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Economic Recession and the Way-Out: Nigeria as Case Study

By Adetayo O. Adeniran & Ben O. Sidiq

Federal University of Technology

Abstract- Nigeria, the hub of West Africa's economy has remained stagnant, following the declaration of global economic and financial crisis which became major concerns for political leaders, economists and managers of financial institutions across the globe. It was later confirmed by the Central Bank of Nigeria (CBN) Governor, Godwin Emefiele and the Minister of Finance, Kemi Adeosun that Nigeria's economy was officially declared to be in a technical recession based on the new trend figures released. This study aimed at suggesting various measures for Nigeria's economic recovery. Way-out of economic recession can be through the additive reforms of the following: economic policies; transport infrastructural development; economic diversification with more emphasis on addressing the issue of local contents; education research and innovation; filtering externalities, culture, SMEs, domestic products; sound policy and anticorruption approaches; lessons were drawn from Japan economic policies with emphasis on monetary and other policies. Finally, various recommendations were suggested for policy actions.

Keywords: recession; way-out; policy; Nigeria.

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Economic Recession and the Way-Out: Nigeria as Case Study

Adetayo O. Adeniran [α] & Ben O. Sidiq [σ]

Abstract- Nigeria, the hub of West Africa's economy has remained stagnant, following the declaration of global economic and financial crisis which became major concerns for political leaders, economists and managers of financial institutions across the globe. It was later confirmed by the Central Bank of Nigeria (CBN) Governor, Godwin Emefiele and the Minister of Finance, Kemi Adeosun that Nigeria's economy was officially declared to be in a technical recession based on the new trend figures released. This study aimed at suggesting various measures for Nigeria's economic recovery. Way-out of economic recession can be through the additive reforms of the following: economic policies; transport infrastructural development; economic diversification with more emphasis on addressing the issue of local contents; education research and innovation; filtering externalities, culture, SMEs, domestic products; sound policy and anticorruption approaches; lessons were drawn from Japan economic policies with emphasis on monetary and other policies. Finally, various recommendations were suggested for policy actions.

Keywords: recession; way-out; policy; Nigeria.

I. Introduction

O bviously, Nigeria's economy has gradually shifted from the level of economic buoyancy to the level of economic recession due to the totality of certain factors and if care is not taken, it will gradually shift from economic recession to total economic meltdown which can be catastrophic, heartbreaking and deadly in nature. Nigeria, the hub of West Africa's economy has remained stagnant, following the declaration of global financial crisis. The global economic and financial crisis has become a major concern for political leaders, economists and managers of financial institutions across the globe. Addressing the global financial crisis is expedient because it is the foundation and backbone for developing economy where Nigeria is inclusive.

Moreover, things turned particularly austere in 2016, when the long impregnated recession was given birth to. Accordingly, its unemployment rate has drastically risen and looks relatively worse to the extent of underemployment most especially for Nigerian youths. Obviously, prices of goods and services continually increase by over 100% meanwhile the purchasing power (Naira) was devalued. There have been a number of high-profile company failures, and the most alarming is that multinational companies relocated their production facilities out of Nigeria to neighboring countries. This paper is the researchers' is aimed at critically suggesting various measures for Nigeria's economic recovery.

II. Literature Review

a) Economic Recession

Economic recession is the combination of two different words "economic" and "recession". According to Merriam-Webster Dictionary, the word 'economic' deals with managing the production, distribution and consumption of goods and services. According to the same dictionary, recession is the period of reduced economic activities. The economic activities earlier mentioned are production, distribution, and consumption. According to Study.com, a recession is a general downturn in an economy. It is associated with high unemployment, slowing gross domestic product and high inflation.

Economic recession can also be referred to as economic crisis or financial crisis; it is a period of economic slowdown that is characterized by declining productivity and devaluing of financial institutions often due to reckless and unsustainable money lending (Wikitionary). Economic recession is a period of general economic decline and is typically accompanied by a drop in the stock market, increase in unemployment and a decline in housing market (Study.com).

According to Kimberly (2006), recession is when the economy declines significantly for at least six months. It means there is a drop in the following economic indicators:

1. Real Gross Domestic Product (GDP);
2. Income level of individual and revenue generation of government;
3. Employment;
4. Manufacturing and
5. Retail sales.

b) Causes of Recession in Nigeria

There are two main causes of recession in Nigerian economy:

Economic recession caused by global economic and financial crisis; and Economic recession caused by other Nigerian factors.

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i. *Economic recession caused by global economic and financial crisis*

Current global crisis started as a financial crisis but now a global economic crisis. The crisis is unprecedented in severity of credit contraction (credit crunch & capital crunch). The roots are in banking rather than in securities market or foreign exchange. The crisis started in the U.S (due to certain laxities in the US financial system), spread to Europe, developing countries and has become global. Even countries not affected by the financial crisis are now affected by second-round effects as the crisis now becomes economic issues (Oladapo and Fabayo, 2012).

The global financial crisis followed a period of economic boom between 2003 and 2007. During that period, the world economy was growing at an average of 5% per annum. However, the current crisis was precipitated by a combination of factors including emergence of subprime rates in the USA housing sector, deepening crisis in the financial markets, rising crude oil prices and surges in commodity prices which triggered-off series of bankruptcies, forced mergers, loss of employment, firm closures and concerns in the corridors of economic policy analysts in the USA and major capitalist economies. In the course of the financial crisis, the world economic growth rate has dropped to about 1% between the fourth quarter of 2007 and third quarter of 2008 (World Bank, 2009).

The impact of the sub-prime crisis spread well beyond United States causing a widespread squeeze in liquidity and credit. And price hikes in primary commodities, fueled partly by speculation that has shifted from financial instruments to commodity markets, added to the challenge for policy makers' intent on avoiding a recession while at the same time keeping inflation under control. The Global Development Finance 2009 revealed the negative effects of the global financial crisis that have caused liquidity and other assets flow into developing countries like Nigeria to fall by 41% in 2008. From a peak of $1.2 trillion in 2007, the development finance coming into developing countries dropped sharply to $707 billion in 2008. From this projection, it was revealed that capital flows would fall further to $363 billion in 2009 due to the fact that not a few African banks depend on the international markets for some financing (Olowe, 2011).

The current global financial crisis is as a result of a number of factors that include in the following;

1. The collapse of the housing market in the United States;
2. The lax financial regulatory conditions; and
3. The lack of implementation of strict corporate governance conditions in the United States and most of the developed economies (Krugman, 2008).

The global financial crisis has caused the crumbling of many businesses including otherwise formidable corporate giants across the world. In these unusual circumstances, Nigerian's economic crisis is drawing attention. The country Nigeria went through oil boom- cycle from the late 1970s to the beginning of this century. Since the past one decade, Nigeria's economy has been caught in a prolonged stagnation which became obvious in the late period of year 2015. This coupled with systemic financial crisis. Because of these, the researcher will tag this era as "Crisis Era" so as to make it memorable because of the falling economic activity and weakening financial system (Adeniran, *et al.,* 2017)

ii. *Economic recession caused by other Nigerian factors*
Oil Boom as a cause of economic recession in Nigeria

The massive increase in oil revenue as an aftermath of the Middle-East war of 1973 created unprecedented, unexpected and unplanned wealth for Nigeria, and then began the dramatic shift of policies from a holistic approach to benchmarking them against the state of the oil sector. Furthermore, in order to make the business environment conducive for new investments, the government invested the newfound wealth in socioeconomic infrastructures across the country, especially in the urban areas. As well, the services sector grew. The relative attractiveness of the urban centre's made many able-bodied Nigerians to migrate from the hinterland, abandoning their farmlands for the cities and hoping to partake in the growing and prosperous (oil-driven) urban economy. This created social problems of congestion, pollution, unemployment and crimes. Economically, the national currency, (Naira) strengthened as foreign exchange inflows outweighed outflows, and foreign reserves were built up. Until 1985, the Naira was stronger than the US Dollar; this encouraged import-oriented consumption habit that turned Nigeria into a perennial net importer, which became a major problem when oil earnings decreased with lower international oil prices (Oladapo and Fabayo, 2012).

c) *General consequences of economic recession*

The general consequences of economic recession are:

1. *High interest rates*: This limits the liquidity or the amount of money available to invest.
2. *Increased inflation:* Rise in prices of goods and services over a period of time. As inflation increases, the percentage of goods and services that can be purchased with same amount of money decreases.
3. *Reduced consumer confidence:* If consumer believe that the economy is bad, they are less likely to

spend money. This is psychological which have real impact on the economy.

4. *Reduced real wages:* Falling real wages means that a worker's pay check is not keeping up with inflation. The worker might be making same amount of money, but his purchasing power has been reduced (Adeniran, *et.al.,* 2017; Study.com)

The various measures are;

i. *Way-out (economic policy approaches)*

The economic policies recommended are lessons derived from Japan economy, as shown below:

1. The Central Bank of Nigeria should create a new department that will be responsible for financial stability.
2. An unnoticeable lesson derived from the developed countries is that individual families have diversified sources of income. It is therefore expedient that each family in Nigeria should have at least two sources of income.
3. The government should collaborate with foreign technical experts in other to learn from experiences and insights which will be used to develop policy frameworks for possible financial contingencies. The policy framework can gradually evolve to contain four pillars;

a. Capital-deficient banks should be encouraged to carry out restructuring and raise additional capital from private investors and not from government. (They lack prudency when borrowed from government).

b. The authorities of insolvent (bankrupt) bank should explore full range of measures, including assumptions by a stronger bank with financial assistance through the deposit insurance scheme, establishment of an asset management company to separate bad assets, and creation of a bridge institution to preserve the function of the failed bank.

c. Central bank should act as a lender of last resort when banks are facing liquidity pressures with systemic implications. Bank must be able to provide collaterals to Central Bank of Nigeria.

d. When banks find it difficult to raise capital in the market, the authorities should consider the possibility of injecting public funds. Such recapitalization with the state budget; the authorities should also be committed to managing the recipient bank to take due responsibilities and its existing shareholders to incur possible losses.

Other lessons derived are;

1. High rates of saving and investment: This can be achieved through household and business savings, tax incentives and others.
2. Investment in technology and education will also stimulate growth. There is no doubt; Nigeria is

expected to fully embrace technological imports and import substitution.

3. The process of industrialization itself will accelerate growth because of the higher efficiency and economies of scale which will facilitate export such that the era of importing more goods than it exported (a trade deficit) will be shifted to export more than import (a trade surplus).
4. Over the years, government protected emerging industries by providing special tax credits to favored industries and directed banks to provide low-interest loans to some sectors such as petroleum refining and aviation; despite the fact that overall success rate was high, there were notable failures. Hence, without government protection, those sectors would still be able to record huge success when privatized or concessioned. Also, lowering interest rates might jeopardize trade and investments as witnessed in Japan in the year 1997 (Ramkishen, 1998; Masaaki, 2009).

ii. *Way-out (transport infrastructural development)*

During the colonial era, Frederick Lugard (1858-1945), a British Soldier, explorer and diplomat who played a very important role in Britain's colonial development in Africa attributed the major problem of Africa (Nigeria inclusive) is transportation; he said "give them transport, and the problem of Africa will be solved". The development of transport system led to the following;

1. Exploration of agricultural produce and natural resources for onward shipment into the domain of colonial master. As a result of these, other significant infrastructures were developed.
2. Facilitation of effective colonial administration.
3. Facilitation of effective security and national defense (Adeniran, 2016a).

These developments justified that the purpose of transportation in any region cannot be far-fetched from or beyond these three purposes;

1. Economic purposes;
2. Spatial interaction; and
3. Social integration (Adeniran, 2016a).

Indisputably, the purposes of transportation as shown above confirm that the provision of efficient, reliable, affordable, accessible, comfortable, and safe transportation through integrated a transport infrastructure which is a catalyst for economic growth and development that will positively affect the socio-economic life of the citizenry.

iii. *Way-out (economic diversification)*

a. *Agriculture*

Agriculture in Nigeria is a declining sector. Value added is falling when compared with manufacturing and services, based on the falling employment numbers in the sector. Falling employment can be explained by the

demographics of agricultural workers; in last thirty decades, the categories of farmers in Nigeria were older people. Obviously, the youth occupies the larger percentage of today's population. Hence, the government and private stakeholders must encourage youth participation in agricultural labor force.

b. *Manufacturing*

The second area to consider is manufacturing, a sector which has historically been very strong, but weaker as of late. Nigerian manufacturing is unhealthy, there is need for effective bailed out and to also take cognizance of the fact that the world will be shifting from the Third Industrial Revolution to the Fourth Industrial Revolution, which involves individualized production, end-to-end engineering in a virtual process chain and production networks, and smart growth. Computers can communicate with each other through full digitization and thus reducing the need for unskilled human labor force. Such technologies can however push productivity thus profitability which is a massive driver for foreign investment.

Dealing with the issue of local contents

Many years ago, quite large portion of Nigerians considered "Made in Nigerian" label to be cheap, and of high-quality standard which resulted into high patronage and efficiencies of the local industry. Recently, the patronage drastically reduced and many firms in the Nigeria owned manufacturing industry have gone into comatose because Nigerians considered "Made in Nigerian" label to be cheap, low-quality, and inferior when compared to western products as a result of globalization experienced in the recent times.

Normally, in the advent of globalization, the companies were supposed to innovate and dominate the market but government failed to carry out her responsibilities on them by not effectively and efficiently creating an enabling environment and failing to instituting sound policies to guide and regulate, such that the firms can be sustained and stand against the wind of globalization.

Today, in order to reposition the "Made in Nigeria" content has a result of economic recession; all direct and indirect concerned associations should see the need to improve the product quality, innovate, create awareness, and imbibe good value. Also, government is expected to actively play her role by ensuring sound and sustainable policies which are analytically based, economically sound, politically acceptable, socially credible, environmentally suitable, and technologically achievable, such that future threats will not be able to outweigh the opportunities.

c. *Services*

In terms of valued added, services in Nigeria is in a crawling stage. Within the various subsections of the industry, Nigerian firms often compete with other developing countries but cannot compete with the developed countries. For example, financial services and insurance companies were established but not performing efficiently. Innovative sound policies are needed to ensuring continous forward momentum and implementing most advantageous technologies and strategies, utilizing the country's multinational and aged investments, private firms to benefit the younger service enterprises; these will stimulate growth and enhance efficiency, it will also attract foreign resources.

iv. *Way-out (education, research and innovation)*

Education, research and innovation are the major pillars for support strong, resilient and vibrant economies. Therefore, for Nigeria to compete with the rest of the world and reposition the current situation of economic recession to economic buoyancy, there must be drastic reformation of education, research and innovation through the provision of greater incentives and lesser the barriers for foreign talents, particularly the best minds in both managerial, social, and natural sciences, as well as practical minds who are into technological innovations and entrepreneurship.

As global competition and as the usage of technology are on the increase; the Government of Nigeria should be serious about investing in education and skill training as no nation can compete effectively in the emerging global market place with poorly educated and skilled graduates. The leading factors of production in the new world economy are said to be technology, knowledge, creativity and innovation. How much land or mineral resources a nation has, can no longer determines the wealth and progress of nations, but the quality of their human capital. Good education could help people thrive in difficult economic times, but that alone cannot change Nigeria.

v. *Way-out (filtering externalities, culture, SMEs, domestic products)*

Today, Nigerians are facing various economic challenges such as an aging population with a declining life expectancy of human existence, growing competition from other countries (especially in the manufacturing and technical know-how) which offer advantages that Nigeria could not match. Also, in the pace of globalization where developed countries are actively pursuing foreign markets to increase their Gross Domestic Product (GDP) and their countries' brand image. Nigeria is negatively affected by not efficiently filtering negative externalities before imbibing by the citizens most especially the youth category.

Manufactured goods cannot be exported in Nigeria until the domestic market is saturated with trade surplus and have the ability to stimulate industrialization in neighboring countries through foreign direct investments. Also, technological and technical know-how can as well be transferred from developed countries into Nigeria to enhance mass production. After

these might have been realized, Nigerian domestic products can then be made widely available in major departmental stores and less of foreign products.

Government should create enabling environment to individuals and groups that are interested in SMEs. After critically examining Japan, one silent factor to be discovered is the high rate of SMEs. Creating an enabling environment can be in the form of financial grants, low tax, and sustainable policies which will relieve SMEs who have financial or other constraints to expanding their businesses.

vi. *Way-out (sound policy and anti-corruption approaches)*

Policy is a term that is derived from politics. Policy and politics go side-by-side. Policy is a framework of guidelines for action and politics is the political decision-making process, involving a range of loci and actors. In order to properly define the term "policy" such that the idea of politics can reflect, the term "public policy" will be realized. Public policy analysis emerged, particularly in the United States, as a science of action, a contribution by experts (analysts) to government decision-making processes (Celia and Ernesto, 2006).

Policy is an attempt by government to address issues by instituting laws, regulations, decisions, or actions that are pertinent to a particular problem. Therefore, issues arising in different sectors must be addressed and resolved by its policy. Policies tend towards infrastructure, management and operation, regulation, and allocation (man, material, money and machinery). It is expedient for the public and private sectors, firms and industries, government and ministries to formulate implementable sound policies which are the regulatory framework, tenets, and constitution of such organization (Adeniran et al., 2017).

The major essence of public policy cannot be far-fetched from or beyond other than for the betterment of the citizenry. Therefore, it is pertinent to examine the formulated policy before implementation such that the formulated policy must pass the following tests to ensure effectiveness and efficiency. The tests are:

1. analytically based;
2. economically sound;
3. politically acceptable;
4. socially credible;
5. environmentally suitable;
6. sustainable (Adeniran, 2016b);
7. technologically achievable.

Monetary and other policies

a. Medium and longer-term monetary policy: These require that financial sector depressions be tackled, particularly with regard to the quick disposal of non-performing loans (NPLs). In the long-term, steps should to be taken for competitiveness and economic revitalization. Also, financial sector must be restructured and various economic rigidities are relieved to enhance flexibility and competitiveness of the economy.

b. Short-term monetary policy: This must focus on deflating the economy through aggregate demand management policies, i.e. monetary and/or fiscal. Also, introduction of 'bridge bank scheme' to overhaul the banking system. There are possibilities that 'bridge bank scheme' will deepen the spending glut. This is so, as the shutting down or restructuring of problem-banks and retaining the most efficient banks in the system. It will also reduce the aggregate bank lending on the one hand, while some part of the financial sector bailout/cleanup would inevitably be borne by the tax payers on the other. In the short-term, the policy must boost aggregate demand.

c. The pronouncements of tax payment in some states where the state government have failed to even pay the full salary of workers, such pronouncements may lack credibility. This lack of credibility is particularly prevalent when there is significant pessimism about the growth prospects on one hand, and realization that households and other under-growing establishments will be faced with at least some part of the burden in cleaning up the financial sector on the other hand. Therefore, for tax payment to have any chance of being effective, the government must have efficiently discharged her responsibilities.

d. In the process of taking steps to Nigeria economic recession, there is need to pay attention to the economic situations of neighboring countries, determine what can be injected which will serve as competitive advantage to assist and not concentrating on its own domestic agenda (Ideas from Hussain Tazhibayera and Ter-Martirosyan, 2008).

According to Adeniran (2016b), corruption is not just about a specific act, but it is about our very mindsets and deep-seated behaviors. Kofele-Kale (2006) defines corruption as an act of requesting, offering, giving or accepting directly or indirectly a bribe or any other undue advantage or the prospect thereof, which distorts the proper performance of any duty or behavior.

III. Conclusion and Recommendation

In other to prevent economic meltdown and bounce back to economic buoyancy in Nigeria, the various way-outs and recommendations should be adopted efficiently because of time limitation. If the government (public) and private stakeholders can adopt all listed recommendations, it will be an opportunity for Nigeria to revive. These recommendations are not

limited to Nigeria, but other developing nations faced with the crisis of recession.

The recommendations are;

1. Clearly stating the statutory responsibilities of law enforcement agencies in order to prevent misalignment of responsibilities been discharged.

2. Corruption as a deadly disease in governance should be combated using strict and deadly punishments such as death sentence and life imprisonment.

3. Empowering the citizens to make reports through various means to the established agencies that guide against unlawful acts.

4. Political office holders and leaders in governance should be retrained on policy making, and leadership to enhance high sense of mental magnitude in governance.

5. From the election point of view, elections should be conducted from the least position to the highest position (for instance, from Local Government Chairman to Gubernatorial and to National President) and not from the conventional highest position to the lowest position; this will prevent the wining political party in the federal seat to influence the decision of the voters during the gubernatorial and local elections. Also, ensuring that most legislative seats in the State House of Assembly are not dominated by one political party; this will give room for constructive criticisms and corrections. On this same election view; adopting Two-Party System can also be a way out.

6. Deregulation can be encouraged due to many factors such as misappropriation of public funds (corruption) and poor administration. It is unwise for the federal government to borrow money from external source to fix this country because it seems to be an unsustainable approach. In other to efficiently recover more looted fund, the concerned policy makers and stakeholders can adopt death sentence as a threat. The recovered looted fund from corrupt public holders, recovered money (loans) from banks and other internal means should be enough to reposition the economic situation from stagnancy to buoyancy if efficiently spent.

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Issues Arises after Implementation of GST in India

By Dr. Sandeep Verma & MR. Sudip Banerjee

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Abstract- After independence of India the biggest reform of indirect taxation is GST. It was supposed to be implemented from April 2010, but due to economic and political reasons it was long pending. After implantation of GST on 1st July 2017 there are lot of issues arises in the ground level. This paper is highlighting the challenges faced by Government of India after implementation.

Keywords: GST, GST implementation issues, tax reforms.

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Dr. Sandeep Verma [α] & MR. Sudip Banerjee [σ]

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Keywords: GST, GST implementation issues, tax reforms.

I. Introduction

GST which is called by Government of India is a game changer is considered as biggest tax reform since 1947. GST was first introduced by France in 1954 and now it is followed by 140 countries. Most of the countries followed unified GST while some countries like Brazil, Canada follow a dual GST system where tax is imposed by central and state both. In India also dual system of GST which is including CGST, SGST and IGST.

As expected Goods and Services Tax (GST) Act, 2017 has changed the Indian tax system fundamentally and as it is the biggest tax reform since Independence because it has replaced the various complicated taxes like Value-Added Tax (VAT), Central Sales Tax, Central Excise, Service Tax, Purchase Tax, Entertainment Tax, Entry Tax and other indirect taxes.

One Tax, One Market and One Nation policy of the Government of India thereby exerting a positive impact on the GDP and increasing the size of formal economy in the Country. No doubts it brought integrity across the country by merging all the duties into one tax and allowed full input tax credit from inputs and capital goods on procurement which is set against GST output liability.

II. Literature Review

*Ehtisham Ahmed and SatyaPoddar (2009)*studied that "Goods and Service Tax Reforms and Intergovernmental Consideration in India" and found that GST introduction will provide simplier and transparent tax system which will increase efficient taxation system and will take an important part in India's economic development.

*Dr. R. Vasanthagopal (2011)*studied that GST from current complicated indirect tax system in India will be a positive step in Indian economy. Success of GST will lead to its acceptance by many Asian countries.

Nitin Kumar (2014) studied that implementation of GST in India help in removing economic distortion by current indirect tax system and expected to encourage unbiased tax structure which is indifferent to geographical locations.

*AgogoMawuli (May 2014)*found that GST is not good for low-income countries and does not provide broad based growth to poor countries. If still these countries want to implement GST then the rate of GST should be less than 10% for growth.

*Pinki, SupriyaKamma and RichaVerma (July 2014)*concluded that the new NDA government in India is positive towards implementation of GST and it is beneficial for central government , state government and as well as for consumers in long run if its implementation is backed by strong IT infrastructure.

Anushuya and Narwal (2014) concluded that both GST & CGE are very popular all over the world but GST is a powerful concept in the field of indirect taxes.

Sehrawat and Dhanda (2015) concluded that due to dissilent environment of India economy, it is demand of time to implement GST.

Chaurasia et al. (2016) Studied, "Role of Goods and Services Tax in the growth of Indian economy" and concluded that in overall GST will be helpful for the development of Indian economy and this will also help in improving the Gross Domestic Products of the country more than two percent.

III. Objective of the Study

1. To find out the various completed issued appeared after implementation of GST.
2. To find out the various solutions to overcome these issues.

IV. Research Design

The inductive research design is used for the analysis and it is essentially a fact finding approach.This study is planned to be carried out on the basis of secondary data collected from authentic source like news agencies, various business communities' representatives and professional experiences.

V. Statement of the Problem

After implementation of GST on 1st July 2017 there are several issues arises in this these are broadly three categories-

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1. Design issues
2. Infrastructure issues
3. Operational issues

a) Design Issues

Though the broad design of the GST is firmed up, specific issues like threshold limits for goods and services, exemptions, definition of supply, determining the place of supply of goods and services, transition provisions for existing exemptions etc.

i. *Higher Tax Burden for Manufacturing SMEs*

Small and Medium Enterprises (SMEs) which is the biggest source of recruitment in India and also contribute 40% of export in our country is under the crisis of GST.Under the excise laws, only manufacturing business with a turnover exceeding Rs. 1.50 crores had to pay excise duty. Whereas, under GST the turnover limit has been reduced to Rs. 20 lakh, thus increasing the tax burden for many SMEs. However, SMEs with a turnover of upto 75 lakhs can opt for the composition scheme and pay only 1% tax on turnover in lieu of GST and enjoy lesser compliances. But the biggest disadvantage is that then it will not be able to claim any input tax credit. The choice of selection between higher taxes or the composition scheme (and thereby no ITC) will be both are loss situation for up growing/emerging SMEs because it increases cost burden of the manufacturer.

ii. *No Clarity on Tax Holidays*

Before implementation of GST many manufacturers (textile, pharmaceutical, FMCG industries) enjoy tax holidays and state tax benefit schemes. There is still no notification regarding these benefits. This has increased costs for these industries, which will ultimately pass on to the consumers.

iii. *Different Rates for Different Locations*

Goods which deliver from one state to another state in such cases IGST applicable but the prices of some products are changing due to changes in the location because of logistics cost and dealer margins for different places. Same products are selling different states at different prices. So there is no relief from the earlier situation.

iv. *GST on Local (GST Exempted) Goods*

According to GST rules, clothing and footwear below Rs. 500 are exempted from GST. But many Retail chains are still mentioning GST rate of 5% in their bills for such items. People are confused whether this rule is applicable only for local products from local market purchases or also on same products purchased from big shops. Shopkeepers producing computerized bills and having an AC in the shop are allowed to charge GST on all their goods.

v. *Policy Change during the Middle of the Year*

For the financial year 2017 18 after three month policy changed and the different tax structure has created so many complexities while maintaining accounting records and various compliance issues will arises at the time of annual return submission.

b) IT Infrastructure Issues

i. *Complexities of Filing GST Return*

Monthly every assessee has to file 3 returns and 1 annual return which makes total 37 return to be filed annually. This process has increased the workload and major cause of a headache for small businesses.

ii. *Change in Business Software*

Now a day's most businesses are using accounting software or ERPs for filing tax returns. The transition to GST from older software requires businesses to change their ERPs, too; either by upgrading the software or by purchasing new GST-compliant software. It leads increased costs of buying new software and training employees on how to use it.

iii. *Online Procedure*

GST compliance, return filing and payments all these have to be done via online. Many small businesses are not tech-savvy and do not have the resources for fully computerized compliance. Even as the rest of the nation gets ready to go digital, businesses in small cities across India face a huge technology problem in the days ahead.

iv. *The Goods and Services Tax Network (GSTN) server jam due to huge pressure of customers visits and data uploading*

GSTN the IT infrastructure provider for GST. Over 25-odd glitches, which had led to the GST-Network portal crashing on at least two occasions in the very first month of filing, relate largely to payments and registration. Many people face problems of Log in IDs, ID Password forget issues, Security Password issues, digital signature, PAN based verification, HSN codes etc. But insufficient number of helpdesk support also creates obstackles in the services.

c) Operational Issues

i. *Shopkeepers Struggling with Creating Invoices and Filing Returns due to varieties of Tax*

Small shopkeepers are mainly struggling in creating different invoices for goods with different GST rates. Sweet shopkeepers are also confused about how to charge GST on different items in a single dish. For example, a 'Mix vegetable' contains different types of vegetables and even some fruits and dry-fruits, so whether they should charge different taxes or a single tax on the dish. Or should they stop making different varieties of dishes altogether just to keep a basic GST rate?

The same problem is being faced by various other businesses.

The question everyone asking is, how can GST be said a single-tax system when these are five different tax rates?

ii. *Restaurants Charging GST at varieties rates ultimate create confusions among customers*

According to the GST rules, non-AC restaurants are supposed to levy 12% GST while AC restaurants will charge 18% GST rate. But this is also happening with takeaway orders at various big food chains like McDonald's where the same 18% GST rate is being levied on both take away orders and sitting-in orders.

In the middle of September and October when there is little bit or no requirement of AC but customer has to pay GST 18% which is creating confusion among the customers.

iii. *Increase in Operating Costs*

Small businesses in India do not employ tax professionals, and have traditionally preferred to pay taxes and file returns on their own to save costs and they have experience of ITR4s return submission option for presumptive income. However, now small business alsorequire professional assistance to become GST compliant as it is a completely new system. While this will benefit the professionals, the small businesses will have to bear the additional cost of hiring experts.

iv. *Due to high tax burden a tendency has come of tax evasion*

Cost of computers and accountants required to implement GST (make bills and file tax returns). High rates of GST 28% forced buyers to purchase from unregistered dealers to avoid paying high GST.

It is too difficult to assign MRP to handmade products like local shoes, Banarasi Sarees, etc. Most small artisans are illiterate and therefore unable to write MRP on their products and/or do any paperwork. Dealers are confused how to rates of such products. Small businesses with low annual turnover who are exempted from GST are still afraid to supply as they have no proof that they are exempted from GST. Buyers are demanding bills from even those shops which are GST exempted but have no proof of that. Many dealers are still buying from unregistered wholesalers on cash without bills and without paying any tax.

v. *Disruption to Business*

Cloth merchants (unorganized sectors) in Gujrat had gone on strike to protest against GST. Because increase in the tax rate has increase cost of product as a result product prices increases and India is already facing tough completion with China in natation as well as International markets, it has found that due to cheap product prices Chines goods imported increased to Rs 42000 crores after GST implementation.

VI. Progress Till Date

a) 22nd GST Council Meeting

The GST Council, in its 22nd meeting held at New Delhi on 6th October 2017 has taken following changes.

1. It was decided to exempt those service providers whose annual aggregate turnover is less than Rs. 20 lakhs (Rs. 10 laths in special category states except for Jammu and Kashmir) from obtaining GST registration even if they are mating inter-state taxable supplies of services.

2. Reverse Charge Mechanism Suspended-The 22nd GST Council has decided to suspend the GST reverse charge mechanism. Under reverse charge, the recipient of a service is required to pay GST on behalf of the supplier. Since, registered taxpayers were required to pay GST on reverse charge basis when they purchased from an unregistered person (Most times a micro or small business), many registered business stopped transacting with micro and small businesses. Hence, the GST Council has decided to suspend the reverse charge mechanism. Now, registered taxpayers can purchase from unregistered persons without having to pay GST on reverse charge basis. This measure will provide a major boost to micro, small and medium businesses.

3. Goods Transport Agencies (GTAs) are not willing to provide services to unregistered businesses. Now onwards services provided by a GTA to an unregistered person shall be exempted from GST.

b) 23rd GST Council Meeting

Government of India has taken certain steps in the 23rd GST Council Meeting held in Guwahati on 10th November 2017, GST rate reduction for various goods and services was announced.

1. GST rates reduced from 28 % to 18%, now only 50 items will cover under GST rates 28%. 178 items have been to move to 18 per cent tax rate from 28 per cent.

2. GST Rate Reduced from 28% to 12% -Wet grinders consisting of stone as grinder, •Tanks and other armoured fighting vehicles.

3. GST rates reduced from 18% to 12%- Condensed milk, Condensed milk, Refined sugar and sugar cubes, Pasta, Diabetic food etc.

4. GST Rate Reduced from 18% to 5%-•Puffed rice chikki, peanut chikki, sesame chikki, revdi, tilrevdi, khaza, kazuali, groundnut sweets gatta, kuliya, Fly ash etc.

5. GST rates reduced from 12% to 5%-Fishing Net, Finished leather, Warm clothing etc.

6. GST Rate Reduced from 5% to 0%- Guar meal, coconut shell etc.

7. GSTR 1, GSTR 4, GSTR 5, GSTR 6, GST TRAN 1,GST ITC-04 Return Due Date Changes

8. Increase in Threshold Limit for Registration under Composition Scheme-The annual aggregate turnover threshold for registering under the GST Composition Scheme has been increased now to Rs.2 crores.

9. Uniform GST Rate of 1% for Composition Scheme Dealers
10. Small taxpayers to file GST returns only once every quarter.
11. For nil returns to be filed penalty reduced to Rs 20 and for others it has been reduced to Rs 50.
12. Businesses with turnover up to Rs 1.5 crore have been exempted from GSTR-2 and 3 and will have to file quarterly return of GSTR-1 till the end of this fiscal. However, they will have to file the monthly GSTR-3B.
13. All restaurants (AC and Non AC) in the country will attract a GST of 5 per cent, no input tax credit (ITC) benefit to be given to restaurants.

VII. Conclusion

Change is definitely never easy. The government is trying to overcome the various issued appeared after GST implementation. It is important to take a leaf from global economies that have implemented GST before us, and who overcame the teething troubles to experience the advantages of having a unified tax system. Government motive should not be collect more and more taxes to increase revenues but a simple uniform structure of taxation from where business can run smoothly and grow as per requirement of the economy from where automatically tax collection can increase.

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The Role of Globalisation on Energy Consumption in Nigeria. Implication for Long Run Economic Growth. ARDL and VECM Analysis

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Abstract- This study explores the relationship between globalization, energy consumption and economic growth for Nigeria by explaining the contributions of financial development and urbanization from 1975 to 2011.The cointegration test proposed by Pesaran and Shin, (1995) and Pesaran et el 2001 is applied to estimate the long-run and short-run relationships among the variables in company of VECM Granger causality framework to establish the direction of causality over the period. After confirming the existence of cointegration, using Johansen approach, the overall results from the estimation of an ARDL energy demand function reveal that in the long run, the index of globalization (measured in three dimensions - economic, social and overall globalization) leads to a decline in energy consumption especially when combined with the marginal contribution from. of economic growth, financial development and urbanization. This study found financial sector development insignificant in influencing energy consumption in Nigeria. In general, the results highlight the weakness of the Nigerian financial sector in stimulating long run economic growth through resource mobilisation and allocation. Urbanization are the key factors leading to increased energy demand in the long run. We found a feedback relationship between globalization and energy consumption in the long run. The unidirectional causality running from energy consumption to financial development, economic growth.

Keywords: globalisation, financial sector development, energy consumption, ARDL, VECM.

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Strictly as per the compliance and regulations of:

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Keywords: globalisation, financial sector development, energy consumption, ARDL, VECM.

I. Introduction

The emergency of globalization implies that countries are becoming more integrated into the multinational economy, increasing people's interaction, information exchanges, technology transformations, and convergence in cultural activity (Li & Reuveny, 2003; Dreher, 2006). In this context, globalization is a movement in the direction of increasing world economic, political and social cultural integration through the reduction of barriers to exchange and increased international flows of capital and labour force.This involves global integration which represents the widening and deepening of the international flows of trade, capital, technology and information within a single integrated market (Petras and Veltmeyer, 2001). Gaston and Nelson (2004) argue that globalization is transformative, where it reconstitutes and restructures the economic and political configuration of the world. In this line, the theoretical argument for linking globalization to growth and energy demand is that a higher the degree of openness (a measure of globalization) of an economy may lead to increased external competitiveness and strong linkage of an economy in trade and investment (domestic and foreign) with rest of the world, which indirectly implies for higher economic growth. Thus, the effect of globalization depends on the net effects of openness on economic growth as there could be a net effect of energy consumption on economic growth and also the effect of openness on energy consumption.

Globalisation has been linked to energy demand in research arena through various channels, Chang, Berdiev & Lee (2013), (its channels or dimensions of globalization) with the levels of energy consumption along with simultaneously analyzing the issue of urbanization and economic growth, globalization thus enables to progressively make people and countries become interdependent.A number of other studies between economic growth and energy consumption also relate with the issue of carbon dioxide emissions through testing of the Environmental Kuznets Curve (EKC) hypothesis (Apergis and Ozturk, 2015).

Another point of interest to researcher is the financial sector development. Financial development (broadly defined as liquidity in banking and stock markets) can affect energy consumption through a direct effect (consumers find it easier to borrow money for durable items), a business effect (greater access to financial capital which increase business activity) and a wealth effect (increased positive stock market activity increases consumer and business confidence) (Çoban and Topcu, 2013; Sadorsky, 2010, 2011b). There are some studies by Sadorsky (2010) and Sadorsky (2011b) which finds evidence that financial development measured from banking development positively influences the energy consumption for a panel of emerging economies. Shahbaz and Lean (2012) find a long run relationship between energy consumption,

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economic growth, financial development, industriali-zation and urbanization for Tunisia. Islam et al. (2013) find evidence that financial development positively affects energy consumption in Malaysia. Xu (2012) finds evidence that financial development has a positive impact on energy consumption in China

Researching further, globalization has brought the integration of economies of the world, however, there is a common debate on the issue that globalization contributes greater economic growth, standards of living, and better quality of life at the expense of natural environment Copeland & Taylor, 2004. In the meantime, globalization boosted economic development particularly in emerging

Giving the increasing importance of energy in enhancing economic growth, understanding the influence of globalisation on energy consumption while controlling for the influence of relevant variables (Urbanisation, financial sector development,) helps to establish the determinants of energy demand and its modelling in emerging economies is essential in several reasons. This study is an attempt to contribute to the literature by examining different dimensions of globalization and their relation with the levels of energy demand in Nigeria. Secondly, we recognize that the economy might have experienced structural breaks at different time points during the period of study, and as a result we test for structural breaks in the integrating properties of the variables. Thirdly, a relatively new approach to cointegration Auto-regressive distributed lag (ARDL) is employed to investigate the existence of cointegration among the variables. Fourth, the robustness of the cointegration result is investigated by applying the Johansen cointegration. Fifth, the causality among the variables is tested by employing the VECM Granger causality approach.The remainder of the paper is structured as follows. Section 2 discusses the related literature review. Section 3 analyzes the theoretical framework and model construction used in the analysis. Section 4 discuses the empirical results. Section 5 summarizes the findings and provides policy implication and directions for future research.

II. Literature Review

There is a large literature examining the nexus between energy consumption and economic growth across economies (Rodrik, 2000; Vamvakidis, 2002; Aramberri, 2009; Shahbaz, Mallick, Mahalik & Sadorsky 2016; Ozturk and Acaravci, 2010; Shahbaz et al., 2015). For example, growth changes from a change in energy consumption have been reported by Soytas and Sari (2003) for G-7 countries, Altinay and Karagol (2005) for Turkey, Narayan and Smyth (2008) for OECD countries, Ghosh (2010) for India, Odhiambo (2011) for South Africa, Vidyarthi (2013) for India and Iyke (2015) for Nigeria. Early scholars only concentrated on bi-variate

relationships between economic growth and energy consumption. However, recent scholars have aug-mented the existing models by including additional variables to fill the gap of omitted variables and indeed, examine the contributory effects of these variables on energy-globalisation-economic growth. The existing literature on globalisation-energy economics is mainly based on three nexus; globalisation and energy demand, energy–growth nexus. We discuss these one by one below.

a) Evidence of Globalisation-growth link

Recent literature studies recognize that the state of economic growth is strictly determined by globalization, and plenty of evidence has been provided and policy recommendations offered. From this context, globalization is first commonly defined as a strict economic path by most previous works, but it is really a fuzzy concept with unrestrained dimensions (Rodrik, 2000; Vamvakidis, 2002; Aramberri, 2009).

b) Evidence of Globalisation and energy demand nexus

Chang et el (2013) examine the effect of energy exports and globalization on economic growth using the bias-corrected least square dummy variable model in a panel of five South Caucasus countries over the period of 1990–2009. Using globalization to capture economic, political and social integrations, the study found higher energy exports and globalization expand economic growth. Overall, Furthermore, the study found a greater energy exports contribute to higher growth rates in the course of globalization hence higher energy exports lead to higher growth rates in the period of increasing economic and political integration. However, Shahbaz, Mallick, Mahalik & Sadorsky (2016)empirical analysis shows that globalization reduces energy demand. Financial development is negatively linked with energy consumption but economic growth increases energy demand. The long run causality analysis indicates the bidirectional causality between globalization (economic, political and social globalization) and energy consumption. In all energy contributes to the globalization of the world.

c) Evidence of Energy–growth nexus

Over the past decades, the relationship between economic growth and energy consumption has been a topic of academic interest among energy economists, and policy makers in the energy growth. The fundamental question of this research is to know whether there is a causal relationship between economic growth and energy demand. This question has led to four testable hypotheses, (a) growth hypothesis, (b) conservation hypothesis, (c) feedback hypothesis and (d) neutrality hypotheses. First, the unidirectional causality running from energy use to economic growth is called "growth hypothesis," which posits that energy is a key determinant of economic

activity and reduction in energy supply will reduce economic growth (see, Ozturk and Acaravci, 2010; Shahbaz et al., 2015). For example, growth changes from a change in energy consumption have been reported by Soytas and Sari (2003) for G-7 countries, Altinay and Karagol (2005) for Turkey, Narayan and Smyth (2008) for OECD countries, Ghosh (2010) for India, Odhiambo (2011) for South Africa, Vidyarthi (2013) for India and Iyke (2015) for Nigeria.

Second, the so-called "feedback hypothesis" states that economic growth is the cause of energy consumption just as energy consumption is also a cause of economic growth in the Granger sense. As an example, the interdependent relationship between energy and domestic production or economic development has been reported by Asafu-Adjaye (2000) for Asian economies, Paul and Bhattacharya (2004) for India, Kahsai et al. (2010) for African countries, Ozturk and Salah Uddin (2012) for India, Shahbaz and Lean (2012) for Tunisia, Nnaji et al. (2013) for Nigeria, Salahuddin and Khan (2013) for Australia, Solarin and Shahbaz (2013) for Angola and Al-mulali et al. (2014) for Latin America. In such a situation, policies should encourage energy exploration alongside the adoption of energy-efficient technologies in domestic production expansion. On the one hand, any reduction in energy supply will cause a decline in domestic production and ultimately a decline in economic growth. On the other hand, a decline in economic growth will cause a corresponding decrease in energy demand.

Third, the unidirectional causality running from economic growth to energy consumption is called "conservation hypothesis." Empirically, many studies provided support to the "conservation hypothesis", including Kraft and Kraft (1978) and Sari et al. (2008) for USA, Cheng and Lai (1997) for Taiwan, Ghosh (2002) for India, Halicioglu (2007) for Turkey, Mehrara (2007) for oil exporting countries, Dhungel (2008) for Nepal, Kwakwa (2012) for Ghana and Ishida (2013) for Japan, among others.

Fourth, the "neutrality hypothesis" suggests that no causality exists between economic growth and energy consumption. This hypothesis has been supported by empirical studies like Cheng (1995) and Payne (2009) for USA, Akinlo (2008) for African countries and Marques et al. (2014) for Greece. In such a condition, the adoption of energy conservation policies could facilitate economic growth

However, there are, interestingly, studies that found no causal link between electricity consumption and economic growth. Some of those studies are Erol and Chu (1987), and Yu and Jin (1992) for the case of the USA; Murray and Nan (1996) for France; Germany, India, Israel, Luxembourg, Norway, Portugal, UK, USA and Zambia; Soytas and Satri (2003) for Canada, Indonesia, Poland, USA and UK; and Akinlo (2008) for Cameroon, Cote d'Ivoire, Kenya, Nigeria, and Togo.

There is a small but growing literature looking at the impact of urbanization on energy consumption. See Shahbaz, Mallick, Mahalik & Sadorsky (2016). Urbanization, like industrialization, is a key component of modernization of an economy. Urbanization can affect energy use through the production effect (concentration of production in urban areas increases economic activity and also helps to achieve economies of scale in the production), mobility and transportation effect (workers are closer to their jobs, but raw material and finished products need to be transported into and out of dense urban areas), an infrastructure effect (increased urbanization increases the demand for infrastructure), and a private consumption effect (city dwellers tend to be wealthier and use more energy intense products) (Sadorsky, 2013). However, each of these effects has positive and negative impacts on energy use. Therefore, the empirical evidences on the impact of urbanization on energy consumption are mixed (e.g. Jones, 1989, 1991; Parikh and Shukla, 1995; Poumanyvong and Kaneko, 2010; York, 2007).

d) *Evidence of nexus between International trade and energy demand and economic growth*

Lean and Smyth (2010a) investigated the relationship between economic growth, energy consumption and international trade for Malaysia by using multivariate Granger causality tests during the period, 1971 to 2006. They found strong evidence of the unidirectional Granger causality running from exports to energy consumption. In the same Shahbaz et al. (2013a) examined the relationship between energy consumption, economic growth and international trade for China during 1971–2011. They found evidence of a feedback Granger causal relationship between international trade and energy consumption. In addition, Shahbaz et al. (2013b) made a similar attempt for the Pakistan economy in investigating the causality between natural gas consumption, exports and economic growth. They found that natural gas consumption contributed to economic growth and exports. Building on international trade theory, Antweiler et al. (2001) and Cole (2006) investigated the impact of trade liberalization (an indicator of globalization) on per capita energy use for 32 developed and developing countries. He observed that trade can influence the energy consumption through the scale effect (the increased movement of goods and services on account of trade leads to economic activity and energy usage), the technique effect (trade enables technology transfer from developed to developing countries), and the composite effect (trade can affect the sector composition of an economy). He found that trade liberalization is likely to increase per capita energy use for the average country in the sample.Ozturk and Acaravci (2013) explored the relationship between economic growth, energy, financial development and trade for Turkish economy. They

observed that economic growth and trade openness lead to increased energy consumption

III. Methodology

a) Theoretical Framework

Relevant literature have it that energy demand is positively linked with the prospects of higher economic growth and development of an economy. See Ozturk et el (2012) Shahbaz and Lean (2012), Nnaji et al. (2013), Salahuddin and Khan (2013), Solarin and Shahbaz (2013) Al-mulali et al. (2014). Recently, Mishkin (2009), argues that globalization (globalization effect) is considered to be one of the potential factors inducing higher economic growth and thereby, the demand for energy is expected to rise corresponding to the economic growth. Therefore, globalization process helps countries to increase their trade improves their total factor productivity and raises the standards of living which in turn improve economic growth. In line with this, Mishkin (2009); Sadorsky (2011b) has recently posited the role of financial development on energy consumption through various effects which include consumer effect, business effect and wealth effect among others. Urbanization is not left out Shahbaz

(2016) argues that the system,(urbanization) can have both positive and negative effects on energy consumption. Urbanization increases economic activity and leads to economies of scale in the production of goods and services. Urbanized enters also benefit from better (more energy efficient) infrastructure and transportation networks.

b) Model Construction

There are several channels (e.g. income effect(real per capita income), globalization effect, financial development, and urbanization effect) which can drive the demand for energy in economies. See Ozturk et el (2012) Shahbaz and Lean (2012), Nnaji et al. (2013), Salahuddin and Khan (2013), Solarin and Shahbaz (2013) Al-mulali et al. (2014). Building on the documented evidence and the theoretical framework discussed above, we present our model as thus;

$$EC_t = f(GB_t, Y_t, CD_t, UP_t) \quad \text{model 1} \qquad (1)$$

We use a log-linear transformation of the variables to reduce the effects of changing variability in the data. The empirical estimable equation of the model can be represented as:

$$lnEC_t = \beta_1 + \beta_2 lnGB_t + \beta_3 lnY_t + \beta_4 lnCD_t + \beta_5 lnUP_t + \beta_6 lndum2001_t + \mu_t \qquad (2)$$

This study will decompose the above equation (2) into four specifications to make provision for the various composite index for globalisation (economic, social and political). In this study, $lnEC_t$ is the natural log of energy consumption per capita, lnY_t is the natural log of real GDP per capita, ln $lnCD_t$ is the natural log of real domestic credit to the private sector which serves as a proxy for the financial development (FD),ln $lnUP$t is the natural log of urban population per capita, $lnGB_t$ is the natural log of globalization, we have included a dummy (DUM) variable from 2001 to 2011 as a result the structural break date for the energy consumption. Thus zero variable from 1975 to 2000 and unit variable from 2001 to 2011.and μ_t is residual term which is assumed to follow a normal distribution. The present study uses data for the period of 1975–2011. The World Development Indicators is used to collect data on real GDP, energy consumption (kt of oil equivalent), real domestic credit to private sector and urban population. Globalization is measured by the KOF index of globalization by Dreher (2006). This index is created and maintained by ETH Zurich (http://globalization. kof.ethz.ch/). The KOF index of globalization consists of three main dimensions (economic, social and political) and an overall index of globalization. The overall globalization index is a weighted average of economic globalization (36%), social globalization (38%), and political globalization (26%). The economic globalization dimension is constructed from information on actual flows (trade, FDI, portfolio investment) and restrictions

(import barriers, trade tariffs, capital account restrictions). The social globalization dimension is constructed from information on personal contact (telephone contact, tourism, foreign population. The political globalization dimension is constructed from the number of embassies, membership in international organizations, participation in U.N. Security Council missions, and international treaties. Population is used to convert the variables into per capita units except globalization which is basically an index.

c) Unit root Test

In time series analysis, before running the co integration test the variables must be tested for stationarity. For this purpose, we use the conventional ADF tests, the Phillips– Perron test following Phillips and Perron (1988). The ARDL bounds test is based on the assumption that the variables are I(0) or I(1). Therefore, before applying this test, we determine the order of integration of all variables using unit root tests by testing for null hypothesis $H_o: \beta = 0$ (i.e β has a unit root), and the alternative hypothesis is $H_1: \beta < 0$. The objective is ensure that no variable is I(2) so as to avoid spurious results. In the presence of variables integrated of order two we cannot interpret the values of F statistics provided by Pesaran et al. (2001) or it will go boasted. However, these unit root tests failed to provide leading results due their low size and power, Shahbaz et el (2016). Also they failed to provide any information about structural breaks stemming in the series. We check the stationarity properties of the variables using ADF and PP

with intercept and trend keeping in mind that such test is not appropriate in the presence of structural break Shahbaz et el (2016). Therefore, we apply a more robust unit root tests with structural break in the series.

d) Cointegration Approach

In order to empirically analyse the long-run relationships and short-run relationship between energy consumption, globalization and selected macro-economic variables, this study apply the autoregressive distributed lag (ARDL) co integration technique as a general vector autoregressive (VAR).

The ARDL co integration approach was developed by Pesaran and Shin (1999) and Pesaran et al. (2001).This approach enjoys several advantages over the traditional co integration technique documented by (Johansen and Juseline, 1990). Firstly, it requires small sample size. Two set of critical values are provided, low and upper value bounds for all classification of explanatory variables into pure I(1), purely I(0) or mutually cointegrated. Indeed, these critical values are generated for various sample sizes. However, Narayan (2005) argues that existing critical values of large sample sizes cannot be employed for small sample sizes. Secondly, Johensen's procedure require that the variables should be integrated of the same order, whereas ARDL approach does not require variable to be of the same order. Thirdly, ARDL approach provides unbiased long-run estimates with valid t'statistics if some of the model repressors are endogenous (Narayan 2005 and Odhiambo,2008).Fourthly, this approach provides a method of assessing the short run and long run effects of one variables on the other and as well separate both once an appropriate choice of the order of the ARDL model is made, (see Bentzen and Engsted, 2001 The ARDL model is written as follow;

$$\Delta lnEC_t = \beta_0 + \sum_{i=1}^{n} \beta_{1i}\Delta lnEC_{t-1} + \sum_{i=0}^{n} \beta_{2i}\Delta lnGB_{1_{t-1}} + \sum_{i=0}^{n} \beta_{3i}\Delta lnY_{2_{t-1}} +$$
$$\sum_{i=0}^{n} \beta_{4i}\Delta lnCD_{3_{t-1}} + \sum_{i=0}^{n} \beta_{5i}\Delta lnUP_{4_{t-1}} + \sum_{i=0}^{n} \beta_{6i}DUM_{4_{t-1}} + \beta_7 lnEC_{t-1}$$
$$+\beta_8 lnGB_{t-1} + \beta_8 lnY_{t-1} + \beta_9 lnCD_{t-1} + \beta_{10} lnUP_{t-1} + \varepsilon_t \tag{3}$$

Where Δ is the difference operator while ε_t is white noise or error term.We have included a dummy (DUM) variable from 2001 to 2011 as a result the structural break date for the energy consumption. Thus zero variable from 1975 to 2000 and unit variable from 2001 to 2011.The bounds test is mainly based on the joint F-statistic whose asymptotic distribution is non-standard under the null hypothesis of no co integration.

The first step in the ARDL bounds approach is to estimate the equations (3) by ordinary least squares (OLS). The estimation of this equation tests for the existence of a long-run relationship among the variables by conducting an F-test for the joint significance of the coefficients of the lagged levels of the variables. The null hypothesis of no co-integration and the alternative hypothesis which are presented below as thus:

Null hypothesis of no co-integration	Alternative hypothesis	Equation
$H_0: \beta_6 = \beta_7 = \beta_8 = \beta_9 = \beta_{10} = 0$	$H_1: \beta_6 \neq \beta_7 \neq \beta_8 \neq \beta_9 \neq \beta_{10} \neq 0$	3

Note: all the variables defined previously   *Source: author's design*

Two sets of critical values for a given significance level can be determined (Narayan 2005). The first level is calculated on the assumption that all variables included in the ARDL model are integrated of order zero, while the second one is calculated on the assumption that the variables are integrated of order one. The null hypothesis of no cointegration is rejected when the value of the test statistic exceeds the upper critical bounds value, while it is not rejected if the F-statistic is lower than the lower bounds value. Otherwise, the cointegration test is inconclusive. In the spirit of Odhiambo (2009) and Narayan and Smyth (2008), we obtain the short-run dynamic parameters by estimating an error correction model associated with the long-run estimates. The equation, where the null hypothesis of no cointegration is rejected, is estimated with an error-correction term (Narayan and Smyth, 2006; Morley, 2006). The vector error correction model is specified as follows:

$$\Delta lnEC_t = \beta_0 + \sum_{i=1}^{n} \beta_{1i}\Delta lnEC_{t-1} + \sum_{i=0}^{n} \beta_{2i}\Delta lnGB_{1_{t-1}} + \sum_{i=0}^{n} \beta_{3i}\Delta lnY_{2_{t-1}} +$$
$$\sum_{i=0}^{n} \beta_{4i}\Delta lnCD_{3_{t-1}} + \sum_{i=0}^{n} \beta_{5i}\Delta lnUP_{4_{t-1}} + \sum_{i=0}^{n} \beta_{6i}DUM_{4_{t-1}} + \lambda_2 ECM_{t-1} + \mu_{2t} \tag{4}$$

ECM_{t-1} is the error correction term obtained from the cointegration model. The error coefficients $(\lambda_1 \& \lambda_2)$ indicates the rate at which the cointegration model corrects its previous period's disequilibrium or speed of adjustment to restore the long run equilibrium relationship. A negative and significant ECM_{t-1}

coefficient implies that any short run movement between the dependant and explanatory variables will converge back to the long run relationship.

e) Robustness analysis with Johnson Co integration

To check the robustness of initial results of the long-run relationships that we detect from using the ARDL model, we conduct a sensitivity analyses relying on the traditional alternative estimation approaches.

Therefore, we start with the Johansen co-integration equation which starts with the vector auto regression (VAR) of order p is given by:

$$y_t = \mu + A_1 y_{t-1} + \ldots\ldots + A_p y_{t-P} + \varepsilon_t \qquad (5)$$

Where y_t is a $(n \times 1)$ vector of selected variables in log form that are integrated at order one-commonly denoted 1(1), n=5, A_P are the parameters to be estimated, ε_t are the random errors. This (VAR) can be re-written as;

$$\Delta y_t = \mu + \prod y_{t-1} + \sum_{i=1}^{p=1} \Gamma_i \Delta y_{t-i} + \varepsilon_t \qquad (6)$$

Where, $\prod = \sum_{i=1}^{p} A_i - 1$ and $\Gamma_i = -\sum_{j=i+1}^{p} A_j$ (7)

If the coefficient matrix $\prod$ has reduced rank $r < n$, then there exist $n \times r$ matrices of α and β each with rank r such that

$$\prod = \alpha\beta' \qquad (8)$$

Where r is the number of co-integrating relationship, the element is α is known as the adjustment parameters in the vector error correction model and each column of β is a cointegrating vector. It can be shown that, for a given r, the maximum likelihood estimator of β define the combination of y_{t-1} that yield the r largest canonical correlations of Δy with y_{t-1} after correcting for lagged differences and

deterministic variables when present. The two different likelihood ratio test of significance of these canonical correlations are the trace test and maximum eigenvalue test, shown in equation 5 and 6 respectively below

$$\lambda_{trace}(r) = -T \sum_{i=r+1}^{n} \ln(1 - \widehat{\lambda_i}) \qquad (9)$$

and

$$\lambda_{max}(r, r+1) = -Tln(1 - \hat{\lambda}_{r+1}) \qquad (10)$$

Here, T is the sample size and $\hat{\lambda}_i$ is the ith ordered eigenvalue from the $\prod$ matrix in equation 7 or largest canonical correlation. The trace tests the null hypothesis that the number of r co-integrating vector against the alternative hypothesis of n co-integrating vector where n is the number of endogenous variables. The maximum eigenvalue tests the null hypothesis that there are r cointegrating vectors against an alternative of $r + 1$ (see Brooks 2002).

f) Granger Causality

This study uses the Granger causality test augmented by the error correction term for detecting the direction of causality between the variables. The advantage of using vector error correction (VECM) modelling framework in testing for causality is that it allows for the testing of short-run causality through the lagged differenced explanatory variables and for long-run causality through the lagged ECM term. A statistically significant ECM_{t-1} term represents the long-run causality running from the explanatory variables to the dependent variable. For instance, if two variables are non-stationary, but become stationary after first differencing and are cointegrated, the pth-order vector error correction model for the Granger causality test assumes the following equation:

$$\Delta lnX_t = \alpha_{10} + \sum_{i=1}^{p11} \theta_{11i} \Delta ln\, X_{t-1} + \sum_{i=1}^{p12} \partial_{12j} \Delta ln\, Y_{t-j} + \delta_{13} ECM_{t-1} + u_{1t} \qquad (4)$$

$$\Delta lnY_t = \alpha_{20} + \sum_{i=1}^{p21} \theta_{21i} \Delta ln\, X_{t-1} + \sum_{i=1}^{p22} \partial_{22j} \Delta ln\, Y_{t-j} + \delta_{23} ECM_{t-1} + u_{2t} \qquad (5)$$

Where θ and ∂ are the regression coefficients, u_t is error term and p is lag order of x and y Table 4 indicates that the optimal lag order based on the Schwarz information criterion (SC) is 2. The presence of short-run and long-run causality can be tested. If the estimated coefficients of y in Eq. 1 is statistically significant, then that indicates that the past information of y (e.g energy consumption) has a statistically significant power to influence x (globalization or any selected macroeconomic variables) suggesting that y Granger causes x in the short-run.   The long-run causality can be found by testing the significance of the estimated coefficient of ECM_{t-1} (δ_{23}).

g) Stability and Diagnostic test

To ensure the goodness of fit of the model, diagnostic and stability tests are conducted. Diagnostic

tests examine the model for serial correlation, functional form, non-normality and heter oscedasticity. The stability test is conducted by employing the cumulative sum of recursive residuals (CUSUM) and the cumulative sum of squares of recursive residuals (CUSUMSQ) suggested by Brown, Durbin & Evans (1975). The CUSUM and CUSUMSQ statistics are updated recursively and plotted against the break points. If the plots of the CUSUM and CUSUMSQ statistics stay within the critical bonds of a 5 percent level of significance, the null hypothesis of all coefficients in the given regression is stable and cannot be rejected.

IV. EMPIRICAL RESULT AND DISCUSSIONS ON FINDING
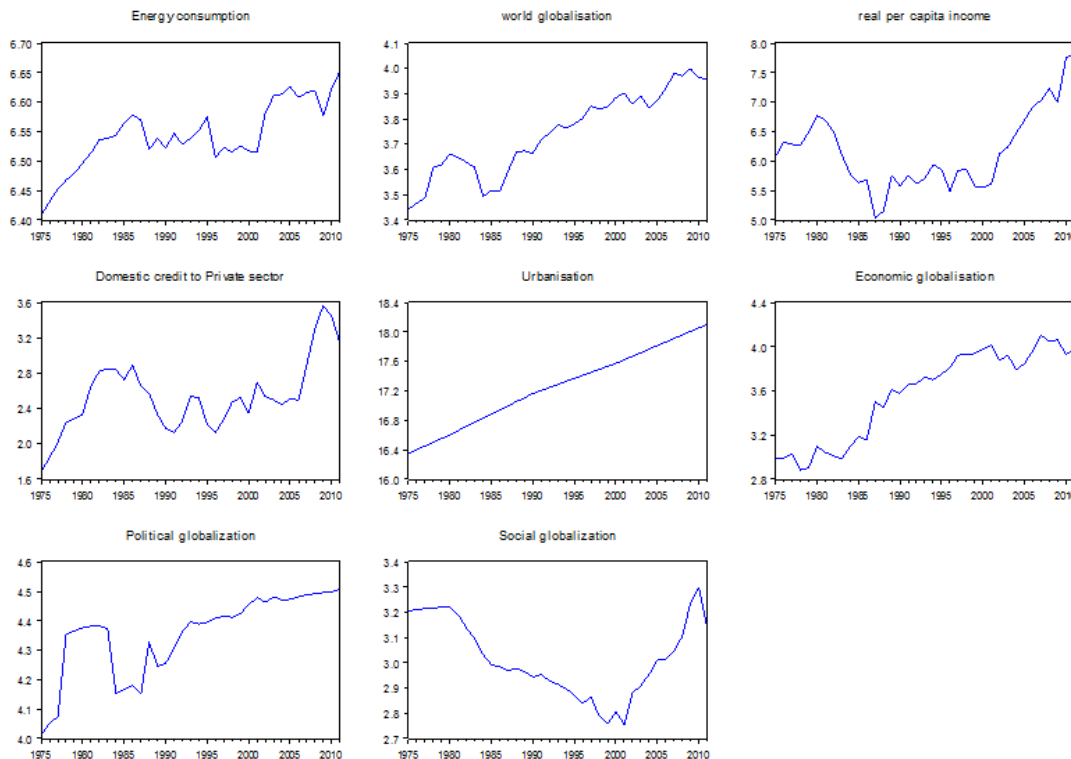
Figure 1: Time evolution of the selected macroeconomic variables in Nigeria

Fig. 1 shows the trends of key macro variables for Nigeria. All of the variables show high volatility trends reflecting the impacts of fluctuation on economic growth, energy demand, globalization, financial development (domestic credit to private sector) and urbanization which have characterized the Nigeria economy over the past 37 years.

Table 1: Descriptive statistics and correlation analysis

Panel A		LENR	LGLOB	LGDP	LPRCD	LURBP	LECOG	LPOLG	LSOCG
	Mean	6.5439	3.7416	6.1647	2.5356	17.2521	3.5698	4.3553	3.0149
	Median	6.5385	3.7635	6.0800	2.5112	17.2863	3.7001	4.3899	2.9837
	Maximum	6.6529	3.9984	7.8297	3.5664	18.1012	4.1031	4.5074	3.2988
	Minimum	6.4079	3.4420	5.0309	1.6882	16.3471	2.8814	4.0101	2.7556
	Std. Dev.	0.0563	0.1640	0.6626	0.4060	0.5210	0.4110	0.1377	0.1522
	Skewness	-0.2429	-0.1900	0.7294	0.5443	-0.1089	-0.4361	-1.0397	0.1423
	Kurtosis	2.8231	1.8798	3.0767	3.4539	1.8662	1.6123	3.0484	1.9472
	Jarque-Bera	0.4122	2.1569	3.2901	2.1442	2.0548	4.1417	6.6701	1.8337
	Probability	0.8138	0.3401	0.1930	0.3423	0.3579	0.1261	0.0356	0.3998
Panel B	LENR	1.0000							
	LGLOB	0.6628	1.0000						
	LGDP	0.4241	0.4251	1.0000					
	LPRCD	0.6897	0.4879	0.4894	1.0000				
	LURBP	0.8022	0.9397	0.3637	0.5499	1.0000			
	LECOG	0.6298	0.9135	0.1495	0.3469	0.9450	1.0000		
	LPOLG	0.6174	0.9062	0.4278	0.4943	0.7809	0.6999	1.0000	
	LSOCG	-0.1476	-0.2999	0.6479	0.1893	-0.3601	-0.5408	-0.2376	1.0000

Source: eview9

Table 3 (panel A &B) present the results of descriptive statistics and correlation matrix. The idea of using both descriptive statistics and correlation matrix is to enable us to know existence of normal distribution occurring among the series of energy demand function and also to gauge the degree of association between the level variables considered in the analysis. In other words, correlation matrix plays a vital role in assessing the probability of higher auto-correlation between series. We find the positive correlation between financial development and energy consumption. Economic globalisation is positively associated with energy

consumption. Urbanization and energy consumption are correlated positively. Income per capita is positively correlated with energy consumption and financial development. Energy consumption and urbanization are positively associated with financial development. The correlation between political globalization and economic growth are positively linked but social globalization is inversely linked with economic growth. In sum, caution should be exercised in interpreting energy consumption and macroeconomic growth.

Table 2: Unit root test

Variable	P-P unit root test				ADF unit root test			
	Constant		Constant and Trend		Constant		Constant and Trend	
	t-Statistic	prob	t-Statistic	prob	t-Statistic	prob	t-Statistic	prob
LnER	-1.8285	0.3612	-2.6527	0.261	-1.8734	0.3406	-2.6527	0.261
LnGB	-1.3382	0.6011	-2.4077	0.3696	-1.3317	0.6042	-3.6951	0.0364
LnY	0.0038	0.9528	-0.4996	0.979	-0.0049	0.952	-0.5612	0.9754
LnCD	-2.0597	0.2614	-2.1864	0.4824	-2.5295	0.1174	-1.9944	0.5846
LnUP	-1.8087	0.3705	-1.5395	0.7967	-1.0586	0.7209	-2.7378	0.2287
LnEG	-1.047	0.7257	-1.7824	0.6923	-1.1096	0.701	-1.7824	0.6923
LnPG	-2.5694	0.1085	-3.1392	0.1129	-2.5633	0.1098	-3.1052	0.1204
LnSG	-1.4477	0.5481	-0.6892	0.9663	-1.2687	0.6333	-0.6304	0.9708
ΔlnER	-6.495***	0.0000	-6.3868***	0.0000	-6.4828***	0.0000	-6.3767***	0.0000
ΔLnGB	-5.4024***	0.0001	-5.3704***	0.0005	-5.3982***	0.0001	-5.3611***	0.0006
ΔlnY	-5.7427***	0.0000	-6.3453***	0.0000	-5.7431***	0.0000	-6.3378***	0.0000
ΔLnCD	-3.7043***	0.0083	-3.6411**	0.0406	-4.0922***	0.0030	-3.8205**	0.0279
ΔLnUP	-1.5794	0.4823	-1.8567	0.6552	-1.5334	0.5052	-1.7762	0.6947
ΔLnEG	-7.4166***	0.0000	-7.491***	0.0000	-7.4312***	0.0000	-7.4295***	0.0000
ΔLnPG	-6.1900***	0.0000	-6.1988***	0.0001	-6.1903***	0.0000	-6.2012***	0.0001
ΔLnSG	-3.9495***	0.0044	-4.2051**	0.0110	-3.9509***	0.0044	-4.2252**	0.0105

Note: all variables are in the natural log
*level of significance at 10% **level of significance at 5%   ***level significance at 1%
Source: various computation from eview9

The results for the unit root test are reported in table 2. All that data are transformed into the natural log form. To determine the order of integration of the variables, the ADF (augmented Dickey-Fuller) test complemented with the PP (Philips-Perron) test in which the null hypothesis is $H_0 = \beta = 0$ (i.e β has a unit root) and the alternative hypothesis is $H_1: \beta < 0$ are implemented. The result for both the level and differenced variables presented in table 2.The stationarity tests were performed first in levels and then in first difference to establish the presence of unit roots and the order of integration in all the variables. The results of the ADF and PP stationarity tests for each variable show that both tests fail to reject the presence of unit root for the selected data series in level, indicating that these variables are non-stationary at levels. The first difference results show that these variables are stationary at 1% and 10% significance level (integrated of order one 1(1)) respectively, except for Urbanisation which is an indication of mixed order of integration. This is because ADF and PP are not good candidate for stationary test in the presence of structural break. Therefore, we apply unit root test with structural break

Table 3: Unit root with Structural break

variables	Innovation outliers			Additive outlier		
	T-statistics	Break point	Decision	T-statistics	Break point	Decision
LnER	-4.0938	2001	I(0)	-7.4849***	1988	I(1)
LnGB	-2.4797	1990	I(0)	-5.7540***	1988	I(1)
LnY	-1.8671	2001	I(0)	-6.9746***	1989	I(1)
LnCD	-1.849	1989	I(0)	-4.3802*	1995	I(1)
LnUP	-3.1719	2000	I(0)	-5.4873***	1988	I(1)
LnEG	-2.2077	1981	I(0)	-8.3809***	1987	I(1)
LnPG	-2.5856	2008	I(0)	-10.353***	1993	I(1)
LnSG	-1.837	2006	I(0)	-5.1885***	1999	I(1)

Note: all variables are in the natural log
*level of significance at 10% **level of significance at 5%   ***level significance at 1%
Source: various computation from eview9

Table 3, present the unit a robust analysis on stationary test. There is a clear evidence that all variables are integration at first difference in the presence of structural break. Therefore, the order of integration of the variables makes ARDL the preferred approach to this empirical study.

Table 4: The result of ARDL cointegration test

Bound testing cointegration			
Estimated models	optimal lag length	F-statistics	Decision
$F_{EC(EC/GLOB,Y,CD,URP)}$	1,2,1,0,0	4.3621**	cointegration
$F_{EC(EC/EG,Y,CD,URP)}$	1,2,0,0,1	4.2799**	cointegration
$F_{EC(EC/POG,Y,CD,URP,DUM2001)}$	1,0,1,0,0	3.5673**	cointegration
$F_{EC(EC/SOGY,CD,URP)}$	1,1,1,0,0	4.2854**	cointegration
	critical values (T = 37)		
Significant level	Lower bounds I(0)		Upper bounds I(1)
1% level	3.969		5.455
5% level	2.893		4.000
10% level	2.427		3.39

*Source of critical value bounds: Narayan (2005) Appendix: Case II Restricted intercept and no trend for k = 4. ** indicate significance at 5% level respectively. Lag length=2*
Source: eviews9

The results of the co-integration test based on the ARDL-bounds testing method are presented in Table 4. Four specifications of model 1 are estimated to establish the robustness of this empirical analysis. All specifications are selected based on Schwarz information criterion (SC).As earlier stated that we would perform the test using energy consumption (EC) as dependent variables, so, all-in-one we would get 4 equations (specifications). We performed F test for each of the specification and Table 4 shows those results. After deciding on lag-length, the issue on the selection of critical values (CVs) becomes imperative. The CVs of the F test depends on the sample sizes. Narayan (2005) argues that CVs of Pesaran et al (2001) that is generated for larger sample size should not be used for smaller sample size. Narayan (2005) presents CVs of the F test for smaller sample sizes with 30-80 observations. With 37 observations in our sample, we report both the 10%,5% and 1% critical values from

Narayan (2005) in Table 4. The result shows that the F-statistic is higher than the upper bound critical value from Narayan (2005) at the 5%. This result is in line with the findings of Soytas and Sari (2003) for G-7 countries, Altinay and Karagol (2005) for Turkey, Narayan and Smyth (2008) for OECD countries, Ghosh (2010) for India, Odhiambo (2011) for South Africa, Vidyarthi (2013) for India and Iyke (2015) for Nigeria., Asafu-Adjaye (2000) for Asian economies, Paul and Bhattacharya (2004) for India, Kahsai et al. (2010) for African countries, Ozturk and Salah Uddin (2012) for India, Shahbaz and Lean (2012) for Tunisia, Nnaji et al. (2013) for Nigeria, Salahuddin and Khan (2013) for Australia, Solarin and Shahbaz (2013) for Angola and Al-mulali et al. (2014) for Latin America, Shahbas et el (2016) for China. This indeed implies that each of the selected macroeconomic variables under consideration are bound by a long run relationship in Nigeria.

Table 5: Result of Johanson cointegration test

Hypothesis	Trace statistics	Maximum eigen value
EC=f(GLOB,Y,CD,URP)		
r = 0	100.052*	46.6485*
r ≤ 1	53.4033*	27.2398*
r ≤ 2	26.16352	17.71505
r ≤ 3	8.448464	8.121983
r ≤ 4	0.326481	0.326481
EC=f(EG,Y,CD,URP)		
r = 0	100.1535**	36.9173**
r ≤ 1	63.23619**	35.2289**
r ≤ 2	28.00728	21.032
r ≤ 3	6.97528	6.059292
r ≤ 4	0.915988	0.915988
EC=f(POG,Y,CD,URP)		
r = 0	116.8014**	52.6245**
r ≤ 1	64.17681**	30.3344**
r ≤ 2	33.84232**	23.1905**
r ≤ 3	10.6517	9.7645
r ≤ 4	0.88723	0.88723
EC=f(SOG,Y,CD,URP)		
r = 0	95.848**	31.8145
r ≤ 1	64.033**	30.0565**
r ≤ 2	33.977**	15.92539
r ≤ 3	18.051**	12.1276**
r ≤ 4	5.92397**	5.923971

*level of significance at 10%   **level of significance at 5%   ***level significance at 1%
Source: various computation from eview9

a) Sensitive analysis or Robustness analysis using Johansen cointegration

Cointegration among the variables are also checked by the test proposed by Johansen and Juselius (1990). The unit root test test with structural break indicates that all of the variables are I(1) at their levels but I(0) at their 1st differenced form, which is the pre-condition for Johansen co integration test. This test would provide a sensitivity check on the ARDL results. The Johansen cointegration approach is also used to test for the long-run relationship. Table 5 shows the calculated as well as the critical values of Trace statistics and Maximum Eigen value statistics of Johansen test. The results indicate the rejection of null hypothesis of no cointegration at the 5% level in favour of the alternative hypothesis that there is one cointegrating vector. This finding thus confirms the existence of a long-run relationship between the selected macroeconomic variables in Nigeria, which was found by the ARDL bounds testing approach to cointegration.

b) Long-run and Short-run Estimates

Our empirical results from table 6 show that globalization (i.e. economic globalization, social globalization and overall globalization) has a negative impact on energy demand. It is only economic globalization that is statistically significant by 1% at -0.258 which means that 1% increase in economic globalisation will lead to 0.258 decrease in energy consumption in the long run. Overall globalisation, political and social globalisation are negative but statistically insignificant. The policy implication of this is that economic globalization, social globalization and overall globalization could contribute to less energy consumption for an emerging economy like Nigeria. Shahbaz et el (2016) reported that overall globalisation and its composite index are negative and statistically insignificant for India. Surprisingly, economic growth is statistically significant at 5% level with energy consumption in specification 2 when the combined contribution of Urbanisation and economic globalization in the long run. It mean that a 1% rise in economic growth leads to a 0.0335% fall in energy demand in Nigeria, keeping other things constant. Our result is consistence with Zhang and Xu (2012) who found negative impact of energy use on economic growth due to the use of energy in unproductive sectors. However, studies in the likes of Erol and Chu (1987), and Yu and Jin (1992) for the case of the USA; Murray and Nan (1996) for France; Germany, India, Israel, Luxembourg, Norway, Portugal, UK, USA and Zambia; Soytas and Satri (2003) for Canada, Indonesia, Poland, USA and UK; and Akinlo (2008) for Cameroon, Cote d'Ivoire, Kenya, Nigeria, and Togo found no evidence of relationship between energy consumption and economic growth.

In terms of looking at the impact of financial development on energy demand in Nigeria, the results of our study reveal that financial development impacts energy demand insignificantly and positively. This highlights financial development is well harnessed in the macroeconomic system of Nigeria. Intuitively, it suggests that in the case of Nigeria, increasing financial development (in the form of domestic credit to the private sector) could increases economic activity in an efficient way that lowers energy consumption if properly exploited. Our study is contrary to the finding of relevant literatures due to the use of different data sets, time periods of study as well as different econometric approaches.

In examining the impact of urbanization on energy demand, it is found that a rise in urban population is significantly and positively linked with energy consumption in specification 2. A 1% increase in urban population leads to a 0.2858% increase in energy use in Nigeria. This result supports the findings of Mahalik and Mallick (2014) and Mallick and Mahalik (2014) for India and Shahbaz and Lean (2012) for Tunisia in which they reported that urbanization increases energy demand for Tunisia. This indicates there is a role for urbanization in the dynamics of energy consumption demand as urbanization is found to be one of the leading factors contributing to more energy consumption in Nigeria. This could have happened in the face of a changing Nigerian economic landscape (i.e. shifting the production base from an agricultural sector to an industrial sector).

Lastly, we have incorporated a dummy variable to account for the impact of the unknown structural break on energy demand in Nigeria and to establish the main purpose of various policy on energy intensity and strategies to increase energy conservation and improve efficiency in use. We find that the dummy various which was pegged from 2001 is positive and statistically insignificant. This implies that energy policy could have effect on demand if properly implemented.

This study centres on the importance of long run estimate on policy implementation. However, the short run results reported in the lower segment of Table 6 show that the short run deviations from the long run equilibrium are corrected by 35 to 62 percentages each year. Economic growth is significantly and positively related with energy consumption. Financial development and urbanization both mixed impact on energy consumption but are statistically insignificant. Urbanization is also inversely linked with energy demand but insignificant in specification 3. The overall measure of globalization (including its three components such as economic globalization, political globalization and social globalization) decreases energy demand significantly. Moreover, the dummy variable government policies has a negative but insignificant impact on energy demand in the short run. The R-squared confirms the high degree

of contribution of explanatory variables on the dependent variable. The Dublin Watson shows evidence of no autocorrelation among the variables. The diagnostic tests in our analysis suggest that error terms of short run models are normally distributed; free from serial correlation, heteroskedasticity, and ARCH problems across all the four models. The Ramsey reset test further provides that the functional forms are well specified.

c) Stability tests

The stability of the long-run coefficient is tested by the short-run dynamics. Once the ECM model given in table 8 has been estimated, the cumulative sum of recursive residuals (CUSUM) and the CUSUM of square (CUSUMSQ) tests are applied to assess parameter stability (Pesaran and Pesaran, 1997). Figures (2-5) plot the results for CUSUM and CUSUMSQ tests. The results indicate the absence of any instability of the coefficients because the plot of the CUSUM and CUSUMSQ statistic fall inside the critical bands of the 5% confidence interval of parameter stability.

Table 6

long and short run

Dependent variable = lnEC

Variables	Coefficient specification 1	T-statistic	Coefficient specification 2	T-statistic	Coefficient specification 3	T-statistic	Coefficient specification 4	T-statistic
long run analysis								
constant	5.9551***	8.2122	2.7780***	4.1858	9.3335***	3.6261	6.1539***	11.3811
LnGB	-0.2556	-1.2959						
LnY	0.0120	0.5125	-0.0335**	-2.2116	0.1455	1.6092	0.0240	1.1620
LnCD	0.0455	1.1412	0.02201	0.97727	0.1271*	1.9037	0.0387	1.4117
LnUP	0.0798	1.0640	0.2858***	5.2324	-0.1301	-1.0706	0.0230	0.6092
LnEG			-0.2856***	-4.5060				
LnSG					-0.5783	-1.5000		
LnPG							-0.0578	-0.5411
dum 2001							0.0474	1.2966
short run analysis								
ecm t-1	-0.3564***	-4.4905	-0.6294***	-5.0693	-0.2891***	-5.0841	-0.3671***	-3.9028
LnGB	-0.1316**	-2.0827						
ΔLnY	0.0586***	5.7946	0.0224*	1.9869	0.0658***	5.8494	0.0294**	2.4876
ΔLnCD	0.0127	0.8835	0.0084	0.5346	-0.0156	-1.0526	-0.0186	-1.0606
ΔLnUP	0.0273	0.3940	0.1845**	2.7688	-0.0355	-0.5408	0.0309	0.4353
ΔLnEG			-0.0768**	-2.3029				
ΔLnSG					-0.0751	-1.2844		
ΔLnPG							-0.0713	-1.5517
dum 2001							-0.0008	-0.0419
	0.9097		0.8949		0.9020		0.8733	
F-statistic	32.78***		27.68***		36.80***		27.59***	
D.W	2.1743		2.2619		2.105		2.1165	

short run diagnostic tests

Test	F-statistic	P-value	F-statistic	P-value	F-statistic	P-value	F-statistic	P-value
	0.0557	0.9725	0.6928	0.7072	0.5502	0.7594	4.3352	0.1144
	0.2014	0.1122	1.02781	0.373	0.2801	0.758	0.1584	0.8543
	0.8643	0.8592	0.00366	0.9521	0.0223	0.8821	0.7009	0.4085
	1.7396	0.1991	0.5472	0.4663	0.1020	0.7519	0.4758	0.4972

*level of significance at 10% **level of significance at 5% ***level significance at 1%

*level of significance at 10% **level of significance at 5% ***level significance at 1%

Source: various computation from eview 9

Table 7

VECM granger causality analysis

Type of causality — short run (statistic [prob]) and Long run

Block 1

Dependent	ΔlnER	ΔlnGB	ΔlnY	ΔlnCD	ΔlnUP	Long run
ΔlnER		3.3090 [0.1912]	8.7061** [0.0129]	1.3971 [0.4973]	1.4414 [0.4864]	-0.2858* (-1.8689)
ΔlnGB	1.5123 [0.4695]		4.6413* [0.0982]	6.0567** [0.0484]	0.4107 [0.8144]	-0.6356** (-3.5497)
ΔlnY	7.6916** [0.0214]	3.6873 [0.1582]		0.6302 [0.7297]	1.6941 [0.4287]	0.1644 (0.0909)
ΔlnCD	0.0475 [0.9765]	1.2772 [0.5280]	1.4792 [0.4773]		0.3272 [0.8491]	1.6769 (-1.2868)
ΔlnUP	2.7963 [0.2470]	1.3375 [0.5124]	5.9073* [0.0521]	0.3089 [0.8569]		0.0117 (-0.5993)

Block 2

Dependent	ΔlnER	ΔlnEG	ΔlnY	ΔlnCD	ΔlnUP	Long run
ΔlnER		0.5809 [0.7479]	2.6636 [0.264]	2.1851 [0.3354]	1.5538 [0.4598]	-0.5067* (-1.9773)
ΔlnEG	0.0991 [0.9516]		2.4058 [0.3003]	0.2974 [0.8618]	3.6731 [0.1594]	-2.3729** (-2.4482)
ΔlnY	5.4744* [0.0648]	0.9027 [0.6368]		0.0590 [0.9709]	1.1180 [0.5718]	-1.2291 (-0.4036)
ΔlnCD	7.8482** [0.0198]	7.7871 [0.0204]	6.6667* [0.0357]		4.8482 [0.0886]	-1.4648 (-1.0515)
ΔlnUP	15.461*** [0.0004]	9.6059 [0.0082]	20.388* [0.0000]	3.9041 [0.142]		0.0110 (-0.4483)

Block 3

Dependent	ΔlnER	ΔlnSG	ΔlnY	ΔlnCD	ΔlnUP	Long run
ΔlnER		0.2998 [0.8608]	2.0300 [0.3624]	0.4685 [0.7912]	0.9038 [0.6364]	-0.0835 (-1.0625)
ΔlnSG	1.9863 [0.3704]		2.0491 [0.359]	3.0207 [0.2208]	0.0302 [0.985]	-0.0603 (-0.3915)
ΔlnY	4.1239 [0.1272]	7.7405** [0.0209]		0.1996 [0.905]	2.5487 [0.2796]	0.8042 (-1.1642)
ΔlnCD	0.3391 [0.844]	2.3273 [0.3123]	0.0782 [0.9617]		0.0577 [0.9716]	1.4079** (-2.4831)
ΔlnUP	2.5397 [0.2809]	0.2685 [0.8744]	4.0547 [0.1317]	0.0442 [0.9781]		-0.0032 (-0.3455)

Block 4

Dependent	ΔlnER	ΔlnPG	ΔlnY	ΔlnCD	ΔlnUP	Long run
ΔlnER		4.9222* [0.0853]	8.1691 [0.0168]	0.5487 [0.7601]	0.4755 [0.7884]	-0.4504*** (-3.0172)
ΔlnPG	1.4767 [0.4779]		3.0452 [0.2181]	5.2730* [0.0716]	2.3179 [0.3138]	-0.4340 (-1.5136)
ΔlnY	6.6148 [0.0366]	1.6040 [0.4484]		0.4440 [0.8009]	1.0513 [0.5912]	0.5736 (-0.3001)
ΔlnCD	0.4050 [0.8167]	2.1257 [0.3455]	3.0776 [0.2146]		3.8075 [0.149]	-0.5676 (-0.5045)
ΔlnUP	2.3961 [0.3018]	0.9097 [0.6345]	4.5722 [0.1017]	0.2516 [0.8818]		-0.0100 (-0.4761)

*level of significance at 10% **level of significance at 5% ***level significance at 1%

Source: various computation from eview9

d) *The VECM granger causality analysis*

When co integration is confirmed, there must be a uni or bidirectional causality among the series or variables. We follow Shahbaz et el (2013) analysis for China and examine the relationship within the VECM framework with inclusion of three different measures of globalization. Such knowledge is essential for form-ulating appropriate energy policies for long term economic growth. Table 7 reports the results for the direction of causality in the long run as well as in the short run. It is noted that there exists a feedback relationship between globalization and energy consumption in the long run. In the long run, globalisation Granger causes energy consumption, while energy consumption also Granger causes globalization in the long run. This finding is in line with Shahbaz et el (2016) for India. In such a situation, policies should encourage energy exploration alongside the adoption of energy-efficient technologies in domestic production expansion. The unidirectional causality running from energy consumption to financial development, economic growth is consistent with Dan and Lijun (2009) in case of Guangdong (China) but contradictory with Islam et al. (2013) and, Shahbaz and Lean (2012b) who reported feedback effect between financial development and energy demand in case of

Malaysia and Tunisia respectively. This is also in line with energy-led-growth, finance-led-growth hypothesis. See relevant literatures. There is unidirectional causality running from energy consumption to Urbanisation.

The short run causality estimates provides evidence that uni-directional causality is running from economic growth to energy consumption.In the short run unidirectional causality is found running from economic growth to energy. In short run, globalisation is caused by growth, financial development. Growth causes urbanization. Globalization (economic, social and political) causes financial development. However, while examining different dimensions of globalization (economic, social and political), we do observe that social globalisation causes economic growth while political globalisation causes economic consumption in Nigeria. In all globalisation remain a key determinate of energy consumption in Nigeria.

Also, any reduction in energy supply will cause a decline in domestic production and ultimately a decline in economic growth. On the other hand, a decline in economic growth will cause a corresponding decrease in energy demand. One of the implications of this result is that any policy which discourages energy use will negatively impact economic growth for Nigeria.
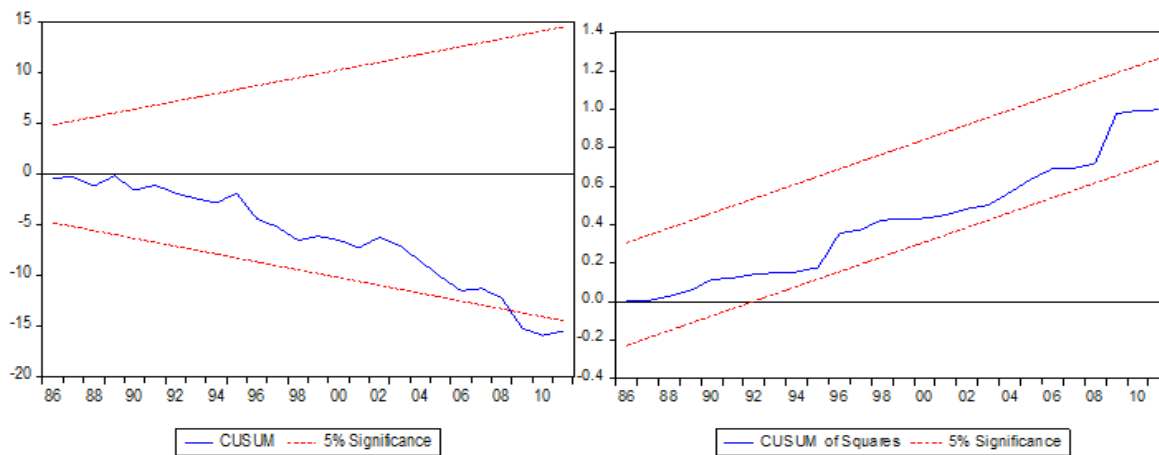

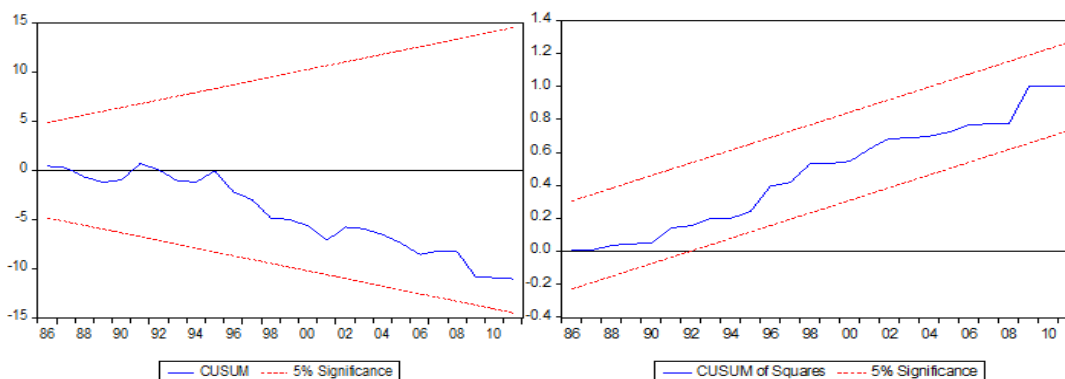*Figure 2:* Plot of CUSUM and CUSUMQ for Specification 1

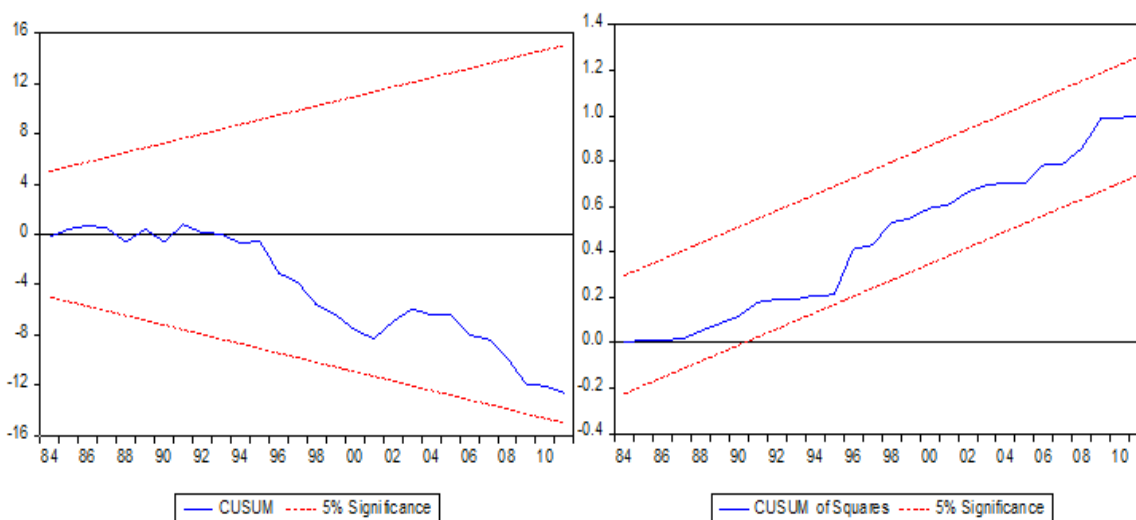*Figure 3:* Plot of CUSUM and CUSUMQ for Specification 2

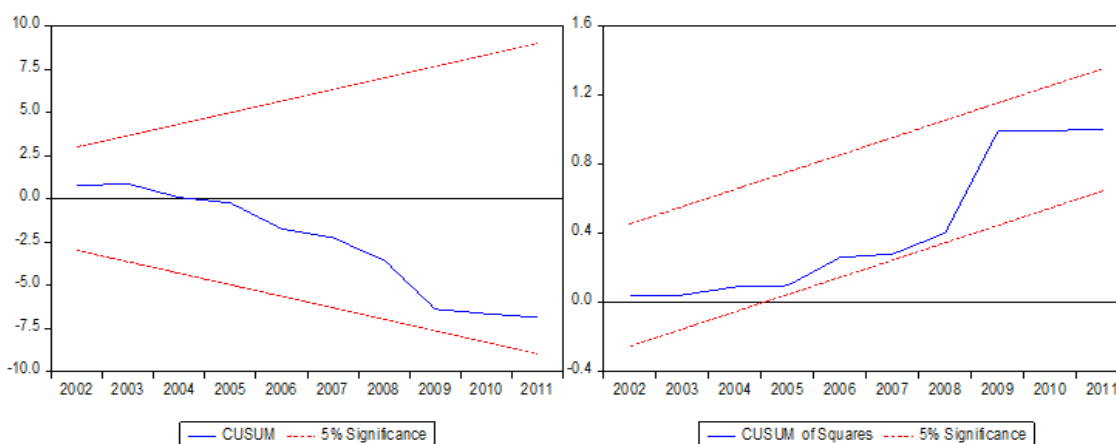*Figure 4:* Plot of CUSUM and CUSUMQ for Specification 3

Figure 5: Plot of CUSUM and CUSUMQ for Specification 4

e) Summary of Findings and Policy Implications

This study explored the relationships between globalization and energy consumption by incorporating economic growth, financial development (credit to private sectors) and urbanization in an energy demand function for the Nigerian economy for the period, 1975–2011. We employed the Pesaran et al.'s (2001) autoregressive distributed lag (ARDL) bounds testing cointegration procedure to examine the long run relationship between the variables. The integrating properties of the variables are investigated by applying the unit root test with unknown structural break test that accommodates a single unknown structural break stemming from the series. Johansen co integration procedure is further applied to test the robustness of our long run estimates. The long run estimates obtained from the bounds test validates the presence of cointegration between the variables. Moreover, economic growth is found to be positively linked to energy consumption with combined with the marginal contribution of economic globalisation and Urbanisation.

Financial development tends to be neutral on energy demand contrary to documented evidence from relevant literatures. Urbanization raises energy consumption when combined with the marginal contribution from economic growth and economic globalisation The overall measure of globalization thus insignificant has the potential of lowering energy demand in Nigeria. Dummy variable is positive, thus insignificant could play a role in driving energy consumption in Nigeria. In all, we establish that economic growth, Urbanisation and globalisation (economic globalisation) have some dominant role in energy consumption in Nigeria. Turning to vector error correction model (VECM), the direction of causality in the long run as well as in the short run. We found a feedback relationship between globalization and energy consumption in the long run. In the long run, globalisation Granger causes energy consumption, while energy consumption also Granger causes globalization in the long run. . The unidirectional causality running from energy consumption to financial development, economic growth. This implies that in the

short run, any energy policy that discourages the use of energy would reduce economic growth and financial sector development in Nigeria. The short run causality estimates provides evidence that uni-directional causality is running from economic growth to energy consumption. A unidirectional causality is found running from economic growth to energy. Globalisation is caused by growth, financial development. Growth causes urbanization. Globalization (economic, social and political) causes financial development.

The findings from this study offer some interesting policy ideas. The observed negative but insignificant impact of (all) globalization on energy demand for the Nigerian economy, though there is negative and significant impact energy consumption favorably suggests that it is vital for the policymakers to design appropriate policies for opening up the Nigerian economy for enhancing trade relationships and attract more foreign direct investment into the economy. Therefore, The Nigerian economy should in more interested in free trade deals with the rest of the world economies is one of the steps to realize this stated objective of reducing energy consumption for this emerging economy. It is also the case that since financial development has a positive and insignificant impact on energy consumption, this has also a strong policy implication, implying that financial development is yet to explore by the stake holder in the country and should therefore be strengthened. Therefore, to achieve long run economic and reduce energy demand in Nigeria, more attention should be given to domestic credit to private sector and also better and sustainable policies should be implemented. Urbanisation has some mixed result from various specifications, though in specification 3, positive and significant Urbanisation imply that rising urbanization could may lead loss of environmental quality due to heavy pressure from urban growth. This will make it more difficult for Nigeria to achieve long run economic growth. The policy implication is for the government of Nigeria to think of an alternative mechanism for checking the growth of urban population which will help to reduce the adverse environmental effects (i.e. climate change and global warming).

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APPENDIX

DATE	PRCD	ECOG	SOCG	POLG	GLOB	GDP	ENR	URB	URBP
1975	5.41	19.75	24.68	55.15	31.25	437.0121	606.6176	19.78	12573275
1976	6.28	19.88	24.83	57.48	31.99	554.9528	620.3824	20.205	13219521
1977	7.52	20.64	24.89	58.79	32.64	534.4483	634.2587	20.636	13913913
1978	9.44	17.84	24.98	77.79	36.87	525.4883	643.8604	21.074	14649008
1979	9.81	18.15	25.05	78.71	37.26	659.8775	651.0852	21.518	15411023
1980	10.31	22.12	25.13	79.49	38.91	871.1458	662.9579	21.97	16191472
1981	14.27	20.93	24.31	80.01	38.32	806.5078	674.1806	22.671	17168651
1982	16.79	20.29	23.04	80.04	37.63	661.2324	689.4945	23.389	18180223
1983	17.24	19.7	22.08	79.27	36.86	444.6491	691.2332	24.122	19232304
1984	17.11	22.04	20.77	63.52	32.89	321.6684	694.6593	29.68	20339131
1985	15.27	24.15	19.93	64.58	33.62	279.2758	709.6405	30.176	21508167
1986	17.94	23.45	19.76	65.38	33.52	291.2835	719.3084	30.677	22747220
1987	14.15	33.09	19.47	63.46	36.3	153.0757	712.7788	31.182	24056271
1988	13.08	31.56	19.63	75.79	39.19	171.0248	678.1527	31.691	25433859
1989	10.29	36.89	19.39	69.84	39.37	314.7399	691.0866	32.725	26874905
1990	8.78	35.73	19	70.46	38.98	263.288	679.6685	32.205	28379228
1991	8.38	38.8	19.15	74.3	41.17	314.2998	696.8848	33.247	29598261
1992	9.49	39.09	18.72	78.44	42.24	273.8698	684.3411	33.773	30858748
1993	12.71	41.33	18.45	81.14	43.67	299.3568	691.2949	34.304	32162703
1994	12.37	40.45	18.11	80.63	43.1	377.5003	700.2417	34.84	33514211
1995	9.16	42.56	17.68	81.05	43.8	350.2602	716.8717	35.669	34918214
1996	8.41	45.16	17.1	82.15	44.8	240.6174	669.1634	26.414	36378632
1997	9.71	50.49	17.54	82.72	47.01	344.1411	680.4734	25.635	37893287
1998	11.84	50.84	16.24	82.47	46.58	348.5263	675.4655	24.872	39467361
1999	12.47	51.3	15.75	83.44	46.83	260.0476	681.9846	28.842	41105190
2000	10.42	53.54	16.55	86.01	48.62	256.3758	676.4379	28.019	42810250
2001	14.82	55.36	15.73	88.11	49.53	272.5077	674.473	27.209	44948267
2002	12.58	48.17	17.8	86.8	47.4	457.397	721.3122	36.508	47185233
2003	12.12	50.63	18.35	88.43	48.92	510.2963	743.1115	37.356	49527139
2004	11.51	44.27	19.16	87.34	46.67	645.7639	744.7457	38.212	51981053
2005	12.32	46.84	20.3	87.63	48.09	804.006	754.2564	39.074	54551721
2006	12.1	52.59	20.37	88.44	50.37	1014.735	740.8818	39.943	57245513
2007	18.16	60.53	21.06	88.97	53.59	1131.148	747.1012	40.819	60066180
2008	27.37	57.3	22.3	89.37	53.01	1376.857	749.218	41.702	63018262
2009	35.39	58	25.44	89.64	54.51	1091.969	718.0538	42.588	66099619
2010	31.29	50.76	27.08	89.9	52.62	2314.964	752.5171	43.48	69317878
2011	22.91	53.46	23.09	90.69	52.31	2514.149	775.0384	44.362	72651944

Ouverture Commerciale et Croissance Economique au Cameroun

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Abstract- The present work aims to show the contribution of foreign trade to economic growth in Cameroon from 1987 to 2013. It follows that foreign trade is one of the essential levers of the Cameroonian economy. The results of stationarity tests show that series imports, exports, FDI and per capita GDP are stationary. With the regression of the ordinary least squares model, we deduce that imports and exports have positive and significant impacts on economic growth in Cameroon. While trade openness has a significant and negative impact on Cameroon's economic growth.

Keywords: trade openness, economic growth, ordinary least squares method, protectionism.

GJHSS-E Classification: FOR Code: 349999

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Strictly as per the compliance and regulations of:

Ouverture Commerciale et Croissance Economique au Cameroun

Gachili Ndi Gbambie Ladifatou [α] & Dazoue Dongue Guy Paulin [σ]

Resume- Le présent travail a pour objectif de montrer l'apport du commerce extérieur sur la croissance économique au Cameroun de 1977 à 2003. Il en ressort que le commerce extérieur fait partie des leviers essentiels de l'économie camerounaise. Les résultats des tests de stationnarité révèlent que les séries importations, exportations, IDE et PIB par tête sont stationnaires. A travers la régression du modèle par la méthode des Moindres carrées ordinaires, on déduit que les importations et les exportations ont des impacts positifs et significatifs sur la croissance économique au Cameroun. Alors que l'ouverture commerciale a un impact significatif et négatif sur la croissance économique du Cameroun.

Motsclés: ouverture commerciale, croissance écono-mique, moindre carrées ordinaires, protectionnisme.

Abstract- The present work aims to show the contribution of foreign trade to economic growth in Cameroon from 1987 to 2013. It follows that foreign trade is one of the essential levers of the Cameroonian economy. The results of stationarity tests show that series imports, exports, FDI and per capita GDP are stationary. With the regression of the ordinary least squares model, we deduce that imports and exports have positive and significant impacts on economic growth in Cameroon. While trade openness has a significant and negative impact on Cameroon's economic growth.

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I. Contexte et Problématique

Le Cameroun n'est pas resté en marge du mouvement libéralisation commerciale. En effet, depuis 1987, il a engagé une politique de libéralisation autonome dans le contexte du Programme d'Ajustement Structurel (PAS) et de l'initiative en faveur des Pays Pauvres Très Endettés (PPTE), préconisés par le Fond Monétaire International (FMI) et la Banque Mondiale (BM) pour l'aider à faire face à la crise qui a touché de plein fouet son économie au milieu de la décennie 1980.

Malgré les mesures prises, le résultat escompté n'a pas été atteint. On note ainsi une contraction de l'activité économique et une baisse du taux de croissance du PIB qui est passé de 3,3% entre 1980-1990 à 0,1% entre 1990-1997 (Abena, 2006). D'après les données statistiques de la BM de 1987 à 1994, la somme de la valeur totale des exportations de biens et de services et la valeur des importations des biens et services n'a pas atteint la moyenne annuelle de 40% du produit intérieur brut (PIB). Face à cette situation, le Cameroun est passé de la libéralisation autonome à la libéralisation sous l'OMC, ce en 1995. A partir de cette date, l'on remarque une participation plus grande de son économie au commerce international. Aussi, de 1995 à 2003, les échanges commerciaux se sont accrus de 70%,. Le taux de dépendance de l'économie nationale vis-à-vis de l'extérieur s'est maintenu à 41% au cours de la période de référence. On enregistre un retour à la croissance économique qui atteint 5% au cours de l'exercice 1995/1996 avant de se stabiliser à un taux plus faible (environ 4%) jusqu'en 2004 (Abena, 2006). Pendant la même période, l'inflation et le déficit budgétaire sont restés faibles.

Nonobstant cette croissance, les objectifs macroéconomiques du gouvernement qui consistaient à porter le taux de croissance à 7% sur une longue période d'une part, de contenir le taux d'inflation en dessous de 2% et le déficit du compte courant en deçà de 3% d'autre part ne sont pas atteints (Abena, 2006). En même temps on constate que le pays souffre toujours d'une pauvreté généralisée, d'une détérioration des systèmes d'éducation ainsi que de santé et de la faiblesse de la gouvernance (Communiqué de presse, Presse/TPRB/170, 2001). Décidé à sortir de cette impasse, le gouvernement, s'inspirant du modèle asiatique « miracle asiatique », s'est attelé à reformuler sa politique commerciale et industrielle. Malheureusement, il n'a pas abouti aux taux de croissance semblables à ceux des Nouveaux Pays Industrialisés (NPI) d'Asie. C'est dans le souci de savoir si le commerce extérieur peut booster l'économie camerounaise que nous entreprenons cette étude.

Plusieurs arguments théoriques ont été développés en faveur du protectionnisme. Parmi les plus importantes, figurent la théorie du protectionnisme éducateur ou offensif et la théorie marxisante de l'échange inégal.

La théorie du protectionnisme éducateur ou offensif a été élaborée par Friedrich List (1798-1846). Ce dernier estime que face aux nations plus avancées, un pays ne peut se développer qu'en protégeant temporairement ses industries naissantes.

La théorie marxisante de l'échange inégal développée par Karl Marx (1818-1883) considère les échanges internationaux comme une forme

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d'exploitation des pays de la périphérie (Tiers Monde) par le centre (Pays Industrialisés). Cette forme d'exploitation se traduit par une détérioration chronique des termes de l'échange.

Au regard de la littérature en faveur du protectionnisme, il ressort que la plupart des pays à l'instar du Cameroun ne se sont pas abstenus de libéraliser leurs échanges. Nous pouvons donc penser que le commerce extérieur a quelque chose de spécial à apporter à l'économie de ces pays en général et de celle du Cameroun en particulier. Cette préoccupation nous amène à nous poser la question suivante : quels sont les effets de l'ouverture commerciale sur l'économie camerounaise ?

II. Revue de la Littérature

Dans ce travail, nous ne prétendons pas faire oeuvre de pionnier. De multiples ouvrages ont été réalisés sur le commerce extérieur et sur la croissance économique par des chercheurs tant nationaux qu'étrangers. Parmi les chercheurs qui se sont préoccupés de ces sujets, nous avons:

Frankel et Romer (1999) utilisent une méthode à variables instrumentales incluant des caractéristiques géographiques et confirment que le commerce international a un impact important et significatif sur la croissance économique.

Harrison (1996) arrive à des conclusions similaires en utilisant une variété d'indicateurs d'ouverture. En procédant par différentes méthodes d'estimations (coupe transversale, effets fixes, moyenne sur cinq ans, premières différences), les résultats obtenus suggèrent une relation positive entre le degré d'ouverture et la croissance. Toutefois, ce ne sont pas toutes les mesures d'ouverture qui sont significatives malgré le fait qu'elles sont pour la plupart de signe positif.

Sachs et Warner (1995), en utilisant des régressions en coupe transversale, ont trouvé que les distorsions dues à l'intervention de l'état au niveau du commerce mènent à de faible taux de croissance.

Ben-David (1993) et Sach et Warner (1995) démontrent par ailleurs que c'est seulement dans les économies ouvertes qu'on peut observer une convergence inconditionnelle. Sach et Warner (1995) montrent que dans les années 1970-1980, le taux de croissance des pays avec des politiques d'ouverture avait cru à un rythme de 4,5% par année et qu'en revanche, les pays relativement fermés n'avaient qu'un taux de croissance de 0,7%. Ils notent cependant qu'une relation robuste est difficile à trouver et à justifier. Leurs méthodologies ont été remises en question par Rodriguez et Rodrik (2000) car les indicateurs de mesure de l'ouverture commerciale peuvent être lourdement critiqués et qu'il manque des variables de

contrôle importantes pouvant avoir un effet déterminant sur la croissance.

Jin (2004) a analysé le co-mouvement entre l'ouverture et la croissance pour 17 provinces et 3 municipalités chinoises. Il montre qu'il existe une relation positive entre l'ouverture aux échanges internationaux et le taux de croissance pour les provinces et les municipalités développées et une relation négative pour les provinces et les municipalités enclavées. En utilisant la même méthodologie que Jin, Lemzoudi (2005) a examiné l'impact du degré d'ouverture sur la croissance économique de cinq pays africains. Sa préoccupation était aussi de vérifier si l'effet de l'ouverture est différent entre les pays côtiers et les pays enclavés. Son modèle, basé sur une fonction de production générale, emploie la technique de co-intégration pour les séries temporelles. Les résultats obtenus sont similaires à ceux de Jin c'est-à-dire qu'il existe une relation positive entre l'ouverture aux échanges internationaux et le taux de croissance pour deux des trois pays côtiers et une relation négative pour les trois pays enclavés.

Sans remettre en question les travaux de Jin et Lemzoudi, force est de reconnaître qu'ils se heurtent à plusieurs limites économétriques parmi lesquelles la pertinence du choix de l'indicateur d'ouverture. Mbemba Malembe (2006) s'est appesanti sur l'incidence du commerce international sur le développement économique de la République Démocratique du Congo (RDC). Il montre que le rôle du commerce extérieur n'est pas seulement de compenser les manques du marché intérieur, ni d'offrir les possibilités plus grandes de production, d'emploi et d'équilibre budgétaire, mais de permettre aux pays l'importation d'équipements nécessaires à leur industrialisation et donc à leur développement socio-économique. Cet objectif ne semble atteint qu'unilatéralement par les pays déjà industrialisés avec qui le tiers monde entretient des relations commerciales.

Les travaux de Mbemba Malembe s'étendent sur une période de sept ans (2000 à 2006), période relativement courte et par conséquent ses tests statistiques ne peuvent être significatifs. La particularité de notre étude réside en ce qu'elle s'étale sur une période longue (1977-2003). En plus notre zone d'étude c'est le Cameroun contrairement à Mbemba Malembe qui a fait son analyse sur la RDC.

Mehdi Moufatih (2007) a focalisé son attention sur le commerce international. Tout au long de son mémoire, il passe en revue les théories et politiques du commerce extérieur et la macroéconomie internationale (balance des payements, balance des capitaux, taux de change …). Il adhère à la pensée des libéraux qui affirment que toutes les nations gagnent dans les échanges internationaux. Malgré l'importance de ses écrits, force est de constater que son thème tel que défini (Le commerce extérieur) est vague. En outre, le

travail de Moufatih n'a ni problématique, ni objectifs, ni hypothèses, encore moins de modèle économétrique.

Abena Nguema (2006) démontre que la libéralisation commerciale est un processus de changement de la politique commerciale qui connaît des fortunes diverses selon que le pays est développé, en développement ou moins avancés.

Dufort et Murray (2004) ont mis en évidence l'impact de l'appréciation du taux de change sur la croissance des exportations et du PIB du Québec. Il ressort de cette analyse que l'impact d'une variation de la valeur de la devise canadienne sur le PIB varie grandement selon le modèle employé, et ce, à cause des nombreux problèmes de spécification et d'estimation inhérents aux modèles économétriques servant à quantifier les impacts d'une variation de la valeur de la devise canadienne. Les experts de la Banque du Canada et ceux du ministère des Finances du Canada estiment des impacts sur le PIB canadien, d'une variation du taux de change, qui sont différents, mais du même ordre de grandeur. Au Canada, ce sont les PIB du Québec et de l'Ontario qui sont les plus touchés.

Malheureusement, tout comme Abena Nguema, Dufort et Murray ne proposent aucun modèle économétrique dans leur analyse. Awoumou (2006) montre que la libéralisation agricole imposée par les PAS et supposée entraîner un développement durable a renforcé la paupérisation du Cameroun et que par conséquent, le pays s'est davantage affaibli économiquement au point de se retrouver en 2000 au rang des pays pauvres très endettés de la planète (il a ainsi quitté la place de pays à revenus intermédiaires qu'il occupait à la fin des années 80). Pour être efficace, la libéralisation devait prendre en compte toutes les contraintes du contexte local ; ce qui n'a pas été le cas de ce pays.

Ngouhouo (2008) s'est penché sur le thème « Investissements Directs Etrangers en Afrique centrale: attractivité et effets économiques ». En se servant de la méthode des triples moindres carrés, son analyse révèle que les effets des IDE sont différents selon les pays. Les IDE contribuent à la croissance au Cameroun, au Congo et en Guinée Equatoriale, alors qu'ils n'ont pas d'effets ou ont très peu d'effets au Gabon et au Tchad sur l'ensemble de la période 1970-2005.

Parallèlement, en utilisant un modèle d'équations simultanées, Marouane Alaya (2004) a obtenu les résultats qui suggèrent que malgré l'effet significativement positif de l'Investissement Direct Etranger sur quelques variables moteurs de la croissance à savoir les exportations, le capital humain et l'investissement domestique, sa contribution à la croissance économique n'est pas pour autant significative.

De même que Marouane, Salvatores Yoshua (2007) analyse les effets des Investissements Directs Etrangers (IDE) sur l'économie de la RDC à l'aide d'un modèle structurel estimé par le double moindre carré. Le résultat obtenu montre que l'IDE contribue positivement à la croissance économique de ce pays.

Ntavoua (2008) a fait une analyse mettant en relation les Investissements Directs Etrangers (IDE) et la croissance économique au Cameroun. Sa méthode employée est celle des MCO avec des techniques de stationnarité et de co-intégration à court et à long terme. Après régression, il ressort de son analyse que le coefficient des IDE est négatif et non significatif à un seuil de significativité de 5%.

A son tour, Girard (2007) fait une analyse économétrique qui se propose d'examiner l'hypothèse de la croissance générée par les exportations à l'aide d'un test de causalité de Granger (1969) pour sept pays partenaires méditerranéens : l'Algérie, l'Egypte, l'Israël, la Jordanie, le Maroc, la Syrie et la Tunisie. Il obtient les résultats hétérogènes : tandis que l'Algérie, l'Egypte et le Maroc ne montrent aucun lien significatif dans l'évolution de ces deux variables, la Syrie et la Tunisie vérifient l'hypothèse de croissance tirée par les exportations. Pour l'Israël, c'est au contraire la croissance qui « cause » les exportations. Enfin, il existe une relation réciproque entre ces deux variables pour la Jordanie.

Dans la même visée, Lezona (2005) a utilisé la méthode d'analyse consistant à estimer un modèle de croissance qui fait recours à la fois, à la théorie du commerce international et à une fonction de production pour mettre en relief, l'impact des exportations sur la croissance économique au Congo Brazzaville. Les résultats obtenus de son estimation révèlent que les exportations pétrolières et les exportations non pétrolières ont une influence positive mais non significative sur la croissance économique.

Salah Ouerhani (2009) de son côté, a élaboré un modèle de croissance qui intègre à la fois une dimension monétaire et une dimension financière et s'inscrit dans la mouvance actuelle qui étudie les interactions entre l'inflation, le développement financier et la croissance. Son étude montre que l'inflation affecte négativement la croissance quel qu'en soit le niveau du taux d'inflation. Dans le cas où le taux d'inflation est modéré et/ou élevé (supposé supérieur à 10%) les tests empiriques montrent que toute augmentation supplémentaire de celui-ci retarde directement la croissance. Cependant, l'absence d'une relation négative entre l'inflation et la croissance, lorsque le taux d'inflation est faible (inférieur à 10%), ne signifie pas que l'inflation ne détériore pas la performance économique. L'effet négatif et statistiquement significatif de l'inflation sur les mesures de développement financier montre que la finance est un canal substantiel à travers lequel l'inflation affecte négativement la croissance économique.

Bien qu'intéressants, les travaux de Awoumou, Ngouhouo, Marouane, Salvatores, Girard, Ntavoua et Salah n'évoquent chacun qu'un aspect du commerce extérieur. Bessong à Beyeck (2006) porte son attention sur le commerce potentiel entre le Cameroun et ses pays frontaliers. Dans son analyse, il élucide les entraves au commerce. Son étude se limite au commerce entre le Cameroun et ses voisins. Nous souhaitons dépasser le cadre du commerce Sud-Sud en intégrant le commerce Sud‿Nord.

Les précédents auteurs sont ceux qui présentent le commerce extérieur ou l'ouverture commerciale comme étant le facteur incontournable de la croissance économique. A côté d'eux, d'autres auteurs soutiennent que la croissance économique est aussi liée à d'autres facteurs. C'est fort de cette idée que Fateh Bekioua et Mehdi Reffaf (2006) ont analysé le co-mouvement entre l'éducation et la croissance économique en Algérie : une analyse en termes de causalité à l'aide des modèles VAR. En utilisant l'approche des vecteurs autorégressifs (VAR) après avoir procédé à la stationnarisation des différentes séries, ces deux auteurs, démontrent d'une part que la croissance économique influence directement le nombre de bacheliers et le nombre de diplômés et d'autre part que ces relations de causalité sont positives.

De même, Gbénoukpo Dedehouanou (2009) a utilisé un modèle de régression avec des techniques de co-intégration pour évaluer l'effet de la dette extérieure sur la croissance économique du Bénin. Au terme de cette régression, les élasticités au niveau de l'encours de la dette et l'aide public au développement ont révélé une relation positive. Bella (2009) dans son analyse, il mesure l'impact du secteur agricole sur la croissance économique au Cameroun. Son étude a été réalisée à l'aide de la co-intégration et les tests de causalité au sens de Granger en employant des modèles vectoriels Autorégressif. Il ressort de ses travaux qu'il existe une relation à long terme entre le taux de croissance du PIB par tête, les taux de croissance des PIB réels agricole, industriel et des services. Dans cette relation, le taux de croissance du PIB réel agricole entre avec un coefficient négatif et significatif.

III. METHODOLOGIE

Nous allons faire une étude en coupe longitudinale sur une période allant de 1977 à 2003. Pour y parvenir, nous utiliserons les données de source secondaire que sont : les importations des biens et services, les exportations des biens et services, le taux d'inflation, les Investissements Directs Etrangers, le taux de change et le PIB par tête, puisées auprès du « *World Development Indicators* » (WDI) de la Banque Mondiale (BM) et de la Banque des Etats de l'Afrique Centrale

(BEAC). Quant au ratio d'ouverture, il sera calculé à l'aide des importations, des exportations et du PIB.

L'ouverture commerciale est considérée comme une source de convergence et un élément clé pour l'élaboration de stratégies de développements. D'ailleurs, un bon nombre d'organisations internationales incitent les pays à libéraliser leurs échanges commerciaux. Pour certaines d'entre elles comme le FMI et la BM, la libéralisation des politiques commerciales est souvent une condition majeure à l'octroi d'aide financière ou d'assistance économique aux pays en développement.

a) Modèle économétrique

L'objectif de ce travail est de déterminer les impacts du commerce extérieur et de l'ouverture commerciale sur la croissance économique. Ces impacts seront étudiés à l'aide des modèles économétriques. Il s'agit d'estimer une équation de régression linéaire multiple. le PIB qui est une variable endogène sera représenté comme une fonction des importations (M), des exportations (X), du taux de change (ECH), du taux d'inflation (INF), du ratio d'ouverture (OUV). et des investissements directs étrangers (IDE) qui sont des variables exogènes. Ceci peut se traduire par:

$$PIB = f (M, X, ECH, INF, OUV, IDE).$$

b) Spécification des variables

L'équation à estimer étant, PIB = f (M, X, ECH, INF, OUV, IDE), les résultats attendus de notre recherche sont condensés dans le tableau ci-dessous:

Tableau 1: Tableau des signes attendus

Variables exogènes \ Variable endogène	PIB par tête
M	—
X	+
ECH	+/—
INF	+/—
IDE	+
OUV	+

Source: Tableau élaboré par l'auteur

Concernant les importations (M), nous prévoyons une relation négative de celles-ci sur la croissance économique car lorsqu'un pays importe davantage, il y'a sortie massive de capitaux. Ceci se traduit par un déficit de la balance commerciale.[1]

Par contre, nous anticipons une relation positive entre les exportations et le taux de croissance en nous basant sur l'étude faite par Girard (2007) qui a montré que la Syrie et la Tunisie vérifient l'hypothèse de croissance tirée par les exportations.

Pour ce qui est du taux de change (ECH), les travaux menés par Dufort et Murray (2004) ont démontré que l'impact d'une variation de la valeur de la devise canadienne sur le PIB varie grandement selon le modèle

employé, et ce, à cause des nombreux problèmes de spécification et d'estimation inhérents aux modèles économétriques servant à quantifier les impacts d'une variation de la valeur de la devise canadienne. Ceci explique la relation positive ou négative attendue du taux de change sur la croissance économique.

Quant à l'inflation (INF), nous prévoyons une influence positive ou négative de celle-ci sur la croissance du PIB car Abdellatif Naanaa (2002) a prouvé que l'inflation est préjudiciable à la compétitivité de l'économie. Cependant, l'augmentation des prix contribue à la réduction de la valeur de la dette.

Les IDE, quant à eux, en jouant le rôle de catalyseur pour le capital domestique et du progrès technique, peuvent contribuer significativement à l'accroissement de la productivité de l'économie d'accueil (De Mello, 1997). Par ailleurs, en facilitant l'incorporation de nouveaux inputs et des nouvelles technologies dans la fonction de production, ils stimulent la croissance économique (Feenestra et Markusen, 1994). Voilà pourquoi nous espérons un effet positif des IDE sur la croissance économique au Cameroun.

A propos de l'ouverture commerciale (OUV), les études empiriques arrivent toutes à trouver un effet positif et significatif entre l'ouverture aux échanges internationaux et la croissance économique (Lemzoudi, 2005). Sur ce, les résultats obtenus par Lemzoudi indiquent une relation positive pour le Bénin et le Ghana, d'où le signe positif attendu de l'OUV sur le PIB par tête au Cameroun.

IV. Méthode D'analyse

Nous allons utiliser un modèle de régression multiple pour l'analyse des impacts du commerce extérieur et de la libéralisation des échanges sur la croissance économique. Des séries temporelles annuelles vont être utilisées pour la période s'étendant de1987 à 2013. Dans un premier temps, nous allons faire un test de stationnarité.

a) Test de stationnarité

Lorsqu'on utilise des données temporelles, il est primordial qu'elles conservent une distribution constante dans le temps. Ce concept de stationnarité doit être vérifié pour chacune des séries afin d'éviter des régressions factices pour lesquelles les résultats pourraient être « significatifs » alors qu'ils ne le sont pas.

i. *convient donc de définir ce qu'on entend par stationnarité.*

– Un processus aléatoire est strictement stationnaire si toutes ses caractéristiques c'est-à-dire tous ses moments sont invariants pour tout changement de l'origine du temps.

– Un processus est dit faiblement stationnaire si seul les moments d'ordre 1 et 2 sont stationnaires.

La stationnarisation d'une série exige d'identifier au préalable le type de processus afin d'appliquer la méthode de stationnarisation appropriée. Il existe trois sources de non stationnarité

Le changement structurel (break): la fonction de régression change dans le temps, soit de façon discrète, soit de façon graduelle. On peut corriger cette situation en ajoutant une variable binaire ou une variable d'interaction qui modélise le changement structurel.

Une tendance déterministe: les données suivent une tendance qui a une fonction définie. Il suffit de la modéliser tout en choisissant bien la tendance la mieux adaptée à nos données (linéaire, quadratique, logarithmique, etc.) afin de résoudre le problème de la présence d'une tendance temporelle.

Une tendance stochastique (racine unitaire): les données suivent une marche aléatoire avec ou sans dérive avec un coefficient de 1 pour le terme autorégressé:

$y_t = y_{t-1} + \mu_t$. Il y'a non stationnarité car la variance n'est pas constante:

$\text{var}(y_t) = t\,\sigma^2_\mu$

En général pour détecter la présence d'une racine unitaire (*unit root*), on utilise le test de Dickey-Fuller augmenté[1] (DFA). Nous pouvons avoir les tests d'équation de DFA et/ou les tests statistiques de DFA.

Dans le premier cas, et dans le cadre de ce travail, soit y_t le PIB réel par habitant à la période t, posons l'équation $y_t = a + p\,y_{t-1} + \mu_t$ (1) Si après régression de la valeur de y de la période t sur sa valeur de la période t-1 par la méthode des MCO, on trouve le coefficient de y_{t-1} égal à 1 (p = 1), alors il y'a présence de racine unitaire. En d'autres termes, la série définie ci-dessus n'est pas stationnaire. Ceci se résume par:

$H_0 : p = 1 \Rightarrow$ processus non stationnaire
$H_1 : p \neq 1 \Rightarrow$ processus stationnaire

S'agissant des tests statistiques de DFA, Dickey et Fuller ont tabulé des valeurs critiques:

– si la valeur de la t-statistique associée à p en valeur absolue est supérieure à la valeur critique également en valeur absolue, on rejette l'hypothèse nulle de non stationnarité et on approuve l'hypothèse alternative.

– si par contre la valeur absolue de la t-statistique associée à p est inférieure à la valeur critique, on accepte H_0 tout en rejetant H^1.

Il est à noter que pour effectuer le test DFA, il convient de choisir le nombre de retards q de sorte que les résidus soient des BB (Bruits Blancs). Un nombre trop important de retards réduit le nombre de degrés de liberté. Le choix de q peut se faire par l'étude des autocorrélations partielles de Δy_t et l'on retient pour q le retard correspondant à la dernière autocorrélation partielle significativement différente de zéro.

Après le test DFA, si la série est non stationnaire (présence de racine unitaire), on pourra dans ce cas utiliser le test de co-intégration. La co-intégration est une situation rencontrée lorsque deux séries possédant une racine unitaire ont une tendance stochastique commune. Soient x_t et y_t des séries I (1) (racine unitaire), si pour un θ donné $y_t - \theta x_t$ est I (0) (absence de racine unitaire), alors x_t et y_t sont co-intégrées avec le paramètre d'intégration θ. Dans une telle situation, la formulation en différence mène à une mauvaise spécification du modèle et des termes de correction d'erreurs doivent être ajoutés. Un test simple à utiliser est le test en deux étapes d'Engel et Granger (1987).

Le modèle est à une équation:

$$PIB = C(1) + C(2)OUV + C(3)IDE + C(4)X + C(5)M + C(6)INF + C(7)ECH + \varepsilon_1$$

Pour cette équation, le *PIB* indique le Produit Intérieur Brut par habitant.

M traduit les importations ; *X*, les exportations ; *ECH*, le taux de change ; *INF* l'inflation ; *IDE* les Investissements Directs Etrangers ; *OUV* quant à elle traduit le ratio d'ouverture. C(1), C(2), C(3), C(4), C(5), C(6) et C(7) représentent les paramètres ou coefficients de l'équation. ε_1 est le terme de correction d'erreurs.

L'estimation des coefficients de cette équation se fera par la méthode des MCO (moindres carrés ordinaires) dont le principe est la minimisation de la somme des carrées des résidus. Nous nous servirons du logiciel «e-vue» pour faire cette régression. La manipulation des données sur ce logiciel nous donnera également pour l'équation:

– les écarts types des coefficients qui permettront le calcul de certaines variables (telle que la statistique t de Student) nécessaires à l'interprétation des résultats;

– le coefficient de détermination noté R^2 qui est la proportion de la variation de la variable dépendante expliquée par les variables indépendantes. Plus R^2 se rapproche de 1, meilleur est le modèle. L'interprétation de ce coefficient reste très limitée dans le cadre de la régression multiple car il ne fait intervenir ni le nombre de variables explicatives, ni celui des observations dans l'échantillon. C'est la raison pour la quelle nous ferons recours au R-carré ajusté ou corrigé (R^2) car il comble la lacune du coefficient simple.

– la statistique t de Student, calculée pour une taille de l'échantillon n < 31 permet de tester la significativité individuelle des coefficients à un niveau de signification donné et de degré de liberté (n-k) avec k = nombres de paramètres à estimer. Le calcul étant effectué, on passe au test de significativité proprement dite. La première chose à faire consiste à formuler les hypothèses. Par exemple pour l'équation une de notre modèle,

H_0 (hypothèse nulle): C = 0 ⇒ paramètre non significatif ; cela veut dire que l'effet marginal du coefficient sur la variable dépendante est nul.
H_1 (hypothèse alternative) : C ≠ 0 ⇒ paramètre significatif.

Après la formulation des hypothèses, la valeur calculée de Student est comparée à celle lue sur la table de Student à un seuil de signification précis.

Si $t_{cal} > t_{lue}$, on rejette l'hypothèse nulle et dans le cas contraire on accepte l'hypothèse nulle et parallèlement l'autre hypothèse n'est pas prise en compte pour chaque cas.

- La statistique F de Fisher permet dejugerde lavaliditéglobaledumodèle. On émet les hypothèses suivantes:

H_0 (hypothèse nulle), stipule que tous les paramètres de l'équation sont tous nuls.

H_1 (hypothèse non nulle) stipule que tous les paramètres sont non nuls (au moins un paramètre est non nul).

Si la valeur de la statistique F obtenue est supérieure à celle lue sur la table de Fisher à un seuil de signification précis et à (k-1, n-k) degré de liberté ($F_{cal} > F_{lue}$), on conclut que lemodèle ainsi estimé est globalement significatif et que les variables explicatives véritables ont globalement une influence sur la variable endogène. Dans ce cas, on rejette l'hypothèse nulle et dans le cas contraire on l'accepte.

Les données utilisées pour la régression sont en annexe 11. Le résultat et l'interprétation de la régression par les MCO sont donnés au chapitre 4.

b) Interprétation du test de stationnarité

Nous allons présenter ce résultat pour chaque variable et l'interpréter. Il convient de rappeler que pour le modèle $y_t = a + p\, y_{t-1} + e$, si après régression de cette équation par la méthode des MCO (*Least Squares*) le coefficient de y_{t-1} est égal à 1 (p = 1), alors la variable y n'est pas stationnaire. Elle est stationnaire si p ≠ 1: c'est le test d'équation de DFA. Une autre possibilité de détecter la présence de racine unitaire est de comparer la valeur statistique du test de DFA aux valeurs critiques tabulées par Dickey et Fuller. Si la t-statistique associée à p en valeur absolue est supérieure à l'une des valeurs critiques, alors, la série est stationnaire. Au cas contraire, on dira qu'elle est entachée d'*unit root.* Les résultats de ce test sont présentés en annexe pour chaque variable.

En ce qui concerne les importations, Nous constatons que la valeur absolue du test statistique de DFA qui est égal à 3.195169 est inférieure à toutes les valeurs critiques à savoir 4.498307, 3.658446 et 3.268973 respectivement pour des niveaux de signification de 1%, 5% et 10%. Nous pouvons conclure que la série des importations n'est pas stationnaire.

De même que les importations, les exportations sont non stationnaires. La t- statistique de DFA 2.910749 est inférieure à toutes les valeurs critiques 4.374307, 3.603202 et 3.238054 respectivement à des niveaux de signification de 1%, 5% et 10%.

Il ressort de l'analyse du résultat du test de stationnarité du taux de change que la valeur du test statistique de DFA (1.759500) est inférieure à toutes les valeurs critiques à différents niveaux de signification. D'où la série de la variable taux de change n'est pas stationnaire.

Tout comme le taux de change, la variable inflation a une valeur statistique de DFA (2.345254) en dessous de toutes les valeurs critiques (4.356068, 3.595026 et 3.233456) correspondantes à des niveaux de signification respectifs de 1%, 5% et 10%. Cette série n'est pas stationnaire.

Quant aux IDE, la t- statistique de DFA (4.221143) est inférieure à la valeur critique correspondante au niveau de signification de 1% (4.356068). Pour ce niveau de signification, cette série n'est pas stationnaire. Pour les deux autres valeurs critiques, cette série est stationnaire. En somme nous déduisons que la série de la variable IDE est stationnaire aux niveaux de signification de 5% et 10%.

Les résultats du test de stationnarité du ratio d'ouverture montrent que cette variable n'est pas stationnaire.Le PIB par tête est une variable non stationnaire puisque le test statistique de DFA donne une valeur (2.942528) inférieure aux valeurs critiques tabulées.

Parvenu au terme des résultats et interprétations du test de stationnarité, il en ressort que toutes les séries (importations, exportations, taux de change, taux d'inflation, ratio d'ouverture et PIB par tête) ne sont pas stationnaires c'est-à-dire entachées d'unit root. Seule la variable IDE est stationnaire. Il convient de préciser que le test de co-intégration ne sera pas effectué ici car il a été prouvé scientifiquement que lorsque la taille de l'échantillon est inférieure à 100, le test de stationnarité devient une formalité. Par conséquent, la non stationnarité des variables n'impacte pas sur le résultat de la régression. Dans ce cas où le nombre d'observations est égal à 27, le test de stationnarité n'est pas nécessaire. Ce qui ne nous contraint donc pas à faire le test de co-intégration.

V. Résultat et Interprétation du Modèle

La régression par les MCO est une méthode qui permet d'estimer les coefficients d'une régression linéaire multi variée en minimisant la somme des carrés des résidus. Elle permet d'obtenir les estimateurs BLUE (Best Linear Unbiaised Estimators). L'équation à régresser est la suivante:

$$PIB = C(1) + C(2)OUV + C(3)IDE + C(4)X + C(5)M + C(6)INF + C(7)ECH + \varepsilon_1$$

Le modèle testé donne le résultat suivant par la méthode des moindres carrés ordinaires:

$$PIB = 1.583147488 - 1.183548078*OUV + 0.01168327105*IDE + 0.5052085285*X + 0.4871419174*M + 4.580944244e\text{-}007*INF - 0.05164824327*ECH$$

Ce résultat est présenté dans le tableau ci-dessous:

Tableau 2: Résultat de la régression par les MCO

Dependent Variable: PIB
Method: Least Squares
Date: 01/01/02   Time: 02:32
Sample: 1977 2003
Included observations: 27
Newey-West HAC Standard Errors & Covariance (lag truncation=2)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.583147	0.260131	6.085971	0.0000
OUV	-1.183548	0.096323	-12.28724	0.0000
IDE	0.011683	0.012583	0.928466	0.3648
X	0.505209	0.039835	12.68255	0.0000
M	0.487142	0.019274	25.27476	0.0000
INF	4.58E-07	0.000322	0.001424	0.9989
ECH	-0.051648	0.029909	-1.726821	0.1004
R-squared	0.995216	Mean dependent var		9.932086
Adjusted R-squared	0.993453	S.D. dependent var		0.084440
S.E. of regression	0.006832	Akaike info criterion		-6.893126
Sum squared resid	0.000887	Schwarz criterion		-6.509174
Log likelihood	101.0572	F-statistic		564.6304
Durbin-Watson stat	2.162060	Prob(F-statistic)		0.000000

Source: Tableau élaboré par l'auteur après l'analyse des données puisées auprès du World Development Indicators de la B M et de la BEAC.

S'agissant de cette régression, nous allons partir de l'interprétation globale à la particulière.

Nous allons tour à tour apporter des éclaircissements sur le coefficient de détermination, la statistique F de Fisher et la statistique de Durbin Watson.

La valeur obtenue après régression par les MCO du coefficient de détermination est de 0,995216. Nous savons que plus R^2 se rapproche de 1, meilleur est le modèle. Dans notre cas, $R^2 \approx 1$ .puisqu'il n y 'a pas multi colinéarité après son test réalisé. Cela signifie que le modèle est bien spécifié. Malgré le fait que ce coefficient soit proche de 1, il est toujours préférable, dans le cas de la régression multiple, de travailler avec le coefficient de détermination ajusté ($R^{2'}$). Ce dernier est égal à $0,993453 \approx 1$ pour ce modèle. Ce coefficient de détermination ajusté laisse entendre que les variables dépendantes (importations, exportations, taux de change, taux d'inflation, IDE et ratio d'ouverture) expliquent à 99,34% la variation du PIB par tête au Cameroun de 1987 à 2013.en absence du multi colinéarité

Précisons que si la statistique F de Fisher est supérieure à 10, alors le modèle est bon dans l'ensemble. Dans ce cas, le test de Fisher donne une valeur statistique de 564,6304 qui est largement au-dessus de 10. Nous concluons donc que le modèle tel que nous l'avions estimé est globalement significatif. En plus, les variables exogènes (M, X, INF, ECH, IDE et OUV) ont globalement une influence sur le PIB par tête.

Le test d'auto corrélation de DW permet d'étudier l'auto corrélation à partir de la loi de Thumb qui stipule que lorsque 2 < DW < 4, il y'a absence d'auto corrélation partielle. La statistique de DW obtenue est de 2,162060. Elle est comprise dans l'intervalle défini ci-dessus. Donc il y'a évidence d'absence d'auto corrélation partielle. Ceci est une bonne chose pour le modèle car en présence d'auto corrélation, les estimateurs des MCO ne sont plus efficaces.

Au total, Les tests d'ensemble révèlent que le modèle est bon, les variables globalement significatives et leurs estimateurs efficaces. Vérifions à présent si les tests individuels seront aussi intéressants.

Nous allons partir de l'interprétation de la statistique de Student à l'interprétation des coefficients des variables.

Ces valeurs sont lues sur la table de Student à un degré de liberté dl = 20 (dl = nombre d'observations n =27 – nombre de paramètres k =7)

Rappelons que si la valeur calculée de Student d'une variable est supérieure à la valeur lue à un niveau de signification précis, alors, le coefficient de cette variable est significatif.

En se basant sur la règle de décision, on constate que seuls les coefficients des importations et des exportations sont individuellement et statistiquement significatifs à différents niveaux de signification. Par contre, les coefficients des IDE, de l'inflation, du taux de change et de l'ouverture commerciale ne sont pas individuellement et statistiquement significatifs. Mais en mettant un accent particulier sur les probabilités des variables, il ressort que les variables importations, exportations et ouverture ont des coefficients individuellement significatifs car la probabilité de chacune d'elles (0,0000) est inférieure aux niveaux de signification de 1%, 5% et 10%. Les coefficients des IDE, de l'inflation et du taux de change restent non significatifs au regard des probabilités.

Le coefficient des importations (0,487142) est de signe positif. Cela signifie que les importations des biens et services ont une influence positive sur la croissance économique. Donc toute augmentation des importations d'une unité entraîne, toutes choses restant égales par ailleurs, un accroissement de la croissance économique de 0,4871 point. En d'autres termes, plus on importe, plus la croissance est stimulée. Cette situation peut s'expliquer par le rôle primordial que jouent les importations sur l'économie du Cameroun (pallient aux insuffisances alimentaire, énergétique, luttent contre la hausse excessive des prix qui sévit par moment au Cameroun etc).

Le signe positif du coefficient des importations n'est pas celui présagé car nous avons au préalable tout comme Mankiw pensé que les importations massives rendaient la balance commerciale déficitaire et de ce fait, jouaient négativement sur la croissance économique. Mais il s'avère que l'importation de produits étrangers moins onéreux permet une baisse des prix favorable au pouvoir d'achat. Dès lors les entreprises peuvent diminuer les salaires nominaux (sans réduire le salaire réel) et donc rendre le travail plus compétitif, favorisant l'essor de l'industrie résidente et donc en définitif l'emploi.

Les exportations quant à elles ont un coefficient de signe positif qui correspond bel et bien au signe attendu. Ce coefficient de 0,505209 laisse entendre que lorsque les exportations augmentent d'une unité de point, le PIB par tête augmente aussi de 0,505209 point. Ceci implique que les exportations et la croissance économique évoluent dans le même sens. Autrement dit, elles influencent positivement la croissance économique au Cameroun. Cet effet positif est aisément compréhensif aussi longtemps que les exportations continueront à améliorer l'emploi des facteurs de production disponibles, à étendre les dotations de facteurs et à assurer les effets de liaison au Cameroun. Ce résultat est similaire à celui de Girard qui a montré que la Syrie et la Tunisie vérifient l'hypothèse de croissance tirée par les exportations.

Contre toute attente, le coefficient du ratio d'ouverture est négatif. Ce coefficient qui est de – 1,183548 traduit la relation négative entre l'ouverture commerciale et la croissance économique. Bien

qu'étant négatif, le coefficient du ratio d'ouverture est significatif car l'une des conditions sine qua none imposée par les bailleurs de fond pour accorder leur aide financier au Cameroun a été la libéralisation des échanges.

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Determinants of Foreign Direct Investment Inflow in Tanzania

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Abstract- This study analyzes the determinants of foreign direct investment inflow in Tanzania. The paper used the annual time series data which covered the period between 1990-2015. With the help of E-views 7 software, this study used the Ordinary Least Square (OLS) estimation methods to examine the relationship between foreign direct investment inflow and its determinants which were selected in the sample of the study. Unit roots test by using Augmented Dickey Fuller test was also employed in this study to see stationary and non-stationary of the variables that is if the variable has the unit root or not. Data collected from the World Bank Development indicators. Market size, trade openness, inflation rate and exchange rate are among of the selected sample variables in this study. The results found that exchange rate is a major determinant of foreign direct investment inflow into Tanzania and this indicates that the fluctuated exchange rate policy adopted by the country increases the inflow of foreign direct investment in the country. Therefore, the policy makers and responsible authority should continue to adopt effective policy measures so as to attract more foreign investors. The market size was found to be significant but with the negative sign which indicates that the small market size discourages the inflow of foreign direct investment in the country. The government needs to make more effort in the expansion of the market size in order to attract more foreign investors. Trade openness and inflation rate were found to have insignificant relationship with foreign direct investment inflow in the country.

Keywords: FDI, foreign direct investment, ordinary least square (OLS), unit root and Tanzania.

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Determinants of Foreign Direct Investment Inflow in Tanzania

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Abstract- This study analyzes the determinants of foreign direct investment inflow in Tanzania. The paper used the annual time series data which covered the period between 1990-2015. With the help of E-views 7 software, this study used the Ordinary Least Square (OLS) estimation methods to examine the relationship between foreign direct investment inflow and its determinants which were selected in the sample of the study. Unit roots test by using Augmented Dickey Fuller test was also employed in this study to see stationary and non-stationary of the variables that is if the variable has the unit root or not. Data collected from the World Bank Development indicators. Market size, trade openness, inflation rate and exchange rate are among of the selected sample variables in this study. The results found that exchange rate is a major determinant of foreign direct investment inflow into Tanzania and this indicates that the fluctuated exchange rate policy adopted by the country increases the inflow of foreign direct investment in the country. Therefore, the policy makers and responsible authority should continue to adopt effective policy measures so as to attract more foreign investors. The market size was found to be significant but with the negative sign which indicates that the small market size discourages the inflow of foreign direct investment in the country. The government needs to make more effort in the expansion of the market size in order to attract more foreign investors. Trade openness and inflation rate were found to have insignificant relationship with foreign direct investment inflow in the country.

Keywords: FDI, foreign direct investment, ordinary least square (OLS), unit root and Tanzania.

Chapter One

I. Introduction

a) Background of the Study

Foreign direct investment is one of the key drivers of economic growth of a country as it can assist the transfer of new technology and also increase the domestic capital formation. Foreign direct investment strengthens the export capabilities of domestic economies and facilitates access to export markets (Ngowi, 2001). The presence of a foreign direct investment in the host country increases competition and thus encourage greater efficiency for domestic firms. It provides also good technologies and modern environment management system and enhances skills and management techniques (Mwega, 2007). Foreign direct investment has been considered as external sources of finance for under developing countries like Tanzania when the domestic resources are limited to finance development requirement (Asiedu, 2002).

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There are several development challenges faced by most African countries including Tanzania and one of the challenges is to influence foreign direct investment inflow into the country. Despite the number of efforts that have been put forward by most African countries in the past to boost foreign direct investment inflow, did not make any significant impact. The reason for being unsuccessful was a failure to confront challenges posed by the globalization process towards foreign direct investment attraction to the country (Onyeiwu and Shrestha, 2004). Foreign direct investment requires a long run commitment as it include very high sunk costs and it is very difficult in a short term for foreign direct investors to recover their initial investment if there is a quick risk change that is related to their location. Therefore, the decision of foreign direct investors to enter into a host country mainly relies on the investment environment (Wheeler and Mody, 1992).

The flow of private capital in the form of foreign direct investment was among the main features of globalization in the 1990s. Foreign direct investment can also reduce balance of payments restrictions on growth as it acts as the source of foreign exchange as well as supplement the domestic investment resources. Many countries especially developing countries by considering foreign direct investment its economic benefits and importance for promoting economic growth, new national policies have been formulated so as to encourage more foreign direct investors. Better environment for investment is required to attract foreign capital in the country.

In most African countries, the improvement of investment climate has been influenced by recognition of foreign direct investment benefits over the past decades as it was considered as the key component for economic integration of the country and a source of finance for capital investment. Foreign direct investment became the key and more stable external source of finance compared to portfolio flows in most African countries. This has been proved by both theoretical and empirical studies which have been documented the positive significant impact of foreign direct investment inflows on economic growth of the country (Alfaro, 2003).

There are various significant steps that have been undertaken by Tanzania government to attract foreign direct investment. In order to support the investment related objectives, FDI specific regulatory

frameworks have been adopted by Tanzania. According to United Nations Conference on Trade Development (UNCTAD), FDI specific regulatory framework has been established in 45 countries out of 50 in Africa and the changes include the establishment of the specialized scheme to attract investment such export processing zones (EPZs) and setting up of investment promotion facilities and agencies. Some African countries also signing an international investment agreement such as double taxation and bilateral investment treaties.

In the late period of 1980's and 1990's due to an adoption of economic liberalization policies, Tanzania was planning to use the private sector as the main key factor of economic development. In order to attract foreign direct investment inflow in Tanzania, the government set up the investment authority namely Investment Promotion Centre (IPC) in 1990. Investment Promotion Centre was operating for seven years until 1997 after the government changed to Tanzania Investment Centre (TIC) which acts as the primary agency of the government for promoting, encouraging, coordinating and facilitating investments environment in the country.

The aim of promoting investment was to reduce the level of poverty, to sustain the economic growth and to stimulate the smooth and favorable integration of country's economy into the global international economy. Tanzania has also been struggling to establish the openness clear policy to foreign investment that can create a better environment to invest for the development of the country (Tanzania Investment Report, 2009).

There are many benefits that foreign direct investment offers to host countries and therefore policy makers are naturally interested in knowing the foreign direct investment determinants or in other words what factors attracting FDI. According to Alfrao (2003), many academics and policy makers are suggesting that foreign direct investment can have important positive impacts on a host country is development effort. Several studies demonstrate factors that influencing the inflow of foreign direct investment but this study is different in a sense that it will help the policy makers in Tanzania to determine the factors influencing FDI inflows, difficulties faced by most countries to attract more foreign direct investment and solution to address the issue and to achieve the intended objectives.

b) Problem Statement

Foreign direct investment plays important role in bringing innovative technology, marketing techniques, up to date management and encouragement of national economic development. Foreign direct investment in East African Countries can never be underestimated (Mwega and Ngugi, 2007). Despite the efforts done by the government of Tanzania on creating jobs, alleviating poverty and growing the economy but still there is little

emphasis on definitive policy to create lucrative packages that would attract more FDI inflow. According to African Trade Policy (2005), foreign direct investment could push domestic firms into bankruptcy due to increased competition or could lead to loss of political sovereignty and environmental degradation.

Moss, Ramachandran, and Shah (2004) argued that much of African doubt toward foreign direct investment is rooted during post -independence period, history and ideology.

The role of foreign direct investment as the source of finance has increasingly become important to Tanzania government as the income level and domestic saving in the country are very low and therefore more external funds is needed to boost domestic savings so as to encourage investment and economic growth. Also for local Tanzanian entrepreneurs, foreign currency inflows from foreign direct investment have become a major concern as the high inflows of funds from foreign investors gives them a competitive edge in the economic activities of the country. This is because foreign direct investors are considered as the part of the large international organization with a huge capital base as in any form of market competition they are capable of pulling in more funds for the means of subsidizing operations.

Most African countries rely on two forms of foreign finance that are official loans such as the loan from World Bank and foreign direct investment because most they do not have entrance to the global international capital market. Since most foreign investors have a wide choice of locating their investment in developing countries, to attracting more FDI inflow depends on country's ability to provide a competitive factor of production such as labor and favorable foreign direct investment regime.

Most of the countries around the world have tried to make their investment environment-friendly for absorbing global opportunities by influencing more foreign investable funds into the country over the recent years. Foreign direct investment inflow determinants have become an important topic not only for policy makers and the government but also for academic researchers and this has arisen due to the failure performance of the previous policies which have been implemented to attract more foreign direct investment in the country. According to (Pigato, 2000), most foreign investors desire those countries or locations that are able to improve the quality of their productive factors, tackling competition, providing steady and clear rules for private businesses over time. Even though in most African countries there has been a significant improvement of foreign direct investment policy regime but still have not been significant enough to influence more foreign direct investment in larger shares.

The effort made to attract foreign investors in Tanzania has been ineffective. The investments authority

and institution that supporting foreign direct investment in Tanzania are weak, fragmented and uncoordinated as their services are quite basic which mainly focusing on short term basis. (Tanzania Investment Report, 2001), foreign direct investment inflows into Tanzania had not been given the attention they deserved as the lack of timely and reliable data on foreign capital inflow in the country making the evaluation and implementation of the macroeconomic policies that are related to capital inflow ineffective. The investment authority although have targeted many developed countries by extending their services but still their coverage has remained minimal and therefore much effort is needed to attract foreign direct investment so that at the end the country through FDI will attaining sustainable development.

According to African Trade Policy Centre (2005) for African countries to achieve the Millennium Development Goals set by the United Nations too many efforts are needed in improving economic policies so that to increase the macroeconomic level performance and reach the minimum economic growth rate. The sustainable economic growth and development in the country can be achieved through an increase in investment level by mobilization of both domestic and international financial resources. As the result of low share of African countries in global international trade, high risk of short term capital flow, the unpredictability of foreign aid inflow, at least in a short run the desired increase in investment has to be achieved through an increase in foreign direct investment inflows.

c) *Objectives of the study*

  i. *Main objectives of this study*
- To examine the determinants of FDI inflows in Tanzania
- Suggesting policy recommendations based on study findings.

  ii. *Specific objectives of this study*
- To examine the relationship between openness to trade and FDI inflows.
- To examine the relationship between exchange rate and FDI inflows.
- To examine the relationship between inflation rate and FDI inflows.
- To examine the relationship between market size and FDI inflows.

d) *Significance of the study*

This study is important as Tanzania have experienced a declining trend of foreign direct investment inflow over the years (UNCTAD, 2005). This study seeks to evaluate the determinants of FDI inflows and to see which factors are most significant in attracting FDI inflow into Tanzania. The study will also shed more light on the current state of the economy in Tanzania for foreign investors especially for those contemplating entry into the Tanzania market and also

provide useful understanding for current foreign investors operating in the country. This will helps investors when wants to make their investment decisions. The findings of this study will also make a significant contribution to knowledge for both the readers and policymakers as it identifies the role foreign direct investment inflow into Tanzania economy and Africa in general.

The study will also prevent the policymakers from wastage of resources by putting too much effort on unnecessary areas to attract foreign direct investment as the results will be used as the source of information for designation and implementation of national policies. Furthermore, this study will help Tanzania Investment Authorities to review their regulation and laws based on the results of this study so as to cope with the reality.

In order to achieve the outlined objectives, this study uses the extensive secondary method of research. The study utilized various data obtained by other scholars of the study. In short, by conducting this study readers and policymakers will be able to understand more about factors influencing foreign direct investment inflows into Tanzania.

e) *Scope of the study*

The main focus of this study is to make the investigation on the factors that attract foreign direct investment inflow into Tanzania over the period of 1990-2015. The reason for this chosen range of study was due to the fact that Tanzania has experienced a decline in the amount of foreign direct investment inflows even though various macro economics programs and reforms have been implemented by the government so as to promote and attract foreign investors to come and invest in the country. Also, this period of study is more beneficial especially for potential investors as they will have a critical look at the investment environment before taking the decision of investing or doing business in Tanzania. The data in this study were collected from different sources including the World Development Indicator which acts as the primary World Bank database.

f) *Limitations of the study*

One of the limitations of this study was lack of fund which makes the study to rely on secondary data as the collection of primary data needs more money and time. In reviewing literature, this research faced the problem of accessing journals with relevant materials as some websites could not be accessed as they were secured. Some journals, subscriptions were made so as to gain access to materials needed. The study also faced a big problem in acquiring the software used for data analysis and it took time (a month) for the researcher to learn the software and apply it to the work hence the timely aspect of the work was delayed. Another limitation faced by this study was the absence of specific data for some of the variables such as market

size and trade openness which made the researcher to use the proxy data to estimate these variables. Sometimes the use of proxy in the empirical tests may lead to inaccurate results. In this study, only four variables were included due to some reasons such as unavailability of data, limited time, among others but still, there are many macro economic variables which are influencing foreign direct investment inflow into the country and the inclusion of many variables will help in providing more accurate results of the research.

g) Organization of the study

This study is organized into six chapters in which the first chapter starts with the introduction part then followed by problem statement, objectives of the study (both the main and specific objectives), the significance of the study, scope of the study and organization of the paper. The purpose of this paper is to examine the relationship between trade openness, inflation rate, exchange rate and market size with foreign direct investment inflows into Tanzania. The second chapter discusses the economic background of Tanzania which includes some economic indicators such as export, imports, inflation rate, GDP per capita, foreign direct investment inflows, GDP annual growth rate and openness of the economy in doing business. The literature review which includes both theoretical and empirical review is being discussed in the third chapter. In this chapter, the study tries to provide the evidence from the other previous research regarding the determinant of foreign direct investment inflow both theoretical and empirical. The fourth chapter describes the model specification, estimation methods used and different sources in which the data for the variables have been collected. The fifth chapter discusses the

estimation results and interpretation of the findings. Lastly, chapter six includes the conclusions, relevant policy recommendation to be adopted by policy makers and government in general and suggestions to be considered for future researchers.

Chapter Two

II. Tanzania: Economic Overview

a) Introduction

Tanzania is the twelve largest economy in Africa and second largest in East Africa. The economy of the country largely depends on agriculture mainly for employment which accounts about 65% of the employed workforce and also provides about 85% of export. There has been a transition in the economy since 1985 from command to market economy. Important measures have been taken by the government in the liberalization of Tanzania economy since 1986 so as to encourage both foreign and domestic private investment. Tanzania also sustained its economic growth rates through the making of significant economic and structural reforms with the help of World Bank, International Monetary Fund and others partners over the last decades.

b) Easiness of doing business

In 2016, Tanzania has been ranked 132 among 190 economies in the ease of doing business compared to 144 ranks in 2015. It estimated an average of 133.63 during the year 2008-2015 for ease of doing business in Tanzania in which the low record was 125 in 2010 and the high record of all the time was the average of 145 in 2013. These data is according to the latest World Bank annual ratings.
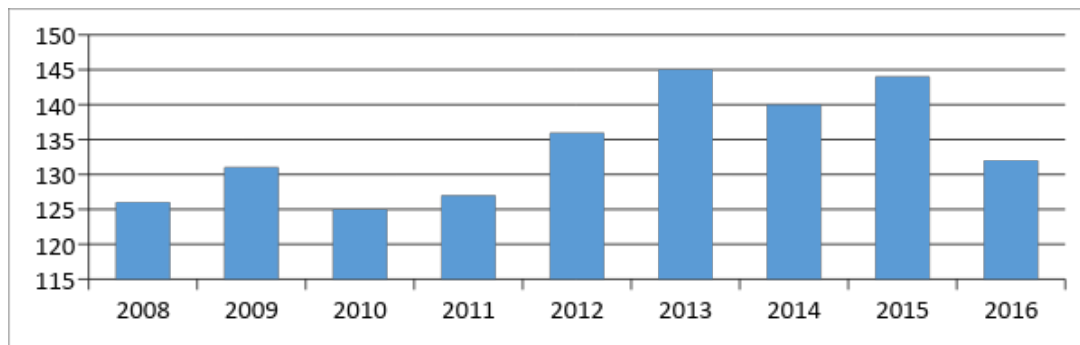

Source: World Development Indicator (2017)

Figure 1: Ease of doing business in Tanzania (2008-2016)

c) GDP Annual Growth Rate

Tanzania GDP has been increased year by year over the last decades. It estimated an average annual growth rate of 6.70% from 2002-2016 in which 2.60% was the low record in 2009 and the high record of all the time was 11.90% in the first quarter of 2007. In 2015 the GDP growth was 5.75% in which Agriculture, mining and quarrying, real estate, education were the main sectors that led to its growth. National Bureau of Statistics (NBS)

in Tanzania is responsible for reporting the GDP annual growth rate.
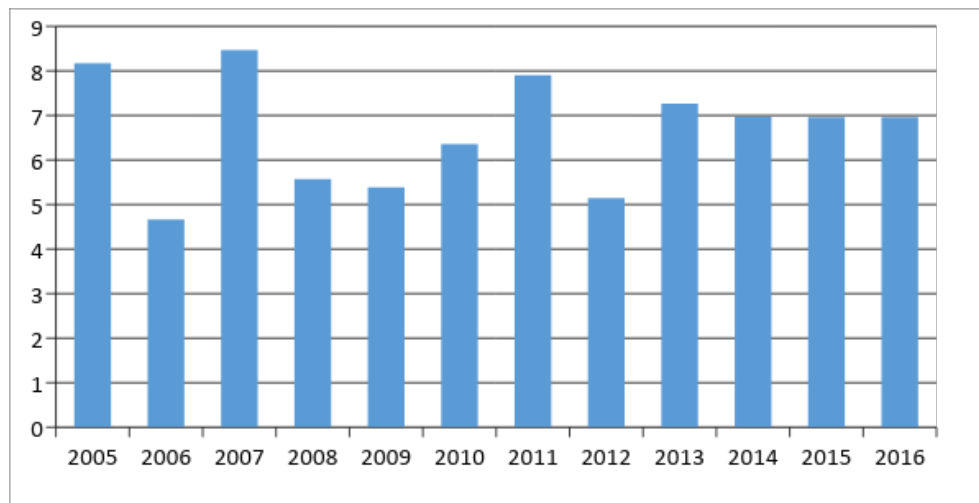
Figure 2: Tanzania GDP Annual Growth Rate (2005-2016)

d) GDP per Capita

In Tanzania, about US$872.294 was last recorded as the Gross Domestic Product per capita in 2015. It estimated that about 7% of the world average is equivalent to the GDP per capita in Tanzania. In 1994 according to the World Bank report, Tanzania record low GDP per capita with the average of US$159.636 and the high average of all time of US$872.294 in 2015. The GDP per capita average estimated from 1988-2015 in Tanzania was US$582.20. World Bank is responsible for reporting GDP per capita in Tanzania.
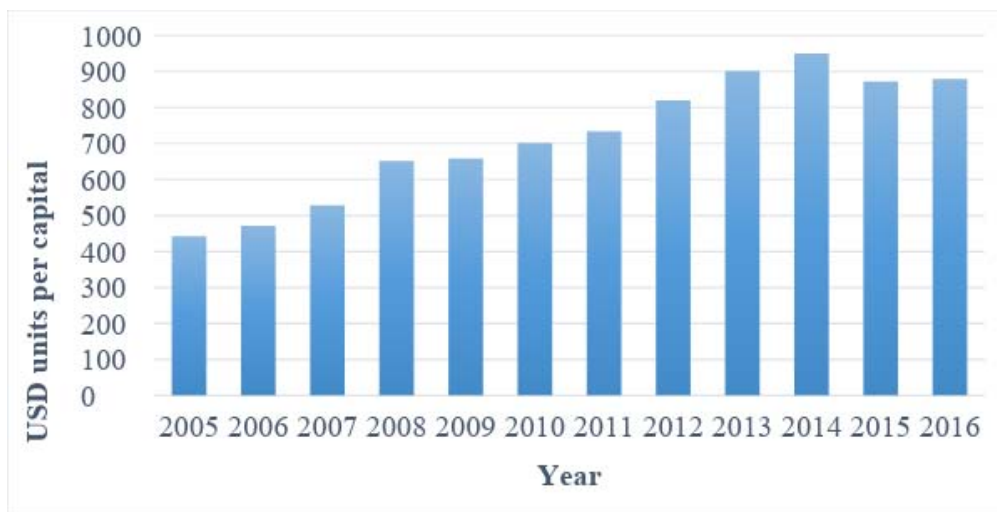
Figure 3: Tanzania GDP per capita (2005-2016)

e) Imports

It estimated an average of US$834.65 million that Tanzania imports for the period of 2006-2016 in which the low record was US$89.30 million in 2006 and the high record of all time were US$1339.30 million in 2011. In 2016 the average was increased to US$1030 million. Tanzania main partners countries for imports include China, India, Kenya, South Africa, UAE and among others. The imports mostly based on machinery, construction materials, oil, fertilizers, consumer goods and transport equipment.
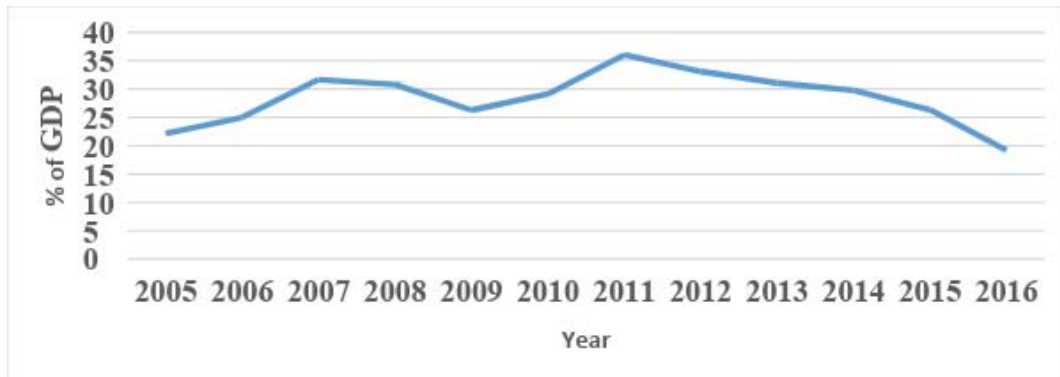
Figure 4: Tanzania Imports (2005-2016)

f) *Exports*

In the period of 2006-2016, Tanzania's export average was about US$533.69 million. A low record was an average of US$228.70 million in 2006 and the high record of all the time was an average of US$995.30 million in 2016. Tanzania main partner countries for exports include Japan, India, UAE, Netherlands, German and China. Agriculture commodities are the main exports for Tanzania and it includes tea, tobacco, cashew nuts, coffee, cotton and among others.
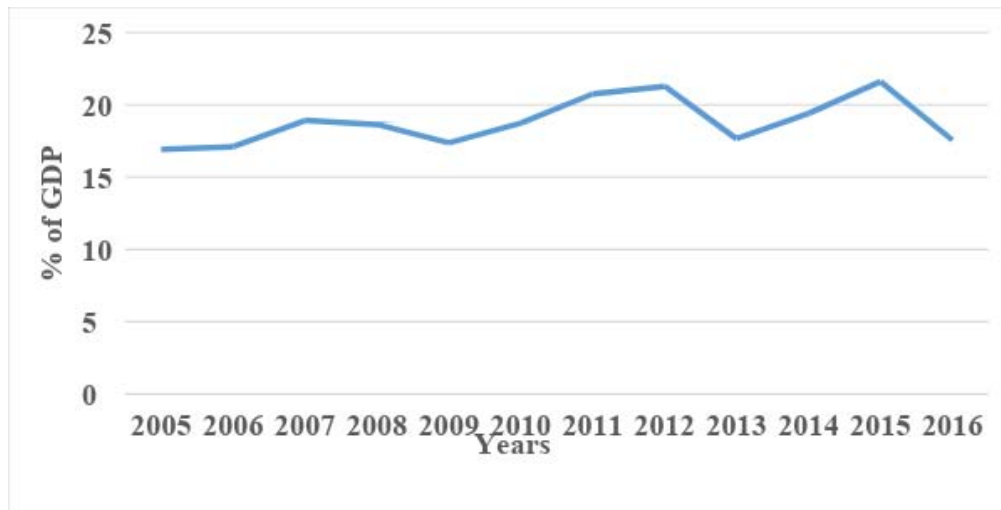
Figure 5: Tanzania Exports (2005-2016)

g) *Inflation*

Most countries including Tanzania measured inflation rate by looking at the consumer price index changes in percentage from one year to another year. The inflation rate around 2-3 percent per year considered to be very low to cause any problems for household and businesses in general so countries try to keep inflation somewhere around these percent. In 2015 the inflation value was 5.59% (consumer price annual %) and the high value of inflation of 36.15% in 1984 was the maximum value over the past 49 years and the minimum value was 3.49 % in 1970.
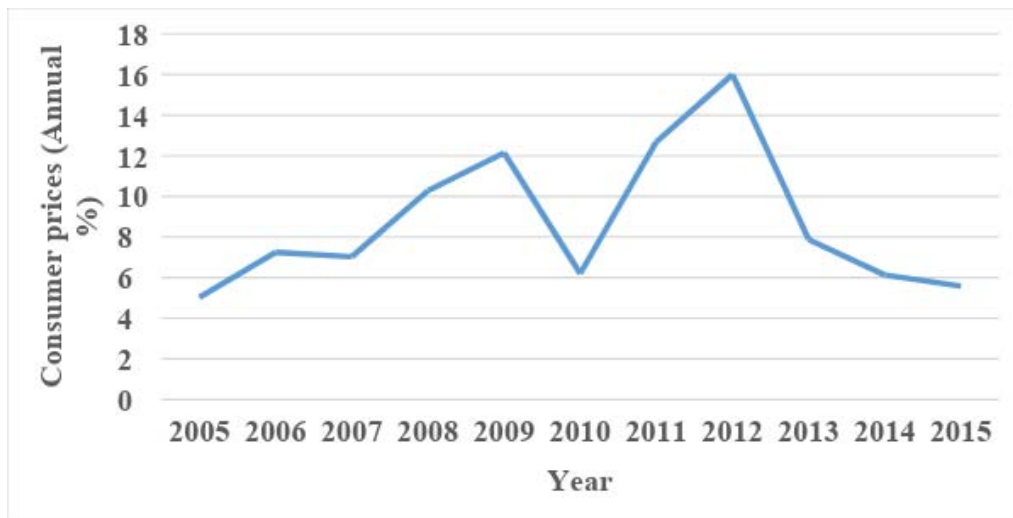
Source: World Development Indicators (2017)

Figure 6: Tanzania Inflation rate (2005-2015)

h) FDI Inflows

There is a decrease of foreign direct investment inflow by 34 percent in Tanzania in 2015 from US$2.04 billion in 2014. In East Africa, Tanzania still remained the first receiver of foreign direct investment over the past two years. Recently due to the discovered of natural gas, the investment in Tanzania has largely increased across the country. South Africa, United Kingdom, Canada, and China are the most providers of foreign direct investment in Tanzania.

Source: World Development Indicators (2017)

Figure 7: Tanzania FDI net inflows (2005-2015)

Chapter Three

III. Literature Review

a) Introduction

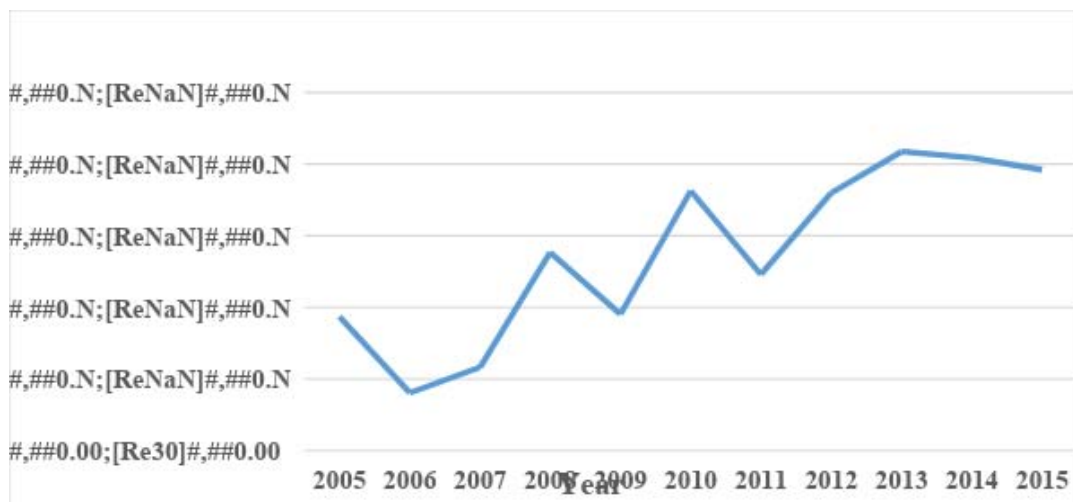Several theories have explained the reasons why firms choose to locate in certain geographic areas but the lack of generally accepted theoretical framework has led many researchers to rely on empirical evidence for describing FDI's emergence. (Hymer 1960, Caves 1982 and Ajayi 2006) argue that there is no agreed model providing the basis for empirical work even if there has been considerable theoretical work on foreign direct investment.

b) Determinants of FDI: Theoretical overview

i. Eclectic Paradigm Theory

A most popular conceptualization and theoretical framework for determinants of foreign direct investment is the 'Eclectic Paradigm Theory' assign to Dunning (1993). It provides a framework for explaining and analyzing the determinants of international production. The framework proposes that firms invest abroad to look for three sets of advantages namely; Ownership advantage, the Internalization advantage, and the Location advantage. Location advantage theory provides a framework using three main categories that are economic, social or cultural factors and political

environment to identify important variables that attract foreign direct investment. Regardless of the disadvantage of being a foreign firm, Ownership specific advantages allow the firm to compete with others in the market it serves because it is able to have access to and exploit and export the resources based products and natural resources. Internalization advantage emerges from exploiting imperfection in the external market including reduction of transaction costs and uncertainty so as to generate knowledge effectively more together with the reduction of state generated imperfection such as foreign exchange control, tariffs, and subsidies.

Dunning (1998) also identified four types of motives for foreign direct investment that is resources seeking, market seeking and efficiency seeking. The market-seeking is concern about market growth, market size and per capita income which means that foreign direct investment is expected to go to those host countries that have high per capita income, large market size, and market growth. Resources -seeking means investors tend to invest their businesses abroad where there is the availability of cheap labor, raw materials, and natural resources in order to reduce the cost of production. Investors seek to maximize profit, therefore, FDI efficiency seeking is more likely to bring in technology and know-how which is well matched to the level of development of the host country so as to enable competitors and local suppliers to benefit from imitation and adaptation.

ii. *Product life cycle theory*

Product life cycle theory (Vernon 1966) gives a clear understanding on how and why export is replaced by foreign direct investment. The theory provides the significant contribution for the analysis of FDI as it analyzed four production stages that beginning with the creation of new product. His work was based on the United States companies for the domestic market and later on moved to international market. He tried to understand the reason for companies to shift to the international market and international investment. At the initial stage, firms try to focus more on the domestic market and when the product get matures, firms start exporting to developed countries. Firms standardized its product when the demand increases and in this stage, companies think to expand more of its production in less developed countries. Labour cost, transportation, economies of scale are among of determinant factors for location choice. According to Vernon, not only low-cost location is leading firms to decide and invest in other countries as he argued that any threat to the companies can be seen as the stimulating forces for the action.

iii. *Internalization Theory*

The functions and existence of Multinational companies have been briefly explained by Buckley and Casson in 1976 who has developed the theory called Internalization Theory. According to his theory, some transaction costs can be reduced by producing within a company rather than between companies, in other words, internalized operations. Through this, the return on assets (ROA) of the company will increase with fewer costs. The other reason of internalization is to replace the external markets which are imperfect. For example, Multinational companies from developed countries invest in developing markets where there is lack of skilled personnel. According to Krugman (2003), sometimes internalized operation may create conflict between buyer and producer especially when each party has the monopoly position and different ideas on product price setting.

iv. *Early Neoclassical Theory*

According to this theory of foreign direct investment, multinational companies (MNCs) relocate to capital-poor and backward technology countries from capital rich and advanced technology countries. Early neoclassical work on foreign direct investment allows the movement of international capital as the theory simply assume that the outflow of capital from a labour scarce and capital surplus economy like the United States to a labor surplus and capital scarce economy like Mexico will eventually lead to the development of both economies through equalization of interest and wages.

v. *Other Theories*

Aliber (1970) presented his theory of foreign direct investment on the basis of the strength of different currencies. It is one of the early attempt to explain foreign direct investment on the basis of the strength of currencies. Aliber forwarded his theory in term of currencies strength differences in host and source country. He suggested that in order to take advantage of the market capitalization rate, weaker currencies when compared with stronger investing country currencies, has higher opportunity to attract foreign direct investment. After tested his hypothesis he found the result to be constant with United States, United Kingdom, and Canada. Also the recent theoretical model of economic geography discussed by Amiti and Wei (2005) and Head and Mayers (2001) as quoted by Castro et al, (2007) which tries to explain the spatial location of foreign direct investment assume that Trans National Corporation (TNC) decides to locate its investment on certain province depending on some characteristics ofthat province in affecting firm's revenue or costs such as market size, income per capital, skilled labour, availability of public infrastructures and among others.

Also, other theoretical models which described the importance of foreign direct investment to the host country includes the Solow growth model as it suggests that foreign direct investment allows host country's

economies to increase investments which are higher than local saving and hence stimulating capital formation. This theory also explains that foreign direct investment has a positive impact on economic growth in a long term but only limited in a short run due to marginal diminishing returns to physical capital as the economy of the country would experience stable growth rate and appear as if foreign direct investment did not take place with no significant impact on growth (De Mello, 1999). The endogenous growth models also explain that it is important to improve technology, efficiency, and productivity in order for the foreign direct investment to be beneficial to growth the rate in generating the increased return through spillovers and externalities (Barro and Sala Matrin, 1997).

In short compared to other mainstreams theories such product life cycle theory, internalization theory etc. OLI theory provides more a comprehensive explanation of foreign direct investment as the theory combine ownership specific, location specific and internationalization factors to provide logic and benefits of international production. According to Shenkar (2007), the eclectic theory is still able to explain the patterns of foreign direct investment despite the difference of the modern multinational enterprise behavior and the international business environment from what they were in several decades ago. Therefore the empirical part of this study mainly relies on OLI paradigm theory as it is most recent and covers all the mainstream theories of foreign direct investment. In addition to that, the benefit of using Dunning's theory as the framework for empirical studies of foreign direct investment is due to its flexibility as it allows different factors to be considered as determinants of foreign direct investment depending on the investment decision of multinational enterprises.

c) Determinants of FDI: Empirical Overview

There have been many empirical studies on the determinants of foreign direct investment covering various scope. Researchers have used different sample countries, period, variables and methods in examining the factors that attract foreign direct investment. Some studies in order to get a deeper understanding of the factors influencing foreign investors decisions used macro firm level data while others have tried to look into bilateral foreign direct investment flows between countries. Also, some studies tried to look at whole or aggregate foreign direct investment inflows into a host country or a panel data of countries. The use of different methods or approaches mainly depended on the availability of data, time etc. Scholars tested different variables such as market size, trade openness, inflation, exchange rates, infrastructure, government policies, natural resources among others to see whether these variables have positive or negative significant or insignificant effect to FDI inflow into the host country but

some of their empirical results are conflicting each other. The aim of this study is not to resolve the conflicting empirical results but to examine the extent to which the variables that were included in previous studies explain the difference in foreign direct investment for my sample and analyze whether these variables have the different effect on FDI inflow into Tanzania.

i. *Trade Openness*

Several empirical studies find that country with higher degree of trade openness attracts more foreign direct investment. Chakrabarti (2001) found that openness to trade which is measured by imports plus exports to GDP has been positively correlated with foreign direct investment. For a sample of 29 African countries, Morisset (2000) found a positive and significant correlation between the investment climate and trade openness. Bende-Nabende (2002) by studying the most factors that significantly influence long-term investment decision process of investors in 19 SSA countries found that trade openness, market growth and liberalization as the most important long-term determinants of FDI.

Kandieru and Chitiya(2003) also found that there is a significant relationship between FDI inflows and openness to trade after analyzing the impact of openness on foreign direct investment in 51 African countries. Salisu (2003) found that trade openness has the positive and significant effect on foreign direct investment in Nigeria. Asiedu (2002) also comes to the same conclusion for SSA countries by using import and export to proxy openness to trade. Vijayakumar et al. (2010) found that trade openness has a significant impact on FDI inflows into BRICs. Therefore the empirical evidence supportsthe openness to trade as an important determinant of FDI inflow.

ii. *Exchange Rate*

The exchange rate has also been considered to be an important variable in determining the inward foreign direct investment into a country. Kandiero and Chitiga (2014) found a negative correlation between foreign direct investment inflows and real exchange rate appreciation after examined 38 African countries. Coleman and Tettey (2008) tried to examine the relationship between exchange rate volatility and foreign direct investment inflows in Ghana. Their empirical results found that volatile exchange rate has a negative effect on FDI inflows which means that volatility of exchange rate which is a measure of risky reduces the inflow of foreign direct investment into the country. They conclude that exchange rate plays an important role in attracting foreign direct investment. Also in the analysis of 11 Sub Saharan African countries (Yasin, 2005) found that exchange rate has a positive and significant effect on FDI flows. Bende-Nabende (2002) after investigating the macro locational determinants of foreign direct investment for the case of 19 SSA countries his findings

suggested that the real effective exchange rate hasa positive co-integration with the inflow of foreign direct investment.

Another recent study done by Vijayakumar, Sridharan and Rao, (2010) when tried to examine the factors influencing the inflows of foreign direct investment into BRICs countries found that currency value is among of the important factor of FDI inflows.

iii.   *Inflation*

As foreign companies enter into a long-term contract in the host country, high rate of inflation can be a cost of doing business. Foreign firms may lose out when actual rate of inflation turned to be very different from the anticipated rate of inflation as their purchasing power declines. Hailu (2010) found that high rate of inflation has a negative effect on attracting inflows of foreign direct investment. Twimukye (2006) also found that high rate of inflation has a negative relationship with foreign direct flows into Africa. Naude and Kruggell (2007), as well as Onyeiwu and Shrestha (2004), found that inflation is among of the significant variable which attracts foreign investors who want to invest in Africa.

Low level of inflation has a positive impact on foreign direct investment flows into Sub Saharan Africa according to the finding from (Asiedu 2006). Also, Nonnemberg and Mendonca (2004) found that there is a correlation between foreign direct investment and level of inflation in developing countries as the country with a low level of inflation is likely to attract more foreign investment inflows because it indicates an economy has sound macroeconomic policies. Wadhwa and Reddy (2011) focused on three motives of investment in examining the determinants of foreign direct investment in 10 Asian countries and results suggest that efficiency seeking factors which include inflation positively affect FDI inflows.

iv.   *Market Size*

If foreign investors want to sell their products in the host country, large domestic markets are found to be important in encouraging the inward of foreign direct investment. Market seeking foreign direct investment has been increased over the years. In African countries due to increase in population as well as economic growth become an incentive for foreign companies to make market seeking investment in the continent. Ezeoha and Cattaneo (2012), as well as Asiedu (2006), found that large local market issignificant in encouraging foreign direct investment into SSA countries. Tarzi (2005) who made a research on foreign direct investment into developing countries found that market size is considered to be an important factor for foreign investors. Any anwu (2012) found positive relationships between market size and flow of foreign direct investment into Africa which was measured by using urban population size.

Mohamed and Sidiropoulos (2010) also found that the size of the economy attracts foreign direct investment flows into the Middle East and North African (MENA) by using the panel of 36 countries. Nabende (2002) finds that in Sub Saharan African growing markets are the long run- determinant of foreign direct investment based on analysis of 19 countries. Chakrabarti (2001) after investigating the determinants of foreign direct investment in developed and developing countries conclude that market size of the host country measured by GDP per capita has a positive and significant impact on FDI. Vijayakumar, Sridharan and Rao (2010) the annual data set to examined the factors determining the inflow of foreign direct investment into BRICs countries and they found market size to have a positive significant impact on foreign direct investment inflow into those countries and also similar results have been obtained by Ranjan and Agrawal (2011) who studied the same issue in BRICs countries.

d)   *Other determinants of FDI*
    i.   *Infrastructure*

Infrastructure is also among of the important factor that influencing FDI flows in the host country as it reduces the operating costs of doing businesses. Bartels, Alladina, and Lederer (2009) find that infrastructure is one of the motivating factors that encourage FDI inflow in Sub Saharan African countries and also the study conducted by Asiedu (2006) find the similar result to the same countries. In addition, in order to cut down the transaction costs faced by foreign investors, the host country government needs to improve the quality of its infrastructure as Dupasquier and Osakwe (2006) find that one of the reasons Africa to receive low levels of foreign direct investment compare to other developing countries is due to poor infrastructure. Not all researchers, however, find infrastructure to be a significant factor. Onyeiwu and Shrestha (2004) after examining 29 African countries found that infrastructure has an insignificant impact in attracting FDI flows. They find that factors such as natural resources, openness to trade and other macroeconomic factors may be more significant to attract foreign investors.

    ii.   *Natural Resources*

There are several studies found natural resources to be one ofthe factor the that attracting foreign direct investment inflow into the country. For example, in Africa, natural resources attracted many foreign investors and this can be supported by the research which was undertaken by Asiedu (2006) who find the natural resources availability encourage foreign direct investment inflows into Sub Saharan Africa countries. He also finds that countries with limited availability of natural resources must improve their institutions by ensuring that laws are well enforced so as

to obtain inward foreign direct investment. Also, Mohamed and Siridipoulos (2010) find that natural resources are an important factor of foreign direct investment inflow into the Middle East and North Africa. Another study conducted by Anyanwu (2012) who examined fifty-three African countries finds that oil which is part of country's natural resources attract foreign direct investment inflow into Africa. According to Hailu (2010) after examined the determinant of FDI inflows into the African nation found natural resources to be a significant factor.

iii. *Government Policies*

Government policies have been also considered as the factor that attracting foreign direct investment inflow into a country. This can be supported by Asiedu (2010) who finds that government policy is an important determinant of foreign direct investment inflow into Sub Saharan Africa countries. Tax rebates, tax holidays, infrastructure investments are among of incentives that government can offer to potential foreign investors. Also, government policy that aims to improve the skills of labor through training attracts foreign investors. The government must also ensure that there is transparency in the economy.

There are many factors that encourage the inflow of foreign direct investment into the host countries and different results have been obtained from different empirical studies. The most measured variables include market size, infrastructure, trade openness, labor costs, foreign aid, human capital, financial development, exchange rate, market stock, inflation, international interest rate, government policy, total factor productivity and economic growth. Each of these variables according to the evidence from empirical review varies across the countries, regions, methodology and time. According to Ericsson and Iran oust (2010), there are very few studies that are relating to the group of countries that belong to economic blocs in Africa region, therefore, this study intends to accompany the existing literature by examining the determinants of foreign direct investment inflow into Tanzania.

Chapter Four

IV. Research Methodology

a) *Model Specification*

The time series data issued in this study to represent both independent and dependent variables. The multiple- regression model is used to analyze the time series data. The study analyses the relationship between foreign direct investment inflow and its determinants. The study model demonstrates foreign direct investment inflows (FDI) as the function of the exchange rate (EXCHR), inflation rate (INFL), openness to trade (OPEN) and market size (MRT). In order to avoid the problem of heteroscedasticity, both the

Below is the multiple regression models estimated to test the mentioned-hypotheses in this study.

$$FDI = f(EXCHR, INFL, OPEN, MRT,) \dots\dots\dots\dots\dots\dots \quad (1)$$

$$FDII = \beta 0 + \beta 1 EXCHR + \beta 2 INFL + \beta 3 OPEN + \beta 4 MRT + \mu \dots.. \quad (2)$$

Where:
β0: Constant amount
β1 - β4: Coefficients of the variables
μ: Error term
FDII = Foreign direct investment inflows
EXCHR = Exchange rate
INFL = Inflation rate
OPEN = Openness to trade
MRT = Market size

b) *Variable Definition*

i. *Independent Variables*

Independent variables are those variables that can influence the dependent variable in two ways that are either in a negative or positive way which implies that the dependent variable variance is considered for by the independent variables so in such case it gives a casual relationship between the two variables. In this study exchange rate, inflation rate, market size, and openness to trade are independent variables that influencing the dependent variable which is foreign direct investment.

ii. *Dependent Variable*

The dependent variable is considered as the variable of primary interest to the researchers because it is possible to find out the solutions of a certain problem through its analysis. A foreign direct investment inflow is the dependent variable which is attracted by the independent variables mentioned above.

c) *More Explanation of the Independent Variables*

i. *Openness to trade (OPEN)*

The inflows of foreign direct investment into host country depends upon the openness of the economy as the more open the economy of the country become the more easily to do business and thus enhance foreign direct investment inflows. Countries that are practicing the free trade policies will encourage more foreign capital inflows compared to those countries that implement restricted policies on trade as will eventually discouraging foreign direct investment inflows.

ii. *Exchange rate (EXCHR)*

Exchange rate volatility in the host country makes the foreign investor's decisions more difficult due to the increases in exchange rate risk. This is because the volatility increases the exchange rate risk. Therefore exchange rate volatility reduces the inflows of foreign direct investment into the host country.

iii. *Inflation (INFL)*

Inflation is also considered as one of the factors of foreign direct investment inflow by many previous

research studies. A country with the higher level of inflation will find it difficult in attracting foreign direct investment inflow compares to the country with minimum inflation rate level. Most foreign investors prefer those countries with the low inflation rate.

iv. *Market size (MRT)*

Most foreign investors are more attractive to countries with the large market size compare to those with small market size. For example countries like India, Nigeria and China managed to influence the foreign capital inflow into their economy due to large market size. The size of the market in the country can be measured in term of GDP per capita.

v. *The Study Hypotheses*

In order to examine the determinants of foreign direct investment inflows into Tanzania, the following hypotheses were designed and will be used for testing:

H1: There is a positive significant relationship between openness to trade and foreign direct investment inflows.
H2: There is a positive significant relationship between inflation rate and foreign direct investment inflows.
H3: There is a positive significant relationship between market size and foreign direct investment inflows.
H4: There is a positive significant relationship between exchange rate and foreign direct investment inflows.

This study hypothesizes the expectation of positive significant relationship between foreign direct investment inflows into Tanzania and the market size, trade openness, exchange rate and inflation rate.

d) *Technique of Data Analysis and Sources.*

This study uses annual time series data for the figure related to foreign direct investment inflows together with the macro- economic variables covering the period between1990-2015. The study selects the four important variables based on availability of data for the period covered and to include many variables does not mean the model will be the best as sometimes more variables can make it difficult in getting the dynamic relationships of the most significant variables. Also, most of these data in this study were collected from the World Bank Development Indicators.

Data related to foreign direct investment inflows into Tanzania is measured by the current price in US dollars which is proxied by the natural logarithm of total annual foreign direct investment net inflows. Market size (MRT) is proxied by the GDP per capita for the period of study. Openness to foreign trade is captured by the ratio

of imports plus exports to GDP which is denoted as (OPEN). Exchange rate (EXCHR) is stated by conversion rate from Tanzania shillings to US dollars. The inflation rate (INFL) is captured by changes in consumer price level annually in percentage.

First, unit root test is used to check the stationary nature of the variables used for this study. The unit root test shows how variables have to be a difference in anumber of times so as to come to a stationary state. According to classical economic theory variables that are to be differenced in order to achieve the value of stationary are known as 1 (1) and those which are stationary are known as 1 (0) series.

Ordinary least square (OLS) multiple regression analytical method will also be used to estimate the equation. The reason of using this technique is due to its unbiasedness, simplicity, efficiency, minimum variance and it has been used by many researchers in their previous studies and results were meaningful.

The ordinary least square technique is considered as the simplest technique of linear regression to use and easy to understand. The aim of ordinary least square technique (OLS) is to fit the function with the data and minimization of the sum squared errors from the data. The correlation matrix is also employed in this study so as to test if the selected variables are correlated.

Chapter Five

V. Data Analysis

a) *Empirical Results and Discussion*

The study will use correlation analysis, descriptive analysis, unit root testing and regression analysis so as to come up with the concluding results.

b) *Descriptive Statistics*

The Table 1 below indicates the descriptive statistics of both variables (independent and dependent). The descriptive statistics in this study indicates the mean, median, maximum, skewness values, minimum and standard deviation of the 26 observation related with each of the variables (both dependent and independent) selected in the study. All figures indicated are not shown with their exactly amounts as they are all plotted in natural logarithms of the original amount in thousands and in millions.

Table 1: Descriptive Statistics of the variables

	FDII	EXCHR	INFL	MRT	OPEN
Mean	19.008	6.731	2.382	5.913	3.843
Median	19.931	6.909	2.197	5.754	3.869
Maximum	21.459	7.596	3.578	6.856	4.18
Minimum	9.210	5.273	1.555	5.047	3.511
Std. Dev.	3.190	0.624	0.675	0.600	0.183

Skewness	-2.279	-0.854	0.408	0.126	0.186
Kurtosis	7.517	2.931	1.729	1.687	2.416
Jarque-Bera	44.619	3.166	2.471	1.935	0.520
Probability	0.000	0.205	0.290	0.379	0.770
Sum	494.219	175.013	61.947	153.759	99.934
Sum Sq. Dev.	254.473	9.760	11.411	9.009	0.839
Observations	26	26	26	26	26

Positive and negative skewness in the above table indicates that the results or outcomes are almost or not normally distributed and the low standard deviations indicate that variables are largely in the same range of value.

c) Correlation Analysis

In this study, the correlation coefficient analysis will help to determine the relationship between the dependent and independent variables so as to test the hypotheses. The correlation coefficient will measure the degree of multi co linearity of the variables that are selected in this study. According to Gath go and Ragui (2014), the correlation matrix is used also to determine the most significant variables among the hypothesized selected independent variables. Therefore the correlation test in this study will help to determine which variables are more significant to the dependent variable.

Table 2: Correlation Analysis

Correlation					
t-Statistic					
Probability	FDII	EXCHR	INFL	MRT	OPEN
FDII	1.000				

EXCHR	0.902	1.000			
	10.210	-----			
	0.000	-----			
INFL	-0.674	-0.738	1.000		
	-4.468	-5.365	-----		
	0.000	0.000	-----		
MRT	0.680	0.893	-0.597	1.000	
	4.541	9.696	-3.647	-----	
	0.000	0.000	0.001	-----	
OPEN	-0.132	-0.138	0.614	-0.109	1.000
	-0.653	-0.683	3.814	-0.536	-----
	0.520	0.501	0.000	0.597	-----

Sources: Calculated from data used for analysis

The above Table shows that Exchange rate (EXCHR) has the most positive significant correlation with foreign direct investment inflows (FDII). Market size (MRT) also found to have the strong correlation with foreign direct investment inflows. Inflation rate (INFL) found to have the highest negative correlation with FDI inflows. Lastly, openness to trade has seemed to also have a negative correlation with foreign direct investment inflows. The problem of multi co linearity arises only when there is the existence of the high correlation between two independent variables and the result of this problem will make the significant variable to be insignificant as it will increase the standard error of the variable. In such case if the standard error goes up, t- value will go down and hence come up with the high p-value. Therefore that particular variable becomes insignificant but in a real situation, it is not insignificant. It is bad to have a relationship between independent variables but it is good to have a relationship between dependent variable and independent variables. Only two variables (exchange rate and market size) were found to have a high positive correlation with foreign direct investment inflows. The exchange rate has 90 percent correlation with FDI which is the very strong relationship while market size has almost 68 percent correlation with FDI which is considered as the strong relationship.

d) Unit Root Test

In order to test the significance of the independent variables in this study, we used the technique which was done by Dickey Fuller in 1976. There might be autocorrelation problem for the case of Dickey Fuller Test therefore in order to tackle the problem of autocorrelation Dickey Fuller developed a test called Augmented Dickey Fuller Test (ADF). This helps to know whether the variable is stationary or not stationary. The null hypothesis indicates no stationary of the variable which means the variable has a unit root while the alternative hypothesis indicates the variable is stationary. Also, the ADF test statistics will be compared with the critical value. In this case, we will only reject the null hypothesis if the t-statistics is more than the critical value. On the other hand, if the probability value (p-value) is greater than the critical value which usually at level 5% it means we cannot reject the null hypothesis of non-stationary.

Table 3: Augmented Dickey Fuller tests for stationary at level

Variables	P- value	Nature
Exchange rate (EXCHR)	0.0924	Non stationary
Inflation (INFL)	0.4028	Non stationary
Market size (MRT)	0.9410	Non stationary
Openness to trade (OPEN)	0.2039	Non stationary
FDI inflow (FDII)	0.9119	Non stationary

The unit root results from the above table indicat hat all the variables are not stationary which means each variable got a unit root therefore in order to achieve the stationary of the variable we tested for the unit root in first and second difference.

Table 4: Augmented Dickey Fuller tests for stationary at first difference

Variables	P- value	Nature
Exchange rate (EXCHR)	0.0005	Stationary
Inflation (INFL)	0.0011	Stationary
Market size (MRT)	0.0349	Stationary
Openness to trade (OPEN)	0.0058	Stationary
FDI inflow (FDII)	0.0006	Stationary

The results from the above table indicate that the Augmented Dickey Test statistics (p-value) for all the variables are less than critical value usually at level 5% meaning that we reject the null hypothesis of non stationary and accept the alternative hypothesis that the series is stationary therefore Ordinary Least Square (OLS) regression model can be conducted as the result will not be spurious

e) Regression Analysis

In order to estimate the relationship between dependent and independent variable, this study also employs the statistical tool called multiple regression analysis so as to determine the factors that influencing foreign direct investment inflows into Tanzania. R-square, Durbin-Watson, and P-value in this model are used for making a decision based on the results. P-value will be much used for testing the hypotheses in this study so as to know if the tested hypotheses must be rejected or accepted.

A p value less than or equal to 10 % indicates that the hypothesis is accepted at 10% level of significance. A p value less than or equal to 5% indicates that the hypothesis is accepted at 5% level of significance. A p value less than or equal to 1% indicates that the hypothesis is accepted at 1% level of significance. When the hypotheses are rejected, it implies that alternative ones have to be accepted. The adjusted R-square in this study is used to determine the goodness fit of the model. Durbin-Watson statistic in this study will help to test the serial correlation in the errors of a multiple regression model. The table below indicates the regression results of this study.

Table 5: Regression results by using Ordinary Least Squares Method (OLS)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-11.484	5.684	-2.020	0.0563
EXCHR	8.186	1.128	7.255	0.0000
INFL	0.801	0.806	0.993	0.3315
MRT	-3.503	0.870	-4.024	0.0006
OPEN	-1.509	1.981	-0.761	0.4545
R-squared	0.8944	Mean dependent var.		19.008
Adjusted R-squared	0.8743	S.D. dependent var.		3.1904
S.E. of regression	1.1310	Akaike info criterion		3.2551
Sum squared residual	26.864	Schwarz criterion		3.4971
Prob.(F- statistic)	0.0000	Durbin-Watson stat	istic	1.7990

Sources: Calculated from data used for analysis

i. Interpretation of Regression results

Based on table 5 above, it shows that the negativesignificant relationship exists between the dependent variable (FDII) and market size (MRT) with the p-value of 0.0006 at level 1%. This indicates that small market size decreases the amount of foreign direct investment inflows into the country. In this case, the third hypothesis (H3) that there is a positive significant relationship between market size and foreign direct investment inflow is rejected. In this situation also the variable found to be significant but with the negative sign so this implying that the sign might be caused by the proxy that was used to estimate the variable but since the variable found to be significant it indicate that the variable is still important for Tanzania as the determinant of foreign direct investment inflows.

Exchange rate (EXCHR) in this study shows the positive sign and significant relationship with foreign direct investment inflows into the country with the p-value of 0.0000 at level 1%. The fourth hypothesis that

there is a positive significant relationship between exchange rate and foreign direct investment inflow into the country is accepted. This can also be supported by some scholars such as (Yasin, 2005), Bende-Nabende (2002) and Vijayakumar, Sridharan and Rao (2010) who found the positive significant relationship between foreign direct investment inflows and exchange rate.

Inflation rate and trade openness to trade were all found to be insignificant and therefore the first and second hypotheses (H1 and H2) that there is the positive significant relationship between these two variables and foreign direct investment inflows are rejected. Since openness to trade and inflation are statistically insignificant therefore they will not be included as the determinant of foreign direct investment inflow into the country.

Also since the general Prob. F-Statistics found to be statistically significant at level 1%, therefore, this indicates that independent variables can jointly attract dependent variable. The Adjusted R- Squared value of 0.874325 implies the good fitness of the study model. Durbin- Watson value of 1.798977 also indicates the non-existence of autocorrelation in the data.

Chapter Six

VI. Conclusion and Policy Recommendation

a) Conclusion

The main reasons for conducting this study was after finding out that Tanzania has been experienced the high fluctuation of foreign direct investment inflows. Also, the high significance level of foreign capital inflows into other developing countries and some emerging economy such as India, China, and Nigeria is among of the reason for conducting this study. There are numbers of policies and programs that the government has been put in place and implemented since 1980 so as to promote and attract foreign direct investment inflow into the country but still, much effort is needed to be done by both policy makers and responsible authorities to ensure the investments environment are good for foreign investors.

By using the ordinary least square method to analyze the time series of 26 years data (1990-2015) the results showed that exchange rate (EXCHR) to be the key determinant of foreign direct investment into the country. Market size (MRT) found to be significant at level one percent but with the negative sign which was opposite to our expectation implying that the small market size reduces the inflow of foreign direct investment into the country.

The study also did not find any significant relationship between openness to trade with foreign direct investment inflows into the country and in such case, it implies that despite effort made by the government towards trade liberalization but still the policy did not play a significant role in attracting more foreign investors into the country. Inflation rate also found to be statistically insignificant though positive related to foreign direct investment inflows. In this study, many variables were dropped from the investigation list due to various reasons such as unavailability of data, limited time, variables similarity and some variables to be irrelevant to Tanzania.

b) Policy Recommendations

Foreign direct investment as already mentioned earlier play an important role in the economy in term of the creation of employment, transfer of new technology which in general enhance the economic growth and improve the living standard of the people in the country. The main recommended policies for the policy makers and the government include the following;

First after seen the exchange rate to have a positive impact on foreign direct investment inflow into the country, it indicates that fluctuated exchange rate policy adopted by the government increases the inflow of foreign direct investment for the period of the study, therefore, the policy makers should continue to adopt the effective policy measures so as to attract more foreign investors for generating new employment for the people in the country.

Second since the results found market size to be significant with foreign direct investment inflows to Tanzania but with the negative sign, it indicates that small market size discourage the inflows of foreign direct investment into the country, therefore, the government should make more efforts to ensure that the market size is expanded so as to attract more FDI inflows to Tanzanian economy.

c) For future research

This study used the ordinary least square (OLS) method which is the simple technique of estimation for about 26 years of the sample period of study. Therefore further research studies are needed on the determinant of foreign direct investment inflows by using other measuring methods or techniques and also because this study investigates only four variables towards foreign direct investment inflows, further studies should rely on other variables such as labour cost, infrastructures, political instability, natural resources, human capital development and taxation so as to ensure the maximum exhaustion and exploration of the factors that can give the strong results. These important variables were not included in this study due to some reasons such as unavailability of data,the reliability of data, limited time and sample period size used. All the mentioned reasons present the limitation of the study.

Also since the government of Tanzania have been adopted different macro economics reforms and programmes to promote foreign direct investment in the country, no or little research has been done so far to

assess the impact and significance of these promotional programmes as a key tool for influencing foreign direct investment inflow into the country, therefore, necessary research has to be done in this area of study by the other researcher in their future research.

VII. Declaration

I hereby declare that the work has been done by myself except quotation and citations, which have been duly acknowledged, and no portion of the work contained in this Thesis has been submitted in support of any application for any other degree or qualification on this or any other university or institution of learning.

Rashid Ismail Mfinanga

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Dedication

I dedicate this project report to my family and friends who have been a source of inspiration and support all through my life.

Abbreviation
ADF- Augmented Dickey Fuller
ATPC- Africa Trade Policy Centre
EPZs- Export Processing Zones
GDP- Gross Domestic Product
FDI- Foreign Direct Investment
OLS- Ordinary Least Square
TIC- Tanzania Investment Centre
IPC- Investment Promotion Centre
TNC- Trans National Corporation
MNCs- Multinational Companies
SSA- Sub Sahara Africa Countries
ROA- Return on Assets
UNCTAD- United Nations Conference on Trade and Development

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Does Governance Influence Economic Growth in Sub-Saharan Africa?

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Abstract- Poor governance in Sub-Saharan Africa has been a major hindrance to economic growth of the region compared to other regions in the rest of the world. To examine the influence of governance on economic growth of Sub-Saharan Africa, panel data on growth rate of Gross Domestic Product, governance indicators and other indicators of the three selected Sub-Saharan Africa countries namely Nigeria, South- Africa and Ghana for the period of 1996-2015 were sourced from World Development Indicators of the World Bank and World Governance Indicators. The data were analyzed using Descriptive statistics, Principal Component Analysis, Ordinary Least Square Regression and Generalized Method of Moments. The result revealed that South Africa and Ghana enjoyed better governance than Nigeria. It was also found that governance impacts positively on the economic growth of South Africa and Ghana however a negative impact was experienced by Nigeria. The disaggregated governance indicators regression showed that political stability and control of corruption increase economic growth in South-Africa and Ghana while voice and accountability as well as control of corruption had negative influence on economic growth of Nigeria. The study thus recommends freedom of speech to citizens, accountability of leaders, political stability as well as control of corruption to enhance effective governance and economic growth in the region.

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Strictly as per the compliance and regulations of:

Does Governance Influence Economic Growth in Sub-Saharan Africa?

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Abstract- Poor governance in Sub-Saharan Africa has been a major hindrance to economic growth of the region compared to other regions in the rest of the world. To examine the influence of governance on economic growth of Sub-Saharan Africa, panel data on growth rate of Gross Domestic Product, governance indicators and other indicators of the three selected Sub-Saharan Africa countries namely Nigeria, South-Africa and Ghana for the period of 1996-2015 were sourced from World Development Indicators of the World Bank and World Governance Indicators. The data were analyzed using Descriptive statistics, Principal Component Analysis, Ordinary Least Square Regression and Generalized Method of Moments. The result revealed that South Africa and Ghana enjoyed better governance than Nigeria. It was also found that governance impacts positively on the economic growth of South Africa and Ghana however a negative impact was experienced by Nigeria. The disaggregated governance indicators regression showed that political stability and control of corruption increase economic growth in South-Africa and Ghana while voice and accountability as well as control of corruption had negative influence on economic growth of Nigeria. The study thus recommends freedom of speech to citizens, accountability of leaders, political stability as well as control of corruption to enhance effective governance and economic growth in the region.

I. INTRODUCTION

Sub-Saharan Africa is a continent that is very rich in resources however the resources have been a curse for economic development in the region. Good economic outcomes in any part of the world can only be achieved through good governance as extensive evidences have shown that improving the quality of government impact positively on economic growth and development (Kaufman and Kraay, 2002). Economic governance is a wide concept that encompasses several core components namely Public financial management and accountability, Integrity of monetary and financial institution, Regulatory framework (Economic Commission of Africa, 2002). They further asserted that an economy benefit from good economic governance when institutions of government control the resources of the economy efficiently, formulate and implement efficient policies and regulations, can be monitored and held accountable, respect the rules and norms of economic interaction and a situation where

economic activity is not disturbed by corruption and other activities that are not compliance with public trust.

The main elements of good governance as highlighted by Kaufmann, Kraay and Mastruzzi (2005) are accountability and responsibility of government, political stability and lack of violence, governance efficiency, legal framework, law enforcement and corruption control. Each of these elements is vital to economic growth and constituted the institutions of government. Acemoglu and Robinson (2012) have identified good and quality institutions as necessary requirement for long term GDP growth however the institutions in Sub-Saharan Africa is weak from global perspective and this may be one of the reasons for weak development in the region.

According to the World Bank (2013), the overall score for institution quality in Sub-Saharan Africa is below world average and there had been no improvement as the score reduces from -0.63 in 2012 to -0.67 in 2013. This has made the political stability of the region fallen relative to the rest of the world. The key factor identified for weak institution quality in the region is corruption. Transparency International (2013) defined and perceived corruption across a spectrum of illegal payments and transactions such as bribes, embezzlement, and money laundering among others. This index identified three categories of corruption namely Grand corruption, petty corruption and political corruption. Corruption impacts negatively on economic growth through reduction of FDI (Sanyal and Samatan, 2008), reduction of efficiency of government, reduction of tax raising ability of government (Tanzi and Davoodi, 2000), increase inequality (Gupta *et al.,* 2002) and reduce confidence in public institutions and political processes.

World Bank (2011) had declared corruption as the greatest obstacle to economic and social development as it undermines the rule of law and weakening the institutional foundations on which sustainable development of any economy depends. World Bank also affirmed that corruption is very high in sub-Saharan Africa as about 85% of the countries in the region score poorly in its measures of control of corruption and a strong correlation has been found between control of corruption and government effectiveness. Aside Corruption, democracy in sub-Saharan Africa is scarce and flawed as the democracy index calculated by the European International Union

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2014 revealed that only 8 out of the 44 countries in Sub-Saharan Africa included in the index are classified as fairly democratic while about 22 were categorized as authoritarian. The Centre for Systemic Peace also affirmed that Africa and Sub Saharan Africa had the highest fragility index in 2014 and this accounted for the sparse resilience and poor functioning government in the region.

Sub-Saharan economies namely Nigeria, South Africa, Angola, Ethiopia and Ghana accounted for 41% of the region's population and 71% of its GDP in 2013 (Euromonitor International, 2017) however these countries were ranked low interms of governance with Africa as a region recording an average of 0.551 as governance index in 2011. This average is lower than 0.744, 0.655, 0.561 and 0.601 recorded by European Union OECD, Latin Americans and Caribbean, Asia pacific and CIS Central Asia Balkans respectively and higher than 0.539 recorded by Arab states (WGI, 2011).

Table 1: Gross Domestic Product and World Governance Index of five largest Economies in Sub-Saharan Africa

Country	GDP 2016 (Million US Dollars)	GDP World Ranking	WGI (2011)	WGI 2008 World Ranking	WGI 2011World Ranking	WGI 2011 Regional Ranking (Africa)
Nigeria	405,083	26	0.512	165	157	33
South-Africa	294,841	38	0.638	38	68	5
Angola	89,633	62	0.505	166	161	37
Ethiopia	72,374	66	0.486	156	165	40
Ghana	42,690	85	0.616	50	80	7

Source: World Bank Development Indicators(2017) and World Governance Index (2011)

Comparing the GDP with WGI regional ranking in Table 1, Nigeria with the highest GDP in Sub-Saharan Africa ranks 33rd out of the 45 African countries considered in the estimation while South Africa and Ghana with the second and fifth GDP ranks 5th and 7th respectively. This implied that governance varies across countries in the same region and that some countries enjoy better governance than the other. The low average WGI recorded by Africa in which Sub-Saharan Africa countries form its majority must be concern to policy makers as Africa is the source of majority of raw materials used by the developed economies yet most Africa countries remain under developed and contribute less to the world economic growth and development. It is therefore crucial to examine the effect of governance on economic growth of Sub-Saharan Africa with focus on some selected countries (Ghana, Nigeria and South Africa. These countries were selected because they are among the five largest economies in Sub-Saharan Africa. This is necessary to identify how good governance has contributed to the economies of countries that drive the economy of Sub-Saharan Africa and to promote formulation of policies that will improve the governance of countries in the region.

II. Objectives of the Study

The main objective of the study is to examine the effect of governance on economic growth of Sub-Saharan Africa. The specific objectives of the study are to:

- assess the trend of the various indicators of governance.
- describe the trend of economic growth in the region.
- examine the effect of governance performances on economic growth. Examine

III. Justification of the Study

The rejuvenation of Sub-Saharan Africa can only be achieved through good governance as it does not only enhance macroeconomic stability but also assist government in the implementation of developmental and poverty reduction policies; signal government's adherence to standards of institutional functioning free of corruption or other such rent-seeking behaviours. Existing literatures found that governance impact positively on economic development (Gerring *et al*., 2005, Persson and Tabellini 2006; Han *et al.,* 2014). However, literatures that linked governance to economic growth in Sub-Saharan Africa are scarce. Although studies that linked the individual indicators of governance to economic growth exist this study contributes to knowledge by aggregating the indicators of governance to generate the governance index using the Principal Component Analysis (PCA) so as to control for multicollinearity among variables. The study also compares countries with high Gross Domestic Product (GDP) and positive indicators of governance that is Ghana and South-Africa with country with high GDP and negative indicators of governance i.e. Nigeria, with the aim of bringing out policy recommendations to improve the governance and economic growth of countries with poor governance in Sub-Sahara Africa. Furthermore, Africa which is majorly made up of Sub-Saharan Africa had low governance index when compared with other continents in the world (WGI, 2011). Therefore, assessing the impact of governance on economic growth could give insight on its effectiveness in Sub-

Saharan Africa. This study could therefore serve as a basis for the formulation of efficient policies that would enhance good governance and economic growth in Sub-Saharan Africa.

IV. Methodology

a) Scope of the Study

Sub-Saharan Africa is the area of the continent of Africa that lies south of the Sahara. The region is made up of about of 48 countries out of the 54 countries found in Africa. The region had a population of 969,234,251 in 2015 and this is expected to grow up to 1.5-2 billion in 2050 with a population density of 80 per km². The countries with major contribution to the Gross Domestic Product in the region are Nigeria, South-Africa, Ghana, Angola and Ethiopia. These countries were reported to contribute about 70% of GDP of Sub-Saharan Africa in 2013 and Nigeria still remain the giant in the region as Nigeria has the highest contribution to GDP in the region till date. This study focused on three out the five countries identified as major contributors to the GDP in the region. The countries were Nigeria, South-Africa and Ghana. South-Africa and Ghana were used as panel to compare the effect of governance on the economic growth of the two countries with Nigeria.

Data: Data for this study was sourced from World Development Indicators of the World Bank and the World Governance Indicators (2016). The data covers the period of 1996 to 2015. Data on GDP growth rate, trade openness which was measured by the share of export and import to GDP, share of working population, access to sanitation were sourced from the World Development Indicators while Governance indicators namely (i) Voice and accountability (ii)Political stability (iii)Government effectiveness (Governance efficiency)(iv) Rule of law (Legal framework) (v) Regulatory quality (Law enforcement) (vi) Control of corruption were sourced from the World Governance Indicators.

Governance Indicators: Kaufmann and Kraay (2008) classified governance indicators in two groups based on two main criteria: (a) what they measure (b) on what sources and opinion they are based. In this study however, the analysis of good governance for the three countries of interest in sub-Saharan Africa (Ghana, Nigeria and South Africa) was based on the six main indicators defined by the World Bank. These indicators are:(i)Voice and accountability (ii)Political stability (iii)Government effectiveness (Governance efficiency) (iv) Rule of law (Legal framework) (v) Regulatory quality (Law enforcement) (vi)Control of corruption. The evaluation of these indicators was made by ranking 230 countries on the bases of percentile. The better the ranking the more positive is considered the index of that country. The World Bank makes an evaluation of each indicator of governance from -2.5 (bad performance) to +2.5 (good performance).

Table 2: Definitions of Governance Indicators

	Indicators	Definition
1	Voice and Accountability	Measured by the extent to which a country's citizens are able to participate in selecting their govern-ment as well as freedom of expression, association, and the press.
2	Political Stability	Measured by the likelihood that a government will be destabilized by unconstitutional or violent means, including terrorism.
3	Government Effectiveness	Measured by the quality of public services, the capacity of civil services and their independence from political pressure, and the quality of policy formulation.
4	Rule of law	Measured by the ability of a government to provide sound policies and regulations that enable and promote private sector development.
5	Regulatory quality	Measured by the extent to which agents have confidence in and abide by the rules of society, including the quality of property rights, the police and the courts, and the risk of crime.
6	Control of corruption	Measured by the extent to which public power is exercised for private gain, including both petty and grand forms of corruption as well as elite "capture" of the state.

Source: Kaufmann et al., 2010

V. Method of Data Analysis

Descriptive Statistics: This involved the use of graph to describe the trend in the Gross Domestic Product (GDP) and the six indicators of governance considered in this study.

Principal Component Analysis (PCA): PCA was used to aggregate the six indicators of governance to generate the governance index *(GOVINDEX)*. This technique is mostly used on quantitative data and it is commonly used to emphasize variation and bring out strong pattern in a dataset so as to make the data easy to explore and visualize. The methodology is also capable of fulfilling the orthogonal condition of no correlation among the indicators thus controlling for multicollinearity. The eigenvalue is the variance of the variable explained by the associated component.

Ordinary Least Square Regression (OLS): This method was used to estimate a simple fixed effects model without controlling for potential endogeneity in the model. Some other control variables were added in addition to the GDP growth rate (GDPGR) and governance index (GOVINDEX).The variables are

percentage of working age population (AGE), Foreign Direct Investment (FDI), Access to improve sanitation (SAN), Trade Openness (TO). The results were presented in two forms, one is the aggregated governance index (GOVINDEX) and the other is the disaggregated governance indicators i.e. (which shows the individual effects of each governance indicators on the dependent variable that is GDP growth rate). Also, results for Ghana and South Africa are estimated as a panel data and were compared to estimates from Nigeria'sdata. The purpose of this is to know precisely how Nigeria economy responds to these governance indicators because of its dominant negative evaluations for all the six governance indicators. The models for the aggregated governance index and individual governance indicators are thus represented as:

$$GDPGR = \beta_0 + \beta_1 GOVINDEX + \beta_2 AGE + \beta_3 FDI + \beta_4 SAN + \beta_5 TO + \varepsilon \qquad (1)$$

Where; GDPGR= Gross Domestic Product Growth Rate, GOVINDEX= Governance Index,
AGE= Percentage of working age population,FDI= Foreign Direct Investment,
SAN= Access to improved Sanitation, TO= Trade Openness.

$$GDPGR = \beta_0 + \beta_1 VC + \beta_2 PS + \beta_3 GE + \beta_4 RQ + \beta_5 RL + \beta_6 CC + \beta_7 AGE + \beta_8 FDI + \beta_9 SAN + \beta_{10} TO + \varepsilon \qquad (2)$$

Where; GDPGR= Gross Domestic Product Growth rate, VC= Voice and accountability,
PS= Political stability, GE= Government effectiveness, RQ= Regulatory quality, RL= Rule of law, CC= Control of corruption, AGE= Percentage of working age population, FDI= Foreign Direct Investment, SAN= Access to improved Sanitation, TO= Trade Openness.

Generalized Method of Moments: This was used to further clarify the contribution of governance on economic growth and control for endogeneity. The equation was transformed by taking the first-order difference, with all lagged governance index and control variables used as instruments. The reason for choosing the lagged values for these two variables and all the lagged periods as the instruments is that it avoids the "over identifying" problem judged by the Sargan test and avoids second-order serial correlation judged by the autocorrelation test.

The general specification for GMM is:

$$Y_{i,t} - Y_{i,t-1} = \alpha \left(Y_{i,t-1} - Y_{i,t-2} \right) + \beta' \left(X_{i,t} - X_{i,t-1} \right) + \left(V_t - V_{t-1} \right) + \left(\varepsilon_{i,t} - \varepsilon_{i,t-1} \right)$$

Where; Y= Dependent variable that is GDP growth rate, X= Independent Variables that is governance indicators and other explanatory variables, V_t= time specific effect , ε_t=error term

VI. RESULTS AND DISCUSSION

a) Trends of the Gross Domestic Product of Selected Countries in Sub-Saharan Africa

The trends of GDP growth rate in Ghana, Nigeria and South Africa between 1996 and 2015 was shown in Figure 1. It was found that the growth of GDP in the three countries is positive and relatively stable for most of the period under study with Nigeria experiencing 10 percent growth rate in 2003 and a further boost of 33 percent the following year and had its lowest growth in 1999 with 0.4 percent growth in GDP. This could be caused by political instability as a result of the major shift in power from the Military Government to the Civilian Government in Nigeria. Ghana however, experienced its highest growth in 2011 with 14.04 percent growth and had its lowest growth in 2000 with just 3.7 percent growth. South Africa rarely enjoyed more than 5 percent growth in GDP throughout the study period with its highest growth of just 5.6 percent in 2006 and plummeted to a negative growth of -1.5 percent three years after. This could be as a result of constant xenophobic attacks amongst its citizens which made it difficult for the regulatory authority to uphold most of the governance indicators especially the regulatory quality and rule of law indices.
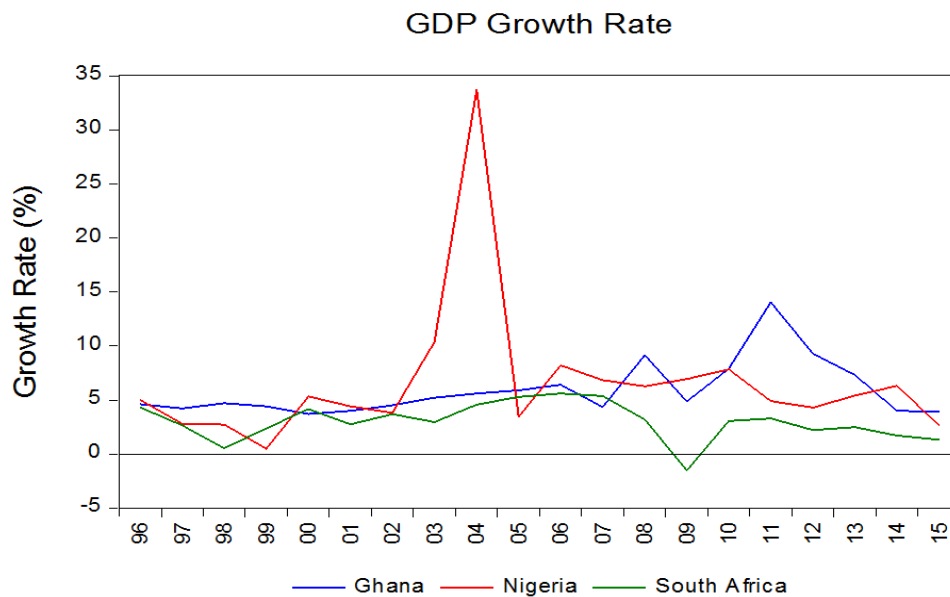
GDP Growth Rate

Source: World Development Indicators online database(2016)

Figure 1: Trend of GDP Growth Rate in Ghana, Nigeria and South Africa (1996 – 2015)

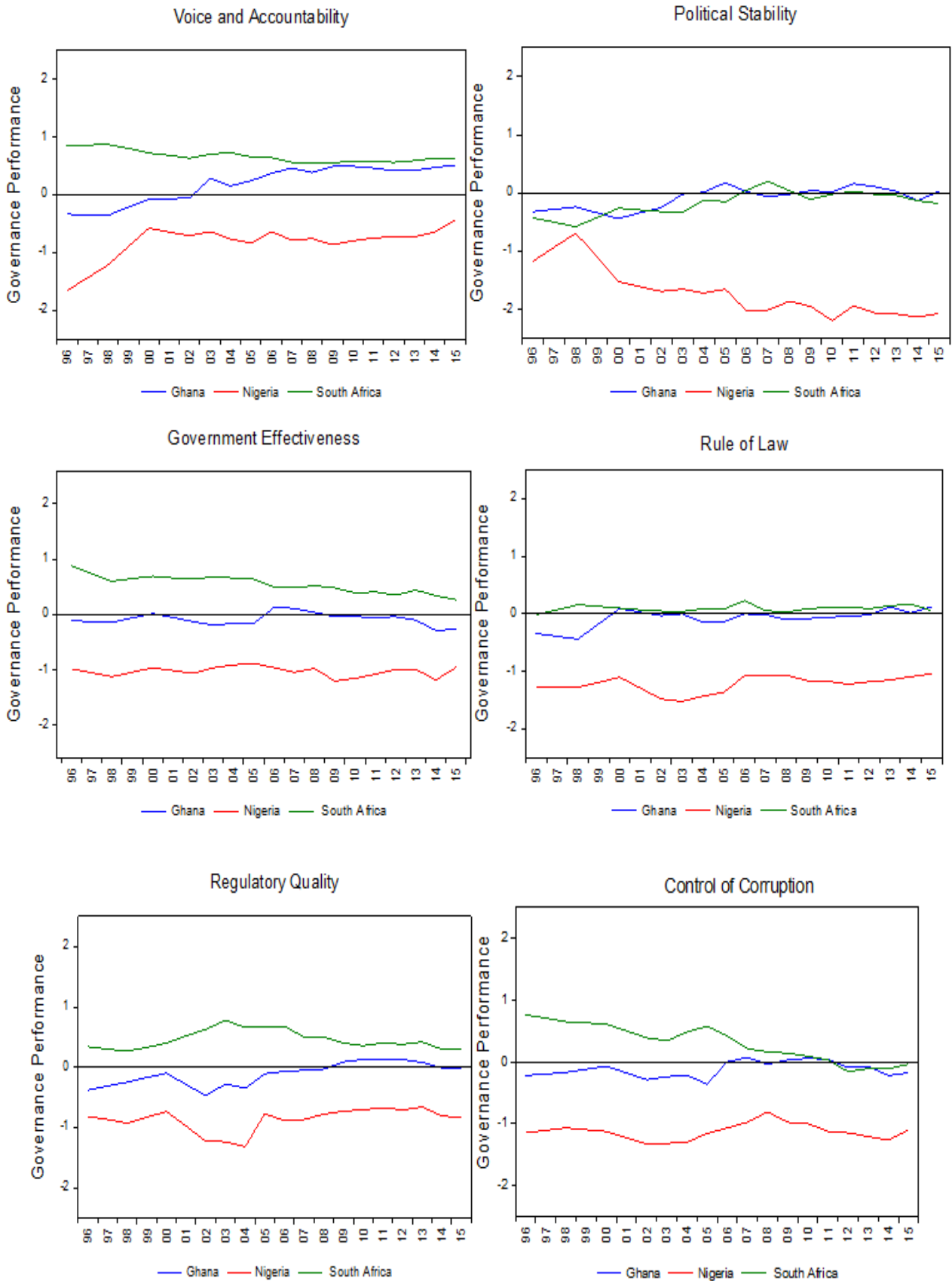*b) Trends of the Governance Indicators of Selected Countries in Sub-Saharan Africa*

Trends of the governance indicators were presented in Figure 2. Voice and accountability is fairly stable and positive for South Africa, dominantly negative for Nigeria and Ghana shows an improvement over the study period. The index started very high for South Africa in 1996 with 0.85 and continues to increase till it gets to its highest of 0.89 in 1998 after which it started to decrease but didn't get to zero with its lowest rating at 0.55 in 2008 and 2009 successively. Nigeria on the other hand was dominated by negative indices throughout the period with its lowest periods coming at the time of military governance in the country (1996 – 1999). Ghana however, despite its lowest rating of -0.34 in 1996, improved consistently to its highest rating of 0.51 in 2015. In general, for the three countries, the index is between -1.7 and + 0.90 with highest and lowest evaluationfor South Africa and Nigeria respectively.

The three countries struggled to maintain a stable political environment as shown in Figure 2 with all of these countries getting a negative evaluation for most of the study period. The index is positive in Ghana from 2004 – 2007, 2011 – 2013, 2015 and in South Africa form 2006 – 2008 and 2011. Nigeria has the lowest evaluation with -2.19 in 2010 reflecting the local insurgency of the Islamic extremist called Boko Haram that started in 2009 and South Africa with the highest of 0.20 in 2007 with Ghana coming closely at 0.18 in 2005. The indices vary between -2.19 and + 0.20 among the three countries.

Evaluations for government effectiveness and rule of law looked pretty similar for the three countries as shown in Figure 2. A characteristic for the three

countries is that both indices is predominantly positive for South Africa, negative for Nigeria and Ghana over around the origin (zero). South Africa's highest evaluation for government effectiveness came in 1996 with 0.88 with its highest evaluation for rule of law with 0.23 coming at 2006. The country maintained its positive evaluation for both rule of lawand government effectiveness for most of the study period with its lowest of -0.01 and 0.27 for both indicators coming at 1996 and 2015 respectively. For Ghana, the evaluation for both rule of law and government effectiveness fluctuated around zero (positive and negative) for most of the study period. Nigeria however, is dominated by negative indices for both indicators throughout the period with rule of law being the worse off (especially between 2002 to 2005) between the two indicators.

Regulatory quality and control of corruption indices in Figure 2 shows that they are also dominated with negative evaluations for Nigeria and fluctuated around zero (positive and negative) for Ghana. Regulatory quality index evaluation for South Africa is steadily positive going from its lowest of 0.27 in 1998 to peaking at 0.78 in 2003 while control of corruption was at its highest with 0.76 in 1996 but decreased continuously to its lowest -0.11 in 2013 and 2014 In summary, it can be seen that of all the three countries, South Africa has the better evaluation in all the governance indicators except the political stability. Ghana is average with most of its governance indicators hovering around zero. The black sheep here is Nigeria, which has all its governance indicators below zero. Therefore, it will be interesting to know how these indicators affect the economic growth (proxy GDP growth rate) in these sub-Sahara African countries.

Source: Authors' estimates using data from World Bank, World Governance Indicators online database

Figure 2: Trends of Voice and Accountability, Political Stability, Government Effectiveness, Rule of Law, Regulatory Quality, Control of Corruption in Ghana, Nigeria and South Africa (1996 – 2015)

c) PCA Result for the Governance Index

i. Result of the Principal Component Analysis

As shown in Table 4, the highest eigenvalue was 5.44 which explained 91% variation among the governance indicator variables. Since no other eigenvalue matches the figures of the first eigenvalue, i.e. the first eigenvalue explained the largest variation, and then the first principal component (PC 1) was selected. Therefore, governance index was obtained. The governance index was later used in the panel regression analysis.

Table 3: Standardized Loading of the Components

	PC 1	PC 2	PC 3	PC 4	PC 5	PC 6
Control of corruption	0.42	-0.20	-0.37	-0.52	-0.27	0.56
Government effectiveness	0.42	-0.22	-0.35	-0.25	0.39	-0.66
Political stability	0.38	0.86	-0.08	0.03	0.31	0.16
Rule of law	0.42	0.18	0.32	0.00	-0.73	-0.40
Regulatory quality	0.41	-0.26	-0.27	0.82	-0.03	0.16
Voice and accountability	0.41	-0.28	0.75	-0.07	0.38	0.21

PC = Principal component
Source: Authors' estimates

Table 4: Eigenvalue, Proportion Variance and Cumulative Variance

	PC1	PC2	PC3	PC4	PC5	PC 6
Eigenvalue	5.44	0.30	0.11	0.08	0.05	0.03
Proportion variance	0.91	0.05	0.02	0.01	0.01	0.00
Cumulative variance	0.906	0.956	0.974	0.988	0.996	1.000

PC = Principal component
Source: Authors' estimates

d) Effect of Governance on Economic Growth

i. OLS Result using GDP Growth Rate with Aggregated Governance Indicators

The effect of governance on economic growth using the aggregated governance indicators as shown in Table 5 revealed that the governance index for Ghana and South Africa had significant positive effect on the GDP growth in these countries at 5% level of significance. Access to good sanitation and share of working population were also significant albeit a negative effect on the dependent variable at 1% and 10% level respectively. However, governance index was found to have a significant negative effect on GDP growth in Nigeria which is contrary to the estimates for Ghana and South Africa at 5% level. This implies that Ghana and South-Africa enjoyed better governance than Nigeria thus influencing their economic growth positively as previously reported in literatures.

Table 5: OLS Result using GDP Growth Rate with Aggregated Governance Index

	Ghana and South Africa			Nigeria		
	Estimated Coefficient	T-value	P-value	Estimated Coefficient	T-value	P-value
Governance index	2.47	3.07**	0.004	-12.73	-2.32**	0.036
Share of working population	-0.21	-1.65*	0.109	-3.92	-1.69	0.114
Foreign direct investment	-3.75	-0.04	0.97	-5.35	-0.54	0.594
Access to good sanitation	-0.21	-3.67***	0.001	0.4	-0.27	0.794
Trade openness	0.00	0.07	0.942	-0.14	-0.85	0.412
Adjusted R-squared	0.45			0.16		

Note: *** means significant at 1%, ** means significant at 5% and * means significant at 10%
Source: Authors' estimates

ii. *OLS Result using GDP Growth Rate with disaggregated Governance Indicators*

The OLS result using GDP growth rate with disaggregated governance indicators was presented in Table 6. The result showed that control of corruption and political stability has a significant positive effect on GDP growth rate in Ghana and South Africa at 5% level of significance. That is, a unit increase in control of corruption and political stability will lead to 6.21 units

and 7.57 units increase in the GDP growth rate of Ghana and South Africa respectively. Access to good sanitation was also found to have a significant negative effect on GDP growth in Ghana and South Africa. Nigeria estimates, otherwise, showed that only regulatory quality is significant albeit with negative effect on GDP growth of all the six governance indicators considered in this study.

Table 6: OLS Result using GDP Growth Rate with Disaggregated Governance Indicators

	Ghana and South Africa			Nigeria		
	Estimated Coefficient	T-value	P-value	Estimated Coefficient	T-value	P-value
Voice and accountability	-1.85	-0.78	0.443	-18.66	-0.85	0.418
Political stability	7.57	3.45**	0.002	-2.36	-0.24	0.816
Government effectiveness	3.99	1.06	0.298	8.50	0.44	0.668
Regulatory quality	1.96	0.87	0.392	-35.30	-2.26**	0.050
Rule of law	-4.75	-1.26	0.218	28.82	0.99	0.348
Control of corruption	6.21	-2.00**	0.050	-17.71	-0.66	0.528
Share of working population	-0.38	-1.44	0.161	-5.39	-0.84	0.421
Foreign direct investment	1.12	1.30	0.204	-1.38	-0.70	0.503
Access to good sanitation	-0.26	-2.34**	0.026	-0.82	-0.17	0.871
Trade openness	0.04	1.26	0.217	-0.13	-0.55	0.597
Adjusted R-squared	0.63			0.14		

*Note: *** means significant at 1%, ** means significant at 5% and * means significant at 10%*
Source: Authors' estimates

iii. *GMM Result using GDP Growth Rate with Aggregated Governance Indicators*

As shown in Table 7, after controlling for endogeneity, there are still significant positive effect of the governance index on GDP growth for Ghana and South Africa. The coefficient of 2.30 is an average contribution of governance to GDP growth. The results again suggested that governancehad significant negative effect on GDP growth in Nigeria relative to Ghana and South Africa. The new results are consistent

with OLS method presented in Table 3. A comparison of Table 3 and 5 suggested that the control for endogeneity reduces the estimated effect of governance on economic development for Ghana and South Africa from 2.47 to 2.30 and from -12.73 to -13.44 for Nigeria. Share of working population had negative significant relationship with economic growth in the three countries considered while access to good sanitation had negative significant relationship with economic growth in Ghana and South Africa only.

Table 7: GMM Estimation Result with Aggregated Governance Indicator

	Ghana and South Africa			Nigeria		
	Estimated Coefficient	Z-value	P-value	Estimated Coefficient	Z-value	P-value
Gdpgr (-1)	0.18	1.34	0.179	-0.29	-1.22	0.222
Governance index	2.30	2.56***	0.010	-13.44	-2.87***	0.004
Foreign direct investment	-1.18	-0.14	0.890	-1.27	-1.23	0.219
Share of working population	-0.25	-2.11**	0.034	-5.60	-2.22**	0.026
Access to good sanitation	-0.19	-3.13**	0.002	1.30	0.76	0.448
Trade openness	0.00	0.00	0.998	-0.26	-1.47	0.141

Gdpgr = lagged gross domestic product, GMM = generalized method of moments
*Note: *** means significant at 1%, ** means significant at 5% and * means significant at 10%*
Source: Authors' estimates.

iv. *GMM Result using GDP Growth Rate with Disaggregated Governance Indicators*

The result of the GMM using GDP growth with Disaggregated Governance Indicators as presented in Table 8 showed that only political stability and control of corruption is statistically significant for Ghana and South Africa at 1% and 5% level respectively, implying that these indicators has a positive and significant effect on GDP growth with political stability contributing more to their GDP growth. This goes in line with the OLS estimates although the new result shows a reduction in the estimates of political stability and control of corruption from 7.57 to 7.37 and 6.21 to 6.10 respectively as a result of control for endogeneity. However, government effectiveness is the only governance indicator that is statistical significant in Nigeria at 5% level. This implies that government effectiveness has a positive and significant effect on GDP growth in Nigeria. This isn't in line with the OLS result which suggested that only the regulatory quality is statistically significant with GDP growth in Nigeria. The result further revealed that voice and accountability, control of corruption, share of working population and access to good sanitation had negative effect on economic growth of Nigeria. This negative impact of control of corruption as well as voice and accountability on economic growth may be part of the reasons why Nigeria had not performed well interms of governance when compared with South-Africa and Ghana. Control of corruption and political stability had improved the governance of South-Africa and Ghana thus impacting positively on the economies of the two countries.

Table 8: GMM Estimation Result with Disaggregated Governance Indicators

	Ghana and South Africa			Nigeria		
	Estimated Coefficient	Z-value	P-value	Estimated Coefficient	Z-value	P-value
Gdpgr (-1)	-0.02	-0.16	0.875	-1.13	-2.48**	0.013
Voice and accountability	-1.22	-0.56	0.573	-80.25	-2.74***	0.006
Political stability	7.37	3.65***	0.000	5.12	0.49	0.624
Government effectiveness	5.74	1.53	0.125	39.41	2.17**	0.030
Regulatory quality	1.96	0.94	0.345	-10.70	-0.71	0.475
Rule of law	-5.88	-1.52	0.128	24.70	1.19	0.235
Control of corruption	6.10	2.15**	0.032	-35.07	-1.71*	0.088
Share of working population	-0.49	-1.83	0.067	-26.45	-2.54**	0.011
Foreign direct investment	7.58	0.98	0.328	-3.13	-0.21	0.836
Access to good sanitation	-0.30	-2.59***	0.010	-11.35	-1.77*	0.077
Trade openness	0.05	1.52	0.128	-0.04	-0.24	0.811

Gdpgr = lagged gross domestic product, GMM = generalized method of moments
*Note: *** means significant at 1%, ** means significant at 5% and * means significant at 10%*
Source: Authors' estimates.

VII. Conclusion and Recommendations

Nigeria despite its valuable contribution to the GDP of Sub-Saharan Africa is still characterized with poor governance as governance impacts negatively to economic growth in the country compared with South-Africa and Ghana which governance impacts positively on their economic growth. Political stability and control of corruption in South Africa and Ghana influence their governance thus increasing economic growth. Despite that Government effectiveness enhance growth in Nigeria, voice and accountability as well as control of corruption may outsmart government effectiveness thus resulting in poor governance and economic growth.

The study thus recommends that country like Nigeria and other countries in Sub-Saharan Africa should grant their citizens freedom to express themselves and make leaders accountable to the citizens. Countries should also focus more on the control of corruption in the region as corruption make other indicators of governance less effective thus hindering economic growth. Favourable political atmosphere should also be enhanced for all and sundry.

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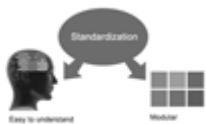
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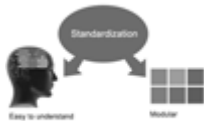
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3. Ask your guides: If you are having any difficulty with your research, then do not hesitate to share your difficulty with your guide (if you have one). They will surely help you out and resolve your doubts. If you can't clarify what exactly you require for your work, then ask your supervisor to help you with an alternative. He or she might also provide you with a list of essential readings.

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5. Use the internet for help: An excellent start for your paper is using Google. It is a wondrous search engine, where you can have your doubts resolved. You may also read some answers for the frequent question of how to write your research paper or find a model research paper. You can download books from the internet. If you have all the required books, place importance on reading, selecting, and analyzing the specified information. Then sketch out your research paper. Use big pictures: You may use encyclopedias like Wikipedia to get pictures with the best resolution. At Global Journals, you should strictly follow here.

6. Bookmarks are useful: When you read any book or magazine, you generally use bookmarks, right? It is a good habit which helps to not lose your continuity. You should always use bookmarks while searching on the internet also, which will make your search easier.

7. Revise what you wrote: When you write anything, always read it, summarize it, and then finalize it.

8. Make every effort: Make every effort to mention what you are going to write in your paper. That means always have a good start. Try to mention everything in the introduction—what is the need for a particular research paper. Polish your work with good writing skills and always give an evaluator what he wants. Make backups: When you are going to do any important thing like making a research paper, you should always have backup copies of it either on your computer or on paper. This protects you from losing any portion of your important data.

9. Produce good diagrams of your own: Always try to include good charts or diagrams in your paper to improve quality. Using several unnecessary diagrams will degrade the quality of your paper by creating a hodgepodge. So always try to include diagrams which were made by you to improve the readability of your paper. Use of direct quotes: When you do research relevant to literature, history, or current affairs, then use of quotes becomes essential, but if the study is relevant to science, use of quotes is not preferable.

10. Use proper verb tense: Use proper verb tenses in your paper. Use past tense to present those events that have happened. Use present tense to indicate events that are going on. Use future tense to indicate events that will happen in the future. Use of wrong tenses will confuse the evaluator. Avoid sentences that are incomplete.

11. Pick a good study spot: Always try to pick a spot for your research which is quiet. Not every spot is good for studying.

12. Know what you know: Always try to know what you know by making objectives, otherwise you will be confused and unable to achieve your target.

13. Use good grammar: Always use good grammar and words that will have a positive impact on the evaluator; use of good vocabulary does not mean using tough words which the evaluator has to find in a dictionary. Do not fragment sentences. Eliminate one-word sentences. Do not ever use a big word when a smaller one would suffice.

Verbs have to be in agreement with their subjects. In a research paper, do not start sentences with conjunctions or finish them with prepositions. When writing formally, it is advisable to never split an infinitive because someone will (wrongly) complain. Avoid clichés like a disease. Always shun irritating alliteration. Use language which is simple and straightforward. Put together a neat summary.

14. Arrangement of information: Each section of the main body should start with an opening sentence, and there should be a changeover at the end of the section. Give only valid and powerful arguments for your topic. You may also maintain your arguments with records.

15. Never start at the last minute: Always allow enough time for research work. Leaving everything to the last minute will degrade your paper and spoil your work.

16. Multitasking in research is not good: Doing several things at the same time is a bad habit in the case of research activity. Research is an area where everything has a particular time slot. Divide your research work into parts, and do a particular part in a particular time slot.

17. Never copy others' work: Never copy others' work and give it your name because if the evaluator has seen it anywhere, you will be in trouble. Take proper rest and food: No matter how many hours you spend on your research activity, if you are not taking care of your health, then all your efforts will have been in vain. For quality research, take proper rest and food.

18. Go to seminars: Attend seminars if the topic is relevant to your research area. Utilize all your resources.
Refresh your mind after intervals: Try to give your mind a rest by listening to soft music or sleeping in intervals. This will also improve your memory. Acquire colleagues: Always try to acquire colleagues. No matter how sharp you are, if you acquire colleagues, they can give you ideas which will be helpful to your research.

19. Think technically: Always think technically. If anything happens, search for its reasons, benefits, and demerits. Think and then print: When you go to print your paper, check that tables are not split, headings are not detached from their descriptions, and page sequence is maintained.

20. Adding unnecessary information: Do not add unnecessary information like "I have used MS Excel to draw graphs." Irrelevant and inappropriate material is superfluous. Foreign terminology and phrases are not apropos. One should never take a broad view. Analogy is like feathers on a snake. Use words properly, regardless of how others use them. Remove quotations. Puns are for kids, not grunt readers. Never oversimplify: When adding material to your research paper, never go for oversimplification; this will definitely irritate the evaluator. Be specific. Never use rhythmic redundancies. Contractions shouldn't be used in a research paper. Comparisons are as terrible as clichés. Give up ampersands, abbreviations, and so on. Remove commas that are not necessary. Parenthetical words should be between brackets or commas. Understatement is always the best way to put forward earth-shaking thoughts. Give a detailed literary review.

21. Report concluded results: Use concluded results. From raw data, filter the results, and then conclude your studies based on measurements and observations taken. An appropriate number of decimal places should be used. Parenthetical remarks are prohibited here. Proofread carefully at the final stage. At the end, give an outline to your arguments. Spot perspectives of further study of the subject. Justify your conclusion at the bottom sufficiently, which will probably include examples.

22. Upon conclusion: Once you have concluded your research, the next most important step is to present your findings. Presentation is extremely important as it is the definite medium though which your research is going to be in print for the rest of the crowd. Care should be taken to categorize your thoughts well and present them in a logical and neat manner. A good quality research paper format is essential because it serves to highlight your research paper and bring to light all necessary aspects of your research.

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Informal Guidelines of Research Paper Writing

Key points to remember:

- Submit all work in its final form.
- Write your paper in the form which is presented in the guidelines using the template.
- Please note the criteria peer reviewers will use for grading the final paper.

Final points:

One purpose of organizing a research paper is to let people interpret your efforts selectively. The journal requires the following sections, submitted in the order listed, with each section starting on a new page:

The introduction: This will be compiled from reference matter and reflect the design processes or outline of basis that directed you to make a study. As you carry out the process of study, the method and process section will be constructed like that. The results segment will show related statistics in nearly sequential order and direct reviewers to similar intellectual paths throughout the data that you gathered to carry out your study.

The discussion section:

This will provide understanding of the data and projections as to the implications of the results. The use of good quality references throughout the paper will give the effort trustworthiness by representing an alertness to prior workings.

Writing a research paper is not an easy job, no matter how trouble-free the actual research or concept. Practice, excellent preparation, and controlled record-keeping are the only means to make straightforward progression.

General style:

Specific editorial column necessities for compliance of a manuscript will always take over from directions in these general guidelines.

To make a paper clear: Adhere to recommended page limits.

Mistakes to avoid:

- Insertion of a title at the foot of a page with subsequent text on the next page.
- Separating a table, chart, or figure—confine each to a single page.
- Submitting a manuscript with pages out of sequence.
- In every section of your document, use standard writing style, including articles ("a" and "the").
- Keep paying attention to the topic of the paper.
- Use paragraphs to split each significant point (excluding the abstract).
- Align the primary line of each section.
- Present your points in sound order.
- Use present tense to report well-accepted matters.
- Use past tense to describe specific results.
- Do not use familiar wording; don't address the reviewer directly. Don't use slang or superlatives.
- Avoid use of extra pictures—include only those figures essential to presenting results.

Title page:

Choose a revealing title. It should be short and include the name(s) and address(es) of all authors. It should not have acronyms or abbreviations or exceed two printed lines.

Abstract: This summary should be two hundred words or less. It should clearly and briefly explain the key findings reported in the manuscript and must have precise statistics. It should not have acronyms or abbreviations. It should be logical in itself. Do not cite references at this point.

An abstract is a brief, distinct paragraph summary of finished work or work in development. In a minute or less, a reviewer can be taught the foundation behind the study, common approaches to the problem, relevant results, and significant conclusions or new questions.

Write your summary when your paper is completed because how can you write the summary of anything which is not yet written? Wealth of terminology is very essential in abstract. Use comprehensive sentences, and do not sacrifice readability for brevity; you can maintain it succinctly by phrasing sentences so that they provide more than a lone rationale. The author can at this moment go straight to shortening the outcome. Sum up the study with the subsequent elements in any summary. Try to limit the initial two items to no more than one line each.

Reason for writing the article—theory, overall issue, purpose.

- Fundamental goal.
- To-the-point depiction of the research.
- Consequences, including definite statistics—if the consequences are quantitative in nature, account for this; results of any numerical analysis should be reported. Significant conclusions or questions that emerge from the research.

Approach:

o Single section and succinct.
o An outline of the job done is always written in past tense.
o Concentrate on shortening results—limit background information to a verdict or two.
o Exact spelling, clarity of sentences and phrases, and appropriate reporting of quantities (proper units, important statistics) are just as significant in an abstract as they are anywhere else.

Introduction:

The introduction should "introduce" the manuscript. The reviewer should be presented with sufficient background information to be capable of comprehending and calculating the purpose of your study without having to refer to other works. The basis for the study should be offered. Give the most important references, but avoid making a comprehensive appraisal of the topic. Describe the problem visibly. If the problem is not acknowledged in a logical, reasonable way, the reviewer will give no attention to your results. Speak in common terms about techniques used to explain the problem, if needed, but do not present any particulars about the protocols here.

The following approach can create a valuable beginning:

o   Explain the value (significance) of the study.
o   Defend the model—why did you employ this particular system or method? What is its compensation? Remark upon its appropriateness from an abstract point of view as well as pointing out sensible reasons for using it.
o   Present a justification. State your particular theory(-ies) or aim(s), and describe the logic that led you to choose them.
o   Briefly explain the study's tentative purpose and how it meets the declared objectives.

Approach:

Use past tense except for when referring to recognized facts. After all, the manuscript will be submitted after the entire job is done. Sort out your thoughts; manufacture one key point for every section. If you make the four points listed above, you will need at least four paragraphs. Present surrounding information only when it is necessary to support a situation. The reviewer does not desire to read everything you know about a topic. Shape the theory specifically—do not take a broad view.

As always, give awareness to spelling, simplicity, and correctness of sentences and phrases.

Procedures (methods and materials):

This part is supposed to be the easiest to carve if you have good skills. A soundly written procedures segment allows a capable scientist to replicate your results. Present precise information about your supplies. The suppliers and clarity of reagents can be helpful bits of information. Present methods in sequential order, but linked methodologies can be grouped as a segment. Be concise when relating the protocols. Attempt to give the least amount of information that would permit another capable scientist to replicate your outcome, but be cautious that vital information is integrated. The use of subheadings is suggested and ought to be synchronized with the results section.

When a technique is used that has been well-described in another section, mention the specific item describing the way, but draw the basic principle while stating the situation. The purpose is to show all particular resources and broad procedures so that another person may use some or all of the methods in one more study or referee the scientific value of your work. It is not to be a step-by-step report of the whole thing you did, nor is a methods section a set of orders.

Materials:

Materials may be reported in part of a section or else they may be recognized along with your measures.

Methods:

o   Report the method and not the particulars of each process that engaged the same methodology.
o   Describe the method entirely.
o   To be succinct, present methods under headings dedicated to specific dealings or groups of measures.
o   Simplify—detail how procedures were completed, not how they were performed on a particular day.
o   If well-known procedures were used, account for the procedure by name, possibly with a reference, and that's all.

Approach:

It is embarrassing to use vigorous voice when documenting methods without using first person, which would focus the reviewer's interest on the researcher rather than the job. As a result, when writing up the methods, most authors use third person passive voice.

Use standard style in this and every other part of the paper—avoid familiar lists, and use full sentences.

What to keep away from:

o   Resources and methods are not a set of information.
o   Skip all descriptive information and surroundings—save it for the argument.
o   Leave out information that is immaterial to a third party.

Results:

The principle of a results segment is to present and demonstrate your conclusion. Create this part as entirely objective details of the outcome, and save all understanding for the discussion.

The page length of this segment is set by the sum and types of data to be reported. Use statistics and tables, if suitable, to present consequences most efficiently.

You must clearly differentiate material which would usually be incorporated in a study editorial from any unprocessed data or additional appendix matter that would not be available. In fact, such matters should not be submitted at all except if requested by the instructor.

Content:

- o   Sum up your conclusions in text and demonstrate them, if suitable, with figures and tables.
- o   In the manuscript, explain each of your consequences, and point the reader to remarks that are most appropriate.
- o   Present a background, such as by describing the question that was addressed by creation of an exacting study.
- o   Explain results of control experiments and give remarks that are not accessible in a prescribed figure or table, if appropriate.
- o   Examine your data, then prepare the analyzed (transformed) data in the form of a figure (graph), table, or manuscript.

What to stay away from:

- o   Do not discuss or infer your outcome, report surrounding information, or try to explain anything.
- o   Do not include raw data or intermediate calculations in a research manuscript.
- o   Do not present similar data more than once.
- o   A manuscript should complement any figures or tables, not duplicate information.
- o   Never confuse figures with tables—there is a difference.

Approach:

As always, use past tense when you submit your results, and put the whole thing in a reasonable order.

Put figures and tables, appropriately numbered, in order at the end of the report.

If you desire, you may place your figures and tables properly within the text of your results section.

Figures and tables:

If you put figures and tables at the end of some details, make certain that they are visibly distinguished from any attached appendix materials, such as raw facts. Whatever the position, each table must be titled, numbered one after the other, and include a heading. All figures and tables must be divided from the text.

Discussion:

The discussion is expected to be the trickiest segment to write. A lot of papers submitted to the journal are discarded based on problems with the discussion. There is no rule for how long an argument should be.

Position your understanding of the outcome visibly to lead the reviewer through your conclusions, and then finish the paper with a summing up of the implications of the study. The purpose here is to offer an understanding of your results and support all of your conclusions, using facts from your research and generally accepted information, if suitable. The implication of results should be fully described.

Infer your data in the conversation in suitable depth. This means that when you clarify an observable fact, you must explain mechanisms that may account for the observation. If your results vary from your prospect, make clear why that may have happened. If your results agree, then explain the theory that the proof supported. It is never suitable to just state that the data approved the prospect, and let it drop at that. Make a decision as to whether each premise is supported or discarded or if you cannot make a conclusion with assurance. Do not just dismiss a study or part of a study as "uncertain."

Research papers are not acknowledged if the work is imperfect. Draw what conclusions you can based upon the results that you have, and take care of the study as a finished work.

o   You may propose future guidelines, such as how an experiment might be personalized to accomplish a new idea.
o   Give details of all of your remarks as much as possible, focusing on mechanisms.
o   Make a decision as to whether the tentative design sufficiently addressed the theory and whether or not it was correctly restricted. Try to present substitute explanations if they are sensible alternatives.
o   One piece of research will not counter an overall question, so maintain the large picture in mind. Where do you go next? The best studies unlock new avenues of study. What questions remain?
o   Recommendations for detailed papers will offer supplementary suggestions.

Approach:

When you refer to information, differentiate data generated by your own studies from other available information. Present work done by specific persons (including you) in past tense.

Describe generally acknowledged facts and main beliefs in present tense.

The Administration Rules

Administration Rules to Be Strictly Followed before Submitting Your Research Paper to Global Journals Inc.

Please read the following rules and regulations carefully before submitting your research paper to Global Journals Inc. to avoid rejection.

Segment draft and final research paper: You have to strictly follow the template of a research paper, failing which your paper may get rejected. You are expected to write each part of the paper wholly on your own. The peer reviewers need to identify your own perspective of the concepts in your own terms. Please do not extract straight from any other source, and do not rephrase someone else's analysis. Do not allow anyone else to proofread your manuscript.

Written material: You may discuss this with your guides and key sources. Do not copy anyone else's paper, even if this is only imitation, otherwise it will be rejected on the grounds of plagiarism, which is illegal. Various methods to avoid plagiarism are strictly applied by us to every paper, and, if found guilty, you may be blacklisted, which could affect your career adversely. To guard yourself and others from possible illegal use, please do not permit anyone to use or even read your paper and file.

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Topics	Grades		
	A-B	C-D	E-F
Abstract	Clear and concise with appropriate content, Correct format. 200 words or below	Unclear summary and no specific data, Incorrect form Above 200 words	No specific data with ambiguous information Above 250 words
Introduction	Containing all background details with clear goal and appropriate details, flow specification, no grammar and spelling mistake, well organized sentence and paragraph, reference cited	Unclear and confusing data, appropriate format, grammar and spelling errors with unorganized matter	Out of place depth and content, hazy format
Methods and Procedures	Clear and to the point with well arranged paragraph, precision and accuracy of facts and figures, well organized subheads	Difficult to comprehend with embarrassed text, too much explanation but completed	Incorrect and unorganized structure with hazy meaning
Result	Well organized, Clear and specific, Correct units with precision, correct data, well structuring of paragraph, no grammar and spelling mistake	Complete and embarrassed text, difficult to comprehend	Irregular format with wrong facts and figures
Discussion	Well organized, meaningful specification, sound conclusion, logical and concise explanation, highly structured paragraph reference cited	Wordy, unclear conclusion, spurious	Conclusion is not cited, unorganized, difficult to comprehend
References	Complete and correct format, well organized	Beside the point, Incomplete	Wrong format and structuring

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