment problems. Similarly to complement the SAP policy, various programmes were equally initiated to tackle poverty and arrest socio-economic development. These include; creation of the National Directorate of Employment (NDE) in 1986, Urban Mass Transit Programme in 1988- meant to deal with urban transportation due to urban congestion, Directorate of Food, Road and Rural Infrastructure (DFRRI) in 1986 and Better Life for Rural Dwellers (1989) - both meant to tackle infrastructure and ensure a good quality of life in rural parts of the country. However, this policy stance has been questioned on its impact on reducing poverty in Nigeria. This was observed from the WHO, 2007 reports

that, SAP was designed to meet specific household welfare rather than a general macroeconomic stability.

Table 3.4 below reports the socio-economic indicators for Nigeria from the year of the adoption of the adjustment programme till 2010. From the table, a general overview of the economic and social indicators in Nigeria have taken different trends. Between 1987 to 1996 and 1997 to 2006, ratio of export to GDP increased from 40% to 46% while ratio of imports also rose from 33% to 37% respectively. Real GDP have also shown an increasing trend from 4.1% in 1987-1996 to 4.5% in 1997-2006. As at 2010, real GDP growth rate is about 8%.

Table 3.4: Key Economic and Social Indicators in Nigeria

Indicators	1987-96	1997-2006	2010
Population (Millions)	98.9	129.8	158.4
Population growth(%)	2.7	2.6	2.5
Real GDP Growth(%)	4.1	4.5	7.6
GDP per capita(USD)	270	453.1	540.3
Exports of goods and services (% GDP)	38.9	46.8	39
Imports of goods and services (% GDP)	33.3	37.2	26
Trade(%GDP)	72	85	65
FDI Flows (% GDP)	3.3	3.7	8.4

Source: UNCTAD, FDI/TNC database, World Development Indicators

3.3.1 Trade Policies and Poverty in Nigeria.

The major formulation and implementation of trade policies in Nigeria is predominantly determined by governmental and inter-governmental agencies. Therefore corollary to the overall macroeconomic policies, the nation's trade policy has decidedly been determined through the following objectives:

- Protection and stimulation of domestic production through importation of capital goods at low cost.
- Strengthening the value of naira
- Amelioration and prevention of balance of payment problems
- Increased revenue generation to the government
- International agreement

Upon these tenets are the general expectation that adoption of trade policies will contribute to the economic growth of Nigeria and indirectly reducing poverty. However, such policy evolutions have been fueled by the general macroeconomic condition of Nigeria over the years especially 1980-1985. For instance, low capacity utilization, BOP disequilibrium resulted in making capital goods and raw materials inaffordable providedwhile indirectly protecting infant industries through ISI policy of late 1960s and 1970s, provided a protection of domestic goods thus leading to competition and improvement of production quality. A brief description of trade policy trends in Nigeria are found in table 3.5 below.

Table 3.5: Summary of Trade Policy Trends in Nigeria.

Years	Objectives and actions	Tools of enforcement
1986-1994	Raw material imports was discouraged to promote food production and locally made substitute goods. Tariff stabilization and harmonization Growth of GDP through openness while reducing overdependence on oil sector	Reduction of tariff on intermediate goods to raise capacity utilization and a mild ISI through import and export licenses.
1995-2000	Seven year tariff programme to enhance tariff predictability and quantitative restriction on certain goods like maize, rice(WTO 1998) More commitment to liberalize trade Trade negotiations and agreements especially that of WTO	A tariff rate on final goods was reduced while that on raw materials and intermediate goods was raised. Here also quite few products were prohibited.
2001 till date	Much greater commitment to liberalize trade and incorporate the third world countries into contributing positively to the world economy. Quest for regional groupings and comply with trade agreements with ECOWAS and reintegrating itself into the comity of nations after military rule in 1999. Stabilizing the international value of naira	Agreements to fully establish ECOWAS free trade zone through 1.Adopting a common trade and competition policy. 2. Adopting a common currency under the WAMZ Protocol and eventual removal of all non-tariff barriers to trade; and introduction of a common external tariff regime…see NEEDS 2004 Lowering tariff between 0-150% and final consumer commodities accruing higher tariff rates Further plans to conform to ECOWAS/UEMOA rates of 0-20%

Source: Nwafor, M., and WTO 1998 and 2005 Reports

In addition, Nigeria's trade regimes have consistently shown to be more protectionists in nature. WTO (2005) reports that on average the Most Favored Nation (MFN)[19] tariff dipped higher from 24.4% in 1998 to almost 28% in 2003. According to WTO classification, about 19.2% of Nigeria's tariff lines are linked to agricultural lines in contrast to only 7% of non agricultural lines. Besides this, protection of the borders is achieved through other duty charges as high as the rate of 80%. Also see Table 1 for a summary of import tariff structure in Nigeria in Appendix A.

However, efforts towards trade policy reforms have been marred by political and institutional uncertainty. Poor infrastructure, corruption, youth restiveness and democratic instability have discouraged trade flows outside the oil export sector. One determinant of an economy's growth is the degree of her reliance in the primary sector or transmission of intermediate goods into finished good in the manufacturing sub-sector. Nevertheless, the manufacturing sector of Nigeria has declined since 1983 due to the fall in oil prices which precipitated into industrial shutdown, labour retrenchment and a drop in capacity utilization. Also output in real terms fell to 25% between 1982 to 1986 which is against 15% growth rate recorded from 1977 to 1981.

Additionally, share of manufacturing to GDP showed upward trend from 4% in 1977 to high ebb of 13% in 1982. Presently, it stands at a single digit of 4% from 2008 through 2010. A major reason for such huge differences is traceable to inadequate access to raw materials and spare parts arising from adverse exchange rate shortages. As the SAP expected a target rate capacity utilization of 55% by 1986 and 60% by 1989, evidence

[19] Most Favored Nation (MFN) is a commitment to trade offered by a given nation to another based on a non-discriminatory basis.

shows that average capacity utilization revolved around 37.5%, 30%, 36%, 33% , 35% and 32% in 1988 through 1989. More so, a fall in per capita GDP heightened inequality and a rise in poverty (Aibokan, B. 1998). GDP growth of Nigeria over the years have not been spread equally to the benefit of the society, hence an incidence of poverty is seen. According to report by the Federal Office of Statistics (FOS) 1999, poverty climbed higher from 27% in 1980 to 46% in 1985. By 1992 it fell slightly to 42 and peaked to 65% in 1996. Presently about 70% live below $1.25 a day at PPP and 84% at less than $2 a day. On the occupational point of view, agriculture/forestry workers appear to be dominating in the number of poor at 86% and 67% in 1985 and 1992. Related to this, farmers and public servants stood at 33% and 29% in 1996.

Table 3.6: Comparative Share of Manufacturing and other sectors to GDP (%)

Sector(s)	**2008**	**2009**	**2010**
Crop Production	37.5	37.1	36
Whole Sale Retail	17.4	18.1	18.7
Manufacturing[20]	3.9	3.9	3.9

Source: Data from CBN statistical Bulletin (2010) and own calculations.

Arising from all analysis, both statistical tables and theoretical literature do not provide sufficient information on the effects of trade policy on the economic growth, indeed an empirical estimation is needed to further substantiate on such statistical and theoretical information. This is what the following chapters will properly investigate in the case of Nigeria.

[20] Manufacturing including food, beverages, tobacco etc and excluding the petroleum manufacture

Chapter 4

DATA AND METHODOLOGY

4.1 Data

In this study, the impact of trade openness on Nigeria's economic growth is investigated within the vector autoregressive (VAR) methodology. The four variables used include real gross domestic product (GDP) in 2000 prices, real government expenditure (G), real money supply (M1) and trade openness measures, deflated by GDP deflator (2000=100). Annual time series data for the period of 1960 - 2010 is employed. Data sourced from the World Bank Development Indicators (Online Database 2010) and the Central Bank of Nigeria Statistical Bulletin 2010.

Both M1 and G variables are included to control for the monetary and fiscal policy changes respectively. OP1 represent openness measures as proxied by the ratio of import and export to real GDP while the ratio of import to real GDP will be captured by OP3. Total export variable includes oil exports as well, on which the Nigeria's economy is dependent. Therefore any possible effect of changes in the primary commodity prices will be captured by openness variable including both exports and imports. All variables are converted to the natural logarithm form. In capturing the effect of SAP policy, also a dummy variable is used within the deterministic terms.

Graphical representations of the real GDP shows an increasing trend in time. As can be inferred from the Figure 1 below, the series was almost stable between 1960 to 1965, though a downward trend is seen after 1965 which also peaked by the late 1960s and early 1970s. Very remarkable upward trend is exhibited as from 1980s which actually coincides with the trade liberalization policy.

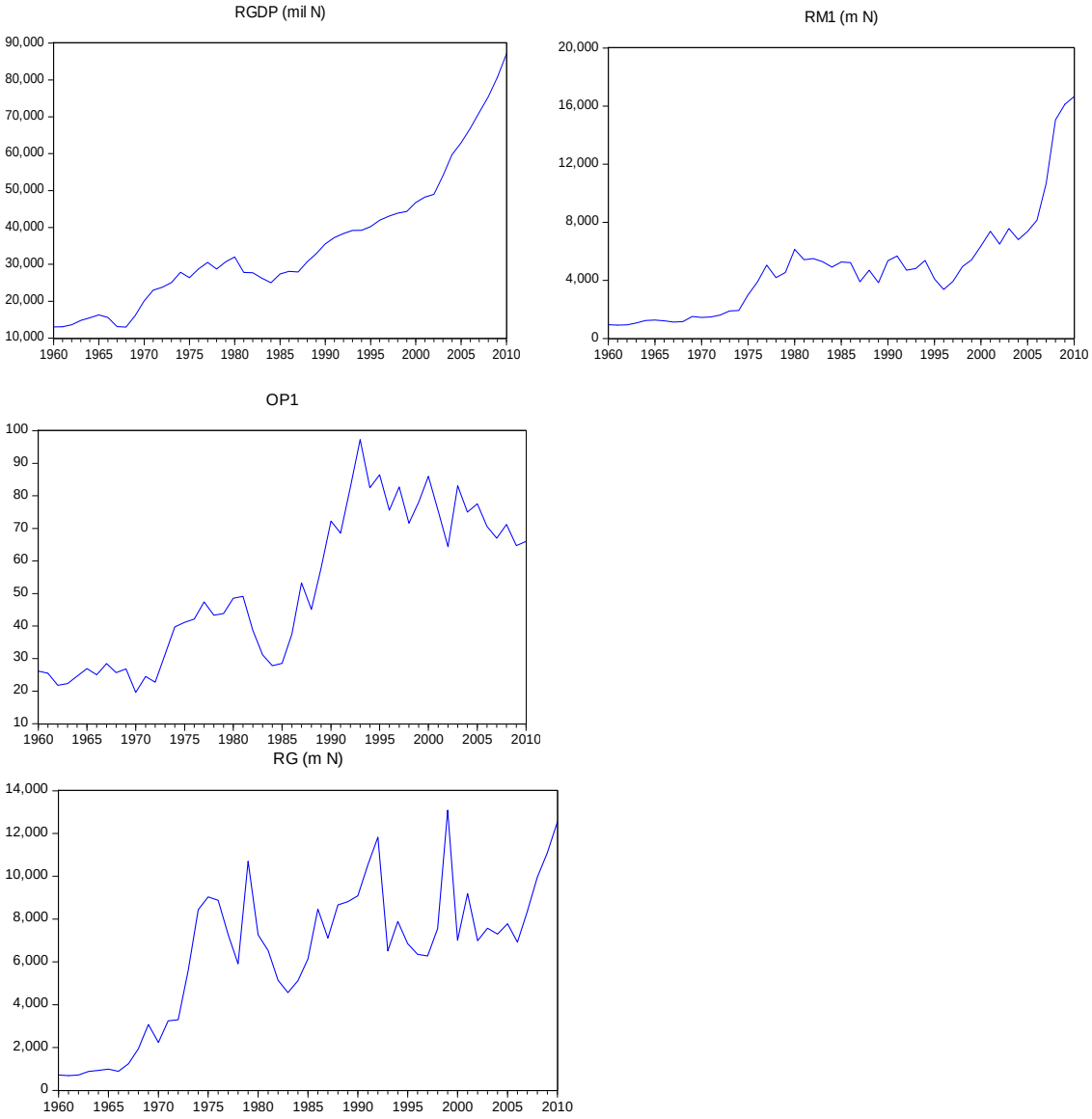

Figure 4.1: Graphical representation of variables

Since the variables exhibit an increasing trend especially in real GDP and openness variable since the mid 1980s, this shift in the behavior of the individual series has to be taken into account in conducting the unit root and cointegration test.

4.2 Methodology

The methodologies to be applied in the analysis are explained as follows:

4.2.1 Unit Root Tests

The first step is to determine the order of integration of the series used in the analysis. For this, Augmented Dickey Fuller ((Fuller (1976) tests and unit root tests allowing for structural breaks are employed. The tests are explained in Appendix B. In the case when all the variables are integrated of same order, the next step will be to test for cointegration relationship among the variables. If cointegration is found, the estimated model will be vector error correction model (VECM) of Johansen (1995) showing both long-run and short-run relationship among them. If no cointegration relationship is found, the model to be estimated will simply be a Vector Autogressive model (VAR) of Sims (1980). Cointegration of series implies that a long-run relation exists between the variables.

4.3 The Vector Error Correction Model (VECM)

If all variables are integrated of same order, and if we find a cointegration relationship among them, the model will be set up as a vector error correction model(VECM) which can be presented as follows in matrix notation;

$$\Delta y_t = \Pi y_{t-1} + \Gamma_1 \Delta y_{t-1} + \Gamma_2 \Delta y_{t-2} + ... \Gamma_\rho \Delta y_{t-\rho+1} + C d_t + u_t \qquad \text{(Eq. 1)}$$

where $\Pi = \alpha\beta'$, y_t is a vector of time series variables and Δ is the differencing operator, d_t is used to include the deterministic terms such as constant, a trend variable

and shift or impulse dummy variables. The stochastic error term u_t is white noise. Also to be estimated are the matrix α, including the speed of adjustment parameters, the matrix β for the cointegrating parameters and Γ_i, the short run parameters and C the parameter for deterministic terms. In the setup of the model, the first term shows the long-run relationship among variables such that y_t changes in response to one period lagged deviation from long-run equilibrium or in response to stochastic shocks. The matrix α shows how much each equation contributes in moving to the long-run equilibrium.

Therefore, if no cointegration relationship is detected, the first term Πy_{t-1} will vanish and the model will simply be reduced to a VAR model. In this study, $y_t = (GDP_t, G_t, M1_t, OP)$. The openness measures will be a trade measure of openness denoted by OP1(ratio of imports plus exports to GDP) and an import measure of openness, OP3(ratio of imports to GDP), that will be included into the model alternatively. Also, the matrix for deterministic terms include the dummy variable $D_t = 0$ for T_B □ 1986 and $D_t = 1$ for $T_B \geq 1986$, as well as a trend variable among the short-run parameters(not restricted to L-R cointegration equation). The dummy variable will capture any effect of the implementation of the SAP policy in 1986

4.3.1 The Cointegration Test

The number of cointegration relationship between variables is to be determined first before estimating the VECM. One popularly used approach is the Johansen (1995a) approach which is based on determining the cointegration rank of Π where $\Pi = \alpha\beta'$ in the error correction term. The procedure involves a sequence of hypothesis as;

$H_0(0) : rk(\Pi) = 0$ versus $H_1(0) : rk(\Pi)$ □0

$H_0(1) : rk(\Pi) = 1$ versus $H_1(1) : rk(\Pi) \neq 1$ and so on.

For instance, as explained in the literature of contegration theory $H_0(0): rk(\Pi) = 0$ versus $H_1(0) : rk(\Pi) \neq 0$ means that we test whether rank Π is greater than zero or not. If $H_0(0)$ can not be rejected, in other words if r = 0, it means the model is a VAR in the first differences with no long run relationship among the variables. If, on the other hand, $H_0(0) : rk(\Pi) = 0$ is rejected but in the next step $H_0(1): rk(\Pi) = 1,$ cannot be rejected then the system of equations has one stationary linear combination of variables. If on the other extreme, all null hypothesis can be rejected and we find r = k(maximum), it means the VAR model is stationary in the levels ,1(0). In conducting the test, the trace test statistics, $\lambda_{trace}(r) = -T\sum_{i=r+1}^{n} \ln(1-\hat{\lambda}_i)$ is computed where $\hat{\lambda}$ is the estimated value of the characteristic roots when the matrix Π is estimated and T is the number of usable observations. The critical values are tabulated for the likelihood ratio (LR) test and if the test statistics exceeds the critical values, null hypothesis is rejected.

4.3.2 Model Checking

After estimating the model, first, the model will be checked whether it is adequate or not. If the model is adequate one the residuals of the model should meet the usual assumptions and the parameters of the model should be stable. For this the estimated model will be subject to residual analysis, particularly testing for nonormality, autocorrelation and ARCH effects based on Luktepohl, (1991) and chow tests are conducted for structural stability, Hansen (2003). If the estimated model is adequate, then it can be used to get information about the dynamic interactions among the variables by computing the impulse response functions and forecast error variance decompositions.

For testing the residuals for normality, we used LJB test proposed by Lominicki (1961) and Jarque Bera (1987) by computing the test statistics

$$LJB = \frac{T}{6}\left[T^{-1}\sum_{t=1}^{T}\hat{u}^3 \right]^2 + \frac{T}{24}\left[T^{-1}\sum_{t=1}^{T}\hat{u}^4 - 3\right]^2$$

Under the null that skewness is zero and kurtosis is 3 against the alternatives that they are different. For autocorrelation in the residuals, Portmanteau test is conducted under $H_0 : E(u_t u_{t-i}) = 0$ where $i = 1,...,h$ against the alternative that at least one autocorrelation is significant. Since we have a small sample relatively, we consider the adjusted Portmanteau statistics, Q_h^* which follows a χ^2 distribution with degrees of freedom which is the difference between the autocorrelations and the number of estimated coefficients in the model. For testing the conditional heteroscedasticity, univariate ARCH LM test is used.

4.3.3 Innovation Accounting

In order to analyze the impact of various shocks in the variables in matrix y_t, the moving average representation of the VAR model

$$y_t = u_1 + \phi u_{t-1} + \phi_2 u_{t-2} + ...$$

is used where ϕ_s matrices show the responses to the shocks that hit the system . In other words, the u_{it} is called the forecast error in y_{i_t} given $\{y_{t-1}, y_{t-2}...\}$ so that the coefficients of ϕ_s represent responses in y_t with respect to the u_t shocks that are referred to as impulse responses. The effect of an impulse vanishes as time passes, $s \to \infty$ in the case of 1(0) processes. In the case of VECM, the impulse response functions, as can also be computed, however, will not converge as $s \to \infty$ as in the case of VAR models. This means that the shocks may have permanent effects (Lutkepohl and Reimen (1992)).

Forecast error variance decomposition which is related to impulse response function gives us information about what proportion of changes in a series is explained by its own shocks and by shocks to other variables in the system. The forecast error for y_t variables can be computed in terms of structural error sequences for which h-step ahead forecast error variance of $y_{t.h}$ can also be constructed for $\sigma_y^h(h)$, see Enders. (2003 p/278-279)

Chapter 5

EMPIRICAL FINDINGS

5.1 The Unit Root Test Results.

As mentioned in the previous chapter, the graphs of data have shown a clear volatile increase over the sample period. The Augmented Dickey Fuller Tests (ADF) (Fuller (1976) was used to perform the unit root tests. Based on the ADF test results, all series are found to be nonstationary but have become stationary after taking the first differences, I(1). The ADF test results with no modification are presented in Appendix C. The plot of the variables exhibited a shift in the trend in the mids of 1980s which can be interpreted as a reflection of the trade liberalization policy. Therefore, the Perron (1989) extensions of the ADF tests are also performed by inclusion of a dummy variable into the unit root tests to capture the shift in the data such that $d_t T_B = 0$ for $t \leq T_B$ and $d_t T_B = 1$ for $t \rangle T_B$. The differenced series does not have level shifts but outliers can be captured by impulse dummy while conducting the unit root tests.

Another unit root test popularly used in the case of structural changes is proposed by Saikkonen & Lütkepohl (2002) and Lanne, Lütkepohl & Saikkonen (2002), which consider the possibility that the shift may spread over some time period. They consider the shift function in general as $f_t(\theta)'r$ that may appear as deterministic term where θ & r are unknown parameters. If the shift is simple, the shift dummy function will only involve r parameter which will be a scalar. If the shift is gradual in a nonlinear form, $\theta \neq 0$ & r may take any value. (Saikkonen and Lutkephol (2002). We have used unit root tests with simple and exponential shift functions. The exponential shift function was not appropriate and thus not reported. The test results indicate that all variables are integrated of order one. The lag lengths are determined by using the Hannan-Quin Critarion (HQ) and Schwarz critarion (SC). The test results are presented in Table 5.1 below.

Table 5.1: Unit Test Results with Structural Shifts using a constant

Variable	Shift Function	No. of lagged differences	Test Statistic	5% Critical value
$lGDP_t$	Shift dummy	3	0.1519	-2.88
		10	1.4173	-2.88
$lM1_t$	Shift dummy	0	-0.6311	-2.88
lG_t	Shift dummy	0	-2.7701	-2.88
$lOP1_t$	Shift dummy	0	-1.1962	-2.88
$lOP3_t$	Shift dummy	0	-1.2486	-2.88
$\Delta lGDP_t$	Impulse dummy	2	-3.48	-2.88
$\Delta lM1_t$	Impulse dummy	0	-6.4070	-2.88
ΔlG_t	Impulse dummy	0	-6.9947	-2.88
$\Delta lOP1_t$	Impulse dummy	0	-7.1112	-2.88
$\Delta lOP3_t$	Impulse dummy	3	-5.5640	-2.88

Note: Critical values are tabulated in Lanne at al. (2002).

Therefore, based on the above UR tests with structural break, again, all series have been stationary with first differences while they have been nonstationary in levels.

5.2 Cointegration Test Results:

There are several methods proposed in the literature for testing the number of cointegration relationship among variables. One popularly used one is the Johansen (1995a) likelihood test. However, because the GDP and other series had shifts in the series, we need to allow for the shift in the cointegration test. Therefore, the cointegration tests proposed by Saikkonen and Lütkepohl (S &L tests) will also be employed by allowing a shift dummy for 1986 such that D =0 if T is less than 1986 and take the value of 1 for 1986 and after, i.e:

$d_{t,1986} = \{0$ when t□1986 and 1 when t≥ 1986 $\}$

Cointegration test is conducted among variables for GDP, M1, G and openness measures OP1 or OP3 alternatively. The lag lengths are determined by Hannan-Quin and Schwarz criteria. In both cases, the rank of zero is rejected while rank 1 is not rejected. The test results show one cointegration relationship among the variables as presented in table 5.3 below.

Table 5.2: Cointegration Test Allowing for Level Shift $y_t = (GDP_t, G_t, M1, OP_t)$

Openess Measures	Deter. Term	No of lagged differences	H_0	Test Statistic	Critical Value 90%	95%
OP1	c, sd86	1	r = 0	39.52	37.04	40.07
			r = 1	13.68	24.16	24.16
OP3	c, sd86	1	r = 0	42.48	37.04	40.07
			r = 1	12.43	21.76	24.16

Note: 'c' stands for constant, 'sdyy' shift dummies as proposed by Saikkenon and Lutkephol(2000). Computations are performed with JMulTi version 4.24

5.3 Vector Error Correction Model (VECM)

As one cointegration relationsip is determined in the above section, we have estimated a VECM with cointegration rank r =1 and two lagged differences using annual data 1963-2010, for a sample size of T=48. Lag lengths are determined by minimizing the information critaria , namely, HC and SC. The system of equations include $y_t = (GDP_t, G_t, M1, OP_t)$ and a deterministic term which is a trend and a dummy variable for 1986 onwards. The estimated long run error correction regression is

Table 5.3 Estimated Long-run Cointegration Vector

Using Trade Measure (OP1)			
$LGDP_{t-1}$	LG_{t-1}	$LM1_{t-1}$	OP_{t-1}
1.00	0.153	-1.410***	-0.029***
	(0.113)	(0.115)	(0.004)
	[0.176]	[0.000]	[0.000]
Using Import Measure (OP3)			
1.00	0.340***	-1.580***	-0.055***
	(0.107)	(0.109)	(0.008)
	[0.002]	[0.000]	[0.000]

Note: *** indicates significance at 1% level. Figures in ( ) show standard errors while those in [ ] are the p-values.

Using both trade and import measures of opennes , the long-run cointegration estimates are similar; all variables are highly significant except LG_{t-1} in the first equation using OP1 measure. The openness variable is highly significant and has positive effect on economic growth. However, its impact is small since the values of the opennes coefficients in both regressions are rather small. On the other hand, the value of the coefficient for M1 is greater than unity and is highly significant with correct sign indicating that expansionary monetary policy will affect economic growth positively in the long-run. This indicates that the main determinant of economic growth in the long-run is the monetary policy variable rather than trade liberalization.

Looking at the estimated loading matrix, the error correction term is found to be significant in all the equations in the VECM except the equations for openness. This means that for any discrepancy from long-run equilibrium , only the openness equation will not respond to revert the relationship back to long-run equilibrium. The estimated values of the speed of adjustment coefficients are reported in table 5.3 below.

Table 5.4: Speed of Adjustment Coefficients for OP1 and OP3 (1963-2010)

Equations	OP1		OP3	
	Coefficients, e_{t-1}	t-statistics	Coefficients, e_{t-1}	t-statistics
ΔGDP	0.058	2.645	0.062	3.140
ΔG	0.534	6.316	0.386	5.177
$\Delta M1$	0.196	3.967	0.291	5.922

This shows that in the case of a discrepancy in one lagged period's deviation from long-run equilibrium, GDP at time '*t*' will increase by approximately 6% per year to restore long-run equilibrium. The smal value of the coefficients indicate that economic growth is almost unresponsive to the previous period's disequilibrium. The higest response is shown by fiscal policy variable, which is by 53% per year while the monetary policy variable, M1 responds by 19.6% per year.

Therefore, the openness variable does not react to deviation from long-run path of the economy and the reaction of economic growth is minimal only by about 6% per year while the monetary policy seem to play a significant role.

Considering the estimated short-run parameters, it is observed that GDP at time t is highly significantly explained by its own one and two lagged differences. The short run effect of OP1 on output is not significanmt while that of OP3 measure is significant at

5% level. The dummy variable capturing the structural change by the SAP programme and the trend variable are estimated as deterministicm terms . The trend variables is highly significant in all the equations while the dummy variable is highly significant in monetary policy equation and the trade openness equation.

The residual correlation matrix shows that the estimated model meets the $\pm 2/\sqrt{T}$ rule (the 95% confidence interval) i.e the correlations among residuals is less than $\pm 2/\sqrt{48} = 0.29$.

The residual correlations then can be considered to be not significant at 5% level. This means that the impulse response functions can be used for analyzing dynamic interaction between the variables (Lutkephol(1991)). However, first, the model will be checked for adequacy. The correlation matrices obtained from the estimated models using the OP1 and OP3 variables alternatively are reported in the appendix C.

5.3.1 Residual Analysis

The residuals from the estimated model are checked for nonnormality , autocorrelation and conditional heteroscedasticity (ARCH effects). For autocorrelation in the residuals, the adjusted portmanteau test statistics is used under the null $H_0; E(u_t, u_{t-1}) = 0$ where i=1...,h against the alternative that autocorrelation is not zero.The test is very similar to Ljung-Box statistic for the univariate case. Another test for autocorrelation is the LM-type test. The test results in Table 5.5 indicate no autocorrelation and non normality problem in the residuals of the estimated model.

Table 5.5: Diagnostic for VECM model with OP1

Test	Q_{20}	Q^*_{20}	LM_5	LJB

Test statistic	242.9	314.5	79.6	4.2
p-value	0.995	0.31	0.49	0.84

Note: Q_{20} is the Portmanteau test statistic at lag 20, Q_{20}^{*} is the adjusted Portmanteau statistic for small samples, LM is the LM-type test for autocorrelation with 5 lags and LJB is the Lomnicki- Jargue-Bera statistic based on Doornik and Hansen(1994).

The ARCH-LM test applied for 20 lags also show no ARCH effects in the residuals. The test resuts are shown in table 5.6 below.

Table 5:6: Univariate ARCH Test

Residuals	Test statistic	*p*-value
u_1	21.61	0.16
u_2	10.83	0.82
u_3	9.30	0.90
u_4	9.54	0.89

5.3.2 Chow Test for Structural Break

Chow tests are considered to check for parameter stability over the sample period. For this, it is assumed that structural break occured at period T_B and the model is estimated using full sample, first part of sample T_1 and last part of sample T_2 obtaining the residuals. In particular, the sample split chow test is conducted under the null hypothesis that the residual covariance matrix is white noise. The last statistic follow a χ^2 distribution with degrees of freedom that equal to the number of restrictions. For the model, we considered two possible break dates as 1983 and 1986. The first one corresponds to the year when military takeover occured and the second one corresponds to the implementation of the SAP program. Table 5.7 below shows these results.

Table 5.7 Chow test for VECM model with OP1

Break Point	Test	Test statistic	Bootstrapped p-value
1983	λ_{ss}	36.8	0.14
1986	λ_{ss}	88.5	0.12

The results for the model using OP3 is similar therefore not reported here.

5.4 Impulse Response Functions

The dynamic interactions among variables are studied by impulse response analysis. The forecast error impulse response functions are plotted in Figure 5.1 with bootstrap confidence intervals represented by dotted lines which are based on 2000 replications.

The impulse response functions show that the short-run output effect of opennes is negative but insignificant. The GDP variables react negatively to one time impulse to shock to the openness measure, OP1 but is insignificant. The response of GDP to fiscal policy initially is positive but start decreasing permanenetly after about two years.

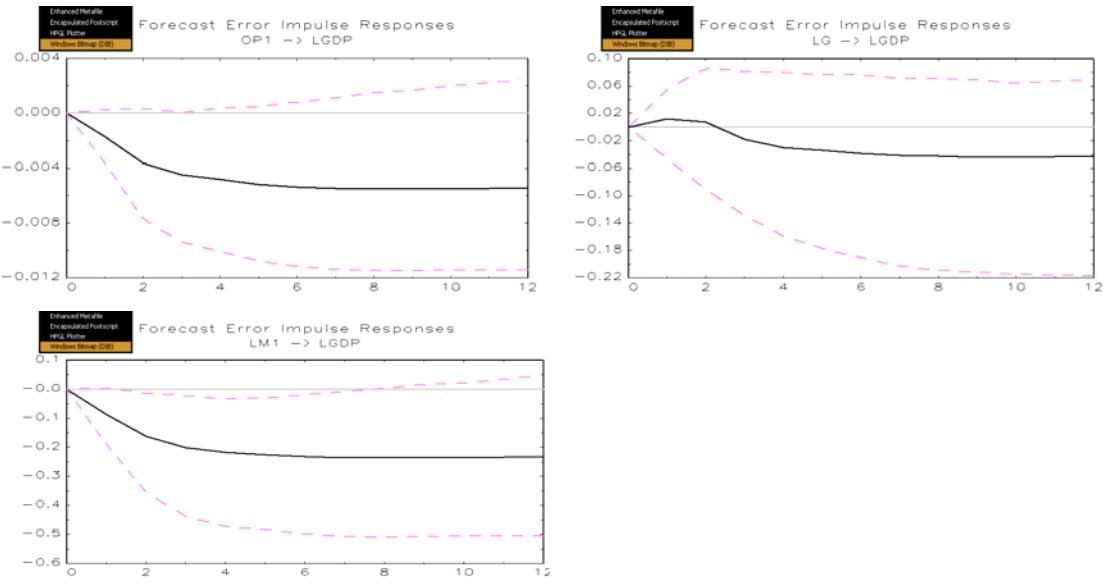

Figure 5.1: Impulse Response figures.

Shocks to monetary policy has insignificant effect initially which has a temporary negative permanent impact on the economic growth reflecting deterioration in the economy. As expected the reactions of variables are permanent.

5.5 Variance Decompositions:

Since VECM models with OP1 and OP3 produced similar results, the variance decomposition for OP1 are reported below to save space.

Most of the forecast error variance on economic growth is explained by itself at short horizons which get smaller at longer lags. This may be interpreted as innovation of other variables having relatively little contemporaneous effect on the real GDP variable. The money supply and openness measure variables exert similar effects , 6% of variation in GDP is explained by money supply and by trade liberalization at at lag 4 and their proportion became about a maximum of 11% and 10% for M1 and OP1 respectively at

longer lags. On the other hand, fiscal policy variable can be said to explain none of the forecast error in GDP.

Table 5.8: Proportions of forecast error in LGDP

Chapter 6

SUMMARY AND CONCLUSION

This chapter presents the conclusion and policy recommendation from the study. Also, some suggestions for further research on this topic would be briefly itemized.

6.1 Conclusion

So far, this study investigated the effects of trade liberalization on the economic growth of Nigeria between 1960-2010 with an attempt to contribute to the debates so far on the link between trade openness and economic growth. Trade openness is proxied by two alternative measures as the ratios of exports plus imports to GDP and only imports to

Time Horizon	LGDP	LG	LM1	OP1
1	1.00	0.00	0.00	0.00
4	0.87	0.00	0.06	0.06
8	0.79	0.00	0.10	0.11
12	0.77	0.00	0.11	0.12
20	0.75	0.00	0.12	0.12

GDP represented by OP1 and OP3 respectively. The trade measure, OP1 is prefered as it captures the effect of external shock in the Nigerian economy through exports. Using annual time series data, the VECM model was estimated with one cointegration relationship with two differenced lags.

The findings reveal that the cointegration relationship is significant in both fiscal and monetary policy equations that react to any disequilibrium in the long-run.The openness variable, is significant in the cointegration equation and has a positive however, small impact. Considering the short-run parameters, trade liberalization has no impact on economic growth, but it has positive impact on monetary policy in the short-run. The innovation accounting supports the idea that trade liberalization explains only 6% variation in economic growth in 4 years.

In summary, it can be concluded that the impact of trade liberalization in economic growth of Nigeria does not take a leading role in the sense that economic growth does not react to much departure from long-run path, the IRF was not significant. Also, distortions both economic and political and perhaps the poor implementation of the SAP of 1986 are contributory factors to the poor growth rate and performance of the trade liberalization policy. According to literature, countries that have transformed their economies from the primary oriented production to high technology and manufacturing benefit most from openness policy than just a primary sector dominated one. This is against the economic framework of Nigeria where the economy is still only dependent on the primary sector and a net exporter of crude petroleum as a major source of revenue. Building an enabling institution together gradual liberalization of trade could account for a significant impact on economic growth of Nigeria than sudden

liberalization. This may be the reason for small impact of trade liberalization on economic growth. More to this, prioritization of policies also is an important point. Scaling of policies and adopting them according to most pressing need for the economy also would account for a significant impact on economic growth.

6.2 Policy Recommendations

Some of the policy recommendations as related to this topic are as follows:

1. Rapid transformation of the Nigerian economy from her monocultural and primary sector dominated to a high tech manufacturing base. This would allow for a competitive stance in the world trade and even guarantee increased revenue.

2. Trade reforms should be vigorously pursued and implemented with other complementary macroeconomic policies. However, timing of when to liberalize trade should occupy the center stage in planning .This is particularly essential as a sudden shock on the economy through trade policy could affect the economy negatively if adequate planning is not put forward

3. The Nigerian government should pursue a sustained economic programe without disruptions.

4. It might also be suggested that proper functioning institutional arrangements must be put in place with a good administrative and transparent stance to maximize the benefits of any trade policy. Equally the fight on corruption should also be the watch word of the Nigerian government if a good policy is to succeed.

5. Monetary policy should be carefully designed avoiding inflationary pressures and thus mismanagement of the economy since it has an important role in economic growth.

6.3 Limitations of study and suggestions for further Research.

Major challenges encountered in the course of this study lies on data constraints. Time series data covering the study period is difficult to come and hence our inability to include more variables such as human capital. Further research on this topic should include extending the model and variables through the inclusion of other socio economic indicators.

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APPENDICES

Appendix A

Table 1: Import Tariff Structure in Nigeria.

No	Commodity type	Tariff rate (%)
1	Raw materials	2.5-25
2	Components	5 – 50
3	Clothing	55-75
4	Luxury consumer goods excluding automobiles	30-50
5	Paper products	5-100
6	Vehicles	5-50
7	Soy meal, cake and groundnut cake	35
8	Refined Petrol product	10
9	Rice	75
10	Wheat	15
11	Machinery and electric equipment	5-20
12	Food	5-100
13	Cigarettes and tobacco	150
14	Alcoholic beverages	100

Source: Nwafor, M. (2005)

Appendix B

1. Unit Root Tests

As said earlier, the augmented Dickey-Fuller (Fuller (1976), Dickey and Fuller (1979)) test is applied in testing for the stationarity of the series used in the analysis. A major test for this is achieved through the unit root tests. Here, if we have:

$$Y_t = \rho Y_{t-1} + u_t \qquad 4.3.1$$

where u_t is the random element consisting of a zero mean, a fixed variance (σ^2) and no autocorrelation. Y_{t-1} is the series for previous time period while Y_t is the present series. Unit root problem is found when $\rho = 1$ i.e. a non stationarity problem or still random walk. When $|\rho| = \langle 1$, then we have a stationarity case. Alternatively, if;

$Y_t = \rho Y_{t-1} + u_t$, then $Y_t - Y_{t-1} = \rho Y_{t-1} - Y_{t-1} + u_t$ 4.3.2

$\Delta Y_t = (\rho - 1)\ Y_{t-1} + u_t$ 4.3.3

$\Delta Y_t = \delta\ Y_{t-1} + u_t$ 4.3.4

Where $\delta = (\rho - 1)$ and $\Delta Y_t = Y_t - Y_{t-1}$ also represents the first difference notation. So, the hypothesis for unit root test is formulated thus:

H_0: $\delta = 0$ and $H_1 : \delta < 0$. Therefore, if the null hypothesis is not rejected, this will imply a non stationary variable is observed. If this holds, then the equation becomes

$\Delta Y_t = Y_t - Y_{t-1} = u_t$ 4.3.5

The equation above presents the first difference of a non stationary series. More so, if by differencing variables by 'd' times, we arrive at stationary, then such a variable is integrated of d order (Chou, 2000). In other words, a Y variable integrated of order 2 is denoted by $Y_t \sim \mathrm{I}(2)$[21]. Series in their stationary form are equally denoted by $Y_t \sim \mathrm{I}(0)$. The number of times a series is differenced to arrive at stationarity is termed the order of integration.

2. Johansen Cointegration Test

Johansen suggest two test statistics, the trace statistics and the maximum eigenvalue test. The number of cointegrating vectors can be determined by checking whether the characteristic roots of Π are different from zero since the rank of a matrix equals to the number of its characteristic roots, λ.

[21] $Y_t \sim \mathrm{I}(2)$ imply that the y_t series is integrated of order 2.

The Johansen procedure is concerned with testing the significance of characteristic roots of Π in determining the rank of the matrix given in general as $\Delta Y_t = \Pi y_{t-1} + U_t$. As explained in Enders, W. (2004, p352-353), the test can be performed by computing the following test statistics:

$$\lambda_{trace}(r) = -T\sum_{i=r+t}^{n}\ln(1-\lambda) \rightarrow \begin{Bmatrix} H_0; r=0 \\ H_{0;r}\, r=1 \end{Bmatrix} against \begin{Bmatrix} H_1; r\rangle 0 \\ H_1; r\rangle 1 \end{Bmatrix}$$

$$\lambda_{\max}(r, r+1) = -T\ln((1-\lambda_{r+1}) \rightarrow H_0 = 0 \;\; against \;\; H_1;\ \text{r+1}$$

Where λ the estimated characteristic roots from the estimated Π and T is the number of usable observations.

Hence if all variables are not cointegrated, the rank of $\Pi = 0$ and all characteristic roots will equal zero. See Enders (2004, p390&391), thus $\ln(1-\lambda) = 0$

Appendix C

ADF Test

1. Table 3: ADF Test Results

Variable	Deterministic term	No. of lagged differences	Test statistic	5% critical value
$lGDP_t$	c & t	5	-2.3798	-3.41
$lM1_t$	c & t	3	-1.7654	-3.41
lG_t	c & t	0	-2.2839	-3.41
$lOP1_t$	c & t	1	-1.6312	-3.41
$lOP3_t$	c & t	8	-1.9939	-3.41
$\Delta lGDP_t$	c	2	-3.3904	-2.86
$\Delta lM1_t$	c	0	-6.8388	-2.86

ΔlG_t	c & t	3	-3.7662	-3.41
$\Delta lOP1_t$	c & t	3	-2.9310	-3.41
$\Delta lOP3_t$	c & t	0	-8.3842	-3.41

Note : c & t implies Constant and Trend.

2. Covarıance Matrıx For OP1 and OP3

Covarriance Matrix for OP3

$$Corr(u_t)\begin{bmatrix} 1 & 0.195 & 0.124 & 0.263 \\ & 1 & -0.242 & 0.114 \\ & & 1 & -0.39 \\ & & & \end{bmatrix}$$

Covarraince Matrix for OP1

$$Corr(u_t)\begin{bmatrix} 1 & 0.230 & 0.185 & 0.130 \\ & 1 & -0.11 & 0.161 \\ & & 1 & 0.07 \\ & & & \end{bmatrix}$$