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Economic Diversification: Drive Towards Sustainable Development in Nigeria

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Abstract

The main focus of economic diversification is to improve economic performance in order to achieve sustainable economic growth. Diversifying an economy encourages inclusive growth and reduces inequality. Recent research confirms that there is indeed a link between economic diversification and sustainable development. The 2014 rebasing of Nigeria's Gross Domestic Product (GDP) made Nigeria the 26th largest economy in the world and the biggest in Africa. Recently, the International Monetary Fund (IMF) pronounced Nigeria again as having the largest economy in Africa. Yet Africa's largest economy faces a myriad of challenges, such as high prevalence of poverty, unemployment, under-employment especially among the youths, huge infrastructure deficits, income and social inequalities. As a nation that relies so much on crude oil for its revenues and foreign exchange earnings, the effect of oil price volatility has had negative multiplier effects on macroeconomic variables within the economy. GDP growth rates have slowed down drastically from the high levels of 7.98 percent in 2010 to about 3 percent in 2015. It is against this backdrop that this paper sets out by utilizing descriptive analytical tool to examine the transmission mechanism through which economic diversification translates to sustainable development. It presents stylized facts on the sectoral economic profile of the Nigerian economy and proceeds to adapt the model of sustainable structural transformation of selected South –East Asian Economies. Finally, the paper submits policy recommendations that will enhance the implementation of the adapted model of economic diversification thus leading the Nigerian economy through the expected path of sustainable development.

Keywords: Economic Diversification, Inclusive Growth, Sustainable Development, Transmission Mechanism

1. Introduction

Economic diversification (ED) has been used as a strategy to transform the economy from using a single source to multiple sources of income spread. This is over primary, secondary and tertiary sectors of the economy. ED reduces the risk of high economic concentration that makes an economy vulnerable to external events such as changes in price of the dominant commodity, insecurity and exchange rate fluctuations. Increased economic diversification improves the performance of the economy and minimizes volatility, which favours the path of a sustainable development. It encourages more inclusive growth and reduces inequality. It also builds resilience against fluctuations in extra regional economic activity thus reducing vulnerability to income loss due to volatility. The focus on economic diversification by successive development plans arose from the structural changes that occurred in the Nigerian economy especially from the 1970s. At independence in 1960 and for much of that decade, agriculture was the mainstay of the economy providing food and employment for the populace and raw materials for the nascent industrial sector and generating the bulk of government revenue and foreign exchange earnings. Following the discovery of oil and its exploration and exportation in commercial quantities, the fortunes of agriculture gradually diminished while crude petroleum replaced it as the dominant source of revenue and export earnings.

Indeed, Nigeria's dependence on crude oil for government spending has hovered around 76 per cent in the last few decades. Moreover, crude oil exports accounted for 90 per cent of the country's foreign exchange earnings in 2010, rising to 95 per cent in 2011 and remained about 90% as at 2016 (CBN, 2016). Economic diversification has featured prominently in various development plans of Nigeria. The major objectives of these plans have orbited around modifying the composition of production and consumption with a view to diversifying the country's economic base, reducing the dominance of the oil sector and imports, raising productivity and generating employment for inclusive and sustainable development. The collapse of the world oil prices and sharp decline in petroleum output brought to the forefront the precarious nature of the country's economic and

financial positions.

There was a dramatic fall in oil export revenues, which entailed a sharp deterioration in the country's public finances and balance of payments. This has led to recession and economic deterioration as manifested by fiscal crisis, foreign exchange shortage, balance of payments and debt crisis, high rate of unemployment, and negative economic growth. Many short and medium term stabilization policies were put in place by the government but they were not appropriate responses to the deep – seated impediments to growth. Thus by 1986 the Babangida administration adopted the Structural Adjustment Programme (SAP) whose major objective was to restructure and diversify the productive base of the Nigerian economy so as to reduce dependence on oil sector and imports. It is however noteworthy that despite the programmes and policies carved out in the first to fourth National development plans, SAP, NEEDs Transformation Agenda by different governments, ineffective corporate governance, the distortions of continued government interventions and ineffective implementation and execution of the programmes on the part of the government, led to a limited level of success. This trend continued over the years and by 2010, Gross Domestic Product (GDP) growth was at 7.98 per cent driven by household consumption of 36.4 trillion rising to 63.5 trillion in 2014. Inflation during this period averaged 13.7 per cent, and dropped to about eight per cent few years later. Export in Merchandise Trade was up to 75 per cent yearly. Portfolio and foreign direct investment stood at 5.9 billion dollars in 2010 rising to over 20 billion dollars a few years later.

Crude oil prices averaged 70 dollars a barrel rising to over 100 dollars with exchange rate of the naira to the United States dollar which was relatively stable at about 150 naira to a dollar in June 2014. Oil prices fell by 66.8 percent from 114 dollars per barrel to 38 dollars by December 2015 and 31.4 dollars as at February, 2016(nigeriasta.gov.ng/resources, 2016). As at early July 2017 Nigerian Brent crude oil was sold for 48.78 US dollar per barrel while official exchange rate and market capitalization was 365 naira and 11.45 trillion naira respectively. The world is experiencing a glut in oil supply with excess supply over demand for crude oil, coupled with drastic reduction in demand for crude oil from emerging nations. Similarly, oil price volatility has also been an issue. As a nation that relies so much on oil for its revenues, the effect of such oil price volatility has had negative multiplier effects on macroeconomic variables within the economy. These have led to severe economic and financial imbalances enveloping the economy and financial markets. Also, economic growth rates had slowed down drastically, to about three percent in 2015, the lowest growth rate ever attained since 1999. Foreign direct investments and portfolio investments declined from 20.9 billion dollars in 2014 to 9.6 billion in 2015. Inflation had gone up from a single digit of 7 percent in 2010 to a double digit by 2015. Export values had gone down by 12 percent while the official and parallel exchange rates are above the 2010 levels. Manufacturing outputs had reduced considerably while trade is now growing at about four per cent and construction growing at about six per cent from all high 15.7 percent. The major implications of this identified structure of the Nigerian economy are declining government revenue due to declining oil prices, slow economic activity, low corporate profit taxes, declining consumption, lower value added taxes, exchange rate adjustments and lower foreign direct investments. To address the salient problem of recession in the country the present government has launched the Economic Recovery Growth Plan (2017-2020). The ERGP focuses on three strategic objectives: restoring growth, investing in our people and building a competitive economy. To restore growth the plan focuses on stabilizing macroeconomic variables and diversification of the economy.

It is against this backdrop that this paper has adopted descriptive statistics to identify sectors that are drivers of economic diversification in Nigeria, established the links between economic diversification and sustainable development. The paper also draws lessons for Nigeria on sustainable models of structural transformation from one-resource based economies of the Gulf Cooperation Council (GCC), Group of Seven (G7) and Transformation economies. It finally presents policy implications of economic diversification as drivers of sustainable development in Nigeria. The paper is structured into six sections, section one as the background, the other sections are: Theoretical Framework and Literature Review, Stylized facts on economic diversification, Economic Diversification and Sustainable Development, Policy Implications of economic diversification as drivers of sustainable development in Nigeria and Conclusion.

2. Theoretical Framework and Literature Review

The concept of economic diversification can be discussed under seven basic theories. These are the industrial organisation theory, economic base theory, regional business cycle theory, trade theory, portfolio theory, location theory and economic development theory. The industrial organisation theory measures diversification in terms of industrial competitiveness. Under this theory, a more diversified sector (i.e., less concentrated) is assumed to be more competitive (Scherer, 1980). A region with a greater number of sectors and/or a more even distribution of economic activity is associated with higher diversity (Malizia

and Ke, 1993).

The economic base theory (also known as export base theory) is preoccupied with identifying the export potential of a given nation or region. It posits that regional economic growth is driven by exogenous final demands, primarily exports. Industries contributing to exogenous (or external) final demand are termed *basic* industries and those serving primarily endogenous (or internal) demand are termed *non-basic* industries. The regional business cycle theory deals with regional economic instability by assuming that there are fluctuations in the demand for exports, especially those with high income elasticities of demand (e.g., luxury goods). It hypothesizes that economic instability can be explained in terms of differences in the mix of stable and unstable sectors. To test this relationship, a region's share of stable or unstable sectors is used as a measure of economic diversity.

In the same vein, the trade theory assumes that economic exchange is driven by regional differences in endowments, preferences and comparative advantage. Also, the theory assumes that specialization in production will lead to economic growth. Regions differ in terms of natural, human and technological resources, infrastructure and other spatial factors. Institutional factors, such as tax structure, environmental regulations, education, and labour laws can also influence regional comparative advantage. Therefore, comparison of the economic performance of a region's industrial sectors relative to a reference economy is usually determined by using a shift-share analysis. The shift-share analysis, enables the researcher to decompose employment growth or decline in a particular region over a given time period into three components: (1) the national growth effect (*NGE*), which is the amount of change in the region's total employment due to national economic factors – the change that would occur if all the industries in the region grew at the same rate as the nation, (2) the industrial mix effect (*IME*), which is the amount of change the region would have experienced had each of its industries grown at their national rates, less the national growth effect, and (3) the competitive share effect(*CSE*), which is the difference between actual change in employment and the employment change to be expected if each industrial sector grew at the national rate.

The portfolio theory was initially proposed by Conroy (1974 and1975) to analyze economic diversification. It assumes that if every sector is considered an individual regional investment, then the bundle of sectors can be viewed as a portfolio of investments. The theory is hinged on the use of the mean return as a proxy for expected returns (*E*) and the variance (*V*) as proxy of risk to determine the set of mean-variance (*E-V*) efficient portfolios (Markowitz 1959). The location theory looks at the spatial distribution of economic activity, including the development of spatial clusters. The theory holds that the cost of production is lower in industrial clusters and this is an important reason for specialization and regional competitive advantage (Hoover and Giarratani, 1985). Economic clusters also benefit from linkages between a region's firms and sectors.

Finally, the economic development theory views diversification as driven by simultaneous changes in production, consumption and trade patterns (Schuh and Barghouti,1988; Barghouti et al., 1990; and Petit and Barghouti, 1992). It has been argued that diversification may be expedited by forces of unbalanced growth, especially the faster growth of sectors with high income elasticities of demand. Thus, to evaluate growth and instability impact, the knowledge of the types of sectors and intersectoral linkages are required. According to Hirschman (1989), the process of diversification can be viewed in terms of changes in an input-output (I-O) matrix. Various measures of intersectoral linkages based in the I-O matrices have been used in the literature (Deman, 1991; Jensen *et al*., 1991). Similarly, Wagner and Deller (1993) suggest a measure of economic diversity based on intersectoral linkages detailed in an I-O matrix. Given the above, it can be deduced that economic diversification in a given economy can be viewed from several perspectives. Nevertheless, in this study, the theoretical framework hinges on economic development theory. Generally, economic development is rested on the theory of structural changes manifesting themselves in a given economy. Such changes are usually measured as rates of industrial growth in an economy. Thus, indicators of economic diversification range from domestic final demand, export oriented growth, output-employment linkage effects, import substitution and technology.

2.1 Literature Review

The findings of Winston Moore & Carlon Walkes (2007) confirm the theorized relationship among diversification, policies and economic volatility. Examining the relationship between diversification, policies and economic volatility from a sample of 147 countries for the period 1970 to 2005, the study shows that more diversified countries tend to have lower rates of output, consumption and investment

volatility. It also discovers that the effects of both expansionary monetary and fiscal policies are better enhanced in more diversified economies. Trade and capital account openness were discovered to tend to diminish economic volatility in relatively less diversified economies. Three important diversification-related economic linkages were identified by Hirshman(1981) in his study on Asian countries. These are (i) consumption linkage: staple export earnings finance domestic consumption and stimulate economic activities in response to such demands; however, the consumption pattern may be skewed towards imports. (ii) Productive linkage: this is the most reliable for the purpose of economic diversification; private agents are better able to decide the viable linkages; 'alien' technology will discourage the involvement of the 'inside' agents. (i.e. the most advanced is not always the best technology for this purpose) (iii) fiscal linkage: the government will be able to raise revenue from the high-rent exports, but may not be a good investor with the proceeds. Based on the findings that the productive linkage is the most reliable for the purpose of economic diversification, the author recommends encouraging private initiatives in productive linkage and ensuring the efficiency of public investments. The productive linkage approach was adopted by China in its economic diversification process with particular emphasis on crops such as the production of rice, wheat, and maize (OECD, 2009; Chen Liagbiao, 1998).

The literature recognizes the existence of diverse measures of diversification. However, portfolio-based measures are dominant, especially in the works of Hachman, 2003; Deller, 1993 and Wagner, 2003. Among the portfolio-based measures, the entropy and Hachman indexes are widely used using sectoral employment data. The entropy index defines economic diversity in terms of equality of distribution of activities across sectors in the economy.

However, Wagner and Deller (1993) asserts that these diversity measures are narrowly defined, usually focusing on the employment distributions across industries and failing to account for inter-industry linkages and the relative size of the economy. According to Manyika (2003), Tanzania's process of economic transformation mainly involved shifting from government/state-led economy to market oriented/private sector dominated economy. In this economy, tourism was given priority. Tanzania also utilized, to some extent the initiatives from developed countries geared to foster economic development in the low-income countries. Such initiatives include economic arrangement like US's Africa Growth and Opportunities Act (AGOA); EU's everything But Arms (EBA) and Canada similar arrangement. Some of the identified barriers to economic diversification in Tanzania include lack of necessary skills and capacity to access international markets (e.g. EU markets) due to restricted trade rules, like Rules of origin, sanitary and phyto-sanitary standards and technical barriers to trade and lack of infrastructure to promote economic diversification.

Aigbedion and Iyayi (2007) have noted that Nigeria's contemporary development has been sustained by extreme dependence on one single primary commodity, that is oil, which accounts for more than 95% of the export earnings and has rendered the economy most vulnerable to the instability of market forces with grave implications to the nation's economic growth and development. They note that in order to foster economic stability and become a full partner in the global economy of the 21st century, the country must embark on export diversification and take advantage of its huge stock of natural resources. According to the authors, Nigeria's diversification approach should cover production and export, including agro-processing, manufacturing and services. It should also extend to non-traditional agricultural goods and eventually non-traditional industrial products.

Onayemi and Akintoye (2009) have examine the extent to which Nigeria's export promotion strategies have been effective in diversifying the productive base of the Nigerian economy from crude oil as the major source of foreign exchange. They discover that non-oil export on the whole has performed below expectation thereby questioning the efficiency of the country's export promotion strategies. They recommend a change in the objectives and focus of the export promotion strategies. Hitherto, the focus has been to pour huge sum of money on export promotion in form of financial assistance, incentives and other institutional assistance to boost export. The focus should change to assistance that would ensure that manufactured export business remains profitable, that exporters attain international competitiveness, make foreign markets penetrations possible and develop regional markets.

Ezike and Ogege (2012) investigated the effect of trade policies on Nigeria's non-oil exports for the period 1970 to 2010. The study shows that export of non-oil goods has positive effect on economic growth in Nigeria, indicating that a country that diversifies its exports base stands a better chance of achieving economic growth. It concludes that Nigeria would be better-off if it makes effort to diversify its economy by encouraging production and exportation of non-oil products.

NISER (2013) adopted Leontief Input-Output (I-O) technique and descriptive statistics to examine the potential for diversification of the Nigerian economy. The study shows that seven out of 12 sectors in the economy recorded high forward linkage effects during the period of analysis while four out of 12 sectors displayed themselves as potential key sectors of the national economy. These sectors are crop production, manufacturing, utilities and communications, and finance and insurance.

Katinka and Thomas (2007) explored the opportunities of diversifying into horticulture to reduce poverty, increase income and generate employment. The study shows that horticulture can offer good opportunities for poverty reduction but care must be taken that small and poor farmers are not excluded from the opportunities in these market sectors.

Nathan (2009) Examine the role of economic diversification in the face of a changing climate. He explained that economic diversification is the key to decreasing the Mongolia's herders vulnerability to changing climate conditions. Although mining has helped take some of the pressure off herders dependence on mining will further stress Mongolia's fragile environment. Thus development renewable energy will also strengthen Mongolia's commitment to environmental protection by decreasing his own generation of green house gasses.

3. Stylized Facts on Economic Diversification in Nigeria

Based on economic development theory that identifies industrial growth of the economy in terms of output expansion, domestic final demand, export oriented growth, import substitution and technological change as pointers to sustainable development through structural transformation, this paper explores the structural pattern of Nigeria's GDP and selected countries. The distribution of Nigeria's GDP as indicated in Table 1 is dominated by the primary sector which comprises agriculture and mining and quarrying.

Table1: Percentage Distribution of Real GDP by Sectoral Group, 1961-2014

Sectoral Group	1961	1966	1970	1977	1981	1987	1990	2003	2007	2009	2011	2014
Primary Sector	**70.54**	**69.68**	**66.99**	**62.10**	**58.40**	**60.25**	**55.68**	**68.36**	**61.92**	**58.44**	**55.30**	**53.01**
Agriculture	68.88	66.95	49.45	30.10	28.37	29.24	22.99	34.62	42.02	41.69	40.2	42.90
Mining & Quarrying	1.66	2.73	17.54	32.00	30.03	31.02	32.69	33.74	19.90	16.75	15.1	10.11
Secondary Sector	**9.67**	**12.55**	**16.15**	**13.05**	**12.14**	**12.60**	**9.04**	**10.51**	**9.24**	**9.05**	**6.2**	**14.7**
Manufacturing	4.73	7.00	7.66	6.30	5.60	5.95	5.12	4.32	4.03	3.72	4.2	9.95
Building & Construction	3.30	4.95	7.77	2.90	2.83	2.87	1.78	2.70	1.72	2.01	6.2	3.82
Utilities	1.63	0.60	0.60	3.85	3.71	3.78	2.14	3.49	3.49	3.32	3.0	0.93
Tertiary Sector	**19.79**	**17.77**	**16.86**	**24.85**	**29.46**	**27.16**	**35.28**	**21.13**	**28.84**	**32.51**	**39.0**	**32.29**
Wholesale & Retail	19.36	15.40	13.56	14.21	14.17	14.19	8.68	12.92	16.16	18.14	19.4	19.57
Other Service Activities	0.43	2.37	3.29	14.64	15.29	14.97	26.60	8.21	12.68	14.37		12.72
Total (GDP)	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.0**	**100**

Source: Underlying data from National Bureau of Statistics (NBS), Abuja and IMF: International Financial Statistics (IFS).

Agriculture remains the main driver of the primary sector. In terms of contribution to GDP, the secondary sector is the least in Nigeria. Comparing agriculture and the manufacturing sectors, the table shows an extreme dominance of agriculture in the GDP. The contribution of the manufacturing sector over the years was below 10 per cent. These demonstrate the skewness of the Nigerian economy and the low level diversification of the economy for sustainable development.

Three categories of countries are selected for comparison. The first category consists of countries that were initially at the same phase of development with Nigeria. These are African countries consisting of Egypt, Ghana, Botswana, and South Africa. The second group consists of the newly industrialising countries which are mid-way in the continuum of development. That is, they are between the advanced and the less developed countries. These are Mexico and Brazil from Latin America. The third class of countries are those from Asia (India, Indonesia, Malaysia and China). The choice of these countries was based on their sharing some similarities with Nigeria on economic development

Agricultural sector is known generally to dominate other sectors at the early stages of economic development of nations. This appears to be the pattern in the sampled countries. Table 2 reveals the dominance of agriculture in the 1960s. Most of the countries (excluding Brazil, Mexico and South Africa) had agricultural share of GDP of over 17 per cent. It is remarkable to note that Nigeria's agricultural share in GDP during this period was the highest (56.96 per cent). For most of the countries, the share of agriculture in GDP dropped in subsequent periods. For instance, the share in Botswana (a mineral resource rich country) dropped to as low as 2.24 per cent in 2000-2010. Similarly, the share in Indonesia (another oil resource rich country) fell to 14.62 per cent. In the case of Nigeria, the share dropped from 56.96 per cent in the 1960s to 31.17per cent in the 1970s. Since then, the trend of the share of agriculture has been upward. Indeed, this is against the emerging trend in the world as shown in Table 2.

Table 2: GDP Structure in Selected Countries (%)

	Agriculture					Manufacturing					Services				
Countries	**1960s**	**1970s**	**1980s**	**1990s**	**2000-2010**	**1960s**	**1970s**	**1980s**	**1990s**	**2000-2010**	**1960s**	**1970s**	**1980s**	**1990s**	**2000-2010**
Botswana	39.52	23.74	8.70	4.25	2.24	9.72	6.84	6.00	5.17	3.91	46.98	37.36	33.82	40.90	46.79
Brazil	16.83	12.69	10.45	6.87	6.09	28.16	30.00	32.72	20.28	16.96	46.96	47.98	45.01	60.49	66.12
China	37.16	32.35	29.39	20.50	12.23	29.02	37.22	36.04	32.93	32.12	27.69	23.17	26.27	34.11	41.30
Egypt	28.88	28.15	19.75	17.25	15.02		15.73	14.40	17.54	17.25	44.05	44.09	49.70	50.95	49.02
Ghana	44.90	56.46	52.54	42.57	35.71	12.83	12.27	8.67	9.93	9.11	29.69	24.56	33.62	32.89	40.05
India	42.53	38.91	31.99	27.64	19.74	14.25	15.75	16.57	16.29	15.30	37.28	38.45	42.08	45.92	53.02
Indonesia	51.52	34.02	23.18	17.91	14.62	9.00	10.42	15.35	23.72	27.53	34.02	35.91	38.70	40.32	39.17
Korea	33.78	26.16	13.43	6.64	3.44	15.57	21.61	27.51	27.14	27.52	42.96	44.02	47.37	51.98	59.27
Malaysia	31.21	27.39	20.30	13.15	9.25	9.48	16.82	20.42	27.05	28.57	43.76	39.52	40.70	44.31	43.67
Mexico	12.21	11.60	8.97	6.20	3.88	20.14	22.74	23.07	20.54	18.61	59.73	56.23	57.03	65.78	63.57
Nigeria	56.96	30.01	31.17	33.87	41.14	6.53	6.90	6.63	5.07	3.95	14.97	17.06	10.32	11.31	15.86
S/ Africa	10.03	7.26	5.46	4.11	3.19	21.68	21.82	22.84	20.96	17.73	51.63	52.33	50.77	60.91	65.18

Source: World Development Indicators, 2012.

Furthermore, while most of the countries have manufacturing share of double digit, that of Nigeria is single digit and which unfortunately maintained a downward trend also during the period of investigation less than five per cent as at 2016. In 2000-2010, the sector contributed an appalling 3.95 per cent. A number of factors account for the low contributions of the manufacturing sector. These include low level of investments occasioned by the poor infrastructure of the country, lack of necessary raw materials, high cost of finance, hostile business environment, slow judicial process and lack of commitment on the part of previous governments to develop the sector. Thus, the challenge facing Nigeria is the urgent need to accelerate the pace of manufacturing activities in the country with a view to diversifying the economy and also to ensure that the country at least keeps pace with other emerging economies both in Africa and in the globe to achieve sustainable development. This is one of the reasons for the introduction of Economic Recovery and Growth Plan by the Buhari administration in April 2017.

Human capital development and even distribution of labour among sectors that drives SD is key to economic diversification. The results of the NBS quarterly surveys in 2012 to first quarter of 2016 shows that the Nigerian economy generated over 4.61 million jobs (Table 3). They also indicate that the jobs were created by the informal sector of the economy with 95.4 percent in the 4th quarter of 2015 and 76.8 percent in the 4th quarter of 2016. However, prospects of generating more jobs in the Nigerian economy depend largely on addressing a range of sectoral issues, particularly in labour intensive sectors such as agriculture, manufacturing, housing, building and construction and sports. NISER (2013) study on economic diversification ranked agriculture as the most important sector requiring government attention. Figure 1 shows that 77.8 per cent of the entire respondents recommended this sector for priority attention. Manufacturing and solid minerals rank 2nd and 3rd while human capital development and tourism are ranked 4th and 5$^{th.}$. Expectedly, oil and gas which has dominated the nation's GDP, was ranked the least sector having potential for diversification. Consequently, strong macro-economic variables are also needed for economic diversification in any economy

Table 3 New Job Created (Q3&4, 2012 – Q1- 2016)

New Jobs Created Quarter 3 & 4, 2012 - Quarters 1- 2016					
Sector	Q3&4, 2012	2013	2014	2015	**Q1 2016**
Formal Jobs	316,311	432,720	438,263	250,929	**21,477**
Informal Jobs	449,279	628,845	759,896	1,321.559	**61,026**
Public Sector Jobs	47,619	102,201	20,893	12,651	**-3,038**
Total New Jobs	**813,209**	**1,163,766**	**1,219,052**	**1,334,210**	**79,465**

Source: NBS, Job Creation Survey

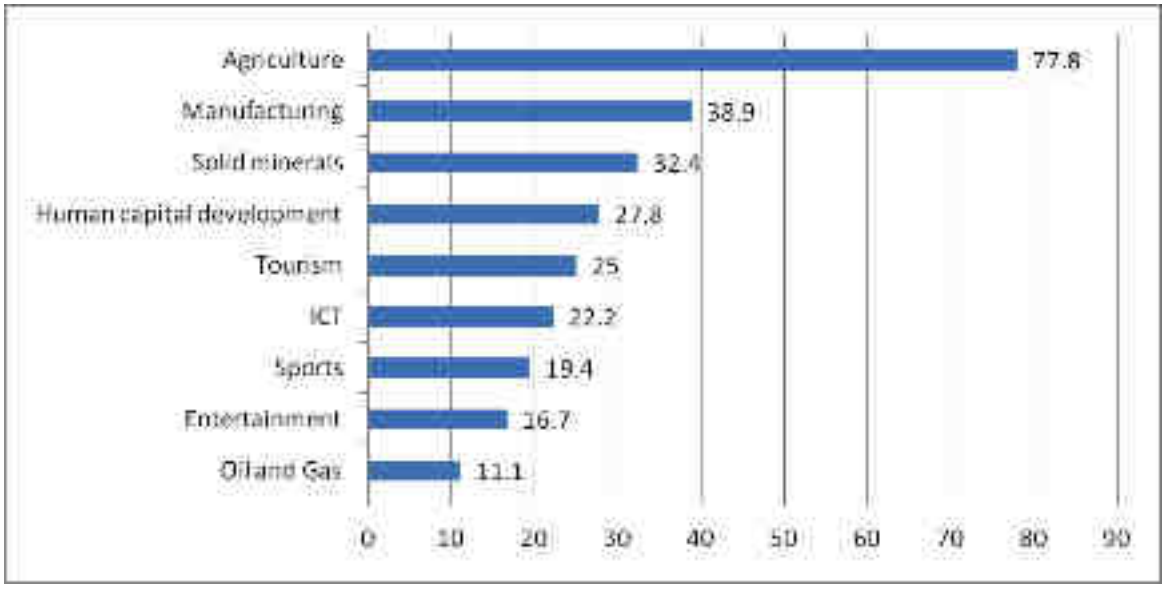

Fig.1: Ranking of Sectors Having Potential for Diversification

Source: NISER Survey data, 2013

Consequently, strong macro-economic variables are also needed for economic diversification in any economy as revealed in Figure 2. The respondents (policy maker and industrialist) suggested that the exchange rate should remain at US$/₦103.51, the maximum lending rate should not exceed 11.66 and an average tariff rate should be 8.89. A Deficit/GDP ratio of 2.02 per cent and capital expenditure/total expenditure ratio of 20 per cent were recommended. Majority of respondents recommended a budget benchmark for crude oil at 70 dollars per barrel as capable of fast tracking economic diversification. The need to curb both domestic and external borrowings is also recognized by the respondents. They suggest that domestic debt to GDP ratio and external debt to GDP ratio should be 14.78 per cent and 2.32 per cent respectively. On power generation, the respondents suggested 10,000MW as the minimum threshold for rapid economic transformation.

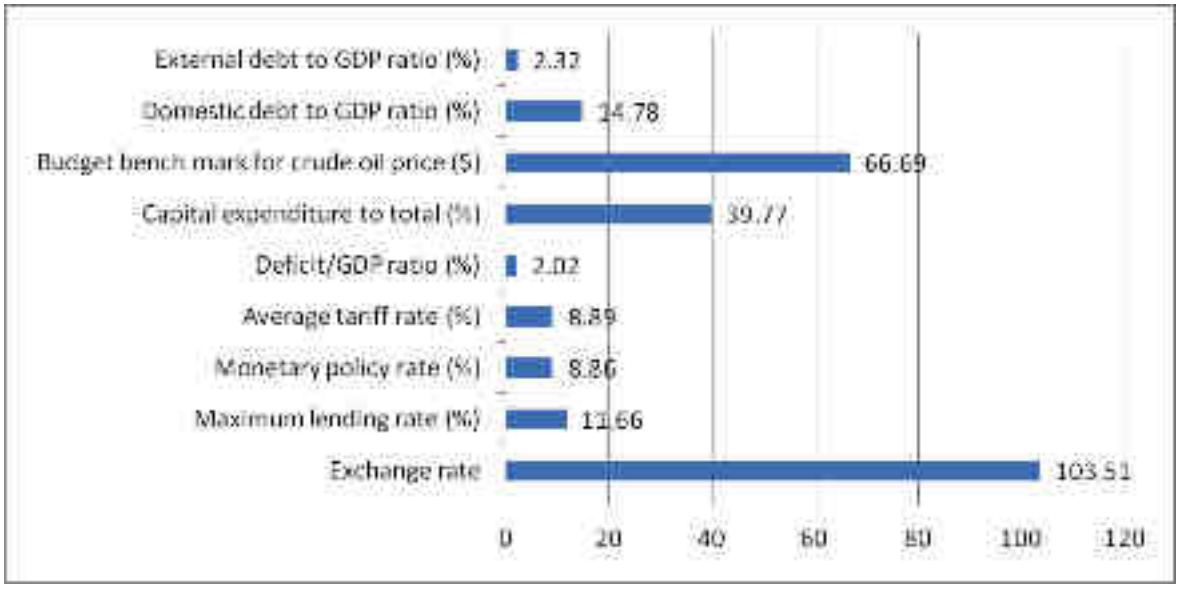

Fig 2: Macroeconomic Policy Variable Rates/ Ratios by Respondents
Source: NISER Survey data, 2013

4 Economic Diversification and Sustainable Development

The most widely definition of Sustainable development (SD) has been given in the 1987 Report "Our Common Future" by the World Commission on Development and Environment. It says "Humanity has the ability to make development sustainable to ensure that it meets the needs of the present generation without compromising the ability of future generations to meet their own needs" (WCDE, 1987). Thus, a sustainable economy enhances a nation's standard of living by creating wealth and jobs, and also encouraging the development of new knowledge and technology. Generally, sustainable development can be defined in terms of three main components: Ecological, Economic and Social/Cultural Sustainability. The economic sustainability has to do with meeting the poor's basic needs thus reducing poverty. Ecological sustainability ensures environmental sustainability while social sustainability deals with expanding the environment's ability to meet people's needs by improving technology and social organization/equity both within and all generations. The need for ED stems from two major reasons: i) The volatile nature of oil prices hinders development. ii) It is essential for the long-run growth of the country. We proceed to consider the lessons for Nigeria on evaluation of ED for SD from across Gulf Corporation Council (GCC): Bahrain, Kuwait, Oman, Qatar, Kingdom of Saudi Arabia (KSA), United Arab Emirates (UAE); Group of Seven (G7) Economies and Transformation Economies: Hong kong, Ireland, New Zealand, Norway, Singapore and South Korea. These are economies that have heavily invested in oil and gas, so they end up facing a daunting challenge of volatility in prices in the world market and this has forced them to diversify in order to ensure the creation of sustainable cities.

Hamilton (2008) considers how ED can reduce this identified nation's economic volatility and increase its real activity performance. Two key findings emanated from this empirical study.

4.1 Gross Domestic Product (GDP) should be distributed across sectors

(a) This study evaluated the economic concentration and diversification of the GCC, G7 and transformation economies. This was to ascertain whether the GDP were evenly distributed across a wide variety of economic sectors or whether they related only to one or two sectors. Diversification was measured by evaluating the distribution of a nations GDP across its economic sectors such as agriculture or manufacturing to determine a "concentration ratio" (which measures a nations concentration in a given sector by taking the sum of squares of per cent contribution to GDP) and a "diversification quotient" (which is an inverse of the concentration ratio and provides a metric that policy makers can use to gauge their nation's ED)

(b) The lower the concentration ratio and the higher the diversification quotient, the more diversified a nation's economy.

(c) Findings from the adapted study showed that the level of ED varied widely across the three studied categories of nations:

- The GCC had the highest concentration in terms of sector contribution to the GDP and thus lowest diversification quotient.
- Level of concentration for the G7 countries was 16 per cent and 26 per cent for the GCC.
- Diversification quotient for the G7 countries was 6.07 and for GCC countries 3.87.

The growth in the non-oil sectors (manufacturing and hospitality) is as a result of spillover effects from ED, oil receipts and high inflows of capital. When we compare these findings with the concentration ratio and diversification quotient for Nigeria, it's almost the same with the G7 countries (16.3 per cent level of concentration and 6.14 diversification quotient as at 2011.Table 1). These countries were forced to diversify. Nigeria needs to take a clew from these countries with strong political will to diversify for sustainable development. Norway (a transformation economy) produces approximately three million barrels of crude oil per day, yet it has been able to adequately distribute its GDP across a variety of productive economic sectors. Its revenue from oil and gas makes up only approximately a quarter of its domestic output. Norway also created a social pension or sovereign wealth fund from oil profits which is invested abroad, thus insulating the country from the shock of oil price changes and removing excess liquidity from the economy. The government of the nation also invested labour and capital and explored knowledge and technology in industries such as manufacturing that were contributing also substantially to GDP, but had some degree of dependence on oil. This singular act enabled the nation to diversify.

4.2 Labour distribution and economic growth

Distribution of labour categories was also examined in the sampled countries. Employment of labour tends to be balanced across a variety of profitable sectors skewing slightly toward service sectors such as trade, tourism, financial/business services and real estate. For the GCC countries, employment is distributed quite unevenly. The oil and gas sector which produces 47 per cent of GCC countries GDP provides work for only one per cent of the working population. Majority of the working population are employed in sectors that are relatively less economically productive and of secondary strategic importance for SD. Such sectors include construction/utilities, government and other services. Government services constitute 20 per cent of total employment. The implication of this is that majority of the working population are engaged in sectors that are supporting other economic sectors rather than driving economic growth by themselves. This type of labour distribution does not enhance economic growth and development. This is the case in Nigeria. Table 3 shows that the informal sector generated the higher percentage of available jobs between 2012 and 2016. Agriculture and service sector dominate the major sector providing jobs for the ever increasing population of the country.

However, employment distribution seems to be balanced in G7 and transformation economies. In evaluating economic sustainability, it is important to note that labour and capital are key measures of sustainable economic development. Poor ED tends to have an unfavourable effect on the productivity and competitiveness of the other lagging sectors. Labour and capital productivities across all GCC economies fall consistently below the bench-marks. The GCC economies are more exposed to the effects of volatile changes in prices. Exposure to oil price shocks has resulted in oscillating business cycles. The economies have contacted in response to rise and fall in the price of oil and likely spillover of volatility from oil to the non-oil sectors. Overall volatility and its ensuing spillover effects can be mitigated with the effective development and diversification of high value added exports. Finally, volatility minimization and risk adjusted real activity can be largely achieved with increased ED.

5. Conclusion and Policy Implications for the Nigerian Economy

Policy makers should ensure that they seek to diversify the productive base of the economy in terms of economic output and input distributions. Public and private stakeholders in the country should ensure the injection of labour and capital into productive economic sectors that can sustain real growth on the long run. Also, new knowledge and technology should be developed while ensuring the exportation of a wide range of high-value-added goods and services to a wide range of destination. This will stimulate and entrench innovation. There is also the need to consistently enhance productivity and competitiveness levels of the economic base by marking strategic investments in sectors and value chains where there is competitive advantage, market opportunity and growth potential. This will involve enhancing investment in human capital by increasing education levels and importing skilled talents where necessary. The competitiveness of economies is increasingly dependent on their capability to create, use and diffuse knowledge.

An efficient innovation system made up of firms, research centres, universities, consultants and other organizations should be encouraged. They can tap into the growing stock of global knowledge, adapt

it to local needs and create new technological solutions. An educated and appropriately trained population is capable of creating, sharing and using knowledge for economic diversification that will foster sustainable development. The innovation indicators include; capacity for information mobilization, quality of scientific research institutions, spending on research and development (R&D), University – Industry collaboration in R&D, government procurement of advanced technology products and so on. The country's products are also yet to compete favourably with the rest of the world markets. This confirms the fact that a nation's competitiveness and prosperity depends on the capacity of its industries to innovate and upgrade despite its resource endowments. Investment in education should be the priority of the government. The share of education in total government expenditure is still very low compared to 26% recommended by UNSECO norms, The Education Index (EI) is an indicator that rates the educated and appropriately trained population and the capability of that population to create, share and use knowledge. Nigeria's EI was 2.20 in 2012 which can still be categorized as low when compared with the UNESCO's benchmark of 0 = lowest and 10 for the highest EI. Nigeria ranks 118 out of 140 countries.

For economic diversification to be possible Human Development Index (HDI) for any economy must reflect in the long, healthy life and basic standard of living. Nigeria, HDI stood at 0.50 and 0.51 in 2012 and 2014 respectively. This is very low when compared with the HDI rankings of the sampled emerging and developed nations. It is however suppose to be a great concern for the government if economic diversification will be possible and sustained. Furthermore, enhancing financial capital by developing new financing schemes that will be effective and inclusive should be given urgent consideration by the government. This will encourage to a large extent optimization of the exploitation and use of natural resources. The metrics of economic concentration, diversification, sustainability and uncertainty should be used as targets when determining, formulating and monitoring policy. This should be complementary with ensuring participatory and integrated diversification strategies and mechanisms through which economic volatility, spillover effects systemic uncertainty and unfavorable business cycles can be significantly reduced.

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