SYNOPSIS

This inaugural lecture postulates that the environment is critical to the successful development of the Nigerian economy. It establishes that the failure to develop the economy after almost six decades of Independence is a result of deficiencies in the environment particularly in the area of infrastructure, energy, education, macroeconomic policies, agriculture, international trade and suffocating corruption. How can these deficiencies be rectified and rapid sustainable growth guaranteed? The strong argument made is that an alteration of the existing economic and political disequilibria would lead to more efficient allocation of resources and the development of sustainable economic growth path. Years of mismanagement of the nation's resources, negligence, corruption and policy inconsistencies as well as government's inimical policies and the harsh operating environment is unquestionably responsible for Nigeria's poor economic performance. The lecture suggests the primacy and imperative of setting up workable institutions. Thus institution building is a sine qua non for growth and development in the new Nigeria. This lecture offers a blueprint for such institution building and nurturing. The main recommendations include (i) improving governance and eliminating corruption; (ii) providing adequate soft and hard infrastructure in terms of policy and institutional reforms, judiciary, education as well as modern port facilities, railroads and energy; (iii) reaping the benefits of globalization; (iv) enhancing export diversification; (v) improving education and manpower development; and (vi) modernization of agricultural production.

Environment is everything. You can't plant roses or crops in the desert next to cactus. Either you prepare the ground or the desert and radically change it so that it can support the growth of roses and crops, or those roses and crops will go elsewhere to flourish. This is also true in our country. Our people and economy cannot thrive without an environment of fertile institutions

Sam Guobadia,
Inaugural Lecture, October 2017

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Distinguished Invited Guests
Gentlemen of the Press
Great Students of Benson Idahosa University
Ladies and Gentlemen

Please permit me to join the Vice Chancellor of our great university in welcoming you to this auspicious event of the 7th Inaugural Lecture.

1:0 INTRODUCTION

I am delighted to be here today to deliver the 7th Inaugural Lecture of Benson Idahosa University. I thank the Vice Chancellor for the opportunity. This highly acclaimed academic ritual has a long history. One of the earliest inaugural lectures was delivered by St. Thomas Aquinas in 1256 at the University of Paris. The audience was made up of his academic peers and he titled his inaugural lecture "From your Heights You Water the Mountains, Satisfying the Earth with the Fruit of Your Works", a topic which pleased the Papacy at the time. The tradition of inaugural lectures has, however, evolved to become a gown and town event as we can witness here today. In our nation, the first inaugural lecture, from the search I carried out, was delivered on Foundation Day of the University College, Ibadan (November 17th, 1948) by Paul Christopherson, Professor of English. He titled his lecture "Bilingualism"

On July 27th, 2010 (approximately 69 years after), Benson Idahosa University instituted the tradition of the Inaugural Lecture, titled "Bricks with Little Straws: How Efficient are the Meat and Egg Type Chickens". This first lecture was delivered by our very own Professor of Animal Nutrition, Professor Johnson Olajide Oyedeji.

Mr. Vice Chancellor, we have all become partakers in this highly revered inaugural lecture tradition, and we stand on a platform of

excellence as we meditate, postulate, propagate, articulate, accentuate, perpetuate and educate society on all that humanity needs to prosper. A key principle guiding inaugural lectures is that it is delivered once for all, and provides no opportunity for perfecting future variants of the original message. But the inaugural lecturer must, as a matter of duty, select a topic not irrelevant to him and the audience. An inaugural lecture must be characterized by the sublime, the prophetic, the familiar and the provocative.

I have titled my lecture today, "It's the Environment". The choice of this topic is informed by the economic turmoil in our dear country, Nigeria. The Environment represents the conditions and influences that affect growth and progress. It is the aggregate of social, political, economic and cultural conditions which influence the life of a community or nation. The synonyms include clime, context, environs, or surroundings. It is an ecosystem whereby the sustainability or non-sustainability of parts occur due to the action or inaction of other parts. It is not always true that the past and the present are good indicators of the future, but an understanding of the past and the present is critical as we create a pathway to a prosperous economic future.

2:0 PREAMBLE

Mr. Vice Chancellor Sir, I wish to join a growing number of economists who now believe that until the environment in Nigeria is sanitized, it would be difficult to apply any form of sensible economic modeling framework because conventional economic models no longer work in Nigeria due to environmental factors. This means that without fixing the environment, such lofty objectives of achieving inclusive growth, reducing unemployment and underemployment, eradicating poverty, increasing soft and hard infrastructures, the ability to diversify the economy and compete globally will remain elusive.

2:1 Comparator Analysis

1. South Korea invests well above 60% of its Gross Domestic Product (GDP) in educational and vocational training and is now one of the richest countries in the world. Nigeria invests 3% of its GDP in Education
2. Malaysia, Thailand, and Singapore all invest up to 80% of their annual budgets on capital projects, Nigeria invests below the average of 24% of its annual budget on capital projects. In fact, the reverse is the case in our country. We

spend over 70% of our annual budgets on recurrent expenditures.

3. South Africa produces over 44,000 megawatts of electricity for her 52 million citizens, Brazil produces over 100,000 megawatts of electricity for 192 million citizens, Nigeria, on the other hand, produces average of 4,000 megawatts of electricity for her population of over170 million citizens.

We should have today been a respected member among the BRIC (Brazil, Russia, India and China) countries had we managed our resources adequately. We have recently been moved to the lesser MINT Club made up of Mexico, Indonesia, Nigeria & Turkey. But again, we are performing badly compared with other MINT and similar countries. See Tables I & II below:

Table 1: Performance Criteria for MINT Countries

MINT Countries	Popu-lation	GDP	Forex Reserves	Capital Market Capital-ization	GDP Growth	Unemp-loyment	Inflation
Mexico	130 million	$1.1 trillion	$150 billion	$400 billion	Positive	< 10%	< 10%
Indonesia	200 million	$870 billion	$100 billion	$300 billion	Positive	< 10%	< 10%
Nigeria	170 million	$413 billion	$30 billion	$30 billion	Negative	>10%	>10%
Turkey	80 million	$780 billion	$100 billion	$200 billion	Positive	< 10%	< 10%

Source: Compiled by Author, 2017

Table II: Productivity Criteria for Other Similar Economies

	Inflation	Cost of Funds	Exchange Rate	Unemployment and underemployment	Monetary and Fiscal Policies
Similar Economies	≤ 4%	≤ 3%	Strong Currency	Low	Supports real sector
Nigeria	≥ 17%	≥ 25%	Weak Currency	High	Does not support real sector
High Productivity Criteria	≤ 3 -4%	≤ 3%	Strong Currency	Low	Supports real sector

Source: Compiled by Author, 2017

A glimpse into the economic performance among similar economies would reveal that while most comparator economies enjoy high consumer demand, low cost of funds in the business sector, low cost basis in the export sector, low poverty rate, efficient macroeconomic policies, etc., it is depressing to report that Nigeria enjoys the opposite of these statistics. In such an environment, Nigeria cannot thrive and most conventional economic models will be ineffective. It therefore informs the keen mind why Nigeria's serialized economic programs and plans have all yielded minimal results; from Vision 2010, NEEDS & their State and Local Government counterparts - SEEDS and LEEDS, Vision 2020, and now the newly proposed Economic Recovery and Growth Plan (ERGP) 2017. The debt structure of the ERGP renders it a plan or proposal that will also fail.

It's time we learn the art of putting the horse before the cart and not the other way around.

There are numerous brutal facts we can examine: Since 2000, several airlines in Nigeria have collapsed while several other African airlines continue to thrive. Nigeria is listed in the ranks of the World's poorest nations with over 70% of its population living below the poverty line of $2/day while other similar economies with a fraction of Nigeria's abundant resources live in affluence. Nigeria ranks high on the World's Corruption Index, ranks low on the Ease of Doing Business Index. About 45% of all revenues earned goes toward servicing of debt and we continue to borrow more as evidenced in the 2017 budget. Above all, we continue, as a nation, to hold on to the false census statistics which are continually distorted for political, provincial, resource sharing, ethnic and regional gains. If the census statistics are wrong, it therefore means most other reported statistics in our nation are wrong.

By 2017, Nigeria's debt stock had reached over N19 trillion, a figure that undoubtedly mortgages the future of all Nigerians, including those unborn, and a bill several generations in the future will have to labor and pay off. Our revenue to debt as well as our revenue to interest payment ratios are unsustainable - just as our current practice

of boosting the naira value by drawing down on our international reserves is also unsustainable in the long run.

Many renowned Nigerian economic scholars have attempted to fine-tune conventional economic models (I call this attempt romantic economics) to fit into the Nigerian experience but without much success. This poor outcome is forcefully compounded by government's inaction, ineptitude, the slow pace of tackling the key issues of real economic development, business and private investment growth. The poor national economic performance is also reflected at the State and local government levels. A recent State Viability Index shows that apart from Lagos and Ogun Sates, which respectively recorded internally generated revenue (IGR) of 169% and 127% of Federation Account Allocation (FAA), the majority of other States performed at below 20% of their FAA. In the report, only about 13 States in the country are economically viable by using the very low benchmark of IGR Performance of ≥20%. More than 14 States are performing below 10% of their FAA. Most of the States have huge debt profiles and they have failed to undertake aggressive diversification of their economies. Rather, they continue to depend on the FAA revenues which come from petroleum sales in the volatile oil sector. Just as the economic prospects are bleak at the national level, they are also bleak at the State and local levels. We

can see that the economic challenges in Nigeria are widespread, not sparing any sector, State or local community.

2:2 Current Economic Contradictions

Mr. Vice Chancellor, and then there are these contradictions in our national economy:

1. As we have witnessed for years and decades, the Naira exchange rate continues to depreciate even though we have vast resources for export growth and often enjoy high levels of foreign reserve accumulation
2. It is fashionable among managers (the government) of our economy to borrow dollar denominated debt instruments in the face of buoyant reserve levels far exceeding recommended levels for imports cover.
3. We often cry wolf that our industrial sector is not competitive and in the same vain, the Central Bank of Nigeria hikes the cost of borrowing, trying to cap inflation as it mops up excess liquidity. In simple law of demand and supply, excess supply leads to falling prices but excess liquidity in Nigeria does not lead to a reduction in cost of funds
4. Early this year, the Central Bank of Nigeria aspired to mop up excess liquidity in the economy by borrowing through the

money market netting the banks huge profits in billions, but at the same time in the midst of finalizing the 2017 budget, the government decidedly subjected Nigerians to a voodoo monetary economic policy where N7 trillion budget was passed and borrowing N7 trillion to fund the budget.

These contradictions do not create an environment of economic growth and prosperity. If anything, these contradictions have locked Nigerians in a state of extreme poverty, high inflation, weak entrepreneurial base, weak naira, import dependency, etc. It is fair to say that Nigeria operates a new economic paradigm, perpetuated and reinforced by bad environmental forces and elements. This new economic paradigm is unorthodox, it is unconventional, it is voodoo.

2:3 Other Brutal Facts

- The World bank ranks Nigeria at 170th among the countries in the world in its Business Environment Index – weakening the nation's competitiveness and discouraging foreign direct investments (FDI's)
- The cost of funds is one of the highest in the world stifling private investment growth

- According to the World Economic Forum's Global Competitiveness Report, Nigeria ranks below many developing economies on factors such as infrastructure, electricity supply and transportation – discouraging business investment and slowing growth
- The current Nigerian debt stock has risen from N17.36 trillion in 2016 to N19.15 trillion in 2017 - resulting in a higher debt/GDP ratio, increased debt servicing cost, and removing any hope of a debt free country for generations to come. This also creates the momentum for debt accretion.
- We currently depend on crude oil receipts for over 70% of government revenues even though there is increasing evidence of reduction in oil consumption as many nations plan to proscribe the sale of fuel-run vehicles in less than 15 years
- The Federal Government recently sank another N60 billion into the White Elephant Project called Ajaokuta Steel Complex. Everywhere in the world, a steel complex is the corner stone for true industrialization but monies previously earmarked and eye marked for the steel project have been diverted or outrightly embezzled. Creating the right

environment for the steel sector to thrive is nonnegotiable at this point of our national economic development.

- According to the World Economic Forum's (WEF's) Misery Index, more than 50% of Nigerians are miserable. The Index is a combined measure of unemployment and the average rate of increases in prices of goods and services. According to the WEF, the combined unemployment and under employment rates in Nigeria's recession-prone economy put the overall unemployment in the country at well over 50% - fueling the risk of insecurity and youth restiveness.
- Available statistics indicate increasing levels of multinational industries divestment, increasing sustainability challenges for local industries, especially the textile industry. Many other sectors continue to suffer the effects of poor electricity supply, poor infrastructure and poor road and rail networks.
- Total bank credit to the real sector is a disastrous average of 20% of GDP. In other climes, it's over an average of 80% of GDP. This demonstrates the inability of the financial sector to support the real sector of the economy.
- The United Nations Development Program's Transparency Index regularly places Nigeria as one of the top 5 most-corrupt countries in the world

- The nation's actual inflation rate is a whopping 54% (not the 17% recently reported by the Nigerian Bureau of Statistics), after factoring in the Naira depreciation which has resulted from the devaluation of the naira from N197 to the dollar in 2016 to over N360 in 2017. This results in higher manufacturing costs and prices of goods and services

3:0 THE PROBLEM

Nigeria is a nation blessed with abundant natural resources spread all over the length and breadth of our land, waiting to be harvested for the good of all Nigerians; for affluence, influence, growth and prosperity. But for more than four decades now, Nigerians have witnessed the primitive accumulation of wealth; mostly unearned wealth alongside incorporated ignorance and incompetence across the strata of governance. Under the military juntas, corruption was institutionalized without any apology. Since the return of civilian rule, Nigeria has witnessed about 17 budget cycles, amounting to about N60 trillion, much of which was spent on recurrent expenditure. A misguided approach for economic development.

In order to assign appropriate responsibility to the governance structure which constitutes a significant part of the environment as a disabler, a brief review of the macroeconomic policy management is appropriate. Due to the heavy dependence on oil at the expense of diversification, as well as the recurrent price volatility in the oil sector, government has had to expand fiscal deficits over several decades. The fiscal space is even more constricted in the various States prompting the inability of many to pay even workers' salaries and pensions.

On the flip side, monetary policy challenges also abound as we have seen in the downward pressure on foreign reserves in the constant drive to sustain the naira value. Attempts by the Central Bank of Nigeria to shelter the official rates have often been bastardized by the actions of speculative arbitrageurs, causing huge unnecessary anxiety amongst the populace. In my view, the managers of the nation's fiscal and monetary space have failed woefully by creating a real sector that is unable to be maximally productive and competitive due to poor governance and operational structures. Years of mismanagement of the nation's resources, negligence, corruption and policy inconsistencies have hindered real economic growth. The results of the actions and inactions of government have led to unemployment and

underemployment, extreme poverty, deficient infrastructures, and outright looting of government funds, among other failures. The main insidious factors in Nigeria's economic space are structural imbalance, lack of diversification, infrastructural deficits, insecurity, poor governance structure and fantastically corrupt practices.

Since this lecturer wishes to dissociate himself from romantic economics which involves refining conventional economic models to fit into the Nigerian experience, a fresh perspective is forcefully recommended. ***Government's inimical policies and the harsh operating environment is unquestionably responsible for Nigeria's poor economic performance. If we can fix the environment, then Nigeria will achieve economic emancipation***. The *sine qua non* for our economic emancipation is the fixing of the current operating environment by building stronger institutions. The question then becomes: How do we fix the environment or create an enabling environment for economic growth and prosperity? Answering this question constitutes the main objective of this lecture. The goal is to establish the nexus between ***the Environment*** and economic performance.

As a nation, we are faced with two stark choices: Continue in our current way of doing business and face economic conflagration

or choose a sensible pathway. A pathway that will prescribe a first act of altering the environment by building stronger institutions and equitable political, social and economic structures. When this is done right, supported and sustained by a sensible and transparent government, then we will have an enabling environment where businesses will thrive, conventional economic models will work, and existing laws and policies will work backed by adequately reworked, empowered and stronger institutions.

4:0 MY INTELLECTUAL JOURNEY

Our nation is blessed with vast human and material resources waiting for optimum harvest. Sound policy guidelines are regularly offered by seasoned scholars for a bumper national harvest of our endowments. However, good governance aptitudes are in short supply in Nigeria.

For me, my intellectual focus has been both eclectic and extensive, often attracted to different research areas as an academic. The contribution of a versatile economist, in my view, is to propagate pro-growth, pro-prosperity and pro-stronger institution ideas. The combination of various ideas and thoughts therefore can lay a foundation for the prosperous nation. My

journey started from Holy Cross No. 1 along Mission Road here in Benin City. A challenging time for a child from a large polygamous family, a cultural practice well embraced at the time. From there, I proceeded to St. Paul's College at Ebu, as a pioneer pupil in the Secondary School which was headed by Late Rev. Father Elaho of blessed memory. I was his protégé. After one year in Ebu, my father arranged my transfer to Urhobo College in Warri. An interesting period indeed; relishing my new-found freedom and cultivating the level of independence that soon prepared me and propelled me to the Hunter College of the City University of New York in New York City. Growing up, I read voraciously becoming sensitized to various matters and concepts of interest. I developed a globalized mindset very early on. New York City was one very exciting City, but I yearned for solitude, prompting my transfer to the State University of New York, Stony Brook in Long Island, New York. It was here I met a host family, Richard and Arlene Stopa, who further mentored me to be the best in whatever I do in life. A swell journey so far.

From Stony Brook, I proceeded to the University of Benin as a lecturer and soon after, as one of the pioneer Ph.D students of the institution. The first ever Ph.D program of the University of Benin was mounted in the then Department of Economics and

Statistics making me one of the first (pioneer) 3 Ph.D graduates of the University of Benin. My area of concentration was International Finance. As a strong believer in globalization or interdependency among the nations of the world, my views are always tainted by larger picture of humanity, and the need to learn from other walks of life and be creative in the process. As ever before, I believe strongly that every nation's economic circumstance is, in one way or the other, tainted by interdependence or globalization. And sure enough, everything in Nigeria today is tainted by globalization and its effects.

The effects of globalization can be pervasive prompting Guobadia, et al (2010, pp 12-13) to conclude from the results obtained that there is an inverse relationship between globalization and public sector growth. Since the impact of globalization on public sector growth is highly significant, it then means policy direction must be aligned with more efficient resource allocation by creating the right enabling environment for sound policy formulation and for businesses to thrive. It is poor policy direction that has been the cause of the inability of the nation to optimally gain from globalization. The forceful conclusion in this study is that the risk associated with openness is often poorly managed. Hence in this lecture, the recommended

choice is a pull-back from more direct public sector involvement and allowing the private sector to play a pre-eminent role in growing the Nigerian economy in a globalized world, provided the nation's institutions are made stronger based on sound legal frameworks.

Foreign Direct Investments (FDI's) are critical additions to total investible resources, and can accelerate growth and provide important source of foreign exchange, among other reasons. Although we currently have numerous enabling laws designed to encourage FDI's, such as the Nigeria Enterprise Promotion Decree 34 of 1987, the Nigerian Investment Promotion Commission Act of 1995, the Investment and Securities act of 1999, including the guarantee for the rights of aliens in the Nigerian Constitution, Subsection 20(4) and 54(1) Companies and Allied Matters Act of 2011, none of these has resulted in increasingly significant FDI flows on a sustainable basis. This has resulted in Nigeria performing very poorly, receiving only a small fraction of what South Africa and South Korea received in 2016. The experience of doing business in Nigeria is largely responsible for these gaps. Since foreign direct investors primarily invest for the purpose of earning profits, they invest in countries with the best enabling environments. Hence Guobadia,

et al (2009) have identified the principal economic determinants that attract FDI's. These determinants include:

1. Market size as proxied by GDP and per capita income
2. Market growth as proxied by the rate of growth of key aggregates, such as GDP, Exports, Imports, etc.
3. Availability of efficient and reliable infrastructure (ports, roads, power and telecommunication)
4. Strong economic, political and social institutions
5. Favorable tax policy
6. Existence of a favorable macroeconomic environment; macroeconomic policies and sound macroeconomic fundamentals

But a review of this list is affirmation of the difficulties encountered in doing business in Nigeria. But should Nigeria take these determinants seriously and create the right environment for increased levels of investment, the benefits would be enormous.

The statistical environment in Nigeria is dualistic. One aspect/part attempts to gather and collate critical economic data by relying on proven mathematical procedures. The other aspect relies heavily on naive procedures, which often mislead the public; be it the census, the inflation or unemployment data. The recently published inflation

and unemployment rates are misleading and outright distortions of the facts. Price trends are determined using a Consumer Price Index (CPI) method factoring into the equation only the major consumable food items, transportation and housing, not the less consumable goods, such as coco yam and kpokpogarri. If procedure is properly carried out, then the true inflation trend will be the one reported. For our unemployment data, anything short of unemployment, underemployment and discouraged workers does not reflect the true rates of unemployment in the country.

Guobadia (2002, pp 108-109) asserts that the naïve procedures are popular in Nigeria due to the need for an inexperienced response to forecast requirements. Sometimes, the naïve methods constitute intuitive and subjective procedures with outcomes that can only be assessed by interacting with the practitioner in order to know all the key factors considered by him. The strong position of this lecturer is that, as a matter of urgency, more objective, and statistically complete methods are warranted…for a more effective policy making and planning of the economy. The public sector has not produced an enviable record and techniques of predicting or forecasting economic variables, problems and events. To do it right will require adoption and deployment of proven and robust procedures and techniques, which include, but are not limited to

structural econometric models, exponential smoothing techniques, decomposition and integration methods, ARIMA, Co-Integration and ECM, SVAR, VECM, etc.; models that can effectively predict and forecast economic trends.

In 1981, after my sojourn in the United States for my baccalaureate and Master's degrees in Economics, the Naira exchanged for $4.00 The good old days, I would say. Since then, the nation's currency has suffered numerous devaluations, mostly due to poor policy and performance environments leading to the inability of the country to be competitive despite its vast resources. And in spite of multiple devaluations (we have devalued the Naira for over 30 years) triggered by either poor policy or speculative arbitrage, Nigeria has not recorded any significant export growth even though the expectation is for cheaper Nigeria products on the world markets. Over this period, devaluation has not propelled growth, it has not helped the Naira as a safe currency, it has not encouraged long sustainable investment levels and it has not helped export growth – violating the orthodox view which prescribes that price changes are compensated by demand and supply. And then, the use of accumulated reserves for currency sustainability shows lack of foresight. The policy emphasis should be altering the infrastructural environment in order to become

more competitive, more productive and the resultant positive effect on the Naira.

There are dangers for reserve depletion; dangers many countries have been confronted with in times of financial and currency crises. In the study, Guobadia (2009; p.225), a multinomial *logit* regression model was employed to investigate the issue of reserve adequacy and susceptibility to financial crises. The primary determinants of reserve adequacy and hence susceptibility to financial crisis in Nigeria and the Gambia were found to include the exchange rate, the degree of openness of the economies, the quantum of FDI inflows, the growth of GDP, total debt service and the level of merchandise imports. The binary choice model for the study assumes that Nigeria is faced with 2 alternatives when X = 1 or X = 0; 1 being when $R \geq 1$ signifying adequate reserve levels, and 0 when $R < 1$ – signifying inadequate reserve level for the country. The conclusion is that low levels of reserves would in the first place make it difficult to settle recurring imbalances and other payments for acquired imports. Secondly, the country will be unable to fulfill the need to hold reserves for precautionary balances in the event of unexpected declines in earnings due to the volatile oil market. Thirdly, the country will be unable to weather the external financial shocks or currency crisis - just as the Asian countries bitterly learned in the late nineties.

It follows therefore that low reserve levels undoubtedly places Nigeria in a precarious position should there be deeper currency crises which can be triggered by oil price volatility and international financial shocks. Countries accumulate and hold reserves to insure against such crises. It is therefore not wise to de-cumulate reserve levels for temporary gains in exchange rate. A more diversified export sector is the only panacea for inducing long term exchange rate stability. Guobadia (2003) had argued that the evidence of a non-performing industrial subsector is a low capacity utilization rate of 40% due to misplaced government policies and poor infrastructural base. This capacity underutilization partly explains the constant shortfall in aggregate supply desired for local consumption and for exports.

Long term real economic growth and prosperity depends on a number of factors. A key factor is labor productivity which is determined by the quality of labor as expressed in the skills, knowledge and experiences of workers. A combination of productive labor force and adequate stock of capital has the resultant effect of long term real economic growth. Thus, even the utilization of capital is enhanced by the quality of labor boosting total factor productivity. Guobadia (2003, p.207) argues that long term increases in capital stock result in capital formation, which includes investment in plant and

equipment, human capital and technological advancement…itself induced by specialized manpower skills. Significant changes in them will undoubtedly result in significant changes in productive capacity.

In a recent productivity data for 122 countries (Total Economy Database, published by Conference Board), Nigeria's labor productivity is roughly 16% of that of the United States of America, and overall average growth in productivity is about 3%. Specifically, 5.5% growth in the period 1999 – 2006, 3.6% for 2007 – 2012 (dipping to 1.6% in 2012) and 2.8% 2013-2014. In Nigeria, paying attention to the issue of productivity and investing in education should become of paramount interest to the government. It's productivity that will propel Nigeria from a low-growth economy to a high sustainable long-term growth and prosperous economy.

Mr. Vice Chancellor, since 1981, I have done my bit in carrying out research and advocating policy guidelines in several areas as many of my other peers have done. But not much of these guidelines have been embraced for policy enhancement and growth directions. Some other examples of my work are Guobadia, 2003 (monetary policy and capital formation); Guobadia & Aihie 2008 (banks restructuring); Guobadia 2010 (assumptions & extensions of production theories); Guobadia 2010 (inter-industry input-

output); Ekanem & Guobadia 2010 (market failure); Guobadia 1983 (healthcare financing); Guobadia 1986 (Case for a new Nigerian Economic System); Oriakhi & Guobadia 2008 (non-oil sector revenue generation); Guobadia 2008, Guobadia & Amadasun 2011(international financial crises); Guobadia & Iyoha 2010 (labour market disequilibia); Iyoha & Guobadia 2009 (globalization and transnational corporations); Guobadia 2010 (reserve adequacies); Iyoha, Guobadia & Adamu 2011 (inflation forecasting and output gaps); Iyoha & Guobadia 2011 (macro-econometric policy modeling); Guobadia, Iyoha and Oriakhi 2010 (Labour Market Disequilibrium); Aisien and Guobadia 2010 (Trade and Budget Balances); Guobadia and Iyoha 2016 (Fiscal Policy and Inclusive Growth); Aisien, Guobadia, Iyoha and Oladunni 2017 (Regional Growth Implications); and so on and so forth. Mr. Vice Chancellor, I am still working as we speak.

We are in a propitious moment in our history to embrace researched information for economic development and address the question of: Why are we so poor in spite of the nation's vast human and material resources? I am sure scholars across this country will continue to offer a large bouquet of researched information for policy and economic development

5:0 THE ENVIRONMENT: MAJOR MANIFESTATIONS

Mr. Vice Chancellor, what we have had and been subjected to in our country is a disenabling environment of infrastructural deficits, low educational investments, twisted policy frameworks, high inflation and interest rates, weaker exchange rate, huge debt profile accompanied by high debt servicing costs, hamstrung industrial subsector, high unemployment and underemployment, extreme poverty, corrupt governance structure and very weak institutions.

There is a number of environmental manifestations which play preeminent roles in our economy, thereby creating huge consequences such as those listed above and calls for urgent national response.

5:1 Poor Governance, Bad Policies and Corrupt Practices

According to Suberu (2001), federalism as currently practiced in Nigeria is precariously perched on deep divisiveness along regional, ethnicity and religious fault lines. The fundamental issues of revenue sharing, federal character principle, the expanded exclusive legislative list, etc, are all collectively pushing the country over a disastrous economic precipice. The increasing political and inequitable redistribution of the nation's resources has had adverse effects on economic efficiency. I wish to argue that the conflicts

arising from the current modes of resource redistribution has, overtime, reduced the incentives for economic growth and development, inadvertently discouraging the principle of comparative advantage for each section of the country. This trend has led to resource misallocation, resulting in Nigeria's current growth pattern.

The Federal Government's control and management of the nation's resources has resulted in stagnation, poverty, and deficient infrastructures, and those charged with direct management of the resources have a performance score card of high stagflation, high cost of investible funds, debt peonage, poor living, health and educational standards. According to Ologbenla (2008, p.40), not only are we not developing things (industries, infrastructures, and utilities), we are also not developing our people (nutrition, shelter, environment, health and education). Sustainable economic development is a function of good governance, he concludes. The characteristics of bad governance are:

- weak governance and incompetent leadership
- arbitrary policy making and nepotistic
- abuse of executive, legislative and judicial powers
- bloated emolument packages for non-performing public officials

- lack of responsiveness to the citizens' needs
- widespread corruption

Contrasting these traits are those that belong to good governance, which include accountability, transparency, efficiency, effectiveness, responsiveness, forward vision, rule of law, open to public discourse, predictable and informed policy making. An important premise is that people who are elected into offices with public trust should, as a matter of duty, utilize the reigns of governance to manage the nation's resources in order to achieve sustainable economic growth pattern leading to economic prosperity for all. It is my strong view that good governance is the tonic (panacea) and ingredient for sustainable economic growth and development. Romer (1986), Lucas (1988), Robelo (1991), Aghion and Howitt (1992) have all promoted the New Economic Growth Theory which reflects the important role of government in determining a country's economic direction; such as policy-guided investments in education, infrastructures, health, research and development. In many developing African economies, this role should be amplified, not diminished, not mismanaged.

Kuznets (1971) defined economic development as a long-term rise in a nation's capacity to supply increasingly diversified goods to its citizens; this advanced technology is based on the institutionalized and ideological adjustments that it demands. Kindleberger (1965)

had also stated that *"while economic growth means more output, economic development means more output and changes in the technical and institutional arrangement by which it is produced"*. This was further emphasized by Iyoha, et al (1998) where they listed a number of critical factors in economic development, including *"investment in physical capital, investment in human capital, structural transformation, indigenous technological transformation, administrative efficiency and reforms"* In the Harold-Domar model of development and growth, capital is assigned a role of *necessary and sufficient* ingredient for growth. But the model has revealed the dual role of capital – creating productive capacity and effective demand. Thus, the growth of income or higher output is a function of savings and the ratio of incremental capital to output, in which case, a rise in capital accumulation leads to a rise in aggregate output. See also Guobadia (2002. P.208). This growth model has enjoyed widespread usage for economic planning in many countries – entrusting the government with the responsibility of influencing growth patterns through careful planning and exhibiting sound governance doctrine in the process.

Also, Keynes' General theory assigns an important fiscal responsibility role for government intervention in times of crisis or non-crisis – trusting the government to do the needful in order to

achieve steady economic growth. Good governance structures in historical terms and now; in industrialized as well as in emerging economies; from Japan to China, from United States to Singapore, have influenced the direction of economic growths by applying deliberate and sound macroeconomic policies, protection of industrial, agricultural and mineral subsectors. These they have done through tax policies, deep reforms, restructurings and when necessary, bail out programs. But no investor would invest in a country where religious intolerance, regional crises, violence, kidnapping, epileptic power supply, poor road and rail networks and corruption are prevalent.

5:1:1 Corrupt Practices and Economic Failures

The triple monsters of bad governance, bad leadership and corruption wherever they co-exist often play a deleterious role in slowing down the pace of economic development. According to Rose-Ackerman (1997),

> ***"…widespread corruption is a system of a poorly functioning State. Those who pay and receive bribes can expropriate a nation's wealth, leaving nothing for the poorest citizens. Where corruption is systemic, even countries with extensive natural resources may fail to develop in a way that benefits ordinary citizens. Highly corrupt developing countries face particular challenges even when controlled by reform-minded rulers"***

The level of endemic corruption is largely responsible for our economic challenges. Corruption is virulent and destructive, rendering sensible policy frameworks useless when applied within the Nigerian context.

Catan and Chaffin have offered that in a country, such as Nigeria, corruption is the single greatest obstacle to economic and social development. Corruption in its systematic form decreases public revenue and increases public spending, increases poverty while distorting the markets, increasing resource misallocation and reducing incentives (see also Ologbenla, 2008; p.37).The scope of corruption in Nigeria transverses the political, economic, bureaucratic, judicial and the moral realms of affairs (see also the Transparency International Index). The definition of corruption adopted by the World Bank is true for Nigeria: *"corruption is the abuse of public power for private benefit"* See also Tanzi (1998), Gray and Kaufman (1998). Furthermore, corruption is a rent-seeking behavior which involves the extraction of uncompensated value by some individuals from other individuals within a context of unproductive activities. New wealth is not created. Rather, it s increasing an economic agent's share of existing wealth (Tullock, 1967, 1993 and Krueger, 1974). In some circumstances, this action or behavior is legal and acceptable, as in the case when government

seeks to increase revenues through new tax rates, or come up with policies to redistribute wealth.

However, corruption is described as an illegal form of rent-seeking behavior. The benefit seeker incurs some cost on the larger society. Extant literature has recognized this vice as a major measurable constraint to economic development, particularly in developing nations (Dinino, 2002; Choi and Thum, 2003, 2004; Buscaglia, 2001). The birth of Transparency International has come a long way to aid the reporting of corrupt practices worldwide and battling the evil vice.

The minimalist view of corruption suggests a public sector view; only public officials are corrupt. But in Nigeria, a much broader view will be appropriate; corruption is deep rooted in both the public and private sectors of the economy (see also Klitgard, 1988). Hence in Nigeria, bribery, outright embezzlement of public funds pervades both the public and private sectors of the economy; nepotism, inflating of contracts, kickbacks and other corrupt practices pervade all economic sectors of Nigeria.

In other studies based on empiricist assessments, such as Fisman and Gatti (2002), Brunetti and Weder (2003) and Serra (2006), evidence showed the negative correlation between corruption and economic

development. Further documentations of the evidence are captured in Keefer and Knack (1996), Johnson (1997), Gray and Kaufman (1998), Mean and Weill (2006), Aidt, Dutta and Sena (2008), Kunieda, Okada and Shibata (2011). Hence, there is a broad consensus that corruption negatively impacts long term economic growth and development as demonstrated in Nigeria's extreme poverty, insufficient infrastructures, low investments in health and education, etc.

Most of the determinants of corruption used in the above studies included level of economic development, size of government spending, degree of openness, public and private sector wages. While trade restrictions might lead to increased corruption, openness might have an opposite effect. Economies that are heavily dependent on a single export item, such as oil is more likely to be corrupt than a highly diversified economy. A society with a significantly high governmental influence is more likely to retain an army of corrupt bureaucrats compared to societies where government play less significant role. A materialistic oriented population is more likely to be more corrupt compared to societies with less emphasis on materialism (see also Sandoltz and Taagepera, 2005). Furthermore, centralized governmental systems of a unitary or federalist variety can also encourage widespread corruption, All these descriptions fit

neatly into the political and economic entity called Nigeria. John Kerry, former US Secretary of State once described Nigeria's corruption as a "*radicalize*r"; it is destroying Nigeria's future and opportunities as it ravages legitimate governments, public services and the atmosphere of doing business, life is hard, short and communities are undermined.

The corruption situation in Nigeria has been made worse by the ineptitude of our leaders believing that easy oil rents are here to stay forever. This has been described as a ***"Dutch-disease-generating-syndrome"*** in which policy makers erroneously treat favorable but temporary positive oil revenue shocks as permanent" Rather than diversify the oil rents, our leaders are squandering the nation's wealth and hide some in Swiss banks in the care of the 'Gnomes of Zurich'.; buying pricey properties from New York, London to Dubai. According to Sachs and Warner (2001), Nigeria today is a victim of the ***"natural resource curse"***, which implies laziness arising from a do nothing attitude as long as the good times last. We should be busy diversifying the economy, investing massively in infrastructures, health and education so that when no one buys our oil in the future, we have something to fall back on. Rather, we have increased rent seeking activities to the detriment of the average Nigerian.

5:1:2 Policy Inconsistencies and Development

The policy environment in Nigeria is made up of policy inconsistencies, fiscal and monetary mismanagement, disincentives for would-be investors, and a display of unhealthy political and economic disequilibria. For example, the blithe monetary policy currently driven by the Central Bank of Nigeria (CBN) exhibits odious contradiction and is not pro-investment. The CBN ceaselessly borrows from the banks through Treasury Bill auctions in order to mop up excess naira to hold back inflation due to yet another twisted policy of currency devaluation in a disenabling vicious cycle. In the meantime, the real sector of the economy is reeling with challenges due to lack of investible funds to push further investments and carry out job-creating productive activities…as the banks rake in huge profits without the need to carry out their statutory role of financial intermediation. The cost of funds remain high (over 20%), a clear impediment to economic growth and development. This policy scenario is even more alarming if you add the following measures, controls and outcomes:

1. Over 75% Reserve Ratio for public Sector deposits
2. Over 20% Reserve Ratio for private sector deposits
3. The CBN Monetary Policy Rate hovers around 13 – 14%
4. Over 50% rate of Unemployment and underemployment

5. Actual rate of inflation over 50% due to naira depreciation arising from currency devaluation
6. Exchange rate of N350-N500 to the dollar
7. Banks raking in over N800 billion yearly from interest and service charges due to government borrowings

Our devaluation policy is often guided by the International Monetary Fund (IMF) as well as other western economic interests, who are serving their own self interests. The recommendations by these organizations are haplessly implemented by the CBN. It is important to note that devaluation also creates debt stock related challenges, prompting the Debt Management office (DMO) to state in its 2016 Report that "Nigeria's debt portfolio remains mostly vulnerable to various shocks associated with oil revenues, exports, and substantial currency devaluations". The current devaluation policy is deepening Nigeria's poverty.

The real sectors of the economy will continue to suffer as long as banks prefer placing their funds in high yielding government securities resulting in high costs of funds. This has already forced the closure of many factories, and those with off-shore options have taken their capital and moved elsewhere. Many small to medium size businesses cannot survive under the harsh economic environment, resulting in further job losses, which also have their social

consequences of increased criminality, regional agitations and terrorism. The Monetary Policy Committee (MPC) in its March 2017 Communiqué No. 112 has acknowledged the real sector hardships. That is why this lecturer sees the twisted set of policies to be senseless, tightening money supply in a recession when the nation is faced with high levels of unemployment, youth restiveness, high operating costs, poor industrial and agricultural subsectors, low competition in exports, maintaining high interest and exchange rate regimes.

5:2 Agricultural Neglect

Soon after Independence in 1960, agriculture was the mainstay of the economy, providing raw materials for industries and accounting for the bulk of non-oil earnings and providing jobs. The agro-industry's contribution to GDP was about 70% between (1960 and 1965). Nigerian exports came from every part of the country; we exported cocoa, groundnut, rubber, palm oil, tin ore, etc. However, from 1970 to date, agriculture's contribution to the country's export earnings and GDP has gradually dwindled nearly to the point of insignificance.

By 1986, the nation's non-oil exports share dropped below 5%. But due to oil price/revenue volatility, reliance on oil exports as a major

revenue earner is not sustainable in the long term. Perhaps this explains the serialized efforts and attempts of governments in the last decades; namely, the Green revolution, Operation Feed the Nation and Agricultural Transformation program of the Jonathan administration. In this sector too, incoherent and inconsistent agricultural programs have been the bane of development in the sector. None of the previous agricultural programs have resulted in significant growth in the sector due to a disenabling environment characterized by poor and inconsistent policies, lack of structural reforms in the sector and most times, the total neglect of the sector in favor of oil rents.

The share of crude oil receipts in GDP from 1.5% in the late sixties to over 96% from 1980's upward with slightly lower averages over certain periods. In other climes, agriculture enjoys a preeminent position, embraced, supported, protected, creating jobs, generating incomes, feeding industrial and home consumption. In Nigeria, much of the agricultural sector is still subsistent due to the neglect of large scale mechanized farming. Access to farm credits at best has been sporadic and not well structured. The role and contribution of the agricultural sector is further underestimated due to exclusion of many value-chain activities from statistical computations.

Central to this environment is the lack of power which is critical for agro-processing, preservation and storage. The current agricultural capital stock per hectare of arable land is one of the lowest in the world. The agricultural environment is characterized by:

- Undercapitalization
- Low productivity
- Lack of infrastructures crucial for the development of the subsector
- Low processing activities
- Inadequate storage facilities
- Poor market infrastructure
- Poor road networks
- Non-competitive
- Weak institutions
- Poor macroeconomic management of the sector

According to the World Bank Report (2000, p.170), poor policies and institutional failures are the primary cause of Africa's undercapitalized and uncompetitive agricultural sectors, particularly in the area of processing. Since the demise of the Marketing Boards, no further efforts have been made to have a robust 'off-takers' programs. Nigeria's agriculture yields non-optimum output than otherwise possible. Also, due to the undercapitalization of this sector,

productivity is not only woefully low, most young Nigerians are not attracted into farming business despite the financial promise the sector offers.

5:3 Infrastructural Deficits: The Bane of Development in Nigeria

At the conclusion of the IMF Article IV Consultation with Nigeria early this year, a few strong recommendations were offered by the IMF top management after the discussions. Firstly, Nigeria has been urged to undertake ambitious structural reforms designed to trigger a high competitive and investment-driven economy that is less dependent on oil.

Secondly, to achieve this lofty goal, Nigeria must urgently improve its infrastructural base, enhance the business environment and improve access to financing for small enterprises. A timely call, I would say...since the total value of Nigeria's infrastructural stock (roads, bridges, seaports, power, rail, water, telecoms and others) is a meager 35% of GDP, and therefore inadequate for the size of the Nigerian economy. The need for and importance of increasing the budget share for capital or infrastructural projects cannot be overemphasized. Currently, Nigeria is ranked 169 among countries on the ease of doing business index due largely to infrastructural shortfalls.

Infrastructural deficits have effectively compromised the industrial and productive capacity of the nation by discouraging both domestic and foreign investments. The present state of infrastructures across all sectors of the economy is a threat to economic progress. For example, in a recent report by the Nigerian Society of Engineers (NSE Report, 2016), infrastructures only had a net contribution of 1% to the Nigeria's improved per capita growth performance compared to other countries, averaging well over 50% in some cases. Raising Nigeria's infrastructural profile/contribution to say the levels in South Africa and other similar economies would boost Nigeria's annual growth rate by over 5% point. Most of our roads, bridges, water systems and power grids are all in the state of distress and non-functional. The infrastructural environment can further be characterized as low investments in education, comatose steel sector, insufficient network of rail tracks, and poor electricity supply.

5:3:1 Electricity Supply Failures

Electricity supply occupies a pre-eminent position in the disenabling infrastructural environment. In Nigeria, electricity supply is at best epileptic. But the steady supply of electricity is vital in bridging the industrialization gaps. Between 1999 and 2015, over $20 billion (N7.2 trillion) was expended on electricity. Today, we have a miserly 4000 megawatts to show for this huge expenditure for a consuming

audience of over 170 million. In a recent World Bank report, two main reasons of infrastructure and energy were advanced as holding back economic growth in many African countries with Nigeria topping the list. Also, in a recent statement credited to Mr. Kofi Annan at the African Development Bank Conference – *"Africa's energy deficits continues to stifle economic growth, job creation, agricultural transformation and improvements in health and education"*

There is a staggering difference in per capita electricity consumption in Nigeria when compared with per capita electricity consumption in similar economies. If we include the numbers generated from private power generation (PPG) from generators which is at a very huge expense level, the per capita production still pales compared to similar economies. The issue of power shortage calls for urgent attention from government by first, blocking the leakages from the system, ending outright embezzlements of funds and coming out with policies that will sustain the sector. But first, government has to create the right enabling and regulatory environment and incentivize individuals, corporate bodies and local communities to seek alternative power supply relying on renewable energy; producing adequate electricity and reducing environmental degradation.

5:4 Educational Deficits and Manpower Development Challenges

A certain Thomas Friedman once said he has always had a simple answer to the following question: *What's your favorite country other than your own?* His response: 'Taiwan, because the country is a typhoon-swept rocky island in the South China Sea with no mineral resources to live off on. It even imports sand from mainland China for construction … yet it has the 4th largest financial reserves in the world and a very rich country. It chose to invest in its citizens" This is powerfully germane to the presentation here today. Rather than digging in the ground for oil and other minerals, Taiwan chose to mine its over 25 million citizens, investing massively in education, developing a high rate technology base, creating talent, innovation and creativity nourished and supported by a well-established enabling environment. The countries that will excel in this century and beyond will be those who will not be counting their oil wells but those who will be counting their effective teachers, students, and highly skilled workforce. Granting Nigerians more and widespread knowledge and skills is urgent if we must compete in today's globalized world. Nigeria has a large population and this can be a positive addition to societal progress if its productivity is fully harnessed for prosperity and posterity. Nations, such as China, India, USA, Germany, Japan and Ethiopia (just to name a few) have all

harnessed the positive energy found in large populations by investing massively in their citizens for manpower and economic development.

Nigeria, based on projections, has a population of about 180 million and a literacy rate of over 50%. This is an indication that all is not well in this sector. Over 10 million children are out of school making Nigeria one of the educationally disadvantaged countries in the world. According to the former Minister of Education, Dr. Oby Ezekwesili, *"If Nigeria must witness social and economic transformation it so desired, those who govern the country's educational space must make conscientious effort to provide composite education that would transform ordinary people to human capital"* desired for economic growth and prosperity. It is a well-established fact that composite education guarantees increase in productive capacity and competitiveness reflecting positively on national income. According to her, the analysis from the Global Economic League table shows that countries with highest human capital index take the lead, and not those with largest number of oil wells or reserves.

The educational environment in Nigeria is characterized by low educational investments. We are currently allocating 3% of GDP to education, which is a far cry from the 26% recommended by UNESCO. This explains the

- poor educational standards
- poor performance in standardized exams
- exam malpractice, especially at the secondary and tertiary institutions
- dilapidated facilities – discouraging learning
- overcrowded classrooms
- unsanitary conditions in learning and living quarters in schools
- poor laboratories and lack of learning equipment
- many incompetent and untrained teachers
- obsolete curricula
- corrupt oversight ministries and agencies

There is the added perception by many that educational standards have fallen drastically in both the secondary and tertiary institutions, prompting many who can afford it to send their wards abroad for overseas education; this is trending at the expense of the nation's educational sector.

5:5 Globalization and Internal Economic Challenges

Orthodox international economics has favored import and export substitution forms of industrialization in response to international trade exigencies variously using plan and market tools as guides to

development. Globalization emerged to open up many hitherto closed economies and Nigeria is a frontline globalized economy because of its heavy dependence on proceeds from the sale of oil in the world markets. Globalization is pervasive and it affects and includes all nations of the world, and there is no escaping it. Keen minded national leaders therefore must embrace and maximize its benefits as they minimize its costs.

Embracing globalization with appropriate policy tools can lead to better resource allocation, greater competition, innovation and transfer of adaptable technology, export-led trading activities, higher standard and low cost of living. Smart and deliberate policies can lead to the realization of all these goals despite the risks and shocks associated with openness.

The inherent dangers in globalization include volatility in commodity prices, susceptibility to global financial shocks, comparative disadvantages, poor export performance due to inability to compete, etc. But to manage and tame the globalization environmental challenges calls for careful policies on diversification, export promotion, production of import substitutes, sound macroeconomic policies, defense of the country's currency and infrastructural development for the benefit of domestic and foreign investors. Thus thinking globally requires that we build capabilities as a nation to

compete globally. By doing so, we would be defending and protecting indigenous producers and businesses and by extension, the naira. In my view, there are more benefits looking outward than inward. It is difficult to sustain a closed economy in a globalized world.

5:6 Effects of Environmental Manifestations on Growth

To buttress the arguments presented in this lecture, I have selected a number of regressors/determinants to measure their impacts on national income (proxied by real gross domestic product). They include corruption as proxy for bad governance, human capital as proxy for education, electricity consumption per capita as proxy for infrastructure, openness as proxy for globalization and agricultural output, yielding the linear equation stated below:

$$RGDP = a_0 + a_1C_1 + a_2H_2 + a_3E_3 + a_4O_4 + a_5A_5 + + U_t \ldots\ldots (1)$$

Where *C, H, E, O, A,* respectively represent corruption, human capital, electricity consumption, openness, and agricultural output; U_t is error term assumed to have zero expectations and serially independent, The regression coefficients are denoted as a_i for i = 1…5. The sign expectation for corruption is negative (-), and the sign expectations for human capital, electricity consumption, openness and agricultural output are positive (+).

The time series data (1980 – 2015) are sourced from the World Development Indicators (2016)

The Error Correction Model for the Study

As you would expect, time series variables are obtained in their non-stationary forms, requiring their conversions to stationary series. To achieve this, a unit root test was used (specifically the Augmented Dickey Fuller Statistic) to test for stationarity of each series. First differencing of the original series removed the unit roots and yielded a set of stationary series on which we can run a regression.

Co-integration test

In order to determine and analyze the long-run (LR) relationship between RGDP and the regressors (exogenous variables), a co-integration test was employed. The result of this was that the variables are co-integrated. Thus there exists a LR relationship among all the variables in the model.

Error Correction

The error correction mechanism (method) allows us to correct any form of deviations from the LR equilibrium. Hence it is necessary to model the short-run (SR) dynamics by employing the ECM to achieve a combination of LR equilibrium and SR dynamics

The Results and their Interpretations

Appendix I contains the full details of the regression results. Some key components of the results are reported in Tables III & IV below:

Table III: Correlation Matrix (CM)

CORRELATION MATRIX

	RGDP	OPN	HC	GAGR	ELEC	CORR
RGDP	1	-0.32738	0.900717	-0.74731	0.804509	0.30597
OPN	-0.32738	1	-0.11079	0.138419	-0.11702	0.311163
HC	0.900717	-0.11079	1	-0.554	0.897025	0.492428
GAGR	-0.74731	0.138419	-0.554	1	-0.50684	-0.12329
ELEC	0.804509	-0.11702	0.897025	-0.50684	1	0.368118
CORR	0.30597	0.311163	0.492428	-0.12329	0.368118	1

The CM shows us the pairwise relationship or degree of association between RGDP and the regressors. The empirical results in Table III show that RGDP has a strong relationship with the selected determinants. However, the shortcoming of the correlation analysis is that it only deals with the degree of association between the variables on both sides of the equation. It does not explain the direction of causality between them. Hence regression analysis is needed to cover this gap.

The ECM equation is a combination of SR and LR dynamics of the relationship between RGDP and the exogenous variables as captured in equation 2, and we can draw a number of conclusions from the specific results in Table IV:

RGDP = 1152.00 + 1.88E – 39.37A +0.00HC - 9.78O -0.25C – 0.40 (ECM)……..(2)

Table IV: ECM

Dependent Variable: RGDP
Method: Least Squares
Date: 09/03/17 Time: 17:11
Sample (adjusted): 1982 2015
Included observations: 34 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1152.330	358.9359	3.210407	0.0034
ELEC	1.880297	3.190666	0.589312	0.5606
GAGR	-39.37428	6.368230	-6.182924	0.0000
HC	0.000263	3.88E-05	6.782908	0.0000
OPN	-9.783980	2.355260	-4.154098	0.0003
CORR	-0.253793	19.59262	-0.012954	0.9898
ECM(-1)	-0.408845	0.162050	-2.522952	0.0178

R-squared	0.962014	Mean dependent var	867.0785
Adjusted R-squared	0.953573	S.D. dependent var	916.6355
S.E. of regression	197.5078	Akaike info criterion	13.59067
Sum squared resid	1053251.	Schwarz criterion	13.90492
Log likelihood	-224.0415	Hannan-Quinn criter.	13.69784
F-statistic	113.9644	Durbin-Watson stat	1.758018

Prob(F-statistic)	0.000000

1. The Error Correction Mechanism (ECM) is correctly signed (-) and highly significant at 5% level with t-value of -2.52 and P-value of 0.017. This is a clear indication that the model is dynamically stable. It is a further confirmation that the dependent variable, RGDP, and the group of explanatory variables are co-integrated and have a long-run relationship. The coefficient of the ECM, - 0.4088, shows that about 41% of the deviation from the inter-temporal equilibrium is adjusted for in each period of the model.
2. Corruption is correctly signed (-), meaning that high levels of corruption or bad governance result in lower GDP. The relationship is inverse even though the coefficient value and the t-value are quite low
3. Human Capital is correctly signed (+) and highly significant with t-value of 6.78 and passes the significance test at the 1% level. This shows that if human capital or educational levels of Nigerians improve, GDP will increase
4. Electricity consumption is correctly signed (+). But like corruption, it is not significant, with t-value of 0.58. The likely explanation for the non-significance is the issue of poor

measurement and a host of other factors in the power sector. The key point though is that if there are improvements in infrastructures or power generation and consumption, then that will impact positively on GDP.

5. Openness is wrongly signed (-), with t-value of - 4.15 and passes the significance test at the 1% level. The relationship between openness or globalization and GDP in Nigeria may be due to the mono-cultural nature of our economy (overdependence on the oil sector). Other countries that have diversified their economies and are competitive are reaping more benefits from globalization. It is therefore fair to say that the negative relationship between GDP and openness is due to lack of diversification of the economy, lack of competitiveness, oil price volatility, a host of policy inconsistencies and lack of support for industrial exports. Openness works for countries that are highly diversified and competitive.
6. Agriculture is wrongly signed (-) and highly significant with t- value of - 6.18 passing the significance test at 1% level. The explanation for this unexpected result can be blamed on (i) our antiquated agricultural technology (ii) non-application of modern methods of farming (iii) poor agro-processing (iv)

poor transportation networks (v) bad and inconsistent policies, etc. If agriculture is to play its proper role in our economy, then it must be modernized in order to contribute to higher levels of employment and GDP.

Finally, the overall statistics, such as R^2 and F-statistic also yielded very positive results. The R^2 value of 0.96 shows that 96% of the systematic variations in GDP is explained by the regressors used. The F-stat value of 113.96 is highly significant, passing the significance test at the 1% level. This shows that the hypothesis of a linear relationship between RGDP and the regressors taken together is validated and passes the significance test at 1% level; meaning that 99% of the time, the selected time series variables (determinants) impact GDP.

The lessons from the results offer 2 stark choices: Continue on the path where we refuse to alter the environment and face economic collapse or tame the environment and enjoy the attendant benefits of economic growth, development and prosperity.

6: 0 BLUEPRINT MODELING OF THENIGERIANECONOMY: SEARCH FOR A NEW PARADIGM

Mr. Vice Chancellor, our great Archbishop of CGMI, Most Rev. Margaret E. Benson Idahosa stated the following in the Tuesday, October 3rd 2017 Above Only Devotional, titled Empowered for National Exploits (Exodus 31:2-6), and I quote:

> *"By the Spirit of God, you are empowered to craft the right policies, the right systems, the right structures and the great innovations that will ignite progress and prosperity right where you are and ultimately propel this nation upwards and forward. Your academics, your business or organization, your work tools, your craft, your secret formulas and all your assets are all divinely blessed and empowered by the Spirit of God. By the Spirit of God, you will succeed abundantly and contribute greatly to the growth and success of this nation."*

The time has come for a paradigm shift in order to manage the Nigeria's vast resources for the benefit of the citizens. The new paradigm will embody institutional and environmental peculiarities of Nigeria based on uniquely Nigerian assumptions in the drive to achieve long-term sustainable economic growth and development. This lecture simply follows in the footsteps of others who have modeled other developing economies with similar challenges. See for example Beliman and Klein (1970), Atta (1981), Kwack, et al (1989), and Olofin (1995).

Traditionally, economic progress is often measured in outputs; i.e. the quantitative magnitudes of what have been produced or carried

out. In this section of my lecture, emphasis will be placed on outcomes, i.e. qualitative magnitudes and the impact of programs, policies, changes in the state of being, as in social, political and economic impacts, responsibility and accountability.

A blueprint modeling approach is to be seen as a collection of pragmatic policy frameworks, new reforms and the intensive restructuring of the nation's institutions with a view of accelerating economic growth and development and the wellbeing of Nigerians.

As a nation, we must start afresh

6:1 What are Institutions?

Following North (1990), Acemoglu, et al (2010; pp 137 – 142) offered three important features of institutions, and they are (i) humanly devised (ii) rules of the game – setting constraints on human behavior and (iii) their major effect draws from incentives. In all societies, it is imperative that strong institutions are built for gainful social, political and economic outcomes. These institutions also explain the do's or don'ts of societies; it includes the legal framework and the important issue of property rights. Furthermore, institutions are designed to motivate economic agents for optimal use of resources resulting in economic growth.

The prescribed new paradigm includes orchestrating every aspect of the Nigerian resource base; the people, the structures, the system and

above all, the institutions which are to be created, recreated or massively reformed. The expected outcome is the flawless management of the nation's vast resources and the execution of policies based on sound and sustainable principles. It is possible to develop a coherent framework for institutional role in Nigeria's economy and using the framework to determine failure or success as we micro and macro-manage the nation's economy and resources. We can achieve this by developing uniquely Nigerian assumptions.

There is need to quickly develop and embrace an economic working model which reflects, as a first step, the assessment of economic institutions, dysfunctional political institutions, political power and corruption is recommended for Nigeria, particularly since the government and its institutions play the most significant and pervasive role in the Nigerian economic space and as a consequence, affects people's lives directly as well as the nation's economic growth path.

6:2 Economic and Political Institutions

In Nigeria, emphasis is placed on private enterprise mode of production and consumption. By design, this mode ought to create incentives for development in physical and human capital, incentives for investments backed by a sound legal framework, which protects property rights and security for investors and other economic agents.

A well-established economic institutional base determines the economic growth potential of a nation and the wealth distribution among its citizens. But this can only be sustained with the appropriate enabling environment.

The current distribution of political power in Nigeria represents a major component of the inability of the country to achieve rapid economic growth. Like economic institutions, political institutions determine the disincentives and incentives of key players. In Nigeria, the political power often exercised is *de jure'*, i.e. power derived from a twisted and dysfunctional political system. What we need in the country to free up Nigeria's resources for maximum utilization is *de facto* political power which requires a restructuring of the political system based on power devolution and resource control given back to the regions of the country.

The Nigeria economic space will be helped should the nation have the courage to restructure, devolve powers to a smaller number of regions, and begin the process of placing emphasis on the comparative advantages of the different regions. The current practice of maintaining a dysfunctional federation and a number of political institutions in order to accumulate huge centralized political power will not, or should I say, never support economic growth.

According to Acemoglu, Johnson and Robinson (2005), *de facto* political action, reliance on modern technology and positive globalization shocks are capable of generating major changes in political and economic institutions, resulting in a full implication of changes in economic growth and prosperity; as shown below:

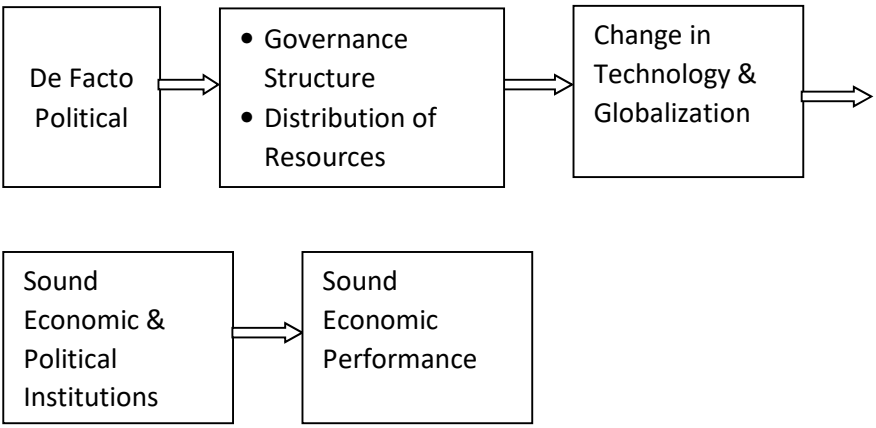

Fig. 1: Determinants of Economic Growth Path

According to them, the reason that political power is often used to change political and economic institutions is related because individuals care about their economic outcomes not only today but also in the future.

In the Nigerian experience, we have witnessed a range of political and economic disequilibria; the case where political forces and

institutions have encouraged dysfunctional political and economic institutions and actions which have become detrimental to the general well-being of the nation's citizens. But an appropriate political equilibrium can lead to economic growth. Thus, Nigeria desires the mix of functional political and economic equilibria through institutional reforms in order to achieve economic growth and prosperity.

In Nigeria, institutional reforms have yielded unimpressive results. It is time to focus on understanding and reforming our basic institutions through fundamental restructuring of our system, our economic and political conventions, norms and practices.

6:3 The See Saw Effect

For too long, political and economic reform activities have not yielded concrete and desired results in Nigeria. These activities have been largely conducted as a *Seesaw* effect, accompanied by a lot of noise but no results and no significant impact made on society. It has been proven that the piecemeal approaches in bringing about institutional changes cannot be effective. Acemoglu, et al (2003) pointed out in their study that a seesaw effect is when people are moving around in circles attempting to fix the fundamental problems of the day and yet achieving nothing. In Nigeria, you have a

relatively few number of power brokers and influence peddlers who have constituted themselves into an oligarchic *unitary form* and centralized power structure by weakening the various other authorities in the country. In such a scenario, specific institutional reforms are likely to be unsuccessful thereby discouraging adequate solutions for the national challenges. More effective results will be obtained by, first, altering the balance of political power, resulting in stronger regional governments, as well as stronger political and economic institutions.

The real solution to Nigeria's challenges then stems from a complete overhaul of how we do business as a nation; an alteration of the underlying political equilibrium will lead to more efficient economic institutions that yield results. It is clever to stop dealing with the symptoms of our problems. Rather, let us deal with the causes. Let us fix the environment first. Specific reforms without disturbing the underlying governance and economic equilibria will forestall improved economic performance.

The Nigerian political elite has structured the major institutions for their benefits but with adverse aggregate effects. To engineer a transition to a better political and economic equilibria will require not removing or replacing the current political players but reforming the institutions so that their actions are constrained. According to

Acemoglu, voting into power reform-minded or saints to operate in a dysfunctional political and economic environment will not necessarily yield long lasting results, especially if they develop and embrace the mind sets of those they replaced. The replacement of one elite by another may therefore do little to improve the economic performance of the nation without strengthening the institutions. It's the weak institutions in Nigeria that have sustained one bad leader after another. *"The succession of bad leader seems to be an example of the 'iron law of Oligarchy' whereby on the surface change appears to take place, only for citizens and stakeholders to become disillusioned with the lack of real economic progress"*

6:4 The Case of Botswana

Nigeria can learn from the experiences of other countries, such as Taiwan (1950's), S. Korea & Singapore (1960's), Chile, China and Mauritius (1970's), Spain (1960's & 1980's). In the 17th Century, UK also fundamentally restructured by expanding democratic rights and investing massively in education. Botswana, a small African country without much resources at the level of Nigeria but which has structurally and fundamentally reformed its institutions, has achieved phenomenal and sustained economic development growth path.

For over four decades, Botswana has achieved one of the fastest average rate of economic growth in cross-country comparisons. This success can be attributed to the two major reasons of sound macroeconomic and microeconomic policy frameworks, on the one hand, and good governance, on the other. The country consistently ranks high in the good governance and corruption indexes. It has been forcefully argued by Parsons and Robinson (2000) that Botswana's success is precisely because of its revamped and restructured economic and political institutions. Institutions which placed constraints on the actions of the political elite with numerous checks and balances, protection of property rights, sound legal frameworks and the wealthy viewing themselves as key stakeholders, and as part of the solutions in their country; often investing heavily in the Botswana real economic sector rather than lodging their wealth in foreign bank vaults. Leith (2005) contains more of the success story of Botswana.

In Nigeria, such policy attempts and efforts as the introduction of the TSA, BVN, etc. are designed as institutional constraints on office holders who are in the habit of stealing from government treasuries may not go far enough. A more fundamental institutional restructuring or reform will, undoubtedly, yield better results. Some have accused the government of adopting a nonsensical approach to

fighting corruption in Nigeria because of the grandstanding and Gestapo methods of the security agencies. In many cases, the enforcers themselves are also corrupt. Fighting corruption is a great and patriotic undertaking but this must be accompanied by deep structural reforms. In the thousands of known corruption cases, *how many have been successfully prosecuted*? Not many. A more realistic approach in fighting corruption is found placing emphasis on institutional reforms as preventive measures and ensuring that we have strong legal frameworks, independence among the various arms of government and incorruptible enforcement agencies. A system that will make it difficult for the looting of public funds. The availability of modern technology, sophisticated management and administrative tools becomes of great benefit. If we can fix the environmental challenges, then all else will work.

6:5 Institutions, Economic Growth and Development

The role of Institutions as key determinants of economic growth and development in various countries has been exhaustively covered in the literature. See Acemoglu, et al (2003, 2005) and others; Knack and Keefer (1995) looked at impact of corruption on economic development. They also examined legal frameworks as impediments to growth, Djaukov, et al (2002) compiled data on entry and institutional barriers to economic growth, and Acemoglu (2008)

examined elite investment property rights as they relate to economic performance. Other studies have examined variation in education vis-à-vis human capital and economic growth. The thread that runs through all these studies is that the authors found significant correlation between the numerous regressors (determinants) and indications of economic performance.

To the question: Why has Nigeria been unable to develop rapidly despite its vast resources? Mr. Vice Chancellor, the answer to this question in my view is the lack of strong institutions. It is fair to say that Nigeria is poor today because of its weak institutions and dysfunctional political and economic environment.

The South Korea, which is known for instituting sound policy and institutional environment on the strong foundation of market economic principles is one of the richest countries in the world today. Mr. Vice Chancellor, we can do that here too by carefully combining sound institutional reforms, sophisticated legal frameworks, devolution of political powers, sound macroeconomic policy environment, and promotion of a market based system which will facilitate and encourage investments that will grow our economy.

7:0 THE WAY FORWARD

The diagnosis of Nigeria is complete and this is to be followed by a prognosis for the uplifting of a nation poised to become one of the greatest countries in the world.

7:1 Policies

As first steps toward institutional reforms, strong financial intermediation by the banks is urgently desirable. Our fiscal stimulus plans are to be directed toward building consumer demand and the use of monetary instruments are to be quickly reviewed. We need to reverse the trends in exchange rate (now over N350/$), Monetary Policy Rate (now 14%), Reserve Ratios (now 75% and 22.5%) liquidity Ratio (now 30%), all of which have combined to impact negatively on our economy.

Real economic growth and prosperity is likely to continue to elude Nigerians without addressing Nigeria's economic challenges with sound long-term macroeconomic policy instruments, which include the budget, fiscal policy, monetary policy, industrial policy, as well as political reforms and other institutional and structural reforms.

The size of Nigeria's economy would require massive doses of cheap funds to the private sector for sustainable growth and development.

Specifically, stabilizing the macroeconomic environment requires lowering inflation, interest rates to single digits and increasing investment activities and consumer demand. It would also require reducing the unemployment and under employment rates and becoming a net exporter of a range of non-oil products.

The CBN seems to be pre occupied with fighting inflation in an economy in recession. It could be a clever approach to get us out of the stagflation conundrum. Basically, the tight monetary policy should be combined with easy fiscal policy. However, the easy fiscal policy has to be properly targeted by sectors, such as agricultural and infrastructural (public works) subsectors. Priming the pump, I would say. It is hoped that a reduction in inflation will be accompanied by reductions in the cost of funds and the cost of living.

7:2 Good Governance & Economic Growth

Early this year in Switzerland, African leaders were schooled by some business leaders that they should henceforth emphasize good governance over economic models, or more appropriately, before application of conventional economic models. They were told that a good and decentralized governance, not economic models that would halt economic degeneration in Africa. (Guardian Editorial Report of

April 3, 2017,P.16). It is high time African and Nigerian leaders understood the full import of the paradigm shift strongly recommended in this lecture. Good leadership structures would appreciate the massive allocations of resources to education, health and infrastructures using the instrumentality of governance, and reforming the nation's institutions as a precursor for economic development. It is no longer fashionable or sensible to continue to solve our problems within the prism of models espoused by industrialized countries. According to Mo Ibrahim (Founder of The African Leadership Prize), transparency should be much more important to African governments than any economic model at this point in time. We ought to be wary of models offered by less than Africa's altruistic partners, such as International Monetary Fund. The consensus in the Geneva Conference was that "Africa does not need new economic models but better governance that will not deprive investors of business opportunities" seeking good governance should override whatever else we have tried in Nigeria that has resulted in the current extreme poverty.

The devolution of power is a good recipe for effective and efficient resource mobilization. Nigeria's federating units should have full autonomy over their resources and grow at their comparative advantaged pace. A true federating entity should not be dependent

on the center; a federating unit that is dependent on another unit cannot be a viable federating unit. A complete overhaul of our political system for the full realization of our economic aspirations is strongly recommended. The 36 states of Nigeria have become mere appendages to the distant Federal Government in Abuja whose major responsibility is to preside over revenues generated at the state levels only to dole out crumbs back to the States. What a misnomer. For effective and concentrated form of widespread economic development, a region or State should remit what is due to the central government from sale of commodities within its borders and not the other way around. A strong fiscal federalism is a more appropriate approach to the current practices. Good governance discourages an atmosphere of corrupt practices, encourages the conservation of resources which are channeled to capital formation, capacity building, security as well as national integration.

7:3 Infrastructural Sufficiency

The major challenge facing any economic plan in the country; be it NEEDS or ERGP is the lack of capacity to develop an enabling infrastructure base (especially power), requisite skills base, transportation and a vibrant iron and steel subsector. Clearly, a discerning administrator would, as a matter of first step, address these

critical deficits for any successful execution of medium to long term plan and goals.

Currently, the energy policy structure in Nigeria is top-down, involving huge investments in large electricity mega plants, generating electricity into mega grids, for mega distribution. This policy has for so long be mismanaged that after years of trial and error, generation is still at a very low level. The top-down policy approach in Nigeria should give way to the trending and sensible bottom-up policy for energy production and distribution. There are lessons we can learn from a country like Germany that can produce over 22,000 MW of electricity through solar panels, having embraced, encouraged and pushed for bottom-up policy approach. The German success is attributable to sound policy guidelines. A dual mode policy approach is strongly recommended for Nigeria at this time, with emphasis on individual or group power generation backed by appropriate policy guidelines, which will complement our mega plants, mega electricity, mega electricity grids and mega distribution and hoping that this approach will yield results in the future. The era of non performing mega grids is over.

The issue of a vibrant transportation sector should receive the immediate attention of government by building durable networks of roads across the country, connecting every part of the country with

railroad network and bringing back national air transportation fleet we can all be proud of (see Ethiopian, Qatar and Emirates Airlines and other proud national carriers). Also, the completion of the Ajaokuta Steel Complex is vital as it can supply over 70% local demand for steel, saving us foreign exchange and creating jobs and incomes. It is important that this sector (iron and steel) is speedily developed and its concomitant machine tools subsector can fuel numerous activities contributing to the industrialization of the Nigerian economy.

7:4 Openness & Export Sector Competition

To achieve the full benefits of globalization, those charged with management of the economy must, as a matter of urgent policy, create the right enabling environment. This can be achieved by developing optimal strategies, such as maximization of factor payments, wages, interest, royalties and service charges to residents and the Nigerian government; promotion of Nigeria's dynamic comparative advantages; aggressive infrastructural development which augments technology transfer and developing a favorable policy environment which seeks, first, to protect the nation's sovereignty and indigenous participation in ventures triggered by globalization. A deliberate policy to de-risk the sector must be pursued [See also Guobadia, et al (2009)].

Since devaluation raises the cost of doing business in Nigeria because it results in sharp increases in the cost of vital raw materials and machinery (in the absence of local suppliers of these inputs), the application of that policy must be gauged with respect to the attendant consequences since we are heavily import-dependent economy. Failing to do this, those proposing these policies become part of the problems we have in the country. Devaluation has a disabling effect on the economy and often results in traumatic experiences for Nigerians. The reality of course is that the naira cannot be considered a safe currency as long as we espouse policies to weaken it, and does nothing aggressive to revamp the economy by investing in education, infrastructure and good governance.

7:5 Manpower Development for Growth

Since there is a lag period in any form of capacity development, the educational system should be revamped immediately to deliver the required capabilities, professional skills and talents for the benefit of the national economy. The engine of economic growth in other climes is education. The chronic disequilibrium in the labour market with short supplies of machinists, engineers, welders, project managers, and business managers does not augur well for a country bent on achieving a stable macroeconomic environment. Let us as a nation deepen the underlying factors of sustainable growth including

the production of advanced skills and capabilities. The reordering of economic plans in Nigeria, at this time, is critical by evaluating the knowledge and the skills base of Nigeria and the capacity of the educational system to assist in the delivering of economic plans and programs. Every economic plan should reflect the objectives and targets for knowledge, human capital, skills and capability development for more realistic economic goals and targets.

A new educational curriculum is desirable, which must reflect both academic and life skills development. Industry of the 21st Century seeks all-rounded leaders who are fully packaged in academic as well as life's skills, such as financial literacy, self-esteem, innovation and creativity, communication and tested leadership skills. The Nigerian Educational Research and Development Council (NERDC) must urgently overhaul the current school curriculum if we are to develop a 21st Century top performing economy. Since education grants requisite knowledge and represents the value structure of a nation, educated Nigerian populace will excel in changing their environment and empowered to harness the nation's resources more effectively.

In effect, **t**his lecture calls for the encouragement of divergent thoughts, new and evolving curricula, specialized skills development and a complete overhaul of the current national education policy. The management of education and its environment is crucial and warrants

the full attention of government. Education should be the nation's first line of defense against poverty, economic depression, insecurity and crimes; a source of national self-reliance and pre-requisite for long and sustainable economic growth and development.

7:6 Agricultural Production and Full Employment Economy

Generally, when economies become more developed, agriculture's role in overall national output is reduced (as obtains in USA, UK, Japan, etc.) But Nigeria's agricultural sector is critical at this stage of our economic development and that is why my faith lies in the Nigerian agricultural sector for the sake of initial industrial development. Our dependency on oil will not last. As a matter of urgent policy, this lecturer calls for huge investments in the agricultural subsector so that the country can achieve the desired economic transformation and growth. We need new policies that can generate production for household and industrial consumption. Nigeria has huge arable/and fallow lands; they should be utilized for commercial scale farming with mechanized equipment.

Processes and procedures are to be implemented for vertically integrated large-scale farming and higher output levels in the sector should trigger other activities in agro-processing, building of food silos and preservation equipment and machinery, as well as support

programs for small farmers. Other requirements will include the empowerment of our youths by engaging them in agricultural-businesses.

Agriculture can indeed become Nigeria's game changer. But to achieve this will require establishing a very intense enabling environment. Thus, government has a critical role to play in providing the enabling environment in order for the agricultural and other non-oil sectors of the economy to thrive. The important first steps by government are listed below.

- Reintroduction of the Export Expansion Grant (EEG) – to stimulate agricultural exports and boost foreign exchange earnings
- The Central Bank of Nigeria's 10-year Export Stimulation Facility at 9% interest – fast-tracking access to the N500 billion facility will generate early activities to jumpstart the sector
- Encouragement of import substitution by hiking import duties above 20% on selected non-oil agricultural products
- Granting of mining licenses for various commercial quantity-level minerals

It is strongly believed that only the agricultural sector can truly bail Nigeria out of its economic doldrums. But to achieve this will require sound and deliberate policies targeting the various components of the agricultural value chain. It is strongly recommended that a complete restructuring of the sector will be of immense benefit to the country. The new agricultural sub-sector must be characterized by efficient mechanized farming approach – reflective of innovations, new technology, mindful of agro-ecological peculiarities of Nigeria, agro-processing, off takers programs, and storage facilities. Above all, the new structure must include aggressive crop engineering programs, sophisticated logistical and transportation systems.

If this task is too much for government, then a Public Private Partnership (PPP) approach will be beneficial to the sector; private sector expertise will be desirable and reliance on adequate information and technology will be critical, including deployments of geographic, weather, and market information systems. An ICT-based approach is highly recommended. Applications and software specifically designed for the sector's operations, sharing agric information, weather tracking, quantitative and qualitative data on agro-products for local consumption and for exports. The outcomes associated with smart new policies will immediately be obvious. If

the environment is fixed, then all Nigerian citizens will reap the rewards. These rewards will include:

1. Increased agricultural output for consumption and as raw materials for industries
2. Accelerated development of rural areas and to check rural-urban migration
3. Higher GDP, lower cost of living, higher standard of living
4. Competitive exports and foreign exchange earner
5. Enjoy the bragging rights of a diversified economy for long term sustainable growth

8:0 CONCLUSION

Mr. Vice Chancellor, we can draw many conclusions from this lecture:

1. That Nigeria is underperforming economically due to environmental factors
2. That the main determinants of economic growth and development are the political and economic institutions which must be fundamentally altered
3. That Nigeria is a victim of weak institutions and deficient governance structure

4. That as the results in this lecture shows, the determinants of growth in Nigeria are individually and collectively responsible for our economic state of economic despair
5. That differences in institutional arrangements among the countries of the world reflect why some countries are in permanent political and economic disequilibria and others are not.

The goal in our country today should be to develop the ability to create an optimal economic growth path, moving from economic stagnation to a point of prosperity for all. This we can achieve by altering the nation's political and economic institutions, As we have witnessed, real economic growth occurred in China in the seventies, as well as in other places, only after the political and economic structures and institutions were altered. But the role of any current government is critical. The Japanese Prime Minister, Junichiro Koizunmi in 2004 aptly captured the role of a good government in bringing about long lasting positive change in the economy: *"Government role is to provide the conditions for private sector to invest and create employment, trade and grow the economy and in the process to remove poverty"*.

The governments in Nigeria are strongly urged to focus on building soft infrastructures (policy, judiciary, security, institutions,

education, etc.) and hard infrastructures (roads, bridges, power plants, rail tracks, water systems, etc,), and making the environment conducive for businesses to thrive. No business wants to provide its own electricity, provides its own water, security, roads and still hopes to make a profit. Collectively, let us seek out leaders who understand these things and have developed the right entrepreneurial mindsets for management of the nation's resources. If we can fix the leadership challenges in Nigeria and fix the environment, then we can fix Nigeria's problems.

Mr. Vice Chancellor, I cannot exit this platform without commenting on the issue of the sovereign wealth fund for Nigerians. Other countries, such as Kuwait and Saudi Arabia, have done extremely well with the management of their sovereign wealth funds. These other countries have saved a great deal of their oil wealth for posterity and for the development of their countries. It is alarming that we have not been able to do the same thing in Nigeria even though the benefits for doing so are obvious and enormous, including availability of investible funds, funds for diversification of the economy, making Nigeria and its currency less susceptible to volatile oil prices. These other nations have built enough cushion against the vicissitudes of every form of global negative shocks. Increased savings of our nation's wealth is strongly recommended; and a recipe for growing

and turning around our economy. I hereby plead with those in governments at all levels not to squander the nation's collective wealth in the interest of Nigeria's future, ***and they should stop sharing the sovereign wealth fund and start investing it.***

Finally, what I have tried to convey to you today is that we are in dire economic straits as a nation but we are a great and blessed people with vast resources.

Ladies and gentlemen, if Botswana, South Korea, Taiwan and Singapore can do it, then we can do it.

9:0 ACKNOWLEDGEMENTS

Mr. Vice Chancellor, permit me to acknowledge God Almighty and all those who have contributed to my birth, upbringing, professional growth, and particularly those who have shown me true love and understanding.

First, I thank God Almighty, the Giver of Life, the Alpha & Omega of Heaven and Earth for my life and the lives of my children. May God continue to shower me with His grace and blessings as I celebrate His goodness in my life each passing day –relishing his blessings and providence

To my late father, Chief (Pa) Joseph Noragbon Guobadia and mother, Madam Comfort Osaremwinda-Eson Guobadia of blessed memory. I thank you for your love and peace of mind you both bestowed upon me. Above all, I thank you for teaching me to always tell the truth however difficult the circumstances. I know you constantly watch over me from your place in Heaven. From a very early age, you taught me the art of hard work and dedication to duty. Dad and mom, I have become an extension of your legacy. I have become your legacy.

To my children who are only with me here today in spirit since most of them are sojourners outside Nigeria and absent from this lecture – Dr. (Mrs.) Eseosa Beverley Walker, Mr. Ike Ikponmwosa Guobadia, Mrs. Aisosa Melissa Rose, Jurist Doctor, Dr. Efosa Lawrick Guobadia, Mrs. Susan Sola Ihekpen and Master Eretin Leslie Guobadia. I thank you and love you guys for your support, especially throughout my most challenging life's episodes. The thought of each of you inspires and strengthens me as I continue to slug and celebrate the goodness of God in my life.

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Mr. Vice Chancellor, I would like, at this point, to thank you especially for asking me to join your management team as the Deputy Vice Chancellor, and together we are witnessing many good things happening in our dear university. May God continue to sustain your life and bless you.

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When I returned from the US in 2005 to make a new home in Nigeria, Professor Milton A. Iyoha and Professor Sunny. O. Iyahen encouraged me to return to the classroom. I told them *No*, they argued *Yes.* First, Professor Iyahen who argued that Benson Idahosa University is so close to my new home and that I can even walk the

distance to school if I so choose. I told him I will do a one-year stint. Ten years later, I am still doing a one-year stint…there must be something beautiful about this great university, which exists by divine mandate.

For Professor Milton A. Iyoha, he argued that since I have invested time and money in obtaining higher degrees, my time in Nigeria will be best utilized in teaching and research. I am proud Sir to call you my teacher and mentor. You are an academic heavyweight proudly representing your alma mater, i.e., Yale University, CT, USA. Thank you for your words of wisdom and encouragement

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I will like to acknowledge my many other friends and colleagues in the University, whose names time will not permit me to mention. I thank you all. I thank everyone in this audience here today for taking time off your busy schedules to come and listen to my lecture. May God's abundant grace and blessings be upon your lives always. Amen!

Thank you for listening and God bless.

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11.0 APPENDIX

DESCRIPTIVE STATISTICS

	RGDP	OPN	HC	GAGR	ELEC	CORR
Mean	865.3479	51.12563	4909251	32.69123	101.4189	6.470359
Median	377.5	53.03022	3561207	32.75542	91.08615	7.5
Maximum	3080.317	81.81285	9216768	48.56594	155.8544	10.5
Minimum	153.076	21.44693	1864713	20.23572	50.70674	1.666667
Std. Dev.	903.113	16.58579	2379242	6.759673	26.67896	2.432538
Skewness	1.447366	-0.22819	0.757728	-0.1159	0.405533	-0.65496
Kurtosis	3.585188	2.073916	2.109094	2.724994	2.176613	2.412987
Jarque-Bera	12.71947	1.554445	4.506717	0.188643	1.948034	3.004875
Probability	0.00173	0.459681	0.105046	0.90999	0.377563	0.222587
Sum	30287.18	1789.397	1.72E+08	1144.193	3549.661	226.4626
Sum Sq. Dev.	27730847	9353.009	1.92E+14	1553.568	24200.07	201.1863
Observations	35	35	35	35	35	35

CORRELATION MATRIX

	RGDP	OPN	HC	GAGR	ELEC	CORR
RGDP	1	-0.32738	0.900717	-0.74731	0.804509	0.30597
OPN	-0.32738	1	-0.11079	0.138419	-0.11702	0.311163
HC	0.900717	-0.11079	1	-0.554	0.897025	0.492428
GAGR	-0.74731	0.138419	-0.554	1	-0.50684	-0.12329
ELEC	0.804509	-0.11702	0.897025	-0.50684	1	0.368118

CORR	0.30597	0.311163	0.492428	-0.12329	0.368118	1

UNIT ROOT TESTS

Null Hypothesis: RGDP has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=8)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		0.509267	0.9846
Test critical values:	1% level	-3.639407	
	5% level	-2.951125	
	10% level	-2.614300	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(RGDP)
Method: Least Squares
Date: 09/02/17 Time: 18:20
Sample (adjusted): 1982 2015
Included observations: 34 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RGDP(-1)	0.026187	0.051422	0.509267	0.6141
C	33.58932	60.33060	0.556754	0.5816

R-squared	0.008040	Mean dependent var	54.85921
Adjusted R-squared	-0.022959	S.D. dependent var	250.9931
S.E. of regression	253.8580	Akaike info criterion	13.96845
Sum squared resid	2062205.	Schwarz criterion	14.05824
Log likelihood	-235.4636	Hannan-Quinn criter.	13.99907
F-statistic	0.259353	Durbin-Watson stat	2.024620

Prob(F-statistic)	0.614059

Null Hypothesis: D(RGDP) has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=8)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-5.570121	0.0001
Test critical values:	1% level	-3.646342	
	5% level	-2.954021	
	10% level	-2.615817	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(RGDP,2)
Method: Least Squares
Date: 09/02/17 Time: 18:20
Sample (adjusted): 1983 2015
Included observations: 33 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(RGDP(-1))	-1.046737	0.187920	-5.570121	0.0000
C	64.14423	46.42769	1.381594	0.1770

R-squared	0.500212	Mean dependent var	-7.979394
Adjusted R-squared	0.484089	S.D. dependent var	356.5857
S.E. of regression	256.1245	Akaike info criterion	13.98790
Sum squared resid	2033593.	Schwarz criterion	14.07859
Log likelihood	-228.8003	Hannan-Quinn criter.	14.01841
F-statistic	31.02625	Durbin-Watson stat	1.890051
Prob(F-statistic)	0.000004		

Null Hypothesis: D(RGDP,2) has a unit root

Exogenous: Constant
Lag Length: 4 (Automatic - based on SIC, maxlag=8)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-4.582340	0.0011
Test critical values:	1% level	-3.689194	
	5% level	-2.971853	
	10% level	-2.625121	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(RGDP,3)
Method: Least Squares
Date: 09/02/17 Time: 18:20
Sample (adjusted): 1988 2015
Included observations: 28 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(RGDP(-1),2)	-8.300361	1.811380	-4.582340	0.0001
D(RGDP(-1),3)	5.898074	1.652676	3.568803	0.0017
D(RGDP(-2),3)	4.434206	1.331906	3.329218	0.0030
D(RGDP(-3),3)	2.995698	0.906181	3.305850	0.0032
D(RGDP(-4),3)	1.459188	0.412017	3.541575	0.0018
C	117.8261	57.07005	2.064587	0.0509

R-squared	0.901692	Mean dependent var	-24.31293
Adjusted R-squared	0.879349	S.D. dependent var	683.8719
S.E. of regression	237.5417	Akaike info criterion	13.96597
Sum squared resid	1241373.	Schwarz criterion	14.25145
Log likelihood	-189.5236	Hannan-Quinn criter.	14.05324
F-statistic	40.35727	Durbin-Watson stat	1.904056
Prob(F-statistic)	0.000000		

Null Hypothesis: OPN has a unit root
Exogenous: Constant

Lag Length: 0 (Automatic - based on SIC, maxlag=8)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-1.924171	0.3177
Test critical values:	1% level	-3.639407	
	5% level	-2.951125	
	10% level	-2.614300	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(OPN)
Method: Least Squares
Date: 09/02/17 Time: 18:20
Sample (adjusted): 1982 2015
Included observations: 34 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
OPN(-1)	-0.251302	0.130603	-1.924171	0.0633
C	12.27774	7.096271	1.730168	0.0932

R-squared	0.103703	Mean dependent var	-0.789600
Adjusted R-squared	0.075693	S.D. dependent var	12.48467
S.E. of regression	12.00287	Akaike info criterion	7.865191
Sum squared resid	4610.202	Schwarz criterion	7.954977
Log likelihood	-131.7082	Hannan-Quinn criter.	7.895810
F-statistic	3.702435	Durbin-Watson stat	2.279520
Prob(F-statistic)	0.063265		

Null Hypothesis: D(OPN) has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=8)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-8.004205	0.0000

Test critical values:	1% level	-3.646342
	5% level	-2.954021
	10% level	-2.615817

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(OPN,2)
Method: Least Squares
Date: 09/02/17 Time: 18:21
Sample (adjusted): 1983 2015
Included observations: 33 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(OPN(-1))	-1.345757	0.168131	-8.004205	0.0000
C	-0.676380	2.085165	-0.324377	0.7478

R-squared	0.673915	Mean dependent var	0.033532
Adjusted R-squared	0.663396	S.D. dependent var	20.62741
S.E. of regression	11.96752	Akaike info criterion	7.860961
Sum squared resid	4439.867	Schwarz criterion	7.951659
Log likelihood	-127.7059	Hannan-Quinn criter.	7.891478
F-statistic	64.06730	Durbin-Watson stat	1.957681
Prob(F-statistic)	0.000000		

Null Hypothesis: D(OPN,2) has a unit root
Exogenous: Constant
Lag Length: 6 (Automatic - based on SIC, maxlag=8)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-4.157092	0.0035
Test critical values:	1% level	-3.711457	
	5% level	-2.981038	
	10% level	-2.629906	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(OPN,3)
Method: Least Squares
Date: 09/02/17 Time: 18:21
Sample (adjusted): 1990 2015
Included observations: 26 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(OPN(-1),2)	-5.573204	1.340650	-4.157092	0.0006
D(OPN(-1),3)	3.605401	1.255568	2.871531	0.0102
D(OPN(-2),3)	2.676007	1.064772	2.513220	0.0217
D(OPN(-3),3)	1.759761	0.834777	2.108062	0.0493
D(OPN(-4),3)	0.874145	0.608507	1.436542	0.1680
D(OPN(-5),3)	0.351199	0.395982	0.886907	0.3868
D(OPN(-6),3)	0.319826	0.185722	1.722068	0.1022
C	-2.338662	1.967959	-1.188369	0.2501

R-squared	0.956364	Mean dependent var	-1.564964
Adjusted R-squared	0.939394	S.D. dependent var	40.08218
S.E. of regression	9.867548	Akaike info criterion	7.664040
Sum squared resid	1752.633	Schwarz criterion	8.051146
Log likelihood	-91.63252	Hannan-Quinn criter.	7.775512
F-statistic	56.35717	Durbin-Watson stat	1.991597
Prob(F-statistic)	0.000000		

Null Hypothesis: HC has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=8)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-0.108068	0.9406
Test critical values:	1% level	-3.639407	
	5% level	-2.951125	
	10% level	-2.614300	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(HC)
Method: Least Squares
Date: 09/02/17 Time: 18:21
Sample (adjusted): 1982 2015
Included observations: 34 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
HC(-1)	-0.003536	0.032722	-0.108068	0.9146
C	216467.9	173984.8	1.244178	0.2225

R-squared	0.000365	Mean dependent var	199496.6
Adjusted R-squared	-0.030874	S.D. dependent var	430077.4
S.E. of regression	436666.0	Akaike info criterion	28.86875
Sum squared resid	6.10E+12	Schwarz criterion	28.95853
Log likelihood	-488.7687	Hannan-Quinn criter.	28.89937
F-statistic	0.011679	Durbin-Watson stat	1.505380
Prob(F-statistic)	0.914617		

Null Hypothesis: D(HC) has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=8)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-4.285914	0.0019
Test critical values:	1% level	-3.646342	
	5% level	-2.954021	
	10% level	-2.615817	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(HC,2)

Method: Least Squares
Date: 09/02/17 Time: 18:21
Sample (adjusted): 1983 2015
Included observations: 33 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(HC(-1))	-0.785693	0.183320	-4.285914	0.0002
C	143397.3	85406.77	1.678992	0.1032

R-squared	0.372076	Mean dependent var	-31011.91
Adjusted R-squared	0.351821	S.D. dependent var	535778.6
S.E. of regression	431353.1	Akaike info criterion	28.84593
Sum squared resid	5.77E+12	Schwarz criterion	28.93663
Log likelihood	-473.9579	Hannan-Quinn criter.	28.87645
F-statistic	18.36906	Durbin-Watson stat	1.959128
Prob(F-statistic)	0.000164		

Null Hypothesis: D(HC,2) has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=8)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-8.630018	0.0000
Test critical values:	1% level	-3.653730	
	5% level	-2.957110	
	10% level	-2.617434	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(HC,3)
Method: Least Squares
Date: 09/02/17 Time: 18:21
Sample (adjusted): 1984 2015
Included observations: 32 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(HC(-1),2)	-1.438730	0.166712	-8.630018	0.0000
C	-40620.60	88174.16	-0.460686	0.6483

R-squared	0.712856	Mean dependent var	-17800.63
Adjusted R-squared	0.703285	S.D. dependent var	915273.5
S.E. of regression	498564.0	Akaike info criterion	29.13731
Sum squared resid	7.46E+12	Schwarz criterion	29.22892
Log likelihood	-464.1970	Hannan-Quinn criter.	29.16768
F-statistic	74.47721	Durbin-Watson stat	2.150551
Prob(F-statistic)	0.000000		

Null Hypothesis: GAGR has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=8)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-2.258060	0.1908
Test critical values:	1% level	-3.639407	
	5% level	-2.951125	
	10% level	-2.614300	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(GAGR)
Method: Least Squares
Date: 09/02/17 Time: 18:22
Sample (adjusted): 1982 2015
Included observations: 34 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
GAGR(-1)	-0.314066	0.139087	-2.258060	0.0309
C	10.15121	4.681764	2.168246	0.0377

R-squared	0.137439	Mean dependent var	-0.225296
Adjusted R-squared	0.110484	S.D. dependent var	5.536439
S.E. of regression	5.221645	Akaike info criterion	6.200524
Sum squared resid	872.4984	Schwarz criterion	6.290310
Log likelihood	-103.4089	Hannan-Quinn criter.	6.231144
F-statistic	5.098834	Durbin-Watson stat	1.747197
Prob(F-statistic)	0.030895		

Null Hypothesis: D(GAGR) has a unit root
Exogenous: Constant
Lag Length: 1 (Automatic - based on SIC, maxlag=8)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-6.221109	0.0000
Test critical values:	1% level	-3.653730	
	5% level	-2.957110	
	10% level	-2.617434	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(GAGR,2)
Method: Least Squares
Date: 09/02/17 Time: 18:22
Sample (adjusted): 1984 2015
Included observations: 32 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(GAGR(-1))	-1.490300	0.239555	-6.221109	0.0000
D(GAGR(-1),2)	0.419797	0.165486	2.536759	0.0168

C	-0.582127	0.932332	-0.624377	0.5373

R-squared	0.615234	Mean dependent var	-0.076034
Adjusted R-squared	0.588698	S.D. dependent var	8.196463
S.E. of regression	5.256624	Akaike info criterion	6.245915
Sum squared resid	801.3307	Schwarz criterion	6.383328
Log likelihood	-96.93464	Hannan-Quinn criter.	6.291463
F-statistic	23.18521	Durbin-Watson stat	2.128436
Prob(F-statistic)	0.000001		

Null Hypothesis: D(GAGR,2) has a unit root
Exogenous: Constant
Lag Length: 3 (Automatic - based on SIC, maxlag=8)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-5.261241	0.0002
Test critical values:	1% level	-3.679322	
	5% level	-2.967767	
	10% level	-2.622989	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(GAGR,3)
Method: Least Squares
Date: 09/02/17 Time: 18:22
Sample (adjusted): 1987 2015
Included observations: 29 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(GAGR(-1),2)	-3.671101	0.697763	-5.261241	0.0000
D(GAGR(-1),3)	1.848394	0.556041	3.324203	0.0028
D(GAGR(-2),3)	0.924409	0.373192	2.477034	0.0207
D(GAGR(-3),3)	0.294151	0.193701	1.518578	0.1419
C	-0.321417	1.212455	-0.265096	0.7932

R-squared	0.811426	Mean dependent var	-0.015497
Adjusted R-squared	0.779997	S.D. dependent var	13.88098
S.E. of regression	6.510809	Akaike info criterion	6.740390
Sum squared resid	1017.375	Schwarz criterion	6.976131
Log likelihood	-92.73566	Hannan-Quinn criter.	6.814221
F-statistic	25.81769	Durbin-Watson stat	2.097909
Prob(F-statistic)	0.000000		

Null Hypothesis: ELEC has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=8)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-1.757425	0.3944
Test critical values:	1% level	-3.639407	
	5% level	-2.951125	
	10% level	-2.614300	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(ELEC)
Method: Least Squares
Date: 09/02/17 Time: 18:22
Sample (adjusted): 1982 2015
Included observations: 34 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
ELEC(-1)	-0.142589	0.081135	-1.757425	0.0884
C	16.88687	8.406888	2.008695	0.0531

R-squared	0.088021	Mean dependent var	2.580991
Adjusted R-squared	0.059522	S.D. dependent var	12.62946
S.E. of regression	12.24783	Akaike info criterion	7.905598
Sum squared resid	4800.301	Schwarz criterion	7.995383
Log likelihood	-132.3952	Hannan-Quinn criter.	7.936217

F-statistic	3.088542	Durbin-Watson stat	2.108899
Prob(F-statistic)	0.088410		

Null Hypothesis: D(ELEC) has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=8)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-7.455533	0.0000
Test critical values:	1% level	-3.646342	
	5% level	-2.954021	
	10% level	-2.615817	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(ELEC,2)
Method: Least Squares
Date: 09/02/17 Time: 18:23
Sample (adjusted): 1983 2015
Included observations: 33 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(ELEC(-1))	-1.200160	0.160976	-7.455533	0.0000
C	2.242778	2.075420	1.080638	0.2882

R-squared	0.641970	Mean dependent var	-0.869449
Adjusted R-squared	0.630421	S.D. dependent var	19.21064
S.E. of regression	11.67873	Akaike info criterion	7.812107
Sum squared resid	4228.175	Schwarz criterion	7.902805
Log likelihood	-126.8998	Hannan-Quinn criter.	7.842624
F-statistic	55.58497	Durbin-Watson stat	2.162351
Prob(F-statistic)	0.000000		

Null Hypothesis: D(ELEC,2) has a unit root
Exogenous: Constant
Lag Length: 1 (Automatic - based on SIC, maxlag=8)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-9.673067	0.0000
Test critical values:	1% level	-3.661661	
	5% level	-2.960411	
	10% level	-2.619160	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(ELEC,3)
Method: Least Squares
Date: 09/02/17 Time: 18:23
Sample (adjusted): 1985 2015
Included observations: 31 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(ELEC(-1),2)	-2.351632	0.243111	-9.673067	0.0000
D(ELEC(-1),3)	0.519904	0.137921	3.769584	0.0008
C	-0.195370	2.329506	-0.083868	0.9338

R-squared	0.860485	Mean dependent var	0.877519
Adjusted R-squared	0.850520	S.D. dependent var	33.40628
S.E. of regression	12.91576	Akaike info criterion	8.046539
Sum squared resid	4670.869	Schwarz criterion	8.185312
Log likelihood	-121.7214	Hannan-Quinn criter.	8.091775
F-statistic	86.34777	Durbin-Watson stat	2.151925
Prob(F-statistic)	0.000000		

Null Hypothesis: CORR has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=8)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-2.255959	0.1915
Test critical values:	1% level	-3.639407	
	5% level	-2.951125	
	10% level	-2.614300	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(CORR)
Method: Least Squares
Date: 09/02/17 Time: 18:23
Sample (adjusted): 1982 2015
Included observations: 34 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
CORR(-1)	-0.202462	0.089745	-2.255959	0.0310
C	1.489081	0.615873	2.417839	0.0215

R-squared	0.137219	Mean dependent var	0.188675
Adjusted R-squared	0.110257	S.D. dependent var	1.340526
S.E. of regression	1.264467	Akaike info criterion	3.364201
Sum squared resid	51.16405	Schwarz criterion	3.453987
Log likelihood	-55.19141	Hannan-Quinn criter.	3.394820
F-statistic	5.089350	Durbin-Watson stat	1.653774
Prob(F-statistic)	0.031041		

Null Hypothesis: D(CORR) has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=8)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-4.901166	0.0004
Test critical values:	1% level	-3.646342	
	5% level	-2.954021	

	10% level	-2.615817

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(CORR,2)
Method: Least Squares
Date: 09/02/17 Time: 18:23
Sample (adjusted): 1983 2015
Included observations: 33 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(CORR(-1))	-0.871582	0.177831	-4.901166	0.0000
C	0.148735	0.240803	0.617663	0.5413

R-squared	0.436583	Mean dependent var	-0.021972
Adjusted R-squared	0.418408	S.D. dependent var	1.794814
S.E. of regression	1.368764	Akaike info criterion	3.524385
Sum squared resid	58.07894	Schwarz criterion	3.615082
Log likelihood	-56.15235	Hannan-Quinn criter.	3.554902
F-statistic	24.02143	Durbin-Watson stat	2.025939
Prob(F-statistic)	0.000029		

Null Hypothesis: D(CORR,2) has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=8)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-9.313570	0.0000
Test critical values:	1% level	-3.653730	
	5% level	-2.957110	
	10% level	-2.617434	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(CORR,3)
Method: Least Squares
Date: 09/02/17 Time: 18:23
Sample (adjusted): 1984 2015
Included observations: 32 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(CORR(-1),2)	-1.486165	0.159570	-9.313570	0.0000
C	-0.031001	0.286377	-0.108252	0.9145

R-squared	0.743024	Mean dependent var	-0.005501
Adjusted R-squared	0.734459	S.D. dependent var	3.143602
S.E. of regression	1.619921	Akaike info criterion	3.863093
Sum squared resid	78.72429	Schwarz criterion	3.954701
Log likelihood	-59.80949	Hannan-Quinn criter.	3.893459
F-statistic	86.74259	Durbin-Watson stat	2.050018
Prob(F-statistic)	0.000000		

ENGLE-GRANGER CO-INTGRATION TEST

Null Hypothesis: ECM has a unit root
Exogenous: Constant
Lag Length: 1 (Automatic - based on SIC, maxlag=8)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-7.596193	0.0000
Test critical values:	1% level	-3.646342	
	5% level	-2.954021	
	10% level	-2.615817	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(ECM)
Method: Least Squares
Date: 09/03/17 Time: 17:03
Sample (adjusted): 1983 2015
Included observations: 33 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
ECM(-1)	-1.036982	0.136513	-7.596193	0.0000
D(ECM(-1))	0.669658	0.124596	5.374638	0.0000
C	-20.14682	24.21476	-0.832006	0.4120

R-squared	0.669598	Mean dependent var	-9.859892
Adjusted R-squared	0.647571	S.D. dependent var	233.8288
S.E. of regression	138.8142	Akaike info criterion	12.79066
Sum squared resid	578081.8	Schwarz criterion	12.92670
Log likelihood	-208.0459	Hannan-Quinn criter.	12.83643
F-statistic	30.39918	Durbin-Watson stat	1.791567
Prob(F-statistic)	0.000000		

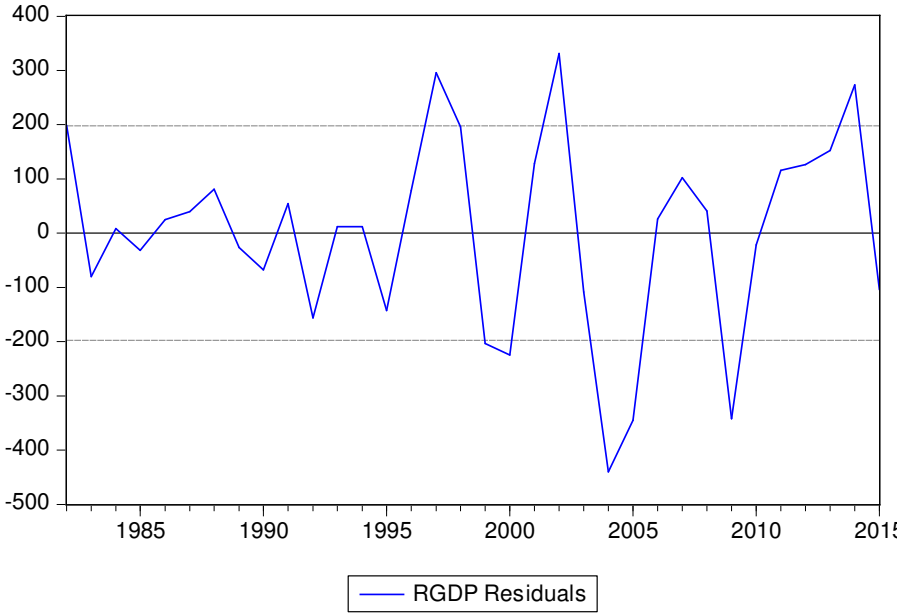
ECM

Dependent Variable: RGDP
Method: Least Squares
Date: 09/03/17 Time: 17:11
Sample (adjusted): 1982 2015
Included observations: 34 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1152.330	358.9359	3.210407	0.0034
ELEC	1.880297	3.190666	0.589312	0.5606
GAGR	-39.37428	6.368230	-6.182924	0.0000
HC	0.000263	3.88E-05	6.782908	0.0000
OPN	-9.783980	2.355260	-4.154098	0.0003
CORR	-0.253793	19.59262	-0.012954	0.9898
ECM(-1)	-0.408845	0.162050	-2.522952	0.0178

R-squared	0.962014	Mean dependent var	867.0785
Adjusted R-squared	0.953573	S.D. dependent var	916.6355
S.E. of regression	197.5078	Akaike info criterion	13.59067

Sum squared resid	1053251.	Schwarz criterion	13.90492
Log likelihood	-224.0415	Hannan-Quinn criter.	13.69784
F-statistic	113.9644	Durbin-Watson stat	1.758018
Prob(F-statistic)	0.000000		

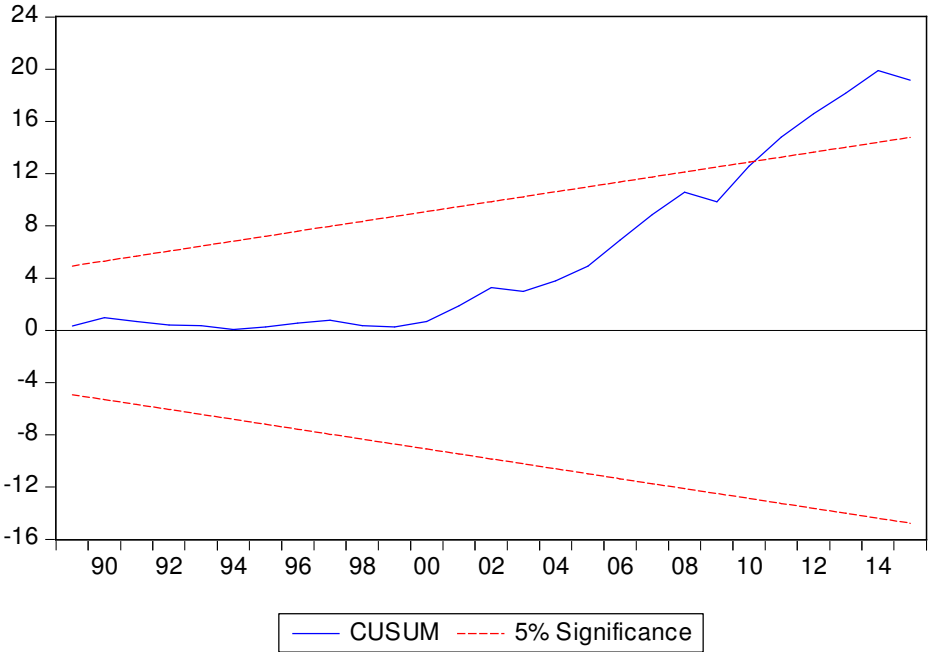


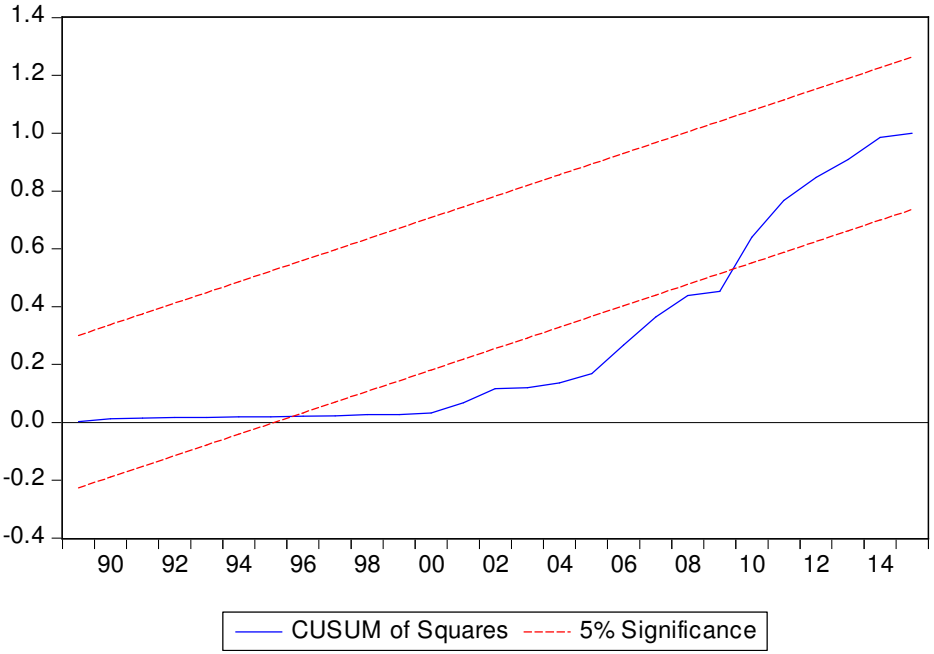
Pairwise Granger Causality Tests
Date: 09/03/17 Time: 17:15
Sample: 1981 2015
Lags: 2

Null Hypothesis:	Obs	F-Statistic	Prob.
CORR does not Granger Cause RGDP	33	1.12839	0.3378
RGDP does not Granger Cause CORR		0.27386	0.7625
ELEC does not Granger Cause RGDP	33	3.53356	0.0428
RGDP does not Granger Cause ELEC		1.01463	0.3755
HC does not Granger Cause RGDP	33	12.7118	0.0001

RGDP does not Granger Cause HC		1.92247	0.1651
GAGR does not Granger Cause RGDP	33	1.11078	0.3434
RGDP does not Granger Cause GAGR		6.52064	0.0047
OPN does not Granger Cause RGDP	33	1.49563	0.2415
RGDP does not Granger Cause OPN		5.92100	0.0072
ELEC does not Granger Cause CORR	33	0.90616	0.4156
CORR does not Granger Cause ELEC		0.21259	0.8098
HC does not Granger Cause CORR	33	0.50663	0.6079
CORR does not Granger Cause HC		0.42787	0.6561
GAGR does not Granger Cause CORR	33	0.04211	0.9588
CORR does not Granger Cause GAGR		0.89376	0.4205
OPN does not Granger Cause CORR	33	0.19607	0.8231
CORR does not Granger Cause OPN		0.55695	0.5792
HC does not Granger Cause ELEC	33	7.44745	0.0025
ELEC does not Granger Cause HC		0.96462	0.3934
GAGR does not Granger Cause ELEC	33	0.24292	0.7860
ELEC does not Granger Cause GAGR		5.54033	0.0094
OPN does not Granger Cause ELEC	33	0.43149	0.6538
ELEC does not Granger Cause OPN		0.84428	0.4405
GAGR does not Granger Cause HC	33	1.64712	0.2107
HC does not Granger Cause GAGR		4.67113	0.0178
OPN does not Granger Cause HC	33	6.09045	0.0064
HC does not Granger Cause OPN		1.66267	0.2078
OPN does not Granger Cause GAGR	33	2.08232	0.1435
GAGR does not Granger Cause OPN		1.10678	0.3447

CUSUM AND CUSUM OF SQUARES TESTS

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0.6
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90
92
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CUSUM of Squares
5% Significance