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Master in Economic Development

The Service Sector in Nigeria: An Escalator for New Economic Growth

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Abstract: The Nigerian economy grew at an average rate of 7% between 2000-2011. However, recent drop in oil prices has led to calls for economic diversification away from oil. Using the services-led growth theoretical framework, this thesis provides an overview of the Nigerian service-sector. Through an analysis of descriptive statistics, the thesis showed that services have been contributing significantly to Nigeria's GDP, employment, trade and capital imports in the last 15 years. The thesis contends that the problem of the Nigerian economy is not lack of diversification per se, but enhancing the performance of other sectors. As a knowledge-intensive sector, enhancing services will require the possession of adequate skill and knowledge base as established in the human capital literature. A brief historical narrative on Nigeria's higher education system is therefore used to show that Nigeria already has an elaborate higher education system, demonstrated by increase in the number of institutions, and demand for university studies. However, issues of low funding and weak infrastructural capacity poses a challenge to the system. Thus, for Nigeria to improve, benefit from, and ensure sustained growth through services, it will have to do more to improve its provision for education.

Key words: Nigeria, services-led growth, human capital, education.

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List of Abbreviations

AfDB – African Development Bank

BOP – Balance of Payments

BRICs – Brazil, Russia, India, China and South Africa

CBN – Central Bank of Nigeria

DHET – Department of Higher Education and Training

GDP – Gross Domestic Product

FDI – Foreign Direct Investment

IMF – International Monetary Fund

ICT – Information and Communication Technology

IT – Information Technology

JAMB – Joint Admissions and Matriculations Board

M&A – Mergers and Acquisition

NBS – National Bureau of Statistics

NBTE – National Board of Technical Education

NEEDS – National Economic Empowerment and Development Strategy

NUC – National University Commission

OECD – The Organisation for Economic Co-operation and Development

SSA – Sub-Saharan Africa

SAP – Structural Adjustments Policies

STRI – Services Trade Restrictions Index

UB – Universal Banking

UIS – UNESCO Institute of Statistics

UNCTAD – United Nations Conference on Trade and Development

UNESCO – United Nations Education, Social and Cultural Organization

USITC – U.S International Trade Commission

WES – World Education Services

WTO – World Trade Organisation

CHAPTER 1

Introduction

Since its return to democracy in 1999, Nigeria has witnessed significant economic and political reforms which, coupled with increased demand for its natural resources, helped ignite unprecedented economic growth, averaging nearly 7% between 2001-2011 (African Development Bank – AfDB et. al., 2011), and over 6% up until 2014. Nevertheless, the economy has been confronted with numerous challenges. Amongst which are: youth unemployment, poor infrastructures, widespread insecurity, and most notably the structural imbalance and the alleged ‘lack of diversification’ – resulting from excessive dependence on oil – which has prevented the domestic economy from flourishing (AfDB et. al., 2011).

Moreover, since the drop, in oil prices from mid-2014,¹ the growth rate has experienced a significant downturn, falling drastically to 2.7% in 2015, with the economy officially falling into recession in 2016 (World Bank, 2017). These recent developments have resulted in a renewed call by commentators² for economic diversification away from oil, enhancing growth in the private sector and driving employment growth in a bid to stimulate and ensure sustained growth (Kale 2016). The new president (Muhammadu Buhari) and its administration has also made this call a key part of their developmental vision for the country. For example, speaking in Guangzhou, China in April 2016, the president noted that “a key preoccupation of his administration is taking urgent steps to diversify the Nigerian economy” (Business Day, 2016). A message he has continuously repeated since taking over office in 2015.

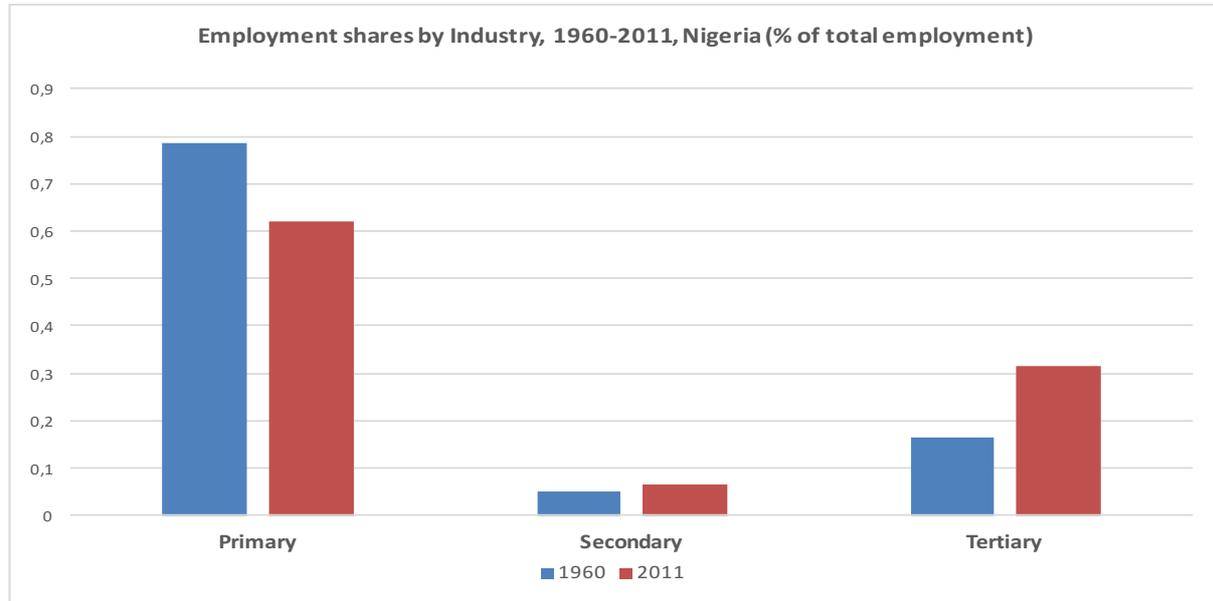
Since the contribution of the secondary industry to growth and employment is very poor in many Sub-Saharan African countries – SSA (see for example **figure 1** below, showing sectoral contribution to employment in Nigeria), and based on the success of some developing countries such as the South Asian economies in services-led growth (see for example Ghani & Kharas, 2009a), the service sector has been identified as a sector with the potential to become a significant

¹ Oil price declined sharply by approximately 70% from USD\$114.60/barrel in June 2014 to USD \$31.4/ barrel by February 2016, mainly due to excess global supply (Kale 2016; PWC Nigeria 2016). Meanwhile, oil earnings have for long accounted for about 80% of Nigeria's foreign exchange earnings and government revenue, while non-oil sector, albeit its improved performance contributes around 20% (CBN, 2010; Onodugo et al., 2015). This, thus, reveals the degree of susceptibility of the economy to changes in global oil prices.

² In a key note address at the Stanbic IBTC Bank Investors Conference, the Statistician General of Nigeria's National Bureau of Statistics Dr. Yemi Kale (2016), made a compelling case for why ‘the way to unlock Nigeria's economic potential is through diversification.

driver of sustained growth in Africa (Ghani & O'Connell, 2014; UNCTAD 2015). In this thought, a well-functioning service sector is considered important for the overall economic performance of African economies, and the welfare of its citizens. Besides, a more productive service sector also strengthens the performance of other sectors of such as manufacturing (Khanna et al., 2016).

Figure 1:



Source: Own calculation from Timmer et. al., (2015).

Nonetheless, many critics have traditionally questioned the viability and sustainability of a service sector-led growth, especially for developing countries (Rodrik, 2015; Ajakaiye et al., 2016). Against this backdrop, one would wonder whether the call for economic diversification as recently seen in Nigeria to areas such as services could actually unlock the country's economic potential. This thesis uses Nigeria as a case study to explore whether the service sector can offer an alternative path for sustained economic growth and development in an African context. The idea that the region, and specifically Nigeria, may indeed be able to grow through its service sector is a crucial and interesting research question. Since development economics deals with concerns about the possible expansions of growing economies, Nigeria is considered an example of a country that could grow by taking a services-led path.

Through the analysis of descriptive quantitative statistics, the study demonstrates that the Nigerian economy is already well diversified, with the service sector already playing a significant role in Nigeria's development process. As of 2015, service sector contribution to GDP stood at about 60%, with an average of about 33% of employment share compared to 7% for industry,

although agriculture still employs more in Nigeria with about 60% share of total employment. In recent times, services' contribution to trade has also been on the rise, while the highest share of capital import to Nigeria is also currently attracted by service subsectors such as telecommunication, banking and finance. Thus, it is argued that the problem of the Nigerian economy is not lack of diversification per se, but the over reliance of the government on oil revenue indicates that other sectors are not performing at optimal capacity. Therefore, the calls for diversification may be misplaced without attention being paid to issues of improving other growing sectors such as the service sector. Building on previous studies, it is further contended that a way to enhance the performance of the service sector will be by developing the right skills through education. A brief historical narrative of Nigeria's higher education system is therefore presented, and it is shown that Nigeria already has an elaborate higher education system, demonstrated by the increase in the number of higher education institutions, and increased demand for university studies. However, issues of low funding and weak infrastructural capacity poses a challenge to the system. Thus, for Nigeria to improve, benefit from, and ensure sustained growth through services as countries such as India is doing, it will have to do more to improve its provision for education.

1.1 Background: A new growth path for African countries?

Economic development through industrialization (associated with manufacturing) is often held as the conventional path to development (Haraguchi & Rezonja, 2010; McMillian & Rodrik, 2011). The miracle story of East Asia epitomizes this growth-through-industrialization model (World Bank, 1993), and reinforces the argument that the broad-based growth of manufacturing offers the best chance for Africa's late development (Lundvall, 2014; Ajakaiye et.al., 2016). Yet, for many African economies, the reality is that the manufacturing sector remains underdeveloped when compared to other developing regions of the world, and Africa's share of global manufacturing is considered smaller today than in 1980 (Page, 2013; World Economic Forum 2015). The regions' stagnation at a period when the East Asian Tigers grew rapidly led to suggestions that the "bottom billion may be trapped in poverty" (Collier, 2007). This seem to suggest that African economies may have to wait for their chance at development, pending when giant industrializers like China become rich and uncompetitive in manufacturing.

Conversely, the development story of South Asia, particularly India,³ indicates that a Services Revolution – rapid growth, employment creation and indeed poverty reduction driven by services - is now possible. Growth in service sectors aided South Asia to grow nearly as fast as East Asia this century, with growth rate of almost 7% per annum between 2000 and 2007 (Ghani & Kharas, 2009b). Services in developing countries have traditionally been considered trivial and low paid, non-tradable, low-innovation, low-productivity, driven by domestic demand, and thus unable to drive growth or be an effective way out of poverty (McCredie & Bubner, 2010). Nevertheless, globalization has aided a Services Revolution (driven by three global forces: technology, transportability and tradability), which is now providing a new growth path for latecomers (Ghani & Kharas, 2009b). Thus, opening a window of opportunity for developing countries to grow without going through the conventional process of transformation from agriculture to manufacturing, rather to services.

In many African countries, the service sector currently constitutes the largest sector of the economy, according to a United Nations conference on trade and development – UNCTAD (2015) report. As noted in the report, during the period 2000-2012, services contributed an increasing share to GDP, trade, and employment. Meanwhile, in the period 2009-2012, Africa's services sector grew rapidly in real terms, at 4.6%, which was more than two-fold the world average rate. Likewise, it accounted for 32.4% of total employment in the same period. Moreover, the share of services in Africa's output increased from 45.8 to 49% in the period 2001-2004 and 2009-2012 respectively.⁴ The share of services in real output was bigger among exporters of manufactured goods (i.e. Lesotho and Tunisia) at 61.7%, followed by countries that export services (such as Djibouti) at 57.0%, and was lowest among fuel exporters (such as Nigeria) at 33.9% (UNCTAD, 2015). These figures suggest that even in manufacturing export economies, services may be a significant determinant of competitiveness (Khanna et al., 2016). Within the service sector in Africa the share occupied by various subsectors were as follows during the period 2009-2012: wholesale and retail trade, restaurants and hotels constituted 14.5% of output; with transport, storage and communications accounting for 9.2%, while other activities accounted jointly for 25.2% of output. These sub-sectoral shares of services in Africa mirrored the share observed in other developing economies (UNCTAD, 2015). Nevertheless, with respect to global services trade

³ For a comprehensive account on the South Asia services-led growth, see Ghani and Kharas (2009a)

⁴ Although not a huge increase, yet, it indicates the progress being made in the growth of services (UNCTAD, 2015).

in value added terms, comparative to other regions, Africa captures only a small share. Only few African countries have consistently been net services exporters since 2005 (UNCTAD 2015), and thus, making the region a fringe player in global services exports and imports.

It is argued that many African countries like Nigeria have experienced a structural transformation process involving the transfer from agricultural to mostly non-tradable services (Ajakaiye et. al., 2016). This has resulted in relative bypassing of manufacturing development that is usually characterized by productivity improvements, formal employment creation, manufactured exports and technological upgrading. For example, McMillan and Harttgen, (2014) have shown that between 2000 and 2010, the share of labour force engaged in agriculture in Africa, decreased by about 10%. This decline was matched by a 2% rise in the share of the labour force employed in manufacturing, and an 8% increase in services. Likewise, during the periods 2001-2004 and 2009-2012, out of 45 African countries where the share of services in output increased, 30 of them experienced a shrinkage in manufacturing (UNCTAD, 2015). This indicates that as manufacturing shrinks, transformation towards services have been significant in many African countries lately. However, if the shift is directed towards non-tradable services such as wholesale and retail trade, hotels and restaurants, then the prospect for sustained growth through such a transformation may be considered slim as critics argue.⁵

Against this backdrop, whether growth under services can be as rapid, productive, and innovative as manufacturing has traditionally proven to be; creating enough jobs to ensure that growth is inclusive; and the sort of policies that will be needed to promote growth through the current combination of tradable services and others that may arise as digital technologies continue to advance are questions that are currently debated (Yusuf 2015; Wu 2015; Mukherjee 2015). Nigeria, with its population of currently over 180million, and being one of African's major economies –forecasted to become a top emerging economy in coming years (Enwerenmadu 2013), is singled out in this research as a vehicle to explore the role of services in an African context.

⁵ It is established in the literature that services contribution to growth is optimal through knowledge-intensive services such as finance, banking, IT and communications, real estate and other business services (see **chapter 2 & 3** for the conceptualization of services used in thesis).

1.2 Aim, purpose and research questions

The aim of this study is firstly; to provide an overview of the Nigerian service sector, and show the contribution of services to the growth of the Nigerian economy. Secondly; to demonstrate how the demand for education in Nigeria is likely a factor that suggests that the country has the foundation for developing the needed human capital for sustaining growth through services. Finally; to identify major obstacles that could stand in the way of ensuring the sustainability of a services-led growth in the Nigerian economy.

The purpose of this thesis is to contribute to wider discussions in economic development that highlight the importance of services as a determinant of growth and development prospects (See for example Ghani & Kharas 2009b; Yusuf 2015; Rawski 2015), in this case, for a developing SSA country (See for example Borat et. Al., 2016; Ghani & O'Connell, 2014; Blinder, 2006). Furthermore, to reiterate the importance of human capital and education in the process of development (Goldin & Katz, 1998; Hanushek & Woessmann, 2008). Building on the above theoretical standpoints, the study aims to demonstrate why the dominance of services is likely to become greater in the Nigerian case. In line with Mokyr's (2005) depiction of the importance of useful knowledge during the Industrial Revolution, the belief here is that, having a certain stock of citizen's ready to learn and offer useful knowledge in a particular phase of development can help enhance the stock and quality of skills and knowledge base needed for further development.

Going by the stated aim and purpose, the study will answer the following central, and sub-analytical research questions:

- *What role has the service economy played in Nigeria's growth process in the last decades?*
- *Is there evidence that the growth of Nigeria's education system can enhance the prospects of a sustained path of growth through services?*

To answer these questions, an analysis of descriptive quantitative statistics of secondary (GDP and sectoral) data on Nigeria from the World bank and Timmer et.al (2015), is utilized. This is supported by an historical narrative of Nigeria's higher education system to provide insights into the state of education in the country. The thesis does not in any way attempt to argue for services against industry or agriculture. It however, tries to go beyond the long-held proposition that

industrialization is the only path to economic development, and thus establishes that for a developing country such as Nigeria, services offer a feasible growth path.

1.3 Thesis Outline

Following this introduction chapter, the rest of thesis is structured as follows: chapter two presents the theoretical framework; literature review on services-led growth; the role of human capital/ education in development; and the contribution of the thesis to the literature. Chapter three presents the methodology and methods describing how the thesis was produced. Chapter four presents an analysis of quantitative statistics on Nigeria's service-sector. Chapter 5 presents a narrative analysis on the state of Nigeria's higher education. Chapter six presents a summary of the thesis results. The paper concludes by arguing that the significant role currently played by services in the Nigeria economy, and the quest for knowledge by Nigerians indicates that it is possible for Nigeria to develop its knowledge-intensive service sectors and continue to grow through services.

CHAPTER 2

Theoretical framework

This section provides a theoretical foundation for thinking about an alternative growth path through services. First; it gives a quick summary on the emergence of formal analysis on the growth of services, followed by; a review of the literature on services-led growth, and that on the relationship between human capital and growth. The section concludes by highlighting the contribution this thesis hopes to make to the literature.

2.1 Theories on the growth of services

Formal analysis on the growth of services date back to the twentieth century. The first body of works that attempted to explain the growth of services is known as the three-sector model, and was developed by scholars such as Fisher (1935), Clark (1940), and Fourastie (1949). The development of a triple classification of economic activities into primary, secondary and tertiary was first done by Fisher (1935). Primary production was classified as agriculture, pastoral production, fishing, forestry, hunting and mining activities. Secondary production included manufacturing and construction.⁶ While tertiary production constituted transportation, communications, trade, government, and personal services (Haksever & Render, 2013). Fisher (1935), identified the tertiary sector as characterized by the production of 'immaterial goods', stressing that an economy can be characterized in respect to the share of its workforce employed in these sectors. Fisher further maintained that as income rises, demand shifts from low productivity (primary) to high productivity (secondary, and subsequently to the tertiary) sectors. Clark (1940), considered this sectoral transfer as a prerequisite for development. Building on the so-called Engel's law (i.e. as income rises the proportion of expenditure for goods decreases), the low productivity of services compared to manufacturing was later highlighted by Fourastie (1949). He argued that, at lower productivity, the demand for primary and secondary goods would be met by a diminishing workforce, while the remaining workers would be hired in services.

In later development, theorist examining the growth of services turned to the demand side. Most influential was Bell (1973), who described the development of human societies in three general phases: *pre-industrial society* – characterized by extraction of natural resources, low or

⁶ Although some authors include mining to this category

nonexistence of technology, dependence on raw muscle power for survival, thus low productivity. *Industrial Society* – characterized by goods production through fabrication, rapid technological advancements with the use of muscle power replaced by machines and energy, thus increased productivity. *Post-industrial society* – characterized by service production, muscle or machine power or energy no longer as relevant, rather information and knowledge becomes key, economic life is determined by the possession of skills and knowledge increasingly demanded in the society (Bell 1973). This demand for improved technical skills and knowledge in the workplace makes higher education a precondition to access into post-industrial society, and thus having a good life (Haksever & Render, 2013). An individual's standard of living is therefore determined in this society by the quantity and quality of services such as health, education, and recreation. Due to the steady rise in the consumption of such services, the post-industrial society would emerge, and be characterized by a steady replacement of blue-collar workers for white-collar workers (Bell, 1973).

In a context constituted by rising income levels, two key explanations are offered for the rise in the demand for these types of services (Rodriguez & Melikhova, 2015). Firstly; “the fact that services are “superior” products, and secondly; there was an early saturation in the consumption of goods. This way services were not only regarded as drivers for employment, but also a tool for future improvements in living standards” (Rodriguez & Melikhova, 2015). Numerous sub-stages are involved in the transition from an industrial to a post-industrial society. As Haksever and Render (2013) highlights, the initial expansion of services such as transportation and public utilities is needed for the development of industry and distribution of goods. Also, population growth and mass consumption of goods require an expansion of wholesale and retail services, together with services such as finance, real estate, and insurance. Lastly, as individual incomes grow, the share of expenditure dedicated to food decreases. Increase in income are first consumed on durable consumer goods, such as housing, automobiles, and appliances. Subsequent increments are then spent on services such as education, healthcare, vacations, travel, restaurants, sports and entertainment (Haksever & Render, 2013). It is this propensity in consumption behaviour that leads to the growth of the personal service sectors.

In recent times, particularly beginning in the 1990's studies on the growth of services have adopted a novel dimension. They have emphasized that, while the delocalization of services began with the offshoring of information technology-related services, it is now extending to other (knowledge-intensive) services such as business consultancy, research or design, and development

(Rodriquez & Melikhova, 2015). This has resulted to what has been termed by some authors as 'a global shift in services' (Dicken 2003). This shift as Rodriquez and Melikhova (2015) noted, has been occasioned by two main explanatory factors, the steady blurring of boundaries between goods and services, and advancement in modern technologies and the internet. The point on the blurring of boundaries between goods and services emphasizes the interconnectedness of manufacturing and services. For example, through the contribution of services to production processes; the percentage of workers in manufacturing producing services related occupations; as well as the growing percentage of services turnover within the manufacturing sector (Pilat & Wölfl, 2005). Concerning the impact of technological advancements, its rapid evolution coupled with the spread of their use (mobile phones, internet, etc.) has contributed to growing the tradability of services both in respect to transportation and to storage. Additionally, they have permitted the digitalization and codification of knowledge such that many services can be divided up into different tasks and, consequently, be produced and consumed in separate locations and at separate times (Rodriquez & Melikhova, 2015).

Scholars have offered many other reasons to explain the growth of services (see for example Daniels, 1993). While some of them have built on the theories previously discussed, others have been independently developed.⁷ In summary, the most common explanations have been: structural transformation characterized by increased efficiency in agriculture and manufacturing, and the subsequent transfer of workers from agriculture, through to manufacturing and then to services; an increase in international trade and the application of comparative advantage in international trade; a decrease in investment as a share of GDP in high-income developed economies, or an increase in the share of GDP in low-income developing economies; increase in per capita income and urbanization; deregulation; demographic transition; combined symbiotic growth of services with manufacturing; and most notably advancements in information technologies (Haksever & Render, 2013). The extent to which services have been utilized as a driver to the growth of countries, particularly developing countries, have in recent times received considerable attention in the literature, as shown below.

⁷ For a detailed discussion of the various theories explaining the growth of services, see Daniels (1993); Haksever & Render (2013); and Rodriquez & Melikhova, (2015).

2.2 Literature review: Services-led growth

A key development question especially for African countries is whether service sector growth can contribute to positive and sustained economic transformation? While the development literature has traditionally argued otherwise, there is a growing literature suggesting that the current nature of economic globalization enhanced by revolutions in information technology, and reduced transport cost opens a window of opportunity for the utilization of modern services as a driver of growth in developing countries (Jensen et al., 2005; Ghani & Kharas, 2009a; Nordås & Kim, 2013; Ghani & O'Connell, 2014; Amirapu & Subramanian, 2015; Yusuf 2015; Khanna et al., 2016). For example, Ghani and Connell (2014), have argued that services can be dynamic and can be a growth escalator, as services are now contributing more than manufacturing to growth and jobs in both low and high-income countries. In fact, many scholars (i.e. Gordon & Gupta, 2003; Ghani & Kharas, 2009b; Amirapu & Subramanian, 2015; Mukherjee, 2015) have demonstrated that the earlier mentioned South Asian economies such as India is a case on point to this argument.

In assessing the overall contribution of services to India's growth, Mukherjee (2015) showed that the significant contribution of services sector to GDP, GDP growth, trade, and FDI inflows, makes it the fastest growing sector in India. Moreover, the share of the services sector in India's total trade currently exceeds the global average, placing it among the top 10 WTO member countries in services export and imports. Even for manufacturing giant – China, Wu (2015), showed that, despite lagging when compared with economies at similar stage of development, in isolation, China's services have lately emerged as the dominant contributor to economic growth and job creation. On its contribution to the performance of other sectors, Nordås & Kim (2013), noted that services tend to complement manufacturing and can in fact, facilitate or drive productivity in the manufacturing sector. Echoing this view, Yusuf (2015), contended that the profitability and competitiveness of firms is becoming closely associated to the quality, and innovativeness of services, and that the bundling of services with industry is the key to making high returns over the long-run. Nonetheless, since the service sector is broad, it has been important to distinguish which service-subsectors contribute more to growth.

Extra analysis of the service sector growth usually reveals a dichotomy within the sector between *modern impersonal services* (the knowledge intensive) – including computer and information services, financial and business services, and communication; and *traditional personal services* (non-tradable) – including trade, hotel and restaurants, education, transport and

health (Bhorat et. al., 2016). Some studies have shown that a decomposition of the service sectors within countries/ regions such as South Asia reveals that modern impersonal services are growing faster than traditional personal services. For example, Ghani (2009), showed that in Bangladesh, India, and Sri Lanka, modern services grew at an average rate of over 12% per annum between 2000 and 2006. Correspondingly, the growth rates in traditional services for these countries were below 10, 8 and 4% respectively. Likewise, Pakistan, India and Sri Lanka were shown to be important positive outliers when the share of IT and IT-enabled services exports in total exports of goods and services are compared with the rest of the world. Meanwhile, the share of traditional services, such as tourism and transportation, in total exports does not deviate significantly from the global average (Ghani, 2009). The growth in knowledge-intensive services further reinstates the productivity enhancing prospect of services. In view of this, Bosworth and Maertens (2009) showed how absolute levels of labour productivity are highest in the services sector in South Asian countries. Moreover, in the post-2000 era, labour productivity growth for South Asia has been higher in services than in manufacturing, with services contributing more to employment and thus, poverty reduction for many developing countries (Ghani & Kharas, 2009b).

The literature examining the impact of services on growth in Africa is still relatively underdeveloped. It is, however, starting to receive attention from scholars using different case studies to demonstrate the increasing role of services in African economies. For example, as part of a multi-country project "*industries without smokestacks*", Bhorat et al. (2016), explored the case of South Africa and demonstrated that an ongoing decline in industry has been coupled with rapid growth across a range of service sectors. A recognition of the potential offered by the service sectors was also shown to be recognized in the policy arena in South Africa, as evident in the targeting of the business sectors in South Africa's National Development Plan, and the New Growth Path. Using unique firm level data for both Uganda and Rwanda, Spray and Wolf (2016), showed that services now make up to 40% of exports, compared to less than 25% twenty years ago in both countries. They found out that economies of scale matter not only in the manufacturing sector, but also in successful service sectors such as tourism and transportation. Moreover, that services are vital in linking the economy together and generate productivity spill-overs. Addressing the role that different subsectors of formal and informal services have played in Tanzania's growth, Ellis et al. (2017), argued that subsectors such as business and transportation services display higher productivity and improve the environment for other firms to operate Tanzania's economy.

Additionally, in their encompassing report for the *Overseas Development Institute*, Khanna et al. (2016) found that Kenya services export increased more than doubled from \$1.9 billion in 2005 to \$4.9 billion in 2012, and thereby experienced more dynamic growth than goods exports. With this, they contend that Kenya has rapidly asserted itself as a regional services hub (Khanna et al., 2016).⁸

Under these premises, there are signs that deficits in manufacturing in African economies have relatively been compensated for with gains in the service sectors. Indeed, these developments continue to offer supports for the arguments that there are growth potentials that can be tapped from developing the service-sector. However, some have called for caution in this new optimistic euphoria accorded to services, arguing that many developing countries in Latin America and SSA are undergoing what Rodrik (2015) referred as a “premature de-industrialization” as the majority of surplus labour is presently absorbed in non-tradable services. The sustainability of the services-led growth, especially the idea that it creates the risk of “jobless growth” for late developers, given the youth upsurge experienced by several of these countries is also often cited (Ajakaiye et al., 2016; Borat et al., 2016).

The idea of jobless growth is said to occur where economies demonstrate economic growth while employment is either declining or hardly stabilizing (World Economic Forum, 2014). In this condition, unemployment remains stubbornly high regardless of economic growth (Ajakaiye et al., 2016). While this concept has been used by many to play down the viability of services growth in developing countries, others have shown that tradable services have a higher multiplier effect for employment creation in an economy. For example, in his seminar work, Moretti (2010) showed that, for every additional job in manufacturing in a particular town, 1.6 jobs are generated in the *non-tradable* sector in the same town. Meanwhile, for skilled jobs with higher earnings this effect is significantly larger, as the addition of one skilled job in the tradable sector generates 2.5 jobs in the *non-tradable* sector, with a corresponding figure of one for unskilled jobs (Moretti 2010). The idea is that, as the number of workers and equilibrium wage increase in a town, the demand for local goods and services rises. Therefore, for economies where the share of skilled services job is on the rise, there is a better propensity for the creation of more jobs, enhancement of domestic consumption and, thus, economic growth. Besides, as Ghani and O'Connell (2014) found out in their study of over 100 countries, the capacity for the industrial sector to generate jobs has been

⁸ These studies show how services is currently playing a significant role in many African countries, further reinforcing why it is interesting to examine its role in the Nigerian case.

decreasing over time. Meanwhile, the service sector is employing more labour, even at earlier phases of development. Hence, the pessimism on the role of services on employment and growth may not be necessary, because as Khanna et. al., (2016) stressed, not only service sector indicators should be the focus when accessing the role of services. In exploring the case of Kenya, they reaffirm the need to consider a comprehensive role of services in economic transformation. In their suggestion, a new way of looking should be by examining the role of services in supporting other sectors through value chain development (Khanna et al., 2016). What this tells us is that there is a room for services to be harnessed either as a growth driver or a facilitator to the growth of other sectors.

Several factors have been put forward to have contributed to the increasing growth of services in many economies. One of which is technological change, which has altered the nature of structural transformation and the ways in which countries develop (Ghani & O'Connell, 2014). It has enabled the tradability of certain services across borders by reducing the barrier of time and space in transactions (Mishra et al., 2011). For example, India has focused on the production of tradable services, leading to its emergence as a frontrunner in the production of IT and IT-enabled services. It is argued that the case of India is suggestive of a future global trend that will see increase in global trade as expansion in information technology continue to enhance the possibility of trade in services (Blinder, 2006). A combination of other factors has also been attributed to India's success, viz: effective market integration, prevalence of skilled workforce, and supportive infrastructures and institutions (Ghani, 2009). Early liberalization of services trade is thought to have attracted both domestic and foreign investment in the sector. Moreover, despite being characterized by relatively low levels of physical and human capital investment overall, (Broadberry & Gupta, 2010) showed that India's investment in secondary and tertiary education has historically been huge. Thus, providing a limited supply of high productivity workers who have been working mostly in services. For example, the high number of skilled graduates, possessing good reputation for their English language capabilities, contributed to India's attraction of investments in the rapid-growing information and communication technology industries (Ghani, 2009). Such, is a reminder of the importance of investment in human capital to development, which I now turn to.

2.2.1 Human capital and economic growth

The relationship between human capital, especially education and growth is well covered in the literature (see for example Goldin & Katz 1998; Hanushek & Woessmann 2008; Sianesi & Van Reenen 2003 for a detailed overview). As the story goes, better educated workers are usually more productive (Lucas 1988), and may also increase the productivity of other workers (Hanushek & Woessmann 2008). Likewise, higher stocks of human capital aid investments in physical capital and enhance the generation and spread of modern technologies (Romer 1990). Empirically, Barro (1991), showed that a 1% rise in primary school enrolment was associated with a 2.5% increase in GDP growth and a similar rise in secondary school enrolment produced 3% growth. Given the initial per capita GDP, the growth rate is argued to be considerably positively related to the initial amount of human capital (Barro 1991: 437). Similarly, Gemmell (1996), showed that a 1% rise in initial tertiary human capital stock was correlated with a 1.1% rise in per capita GDP growth, while a 1% rise in successive growth in tertiary education was associated with almost 6% output growth. Thus, countries aiming to catch-up would benefit from having available, appropriate stock of human capital.

Higher skills and increased education are very complementary to technological progress (Dahlman 2009). It has, thus, been argued that since the service sector is considered a skill intensive sector, there is a need for countries to have an appropriate level of educated and skilled workforce because people need education and new skills to adopt modern technologies (Kloosterman et al., 2016). In this regard, the need for developing countries to actively invest in education and human capital formation to enhance their development has been stressed (Hanushek, 2013; Austin 2016; Rahman & Zaman, 2016; Mitra et al., 2011). In Africa, the low-quality level of education is considered to have partly contributed to its dismal performance in ensuring inclusive and sustained economic growth. Adu-Febiri (2014), suggested that education programs in Africa seems to be targeted for ‘a world that does not exist’. He noted that many universities in the region have failed to develop the right human capital appropriate for late development, as well as to develop ‘work ready’ graduates for firms operating in the region. This infers that a skill gap in many African countries could be a reason why the idea of a services-led growth may be unrealistic for the region.

While the above is a valid obstacle that needs to be addressed by African economies going forward, it is a perspective that pays no attention to the fact that there may be some positives to

draw from the current education system in Africa, since there are several ways in which education contributes to growth. For example, it is suggested that tertiary education has four important roles. First, and most common is training groups of managers and other professionals who occupy positions of leadership and offer high-level knowledge base in the economy; expanding the local knowledge base through research and development (R&D); dissemination of knowledge through interaction with firms and the rest of society; and finally, the maintenance of knowledge (Dahlman 2009). Although, all four functions are important, of more relevance to the point made in this thesis will be the first, because the assumption is that the training of a group of people is a positive foundation that can enhance the spread of knowledge and skills required for future growth.

The importance of the preceding idea is reflected in recent contributions to the human capital and economic growth literature, showing that the human capital of a selected group could be a factor that ensures sustained growth (Galor, 2005, Mokyr, 2005). For example, in portraying the intellectual origin of modern economic growth, Mokyr (2005) argued that, the expansion of the set of '*useful knowledge*' and application of natural philosophy to solve technological problems brought about eighteenth-century Enlightenment in the west that heralded the Industrial Revolution, which subsequently brought about economic growth. For him what counted for the Enlightenment was not literacy rates as such, but the human capital of elites that formed an intellectual movement. Thus, investment in human capital of a few group can ensure that a society has the population to adopt modern technologies that enhances growth.

There is a growth of historical studies supporting this argument (i.e. Baten & Zanden 2008; Squicciarini & Voigtlander 2015; De la Croix et. al. 2016; Valero & Van Reenen 2016). For example, in estimating the economic impact of universities to growth, Valero and Van Reenen (2016) found that, increase in the number of universities are positively associated with future GDP per capita growth. They showed that doubling the number of universities per capita is associated with 4% higher future GDP per capita, and part of this effect is mediated through an increased supply of human capital and greater innovation. Acemoglu, Hassan, and Robinson (2011), have also argued that the existence of a social class with high education is crucial for development. These studies can also be connected to the earlier mentioned study of Broadberry and Gupta (2010), where educational attainments of workers by sector were used to show that the historical roots of India's services-led growth is connected to its longstanding bias in educational investment towards secondary and higher education. Read together, these studies infer that the human capital

level of a group of people in a society have important implications on how well the society can utilize, assimilate and ensure the sustenance of modern technologies and, thus, growth. While this form of human capital may not necessarily cause growth on its own, it may as Mokyr (2005) suggested, ensure that growth is sustained.

2.3 Contribution to the literature

In line with the discussed literature, this thesis argues that the growth of universities in Nigeria and the demand for higher education are factors that could ensure Nigeria's ability to take advantage of utilizing the service sector as a driver for sustained growth. No such analysis has been done overall for Nigeria, despite the growth of studies in the reviewed literature. At best, scholars have tried to quantify the contribution of one or two service subsectors to the Nigerian economy. For example, some have assessed the impact of telecommunications services on economic growth in Nigeria, and showed that telecommunication has influenced the country's economy by increasing market access and reducing distribution cost (Okon & Abel, 2016; Oyeniran & Onikosi-Alliyu, 2016). While others have examined the impact of the financial and banking sector development on long-run growth in Nigeria, with findings suggesting that they do contribute to growth (i.e. Rafindadi & Yusof, 2015; Muhammad Yusuf, 2014). Yet, providing an overview of the contribution of service sectors to growth is yet to be covered in the literature.

Likewise, some studies have examined the role of human capital and found positive relationship between investment in education and economic growth in Nigeria (i.e. Oluwatoyin, 2012; Sulaiman et al., 2015; Omitogun et al., 2016). Although the reviewed studies provide a base for the arguments made in this thesis, these arguments have not yet been used to consider the growth potential of the service sectors in Nigeria. The existence of this gap in the literature is where this research hopes to contribute to the established discussions.

CHAPTER 3

Research Methodology

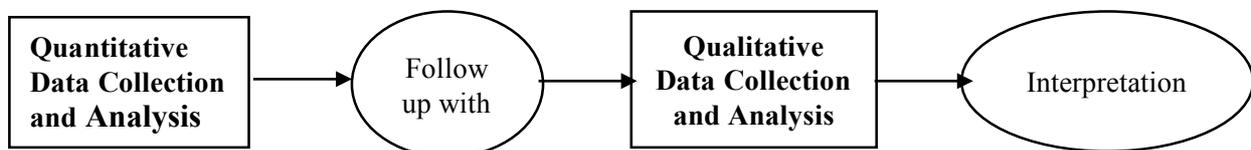
The way this thesis is produced; the sources of data, and how services are conceptualised in this thesis; as well as method of analysis is discussed in this chapter. Most of the challenges in this thesis are a result of scarce data availability. This has prompted the methodological steps of the thesis, as highlighted below.

3.1 Methods

This study adopts an explanatory sequential mixed method approach with an illustration in the form of a case study of Nigeria's service sector. Going by this design, both quantitative statistical data and qualitative materials are collected as foundation for answering the research questions (Creswell, 2014). This approach has been described by different terms such as integrating, synthesis, quantitative and qualitative methods. Nevertheless, the most recent writings tend to use the word mixed methods (Bryman, 2006), a new methodology that originated around the late 1980s and early 1990s based on the work of scholars in diverse fields such as sociology, management, evaluation, education and health sciences.⁹

The method was chosen because it was an appropriate fit (for the data and time constraints) to answer the research questions. Drawing from available quantitative data and other qualitative materials it became possible to minimize the research limitations, and thus, provide some understanding on the overarching research problem. The steps involved in using this method is shown in **figure 2** below.

Figure 2: Explanatory sequential mixed methods



Source: Adapted from Creswell (2014).

⁹ For detailed overview of the development of this method, see for example: Creswell & Plano Clark (2011).

As **figure 2** shows, there is a two-phase process of data collection when using this method. It begins with the collection of quantitative data, from which the results are analysed and used to build on the second qualitative phase. While the quantitative phase provides quantitative statistics on the observed indicators, the qualitative phase helped in finding explanatory support for observed trends. The complementary nature of these two processes, thus helped in fulfilling the descriptive and analytical purpose of the thesis, from which interpretations are drawn by the author to reach the thesis conclusion.

The case study method, has been defined “as an intensive study of a single unit with an aim to generalize across a larger set of units” (Gerring 2004:1). With the focus on the Nigerian case, the research is therefore better able to explore the prospects that services hold for development in the Nigerian context. Nigeria is chosen as a focus of the study because it is one of Africa’s biggest economies in size, GDP growth forecast, and among the countries recording significant increase in services growth in Africa as previously mentioned (Enwerenmandu 2013, UNCTAD 2015). Hence, it provides a relevant case where findings might not only contribute to understanding the services prospect for the Nigerian economy, but also for other countries in Africa and beyond. The case will be explored through a critical consideration of a key component of development – human capital (specifically education), defined as the skills, knowledge, and experience possessed by an individual or population, viewed in terms of their value to a country (Teixeira & Queiros, 2016). As the literature on the growth of services considers the possession of improved technical skills and knowledge as imperative to the development of services (refer to Haksever & Render, 2013), the consideration of education in this thesis is thereby focused on higher education. In particular – universities, since they are considered the highest institutions of higher learning.

3.2 Data

Data for this research was collected from a variety of sources. To explore the nature of Nigeria’s service sectors data was collected from the World Bank, Groningen Growth and Development Centre databases – notably the sectoral database collated by Timmer et al., (2015). The Central Bank of Nigeria (CBN), Nigeria’s National Bureau of Statistics (NBS). Likewise, education statistics were collected from Nigeria’s National University Commission (NUC), and the Joint Admissions and Matriculations Board (JAMB). These were supplemented when needed by relevant reports, scholarly articles, and previous studies on the research themes.

In examining the service sectors, three main indicators were analysed. First; the primary, secondary and tertiary sectors contribution to value added of GDP from the years 2000 – 2015. Second; the sectoral share of total employment, and lastly; the sectoral contribution to trade and capital imports. For the first two indicators, I used the World Bank and the Timmer et. al., (2015) databases. The value-added contribution of the different sectors to total GDP are presented both in current and constant prices and taken from the National Accounts of countries (World Bank data, 2017). Due to the major GDP revision in September 2014, two series are presented for Nigeria by Timmer et al., (2015). One of the series is an update of the old GDP series, with the base year 1950. While for the other, the new GDP data is used to extrapolate backwards using trends, with the base year 2010.¹⁰ A reason for having these two series is that complete details and further refinements behind the recent GDP revision are yet to be made completely known. Additionally, the employment data (measured as the number of persons employed) by Timmer et. al., were collated from Labour Force Surveys of 1983, 1986, and the General House Surveys of 1999 and 2009 (Timmer et. al., 2015). The data for trade and capital imports were mainly collected from the CBN, and NBS. For trade, the CBN Balance of Payments (BOP) database was used to examine the composition of goods and services in Nigeria's exports and imports, while for capital imports, reports from NBS was used to examine the sectoral share, as well as sub-sectoral share of capital imported to Nigeria in post-2000. The focus on the three economic categories for analysis was inspired by previous research exploring the role of services in other economies (i.e. Yusuf 2015; Wu 2015; Mukherjee 2015 & Bhorat et al., 2016).

There are notable limitations to using the presented data. These are mainly related to the fact that outputs are expected to be measured through regular censuses and surveys (World Bank data, 2017). But in most developing countries like Nigeria, historical census data are considered unreliable, and where surveys are available they are infrequent (Timmer et al., 2015). Thus, as Timmer et al. noted in their study, earlier survey results are usually extrapolated using appropriate indicators. There is also the issue of the choice of sampling unit, which also affects the data quality (World Bank data, 2017). Against this backdrop, Jerven, in using several reports published by the Federal Office of Statistics, noted that “the data base on current economic activities is weak, and efforts need to be made to drastically improve the series” (Jerven, 2011: 20). Thus, in using these data it was important to cross-check for some level of coherence between the figures presented in

¹⁰ At the time of this research, both series ends in 2013 (see Timmer et. al., 2015).

the different datasets and previous studies. Consequently, the data served the analytical purpose of this thesis by providing evidence that helps in understanding current trends in the Nigeria economy.

To get insights into the state of Nigeria's higher education, records on the growth in the number of institutions, particularly, data on universities were collected since they are considered the major institution of higher education in Nigeria (Amaghionyeodiwe & Osinubi, 2012). Additionally, statistics on the number of candidate applications to universities, enrolment, international mobility of Nigerian students, and governments budgetary allocation to education was collected from the NUC, JAMB, and previous studies. This was done to assess the rate of demand and supply of higher education in the country. To ascertain the reliability of figures from the utilized sources, own calculations were made when relevant from the statistics provided by JAMB and NUC. The choice to assess these aspects of higher education is in line with some of the global trend considered as important by Dahlman (2009) when developing or considering the role of education in development. They include for example: enrolment rates, especially in higher education, the demand for higher education graduates, private provision of education and training, increased competition in provision of education and training, internationalization of higher education and training, etc. (Dahlman 2009). Doing this further contributed to the analytical purpose of the thesis.

3.3 Conceptual and analytical approach

The study focuses mainly on Nigeria's post-2000 growth trajectory, as this coincided with the emergence of the recent democratic rule and period of high growth – but materials/ data also constraint the time-period for certain indicators, thus, where possible and necessary a longer or shorter time-period is employed. Based on the data, the *primary* sector consists of: agriculture, hunting, forestry, fishing, mining and quarrying; and the *secondary* consists of: manufacturing, construction, utilities; while the *tertiary* (services) sector includes: wholesale and retail trade; hotels and restaurants; transport, storage, and communications; finance, insurance, real estate and business services; government services; community, social and personal services. The service sector is examined in relation to the others in order to assess its viability as an alternative path of transformation to industry.

Furthermore, in line with the conceptualization of services presented by Ghani & Kharas (2009b), the services sector is examined in two groups which are: *modern impersonal services* (sometimes referred as tradable or knowledge-intensive) – represented in the utilized data by finance, insurance, real estate and other business services, as well as transport, storage and communications. Then, *traditional personal services* (sometimes referred as non-tradable or less-knowledge-intensive) – represented by government services; trade, restaurants and hotels; community, social and personal services. This distinction is relevant to enable the decomposition of the service sector and examine the performance of the different subsectors since it is believed that the knowledge-intensive services is more dynamic and more able to enhance the progress of an economy (Dahlman, 2009; Bhorat et. al., 2016). Thus, making the knowledge-intensive services more relevant to the aim of this research.

The analysis is done using descriptive quantitative statistics. This is employed as a way of summarizing observed trend in the data for the various indicators of interest through graphical representations,¹¹ from which relevant inference are made about Nigeria's service sector and the various subsectors. This is supplemented by a brief historical narrative,¹² on the development of higher education in Nigeria, which helps to understand trends in Nigeria's education system. Through these approaches, the analysis helped provide a basis for discussion against prevailing literature.

While the focus on a single case may provide a rather narrow view on the broader issues discussed in this thesis, which could make generalizations difficult (Halperin & Heath 2012: 208), it, however, provided the possibility to explore the case more in-depth (Creswell, 2013). Besides, where necessary Nigeria was put against other African countries, and India – which is usually considered the signpost country for services-led growth (Ghani & Kharas, 2009b) for comparative purposes. This ensured that the thesis is able to say something meaningful and interesting about Nigeria's service sector in relation to the main research problem.

¹¹ For more on the use of descriptive statistics as a method of analysis, see for example: Halperin & Heath (2012: 338-365).

¹² See for example: Gotham & Staples (1996), for the use of narrative as a method of analysis.

CHAPTER 4

The service sector in the Nigerian economy

The Nigerian service economy is currently among the fastest growing in Africa: the sector grew at double-digit rates between 2009-12 (UNCTAD 2015).¹³ The rebasing of Nigeria's national accounts in 2014 further revealed major growth in the service sector, as services now account for the greatest share of Nigeria's GDP output contributing about 55% in 2014 and close to 60% in 2015 (Mail & Guardian, 2014; Business News, 2014; & Timmer et. al., 2015). A significant shift in Nigeria's service sector since the 1990s involved the rapid increase in the number of mobile telephone subscribers, since the issuance of cellular telephone licenses in 2002 by the government. These developments have been accompanied by a resurgent growth in the banking sector since reforms by the Nigerian central bank increased capital requirements for banks, which resulted to extensive consolidation, and growth of people employed in the industry (Mail & Guardian, 2014; & Iwuagwu 2014). This chapter provides an analysis showing the contribution of the service sector and its subsectors to the economy (GDP), employment, trade and attraction of foreign capital.

4.1 Contribution of services to GDP

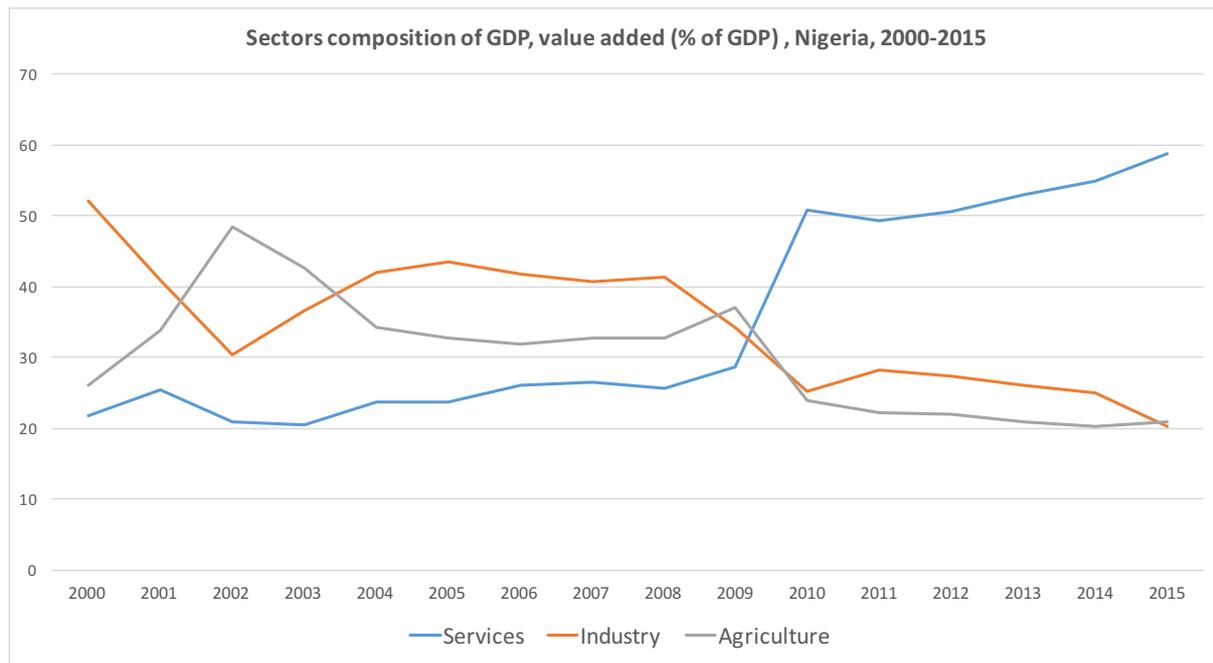
The contribution of services to GDP in Nigeria has been thought to be marginal relative to agriculture and industry prior to the GDP revision in 2014 (Mail & Guardian, 2014). The rebased GDP data is available from 2010-onwards.¹⁴ **Figure 3** below shows that as of 2015, services accounted for almost 60% of GDP, increasing from around 54.8% in 2014, and up from around 53% in 2013, which almost doubles the less than 30% recorded between 2000–2009 (pre-GDP revision).¹⁵ Nigeria's economy has long been dominated by oil and gas manufacture (PWC Nigeria, 2016). But the revision revealed major growth in the service sectors – including telecommunications, banking, the film industry (increasingly important and known as Nollywood), as well as the informal economy (NBS., 2016) – which was earlier rarely accounted for in official statistics.¹⁶

¹³ This is remarkable, considering for example, that India – a key service economy grew at an average of about 6.5% in the same period (see Mukherjee 2015: 636).

¹⁴ Refer to **chapter 3.2** for details on the revised GDP data

¹⁵ For trends in a longer-time perspective (i.e. 1981-2015), see **Appendix A (graph 1)**.

¹⁶ See for example Ogbuabor et and Malaolu (2013) who in their study found that, since 1970, the average size of the informal economy in Nigeria has hovered around 64.6% of GDP. However, as the activities in this sector is hardly

Figure 3:

Source: Own calculation from World Bank dataset (2017).

Figure 3 shows a drastic increase in the contribution of services from 2010. While this can largely be explained by the GDP revision, the figure also shows that already from 2001 and 2003, industry and agriculture respectively, have begun to experience a downward trend in their contribution to GDP, while the service economy was on the rise, albeit gradually. This gradual rise of services coincides with the early days of political and economic reforms by the new Nigerian Republic of the 2000s following the turn to democracy in 1999 (World Bank, 2005). With a determination to boost growth, and reduce poverty, the newly democratic government of Nigeria laid out a comprehensive reform programme. Most notably was its National Economic Empowerment and Development Strategy (NEEDS), which the government began to implement in 2003 (Fajana 2008). NEEDS, is considered an inclusive set of reforms covering all aspects of the Nigerian economy, including government institutions, the private sector, macroeconomic and social policies (World Bank, 2005). The all-encompassing nature of NEEDS therefore positioned it as one of Nigeria's key reform tool for development in the last 15 years.¹⁷

recorded, official national income accounts statistics do not correctly represent the true nature of the country's economy.

¹⁷ There have, however, been criticisms on NEEDS, notably that it is overly ambitious, considering the difficult political and economic circumstances in Nigeria. For more on this see Fajana (2008: 373) and World Bank (2005).

The rapid increase in services contribution to GDP from 2010, at the same time both industry and agriculture began to experience steady decline in their share of GDP suggests that services is currently the major sector contributing to Nigeria's GDP, and that the sector's share of GDP in the economy has been on the rise. Interestingly, this increase in the share of the service sector in GDP has been followed by a rise in per capita income in the period of high growth starting around year 2000, as **figure 4** below shows.

Figure 4:

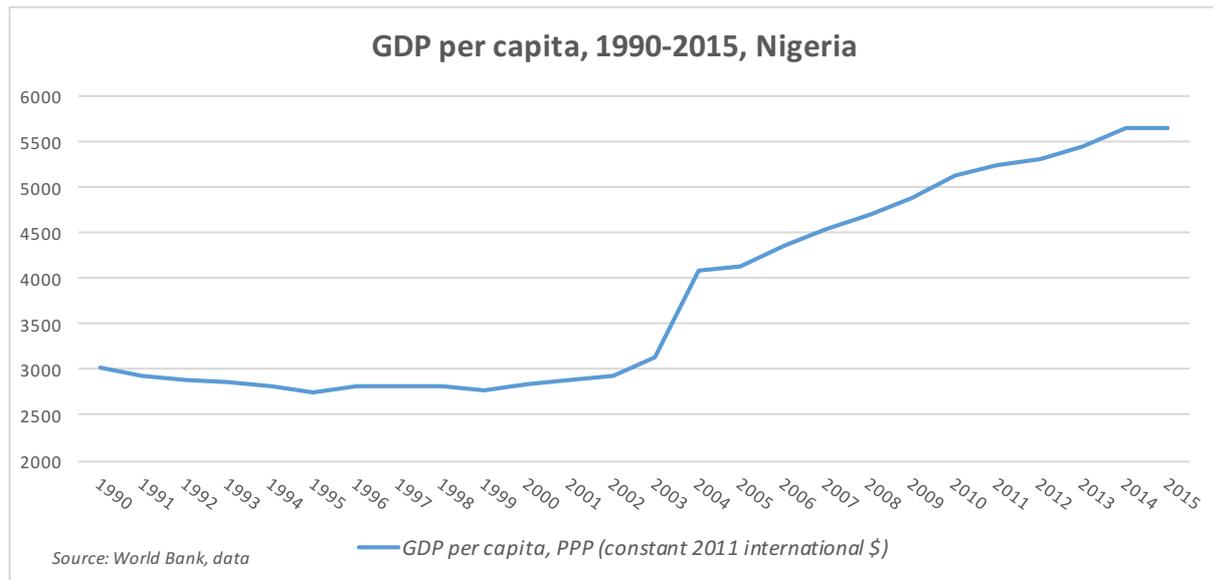
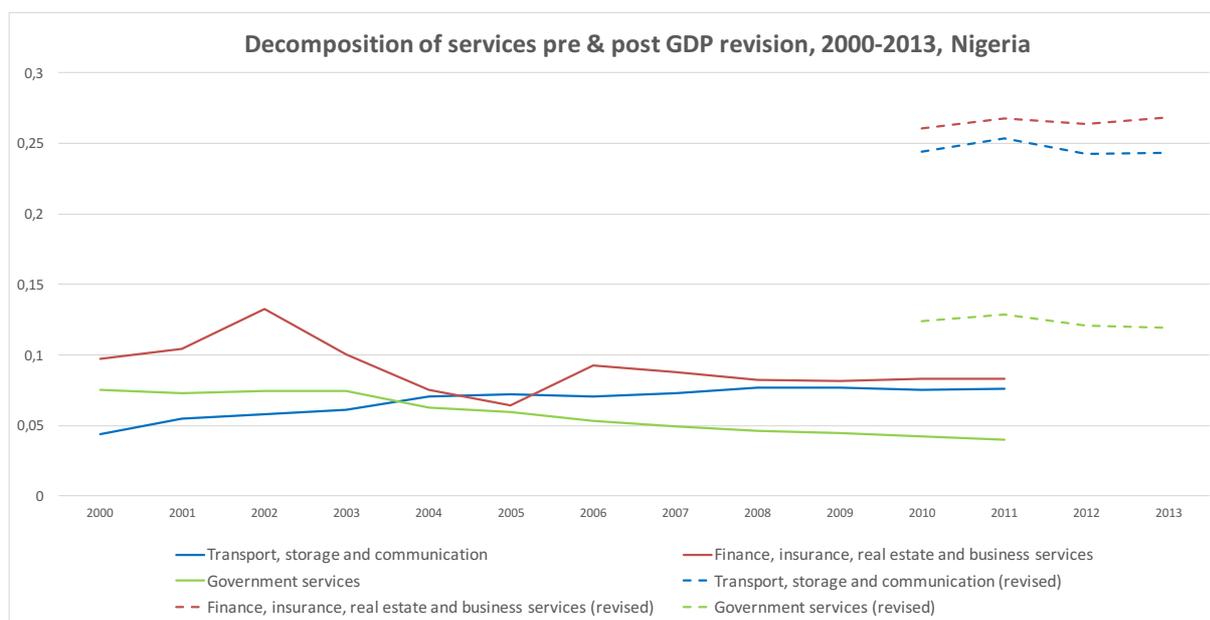


Figure 4 indicates that services growth in the Nigerian economy can be said to have also contributed to uplifting the economic life of individuals in the country, as is expected to be the case, and demonstrated in exemplary countries such as India (see Gordon & Gupta, 2003). This corresponding increase in per capita GDP thus have implications for the demand pattern from essential to discretionary consumption of services such as education, personal and health care services as established in the literature. For example, that increase in the standard of living in a society is connected to the increase in the consumption of the aforesaid services, which thereby pave the way for the emergence of the more knowledge-intensive – post-industrial society (See Bell, 1973). Indeed, reforms in the service sector were part of the overall reform process of Nigeria's democratic regime (as typified by NEEDS), which led to privatization, removal of FDI restrictions, and restructuring of business approval procedures among others (World Bank, 2005).

Thus, the rise in per capita GDP from 2003-2004, can be interpreted to be a consequence of the implementation of the NEEDS reform package.

Additionally, a decomposition of the service sector, shows a substantial variation in growth and performance across different service subsectors, which provides further insight into the Nigerian services economy. **Figure 5** below shows a decomposition of the service sector pre-and post-GDP revision (2000-2013,¹⁸ and 2010-2013 respectively), and reveals the contribution of each subsectors to the overall growth of services.

Figure 5:



Source: Own calculation from Timmer et al., (2015).

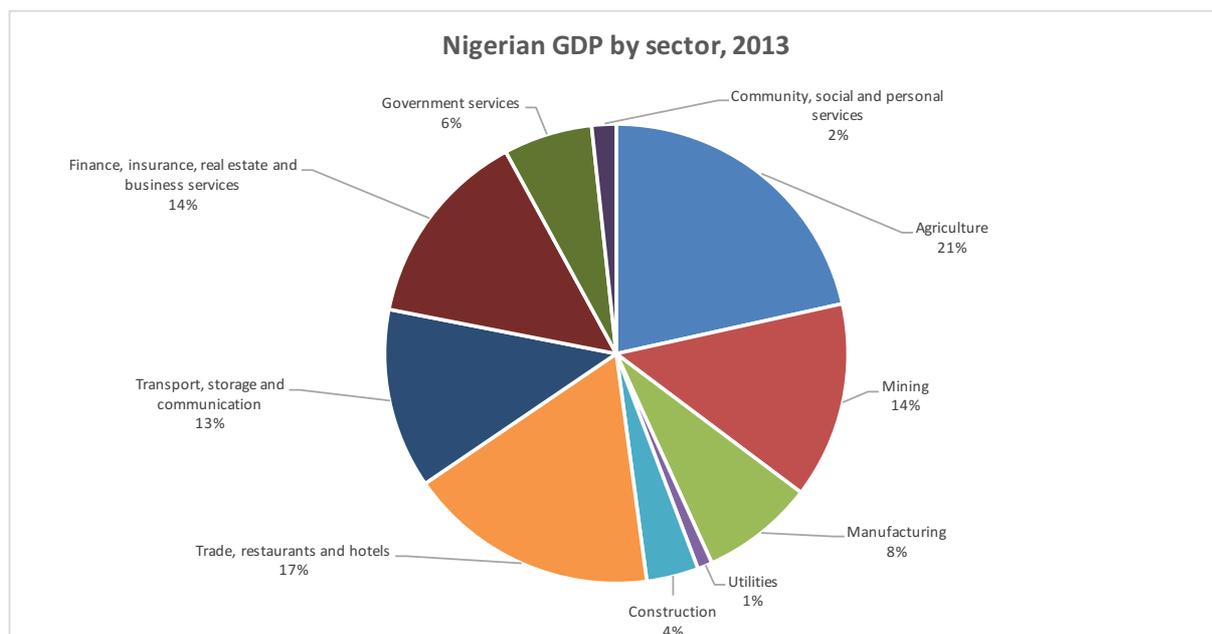
The decomposition revealed that the biggest service contributor to GDP pre-and post-revision are the traditional service sectors of trade, restaurants, and hotels averaging over 75% of total contribution of services to GDP pre-revision, against approximately 10% occupied by the knowledge-intensive services such as finance, insurance, real estate, business services as well as transport and communication.¹⁹ The revised data, however, showed that the share of the traditional services is not as large as earlier thought – decreasing to less than 40% from 2010 (revised GDP),

¹⁸ See **Appendix A: graph 2**, for a longer-time-perspective (i.e. 1990-2013).

¹⁹ To show clearly the percentage share of the knowledge-intensive sectors in services contribution, the share of the traditional sectors has been omitted in **figure 4**. It is, however, included in the figure **Appendix A: graph 2**. – refer to the Appendix.

while the share of the knowledge-intensive services increased to over 20%. The revised GDP showed that the combined share of the knowledge-intensive services was relatively steady from 2010-2013 and occupied over 50% of total services contribution to GDP. Besides, when compared with the combined share of manufacturing, construction and utilities (the secondary sector) in GDP, the knowledge-intensive services cumulatively occupy a bigger share of total GDP in a single year – for example, 2013. Whereas the former occupied about 13% together, the latter occupied around 27% (See **figure 6** below).

Figure 6:



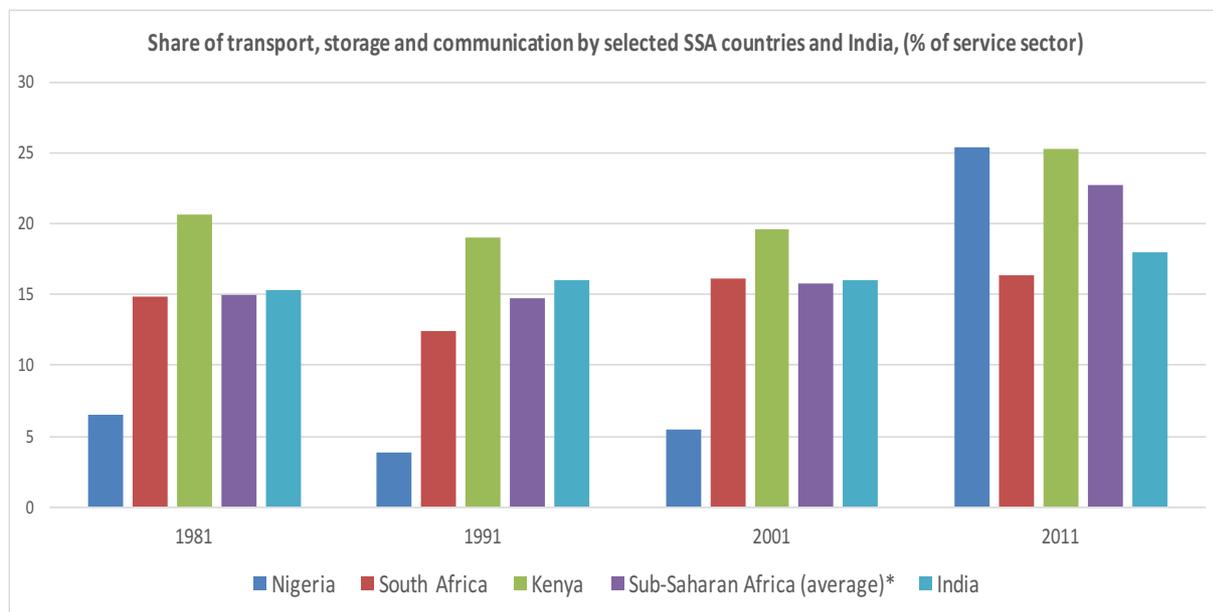
Source: Own calculation from Timmer et. al., (2015).

The recorded growth of the knowledge-intensive services shown in **figure 6** is in line with existing literature in suggesting that services such as finance, telecommunications and other business services contributes increasingly to the high growth of services (See Ghani & Kharas, 2009; Borat et. al., 2016). It is difficult to compare the performance of these knowledge-intensive services in Nigeria across the years using their share in the pre-and post-revised GDP data. It is, nevertheless, clear that since 2010, they have occupied a big share of services contribution to GDP. Additionally, in comparison to other SSA countries, and India,²⁰ **figures 7A and 7B** shows that

²⁰ India is included in this comparison due to its usual consideration as being a reference country typifying the service-led growth (see for example Ghani & Kharas 2009; Gordon & Gupta, 2003; Mukherjee 2016).

Nigeria lagged in the percentage share of the knowledge-intensive services before 2011. However, the 2011 data reflecting the revised GDP showed that the percentage share of transport, storage and communication were higher in Nigeria (accounting for just over 25%) than for example South Africa (at about 16%), and slightly above Kenya (around 25%) and the regional average (about 22.5%) for selected African countries – for which data on sectoral composition is available in the utilized data.²¹ In the percentage share of finance, insurance and business services in the service sector, Nigeria (about 26.5%) slightly lagged South Africa (at around 27.5%), yet, it was above Kenya (about 14%), the regional average (about 17%), and even India (around 22%). see **Figures 7A & 7B**.

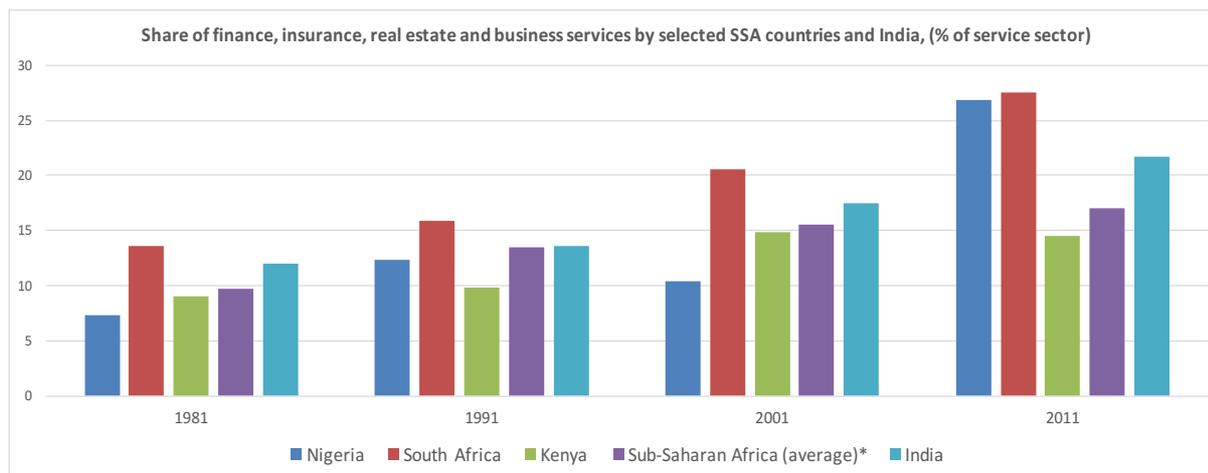
Figure 7A:



Source: Own calculation from Timmer et. al., (2015).

²¹ These countries included: Botswana, Ethiopia, Ghana, Kenya, Malawi, Mauritius, Nigeria, Senegal, South Africa, Tanzania, and Zambia (Timmer et. al., 2015).

Figure 7B:



Source: Own calculation from Timmer et. al., (2015).

The 2011 evidence from **figures 7A and 7B** is interesting, considering that South Africa is one of the most developed countries in Africa – often counted among the BRICs economies (Bhorat et al., 2016)., and Kenya is currently considered a services hub in Africa (Khanna et al., 2016). While India has, what is considered, an exemplary economy driven by services (Dahlman 2009). The figures presented above are not to say that Nigeria currently has a better functioning or more productive knowledge-intensive sectors than the other contrasted countries, but to show that the growth of the knowledge-intensive services in Nigeria suggests that Nigeria has room to specialize and utilize these more valuable services. This, as noted in the literature is a required step in the economic shift to a post-industrial knowledge society (Bell 1973; Haksever & Render, 2013), whereby services become a key driver of growth.

The noticeable trend when using the revised GDP (post-2010) demonstrates that the Nigerian economy is becoming more services-based than earlier thought. Considering that the growth of the knowledge-intensive sectors is considered to have huge benefit for the tradability of services, as well as positive multiplier effect on jobs and the broad economy (Moretti 2010), the recent developments in Nigeria suggests that there will be viable prospects ahead for the country if its service-sector is developed.

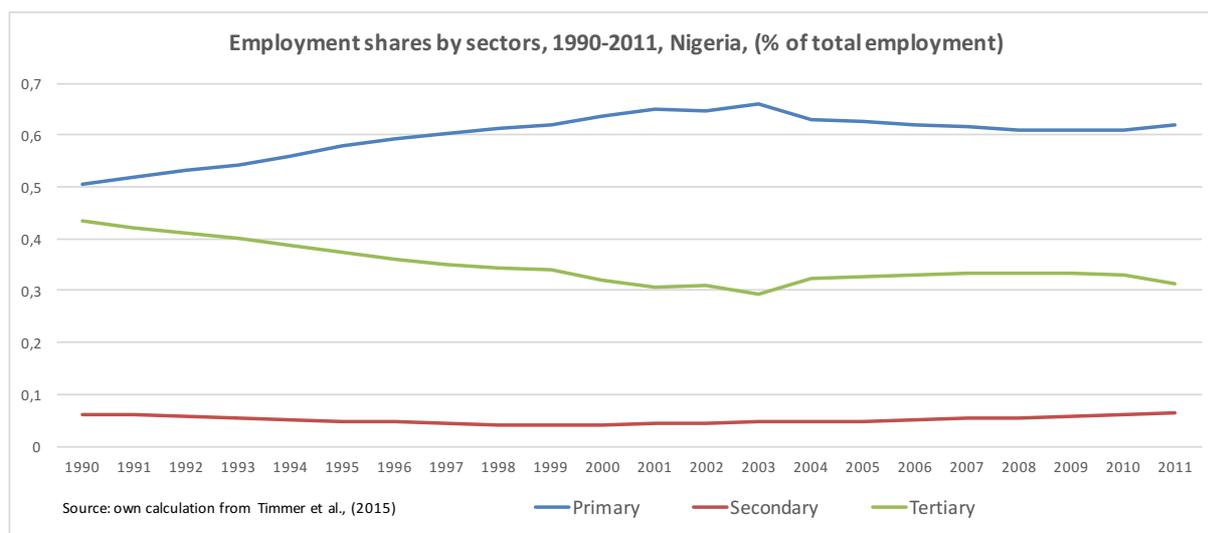
4.2 Contribution of services to employment

In terms of total employment, available data (represented in **figure 8** below) shows that there has been a long-run contribution by the service sectors as opposed to industry. The secondary sector has employed the least number of people – averaging less than 10% between 1960-2011.²² Although the primary sector has predominantly occupied the larger percentage of total employment, as its percentage share began to decline, it is the tertiary sector that has correspondingly increased. This indicates that as the country develops, it has not gone through a structural change from agriculture to industry as the conventional growth theory predicts, rather the shift has been from agriculture to services as predicted by the services-led theories.²³

The share of employment by the tertiary sector even outpaced that of the primary sector in the early 1980's, and this could largely have been tied to outcomes of the economic reforms that followed the Structural Adjustments Policies (SAP) embarked upon by many developing countries at the time (see Omotor et.al., 2009). The economic liberalization and deregulation that followed the SAP reform programme led to the influx of many multinational corporations in the Nigerian agribusiness industry in a bid to enhance agricultural productivity. This is, however, argued to have led to a neglect of Nigeria's rural sector (Oritsejafor 1995). Consequently, as the reforms tended to have favoured the urban sectors, especially the financial sector (Dipeolu 1998), it is no surprise that there would have been increased employment opportunities in the tertiary sector at the time.

²² See **Appendix A: Graph 3**, for a graph depicting the trend from a longer-time perspective (i.e. 1960-2011).

²³ Refer to **Figure 1 (in chapter one)**, for the depiction of sectoral employment share as of 1960 compared to 2011.

Figure 8:

Source: Own calculation from Timmer et al., (2015).

Interestingly, **figure 8** shows that in the post-2000 period, agriculture still employs a larger percentage of people, with an average of about 60% (of total employment), while services averaged about 33%, and industry about 7% between 2000 – 2011. This shows that a huge proportion of the workforce is still dependent on agriculture, which faces large camouflaged unemployment since a portion of the labour force in agriculture works in a redundant way with very low worker productivity (Oritsejafor 1995). Nevertheless, over the years, the percentage share of people employed in agriculture has been declining while employment in services has been on the rise. Generally, the employment growth in the Nigerian service sector has not kept pace with the rise in its share in GDP. For example, in 2011, only about 30% (see **figure 8**) of the workforce was employed in services, meanwhile its share in GDP was already over 50% (see **figure 3**). Consequently, critics have argued that Nigeria is making the atypical transformation from agriculture to services, leading Ajakaiye et al., (2016) to argue that Nigeria's recent growth driven by services is creating a "jobless growth". Emphasising that, the country's growth has been sustained largely by factor reallocation to non-tradable services rather than productivity enhancing knowledge-intensive services.

Indeed, services such as trade, restaurants and hotels are large employers in the Nigerian economy, but a comparison of their percentage share for 1960 and 2011 shows a decrease in their composition of total employment. For example, **figures 9A and 9B** below shows that in 1960,

these non-tradable services occupied around 78% of employment share by services, and by 2011 this share had declined to less than 50%. This reduction went along with an increase in the percentage share of the knowledge-intensive services such as finance, insurance, real estate and business services; transport storage and communication. In 1960, these knowledge-intensive services cumulatively accounted for about 13% of the total share of services employment, which increased to about 20% in 2011.

Figure 9A:

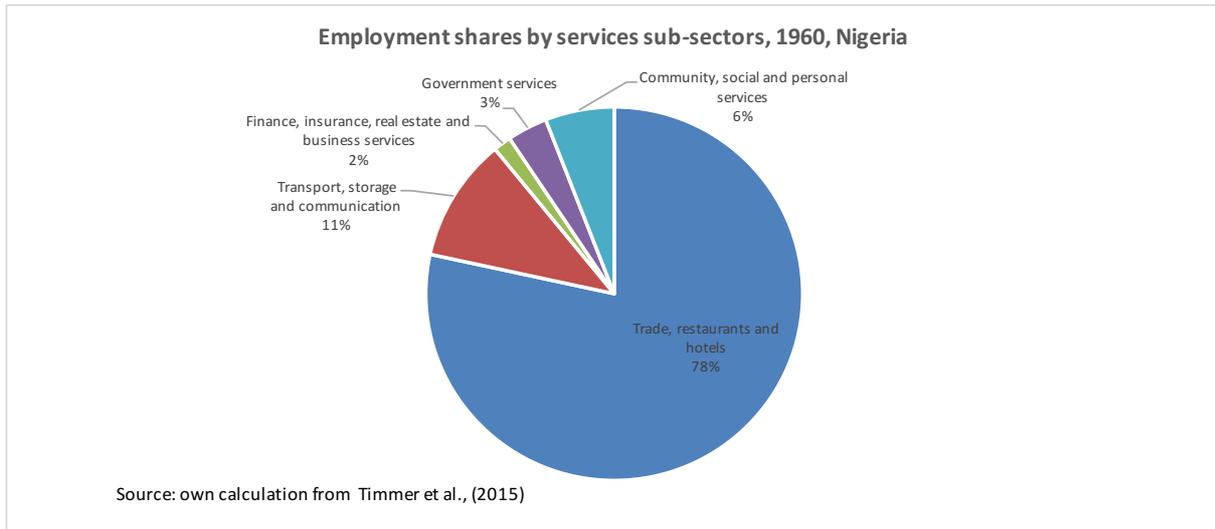
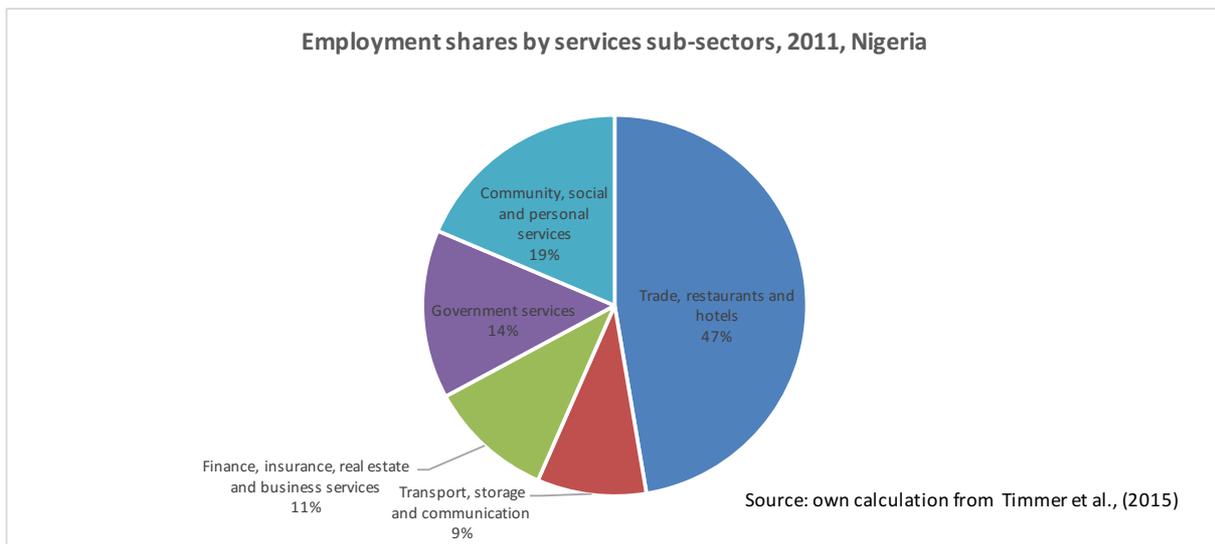


Figure 9B:



It is worth noting that there are, however, issues related to measurement of services employment in Nigeria as there is no robust system for data collection in the unorganized sector (Timmer et al., 2015). Besides, categorizing the transport, storage and communication services together could present measurement error in understanding the actual employment value for each of these subsectors. Whereas the communication sector is argued to be one of the leading sectors boosting the Nigeria economy, the transport and storage has also been identified as a key to services development (see Hayaloglu 2015). Thus, any measurement error in their estimation may result in under-representation of their contribution. Notwithstanding, the data illustrates that in the long-run there has been a change in the pattern of employment within the service sectors. Other service sectors such as government services, community, social and personal services have also drastically increased their share cumulatively from around 9% to about 33% when their value in 1960 is compared to 2011. Together with the trade, restaurants and hotels share, this indicate that close to 80% of employment is still occupied by the less knowledge-intensive sectors.

Nigeria will, therefore, need to do more to further increase employment share in the knowledge-intensive service sectors in order to increase productivity, and ensure the sustainability of its growing services. Notwithstanding, in relation to the other sectors of the economy, **table 1** below shows that, in absolute value, employment growth in the tertiary sector is well above that of other sectors. In particular, the percentage growth in the knowledge-intensive services in recent times have been remarkable. For example, between 1990 and 2011, the finance, insurance, real estate and business services grew almost six-fold compared to for example manufacturing (less than two-fold) and agriculture (just over two-fold). This indicate that while the knowledge-intensive services remained smaller than other services, they have recorded the biggest subsector growth in employment contribution. Thus, they are a major part of recent services growth, and with adequate improvements, one can expect these sectors to grow more in years to come.

Table 1:

Total Employment by Industry, 1990-2011, Nigeria				
	Growth (1990-2011)	Employment shares		Percentage growth (1990-2011)
		1990	2011	
Primary	+16 890	0,50	0,62	+ 108,08
Agriculture	+16 868	0,50	0,62	+ 108,78
Mining	+21	0,00	0,00	+ 17,67
Secondary	+1 605	0,06	0,07	+ 86,65
Manufacturing	+968	0,04	0,04	+ 70,37
Utilities	+7	0,00	0,00	+ 4,76
Construction	+630	0,02	0,02	+ 187,33
Tertiary	+2 921	0,44	0,31	+ 21,63
Trade, restaurants and hotels	-562	0,27	0,15	-6,73
Transport, storage and communication	+526	0,03	0,03	+ 53,48
Finance, insurance, real estate and business services	+1 486	0,01	0,03	+ 598,71
Government services	+408	0,06	0,04	+ 21,00
Community, social and personal services	+1 063	0,06	0,06	+ 53,37
Total	+21 416	1,00	1,00	+ 69,11

Source: own calculation from Timmer et al., (2015).

*Absolute value refers to persons engaged (in thousands)

Generally, services sector employment in Nigeria is low compared to its share in GDP, but the presented figures shows that it is growing. Thus, the evidence does support the idea that Nigeria's development has not followed the conventional path of transformation from agriculture society (characterized by high share of the primary sector in GDP value added and employment) to manufacturing, and then to services (in which agriculture accounts for low share of employment and low share of value added), resulting in higher productivity. The earlier presented **figure 3**, and **figure 8** suggests that the transformation in Nigeria has been more from agriculture to services, even though the rate of employment in the sector is still at a rather low level.

Unemployment overall is a long-standing issue in Nigeria, as Ajakaiye et al., (2016) have shown. Whereas agriculture still employs majority of the workforce, accounting for about two-third of employment but only one-third of GDP value added, services account for about one-third of employment but contributes about two-third of GDP value added. Moreover, the revised GDP showed that the combined share of the knowledge-intensive services occupies over 50% of total

services contribution to GDP. This means that about 3% of total employment manages to produce 50% of services value added, suggesting that Nigeria is already benefiting from the higher productivity nature of the service sectors. The productivity report of the NBS (2016a), suggests that labour productivity in the broad Nigeria economy is very low. Although it is normally suggested that manufacturing offers higher productivity (McMillian & Rodrik, 2011), the evidence presented so far suggests that this is an unlikely prospect for Nigeria to utilize in enhancing its labour productivity. The services sector appears to offer more hope in this regard, since it is evident that the growth of services in Nigeria is in large part driven by the high productive knowledge-intensive services.

Overall, there is a large room for improvement in job creation in the country. Moreover, the fact that a bigger share of services employment is concentrated in the traditional sector suggests that the country will need to address this problem in order to increase productivity and thus ensure that services will be an escalator for sustained growth in the economy.

4.3 Contribution of services to trade and capital imports

Services have usually been considered inputs into the production of trade of goods, or as outputs produced mainly for domestic consumption (McCredie & Bubner, 2010). Whereas personal services have traditionally been consumed by final consumers, knowledge-intensive services are usually consumed by other firms (Bhorat et. al., 2016), thus, these are usually part of an intermediate demand to produce final goods. A growing conviction is that the globalization of trade, the reduction in cost of transport, communications, and movement of people has prompted the growth of services as a rising component of international trade and investment (Mukherjee 2015). A large part of Nigeria's foreign trade is still dominated by trade in goods, including (crude oil) as **figure 10** below shows. However, data from the CBN (2017) on the Balance of Payments (BOP) 1994-2016, shows that there has been considerable increase in services trade in recent times.

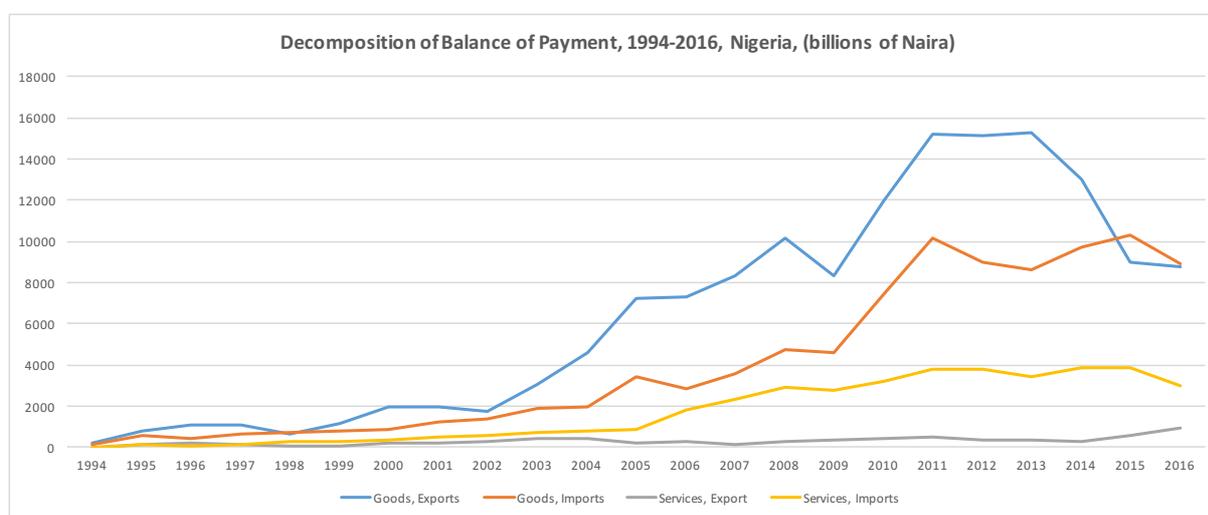
There are four modes of supply that defines trade in services, as highlighted by Bhorat et. al. (2016). They are:

- **Mode 1:** Cross-border trade – services supplied from the territory of one country into that of another.

- **Mode 2:** Consumption abroad – services supplied in the territory of a country to the consumer of another.
- **Mode 3:** Commercial presence – services supplied in the territory of a country to the consumers of another (e.g. FDI).
- **Mode 4:** Presence of natural persons – services supplied by citizens of a country in the territory of another.

The BOP statistics (as used in the calculation for the subsequent **figures 10 and 11**) typically document trade in services falling within Modes 1, 2, and 4 – although a big part of FDI is considered to be in the services sector (NBS 2016b).²⁴

Figure 10:



Source: Own calculation from CBN, 2017

The trend in **figure 10** above shows that from 2000 onwards (in absolute value),²⁵ the share of services export has been a lot lower than export in goods, while import of services has been on the rise, as well as the import of goods. This is not surprising as Nigeria has traditionally been a net exporter of primary products such as crude oil, and a net importer of manufactured goods and even refined petroleum products (Kale 206; PWC Nigeria, 2016). Thus, the rise in export of goods in the post-2000 period can be associated with the commodity boom era that contributed highly to

²⁴ Due to data limitations, a decomposition of FDI (as a share of capital imports) going into the different sectors has not been done here.

²⁵ Absolute value, refers to the share (in billions of naira) of the various indicators (goods export and imports, services export and imports) in the total BOP.

Nigeria's growth as earlier stated. The sharp decrease in goods export from 2014 is connected to an overall global trend, which was in large part a result of falling commodity prices, such as crude oil. It is understandable that oil price drop had significant impact on Nigeria's exports due to its heavy reliance on crude oil exports (NBS, 2016b). Nevertheless, the decline in goods export has been followed by a noticeable gradual upward movement in the export of services since 2014. Albeit minimal and rather early to tell, the recent trend signals the possibility of a future progress in services export.

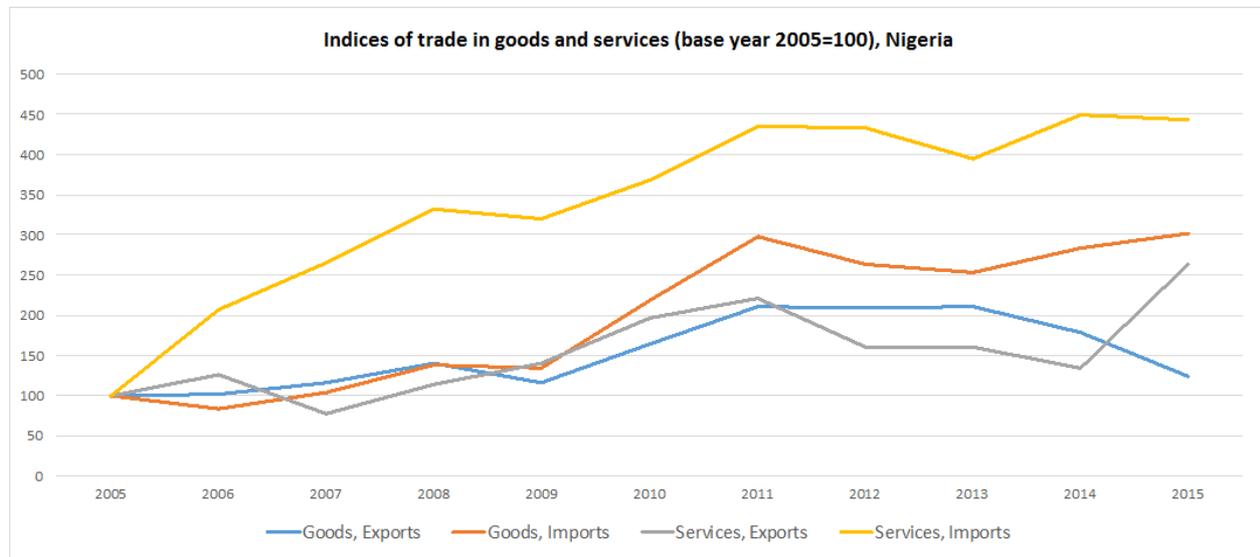
It is recorded, for example, that in 2014, Nigeria exported about \$1.5 billion in commercial services, and imported about \$22.5 billion, thus incurring a total services trade deficit of nearly \$21.0 billion according to the U.S International Trade Commission (USITC, 2017). The main part of these services as reported by the IMF is transportation and travel, which accounted for over 70% of commercial services exports and imports respectively in 2015. Other commercial services such as financial services, ICTs and other business services accounted for 17.2% and 26.8% of exports and imports respectively (IMF, 2017). Thus, relative to the transportation and travel services, exports in the knowledge-intensive services is marginal. The high share of the transportation services to trade suggests that it contributes to the growth of export of primary goods, thereby enhancing the functioning of other sectors of the economy.

Conversely, in relative terms, the development of goods (exports & imports) and services (exports & imports) in the last 10 years,²⁶ shows that imports of services have risen about 4 and half times in 10 years, increasing more than the other components. Likewise, the rate of increase in services export from 2014 also becomes clearer as **figure 11** below shows. This suggest that services are becoming more dynamic in the last decade, and service imports have resulted to a growth of services trade in recent years. Coupled with serving the oil and gas sector needs, several other factors may also account for the high share of transportation and travel services. Amongst which are the prevalence of Nigerians traveling abroad for leisure, as well as for studies. For example, Nigerian students are usually one of the largest African international students group in many western countries such as the UK and US according to World Education Services (WES, 2017). Overall, the fact that services export still lag services import is likely because Nigeria is still at an early stage in services-led growth. As established in the literature, the initial expansion of services like transportation and public utilities is needed for the development of industry and

²⁶ The indices for calculating the relative development was equated to 100 for the base year 2005.

distribution of goods. Additionally, population growth and mass consumption of goods will further lead to expansion of whole and retail services, together with services such as finance, real estate, and insurance (Haksever & Render, 2013). Thus, one can expect that Nigeria's trade in services will get better over time given adequate development of the sector.

Figure 11:



Source: Own calculation from CBN, 2017

Given the increasing role of domestic consumption of services in the Nigerian economy, as established in the previous section, and as the call for diversification intensifies in Nigeria (refer to Kale, 2016), there are reasons to believe that more investments may go into growing the service sectors. A major foundation for this can be tied to the ambitious nature of some of the economic reforms the government have embarked upon in the last decade. Notably, the earlier mentioned NEEDS (see Fajana 2008; World Bank, 2005); the introduction of new banking regimes, such as Universal Banking (UB) in 2001 to reposition the banking industry, and the bank consolidation through M&A introduced in 2004, which has indeed, enhanced banking efficiency, size and development of the Nigerian financial sector (Ahmed Bello 2011). Additionally, the general economic liberalization in the 2000s that also stimulated the commencement of reforms in the telecommunications sector in 1999.²⁷ This boosted various development in the country, most

²⁷ In 1999, Nigeria had only about 400,000 connected telephone lines and 25,000 analogue mobile lines. Meanwhile, following reforms in the telecom industry, by 2011, the total number of active telephone subscriber base had gone up to 93.5million. Likewise, the industry had a private sector investment of around US\$50million, in 1999, but by the

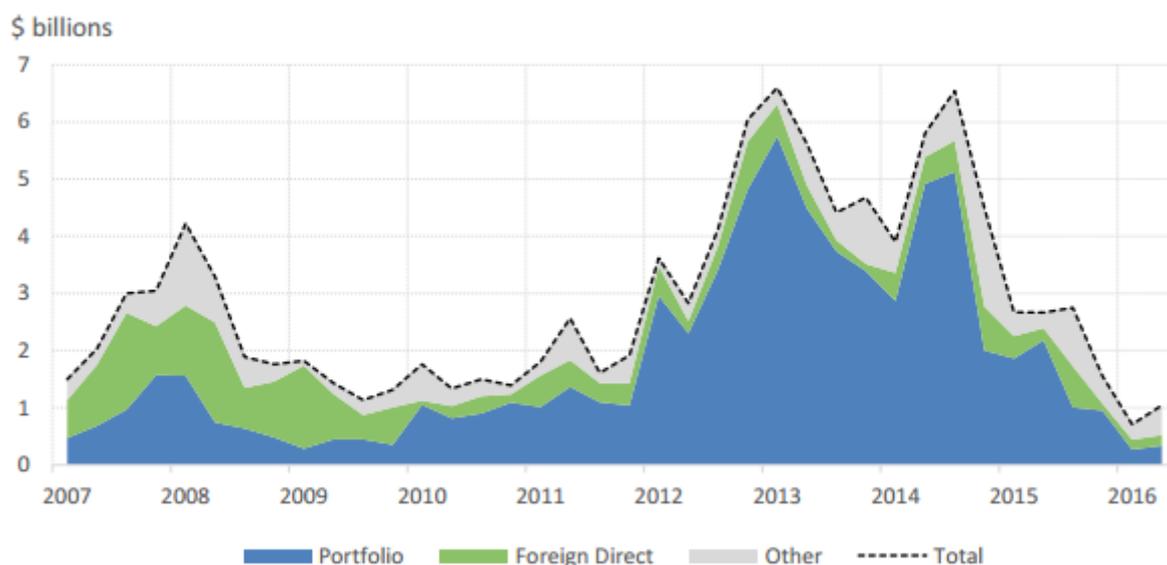
especially empowering small, medium and large-scale businesses through the provision of various ICT tools (Iwuagwu 2014). Furthermore, the GDP revision in 2014 also better revealed the ongoing increase in the composition of the service sector in trade and its growing role in the Nigeria economy. The revision indicates that, with the availability of more accurate estimation in subsequent years, the growing share of services in Nigeria’s trade can even become more visible.

4.3.1 Contribution of services to capital imports

Apart from international trade, Nigeria’s service sector has also contributed a considerable amount to capital imports.²⁸ Capital is either imported in the form of shares, or imported directly by different sectors of the economy (NBS, 2016b). **Figure 12** below demonstrates that the level of capital imported in the period 2012 and 2014 was markedly higher than in previous years. According to the NBS (2016b), this might have been a consequence of external conditions such as Nigeria's addition in the JPMorgan EM Bond index, as well as internationally low interest rates prompting a hunt for higher yields from investors over this period.

Figure 12:

Total Capital Imported (\$ billions), 2007-2016, Nigeria



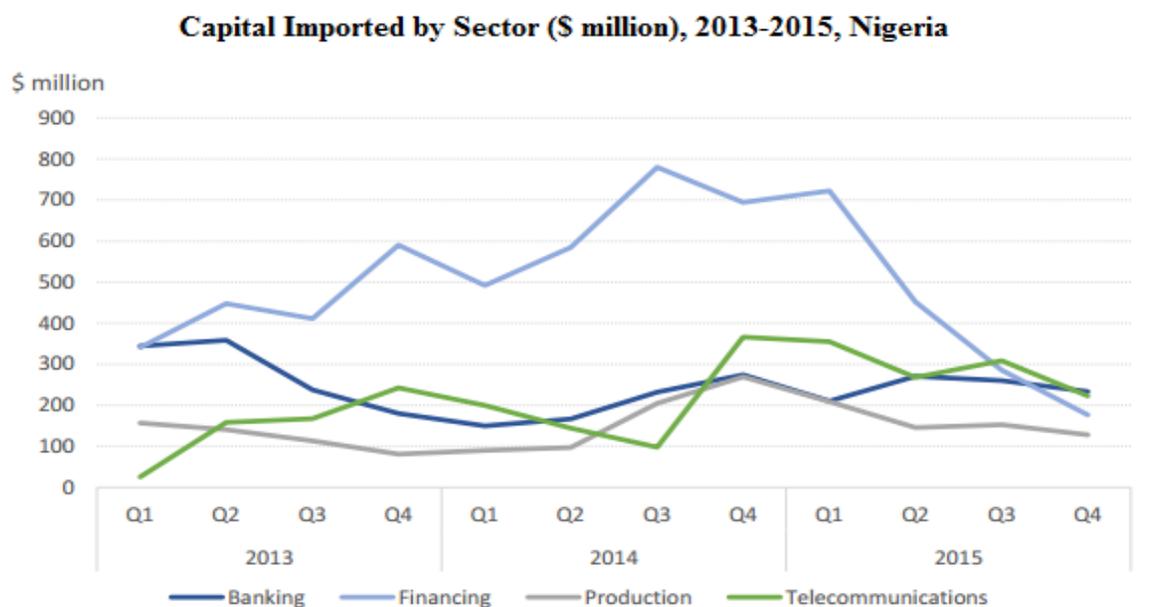
Source: NBS (2016)

end of 2009 had attracted more than US\$18billion in private sector investments, including FDI (see Iwuagwu 2014 for an overview of the reforms in the Nigeria’s telecom industry).

²⁸ Categorized by the Central Bank of Nigeria into 3 investment types, i.e. Foreign Direct Investment (FDI), Portfolio investment and other investments, each comprising various sub-categories (NBS 2016b).

In terms of the composition of the imported capital, the NBS in its 2016 report, showed that the knowledge-intensive service subsectors such as finance, banking, and telecommunications outpaced other (notably the production/ manufacturing) sectors in the attraction of foreign capital in the period 2013-2015 as **figure 13** below shows. This further reinforces the idea that continuous investment in the knowledge-intensive services is a signal for further development of the sectors, and thus, more prospect for growth within these sectors in the coming years.

Figure 13:

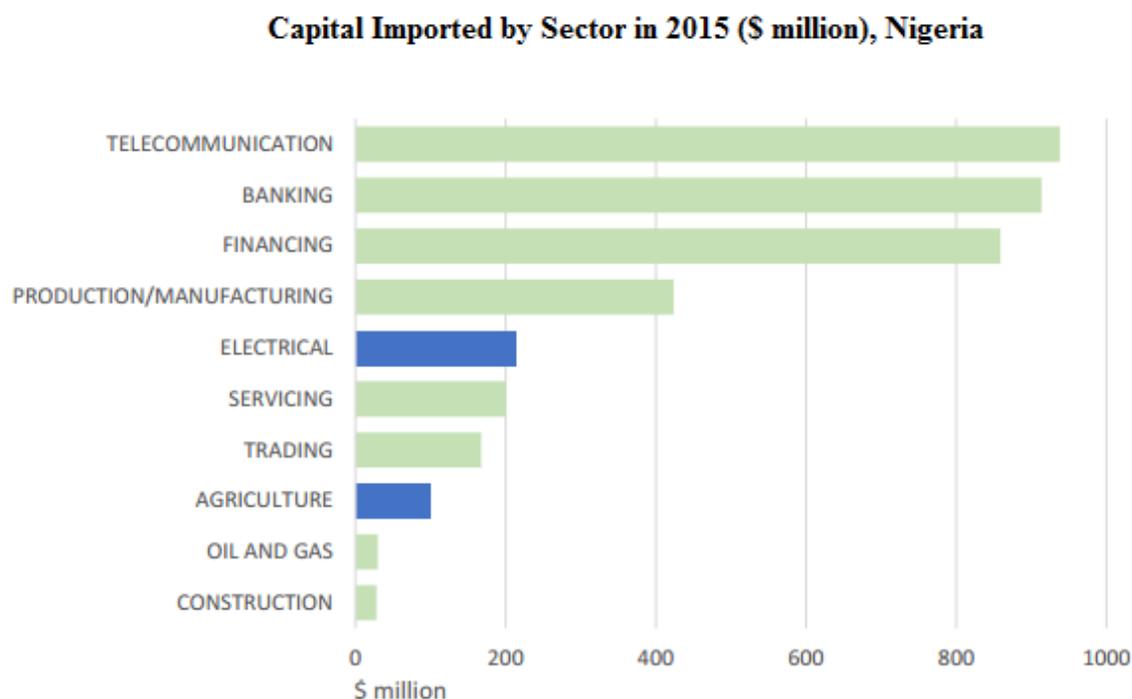


Source: NBS (2016)

Since 2015, there has been a downturn in capital imports, which according to NBS (2016b) could partly be a result of the unwinding of the earlier mentioned factors such as the internationally low interest rates, as well as the tougher economic situation in Nigeria ensuing from the effect the fallen oil price has had on earnings. Yet, as evident from the NBS report, in 2015, among the ten sectors to receive the most investment, telecommunication, banking and finance still ranked as the highest, as shown in **figure 14** below. Specifically, out of the recorded total of USD\$9.643.001millions of capital imported in 2015, these three sectors accounted for over 80%, which was noted to even be a reduction from their share in the previous year – 2014. Their

prominence in terms of capital imports, thus, coincides with the noticeable increase in their contribution to GDP, and growth in employment share as earlier shown.²⁹

Figure 14:



**The green bars are sectors that experienced a decline in the value of capital imported, while the blue bars represent increases (relative to 2014).*

Source: NBS (2016)

The preceding paragraphs have shown that the service sector in Nigeria has attracted the most capital in recent years. A key factor underlying this large share seem to be connected to Nigeria's domestic consumer base that requires the functioning of the telecommunication, banking, finance subsectors, which in turn ensures the growth of the trade and retail subsector, as earlier shown in **figure 7A** and **7B**. For example, based on its consumer volume and its growing middle class, Nigeria was ranked the fourth most attractive investment market for retailers in SSA, according to A.T. Kearney's 2015 African Retail Development Index (A.T Kearney, 2015). The considerable contribution by the telecommunication, banking and financing subsectors, can also be attributed to the reform focus in these sectors by the Nigerian government, that has indeed attracted increased capital imports (Iwuagwu 2014). Besides, despite ranking poorly regarding infrastructure and ease of doing business, Nigeria is considered one of the most open services markets in Africa (USITC

²⁹ refer to **figure 6** and **Table 1**.

2017).³⁰ Nigeria was Africa's largest recipient of private FDI in 2012 (receiving about 7.1 billion), and since 2009, the service sector has accounted for around half of all new projects, according to USITC (2017). The noticeable trend in **figures 13** and **14** above certainly reflects these developments.

Additionally, it has been noted that Nigeria, with its 140.8 million active telecom subscribers at the end of 2015, became the largest telecom market in Africa, and between 2001 and 2011, the telecom sector accounted for about 35% of total inward FDI with a cumulative intake of about \$15.8 billion over the period (USITC, 2017). Out of the four companies that dominate the Nigerian mobile telecom market, three are foreign based. By percentage of mobile subscribers, MTN (South Africa) accounts for about 44%, followed by Globacom (Nigeria based) 21%, Airtel (India based) 20%, and Etisalat (UAE based) 15%, (USITC, 2017; Iwuagwu 2014). Similarly, stimulated by the significant consolidation in the financial sector, Nigeria's banking sector was noted to have become West Africa's largest banking market after recording an average annual growth rate of over 18% during 2010-2013 (USITC, 2017). Indeed, the financial reforms in Nigeria created a financial environment characterized by large and strong bank, improved financial infrastructure, and an efficient payment system, which has led to a growing presence of Nigeria-based banks such as United Bank for Africa, Guaranty Trust Bank, and Zenith Bank across Africa.

In summary, one can infer that the service sector is, indeed, contributing significantly to the Nigerian economy through its contribution to GDP, employment, trade and capital imports. The contribution of the knowledge-intensive services to employment is still low in Nigeria. But with its current contribution to the growth of services value added to GDP, there are signs that services can indeed, offer a new growth path for Nigeria. The level of foreign investments that the sector is currently receiving opens an avenue for further development and improvement of the sector, especially the knowledge-intensive sectors. A common argument and challenge would be whether Nigeria possess the right skills and human capital to drive the growth of these sectors. I show below that there are reasons to believe that Nigeria is well positioned to be able to provide and further develop the needed skills that could further enhance the growth of its service sectors.

³⁰ Nigeria currently has an overall score of 27.1 (virtually open) on the Services Trade Restrictions Index - STRI published by the World Bank (USITC 2017)

CHAPTER 5

The State of Higher Education in Nigeria

The growth of Nigeria's higher education system has positioned it as one of the largest and most developed in SSA. Already in the late 1980's the World Bank classified Nigeria as:

"perhaps the only country in Sub-Saharan Africa that has what could really be called a system of higher education.... It has also created the infrastructure needed to manage this system, including the National Universities Commission, Joint Admissions Matriculation Board, Manpower Board, and Student Loans Board." (World Bank, 1988).

Some commentators have, however, argued that subsequently the country's university system did not progress as reasonably as anticipated, with general growth rates exceeding by far the policy guidelines set out by the government, and at the cost of quality, especially during the military regime of the 1990s (Amaghionyeodiwe & Osinubi, 2012). The numerous challenges facing the Nigerian tertiary education sector is widely documented in the higher education literature.³¹ This chapter provides a brief narrative, showing that despite the challenges, over the years, there has been a continuous surge in the number of institutions, and demand for higher education in Nigeria. This places Nigeria in an appropriate position to invest in future developers of its economy.

5.1 The growth of institutions and the impact of the military era

Tertiary education in Nigeria is provided by universities, colleges of education, polytechnics, etc., with the specified goals of embarking on teaching, research and development of programmes and to uphold minimum educational standards, as well as pursue inter-institutional collaboration and devoted service to the community (Saint et al., 2003). At the time of independence in 1960, Nigeria had one university (University College in Ibadan), which was founded in 1948 as an affiliate of the University of London. Following independence, the Nigerian government commissioned an

³¹ The most notable challenges include inadequate funding, the issue of access to Nigerian universities, inconsistent policy changes and program curriculum, disruption of the school system, lack of adequate infrastructures, and thus low quality of education, etc. For detailed overview see (i.e. Ajeyalemi & Ogunleye, 2009; Iruonagbe et al., 2015).

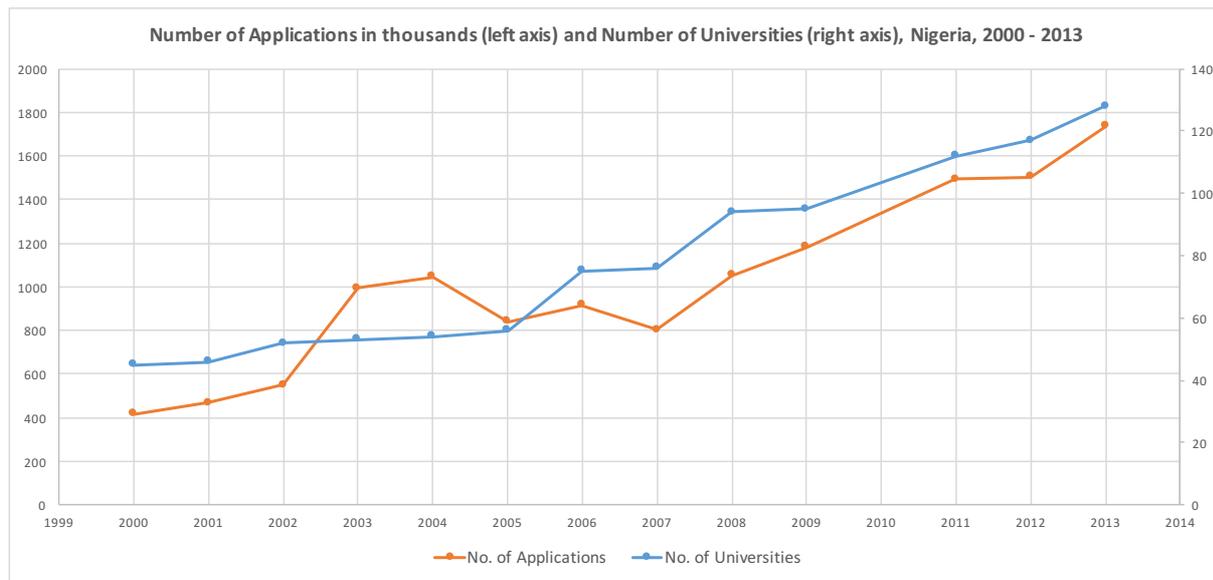
inquiry (the Ashby Commission), with a mandate to investigate Nigeria's needs in the areas of post school certificate and higher education in the subsequent twenty years (Iruonagbe et. al., 2015).

The report of the commission led to the establishment of regional universities in the then three (East, North and West) regions of the country. Between 1960-1970, six universities that constitutes Nigeria's first-generation universities were established.³² Furthermore, the Federal Government of Nigeria established seven new universities between 1975 and 1977, while 16 State-owned and Federal Polytechnics were set up. Concurrently, the Federal government took over the regional universities, while states began to create new universities of their own. Once a new state was created the central government would establish a Federal University in the State, and when the Federal Government failed to do so, the states would create their own institutions of higher education. This trend which reflected the state structure in Nigeria, has continued until current day (Amaghionyeodiwe & Osinubi, 2012). Consequently, as of 2003, Nigeria's entire tertiary education system including federal, state and private universities had gone up to 220 institutions (Saint et.al., 2003).³³ Subsequently, the number of approved universities alone has grown from 45 in 2000, to 128 in 2013, and currently 152 (NUC, 2017),³⁴ which has led to recorded progress in the number of candidate applications to universities. This is demonstrated in **figure 15** below, showing the positive progression of institutional development and corresponding increase in university applications between 2000-2013.

³² These universities included: The University of Nigeria (1960), Ahmadu Bellow University, Zaria (1962), University of Ife - now Obafemi Awolowo University (1961), University of Lagos (1962), University College Ibadan - which was granted full fledge University status in 1962, and the University of Benin (1970).

³³ "17 federal universities, 4 federal universities of technology, 3 federal universities of agriculture, 1 national open university, 4 national centres for specialized tertiary instruction, 16 state universities, 7 private universities, 1 military university, 17 federal polytechnics, 27 state polytechnics, 7 private polytechnics, 22 federal teacher training colleges, 38 state teacher training colleges, 4 private teacher training colleges, 36 colleges of agriculture, 12 specialized training institutes, and 4 parastatal supervisory agencies" (Saint et.al., 2003).

³⁴ This includes: 40 federal universities, 44 state universities, and 68 private universities.

Figure 15:

Source: Own calculation from Ajadi (2012); Adesulu (2013), JAMB (2017).

Regardless of the recorded progress in institutional development since independence, the successive military regimes in the 1980s and 1990s, did enough to gradually tarnish the glittering reputation of the education system in Nigeria (Saint et al., 2003). For example, in response to the pressures of public demand for access, the education system was allowed to expand rapidly, with enrolments growing at a yearly rate of 12 to 15%. Between 1980 and 1992, eleven more universities were created, with some of them apparently on an unplanned basis, with progressively increased government interference in university affairs, i.e. the direct appointment of vice-chancellors (Amaghionyeodiwe & Osinubi, 2012).

Correspondingly, since criticism of the regimes in power by student organisations and academic staff were easily perceived as possible opposition to the military regime, universities witnessed a steady erosion in the purchasing power of their budgets (Saint et. al., 2003). For example, between 1990 and 1997, the real value of government allocations for higher education decreased by 27%, albeit enrolments growing by 79% (Amaghionyeodiwe & Osinubi, 2012). These developments led to a deterioration of the universities research output, educational quality, and management structures. Internally, the deteriorating working conditions and political repression on campus, the downward pressure on staff salaries generated a series of student and workers strikes during the 1990s (Oni 2000). Meanwhile, externally the violations of human rights and corruption by the

regimes in power incited international exclusion and sanctions on the Nigerian state. An unplanned consequence of these external development as Saint et. al., (2003) noted was the isolation of the country, with its universities, from global intellectual flows and access to knowledge during much of the 1990s.

The emergence of democracy in 1999 brought about the political will to tackle Nigeria's long-disintegrating higher education challenges. Within a few years, the newly elected government had instituted more policy and institutional reforms in higher education than the joint governments of the earlier decades, notably: institutional audits of all universities and associated parastatal bodies, revoking the vice-chancellors earlier privilege of personally choosing 10% of each year's admitted students, broader representation for governing councils of universities, encouraging private ownership of universities, and a 180% increase in university funding, which increased per student allocations from equivalent of USD360 to USD970 per year (Amaghionyeodiwe & Osinubi, 2012).

These efforts were crowned by a new Government Policy on Autonomy for Universities declared on July 21, 2000 (Iruonagbe et. al., 2015), and other policy reforms that followed.³⁵ The new policy framework was aimed at giving university councils full responsibility for institutional governance, including hiring top management and control over student admissions (Ajeyalemi & Ogunleye, 2009). Subsequently, a legislative proposal was designed and approved by the Federal Executive Council in 2002 to reform existing higher education laws, and establish a permanent legal base for the planned changes. These proposals were to aid the legal detachment of universities from public service (Saint et.al., 2003), and thus set Nigeria's higher education on a forward path.

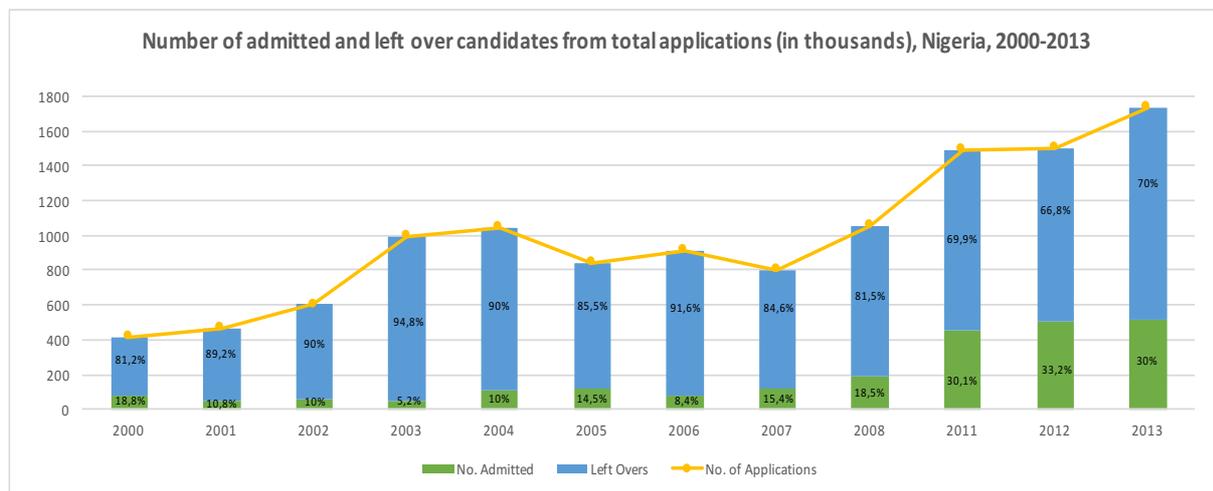
³⁵ See Ajeyalemi & Ogunleye (2009), for other reforms and new policy directions in the Nigerian education system in post-2000.

5.2 University enrolment rate in Nigeria

Nigeria characterization as presently possessing the largest higher education system in SSA is measured by number of institutions.³⁶ The number of recognized universities in Nigeria increased about ten-fold from 16 to 152 between 1980s and 2017 respectively (NUC, 2017). In addition, 107 polytechnics, 27 monotechnics, and 220 colleges in various specific disciplines is currently recognized by the National Board of Technical Education (NBTE, 2017). More rapid growth in Nigeria's higher education capacity occurred in concurrence with the emergence of democracy when for example, the Nigerian government began to encourage private universities establishment. Hence, private institutions, which now constitute about 45% of all Nigerian universities grew from 3 in 1999 to 68 in 2017 (NUC, 2017).

Indeed, there has been rapid growth of universities within the higher education landscape in Nigeria, yet, they have hardly been able to cope with the admission pressures, and this became more compelling from the 1990s. For example, in 1990, out of about 250,000 applications for admission less than 50,000 (around 20%) of the candidates were admitted. Close to 300,000 applied in 1992, with about 50,000 admitted (around 17%), then in 1994, out of the 400,000 that applied, less than 50,000 constituting around 13% were admitted into different Nigerian universities (Obasi & Eboh, 2001). This trend has continued till current times, albeit with some improvement as **figure 16** shows below.

Figure 16:



Source: Own calculation from Ajadi (2012); Adesulu (2013); JAMB (2017).

³⁶ Tertiary enrolments are higher in South Africa, but with less institutions. i.e. 136 public and private universities in 2014 (Department of Higher Education and Training - DHET, 2015).

Figure 16 shows the admission capacity of Nigerian universities between 1999 and 2013, with the number of admitted candidates and those denied admission.³⁷ It clearly demonstrates the severity of the challenge of admission into Nigerian universities because the total number of unadmitted applicants (left-overs) far exceeds the admitted applicants, showing that the demand for education is way higher than the supply. The figure also shows that in the last 15 years, the number of candidates seeking university studies have increased more than triple-fold, from 417,773 in the 1999/2000 academic year to 1,735,729 in 2012/2013.³⁸

While this increase has been matched by a corresponding growth in the number of universities, the percentage of admitted candidates remains relatively low compared to number of applications, thereby implying a low carrying capacity level in the universities. For example, in 2010/2011 the carrying capacity for Nigeria's 112 universities was 450,000, while the number of applicants were 1,493,611, implying an admission capacity of 30.13% of total applications. Meanwhile, in 2011/2012 session, five universities were added, which brought the number to 117, with a carry capacity of 500,000 and 1,503,933 candidates applied that year, amounting to about 33.25% admission rate. In 2012/2013 eleven more universities were added to make for 128 universities with 520,000 admission capacity, constituting 29.96% of a total of 1,735,729 applications that year.

The admission capacity of Nigeria's universities is more compelling when compared for example with South Africa,³⁹ where total student enrolments in higher education increased from about 915, 000 in 2009 to more than 1.1million in 2013 (DHET, 2015).⁴⁰ In fact, as Adesulu (2014), reported there has been a tendency for most Nigerian universities to exceed their quota by about 20% of their allocated space, thereby resulting to over-crowding and overstretched burden on available facilities in Nigeria universities.

³⁷ Refer to **Appendix B: Table A**, for a tabular representation of the total number of universities, applications and admissions between 1999 – 2013.

³⁸ Figures showing the increase for the different years between 2000-2013 is shown in **Appendix B: Table A**

³⁹ South Africa has fewer population than Nigeria (around 55millions against over 180millions respectively), and lesser number of higher education institutions.

⁴⁰ The South Africa's government have also expressed an enrolment target 1,620,000 for higher education institutions in its National Development Plan, which is set to be achieved by 2030.

5.3 The supply of higher education and the funding issue

There has been some expansion in the supply of tertiary education in Nigeria. It has however, not kept pace with the demand. The previous section reflects the fact that government provision for higher education has not been able to help in curbing the capacity challenge faced by the system. This is because the available public universities are not adequately funded, and they lack adequate human and material resources (Iruonagbe et.al., 2015). Nigeria has one of the lowest share of budgetary allocation to education in Africa, with its sporadic and often declining share of education allocation in its yearly budget (7.2% in 1995, and declining to 4.5% in 2004, albeit increase in subsequent years) as **table 2** below shows.

Table 2: Budgetary allocation to education (2006 - 2017), Nigeria

Year	Allocation as % of total budget
2006	11
2007	8.09
2008	13
2009	6.54
2010	6.4
2011	1.69
2012	10
2013	8.7
2014	9.9
2015	11.05
2016	6.07
2017	6

Source: Adetula et. al., (2017).

Table 2 shows that Nigeria's education allocation is still way lower than the recommended 26% by the United Nations Education, Social and Cultural Organization (UNESCO, 2015) for developing countries. While the recent drop in 2016 and 2017 seen in **table 2** can be explained by the recent economic downturns in the country, the noticeable trend through the years indicates a poor history of budgetary allocation to education in Nigeria. Besides, a fascinating example was

reported in 2004, when the federal funded universities requested a funding sum of N216,708,206.00, but the Federal government released the sum of N53,406,287.01 representing 24.7% of the budget request from the Universities (Aluede et al., 2012). This indeed, typifies the situation faced by many universities in Nigeria as to why they are unable to meet the quality and infrastructural demands of higher education.

The situation is more compelling when Nigeria's allocation to education is contrasted with those of less wealthy African countries that allocate larger budgetary percentage to education. For example, in 2012, when Nigeria allocated 10% of total budget to education, Kenya for example allocated 23%, Ivory Coast – 30%, while Ghana allocated 31% to make it the number one country in Africa with highest percentage of budgetary allocation to education (Adetula et al., 2017). The spill-over consequences of this low funding as noted by Iruonagbe et al., (2015) include – the shortage of teaching tools and poor remuneration, which has contributed to severe lack of qualified teachers, thereby leading to the dwindling standards of university education in the country. So, despite having what is regarded as the largest higher education system in Africa, with rapid increase in institutions and enrolment rates, education funding has not been proportionate with the demand of the education sector.

The weakness in public provision for education is what has led to the rapid emergence of private universities in Nigeria, which has contributed immensely to the growth in the number of institutions.⁴¹ It has, however, been noted that the private universities still account for a small percentage of Nigeria's total tertiary enrolment (Ajadi, 2012; WES, 2017), mainly due to their high tuition fees, and the range of courses offered, which limit applications to them (Ajadi 2012). Therefore, the contribution of the private institutions to easing the admission burden has not been as significant as expected. Hence, the admissions crisis remains a major challenge for Nigeria's higher education system, particularly given the rapid growth of its youth population.

5.4 Circumventing missed admission and international mobility

The figures from **section (5.2)** showed that Nigeria's education system currently leaves over one million qualified college-age Nigerians without access to tertiary education on a yearly basis. Thus, there are around 70% of candidates from the yearly application pull who are not admitted to

⁴¹ There were only 3 private universities in 1999, but currently there are 68, constituting 45% of Nigeria universities (NUC, 2017).

universities, not because they are not qualified but because other factors, particularly weaknesses in the Nigerian education system militate against their gaining admission (WES, 2017). From the pull of unadmitted students, some wait and join the competition with a new applicant cohort the following year, others go searching for jobs – usually low paid jobs, while some become unemployed liabilities to their parents (Moti 2010).⁴² There are also some candidates who turn to seek admission in other countries, further reiterating the inability of the current education system to accommodate the demand for tertiary education in Nigeria.

Many global indicators rank Nigeria as the top country of origin for international students from Africa (See for example, OECD 2013), as Nigeria sends the most students overseas of any country in African, with outbound mobility continuously growing at a fast pace. Using a UNESCO Institute of Statistics (UIS) data, WES (2017) reported that the number of Nigerian students abroad rose by 164% in the period between 2005 and 2015 alone from 26,997 to 71,351, respectively. The United Kingdom is the top destination for most Nigerian students, due to colonial ties and language. As documented in the WES (2017) report on Education in Nigeria, in 2015, about 17,973 Nigerian students studied in the United Kingdom. Moreover, the surge in number of Nigerian's studying abroad is such that, in 2014 a study by the British Council suggested that Nigeria will soon overtake India to become the UK's second (to China) biggest source of international postgraduate students (The Guardian, 2014).⁴³

While the WES report noted that Ghana recently overtook the U.S as the second-most popular destination country for Nigerian students, as it attracted 13,919 in 2015, it however, maintained that the U.S is another popular destination for Nigerian students. Nigerian enrolments in U.S institutions is recorded to have increased steadily, albeit slowly over the past 15 years from 3,820 in 2000/20001 to around 10,674 in 2015/2016. Thus, Nigerian students are presently the 14th largest group among international students in the U.S and contributed an estimated USD\$324 million to the U.S economy in 2015/2016 (WES, 2017), due to the high tuition and living expenses undertaken by the students.

⁴² This is not to say that the students who finish from the universities get good jobs, as there is generally a high unemployment level in Nigeria, but chances for high paid jobs are more for university graduates (Ajakaiye et.al., 2016).

⁴³ There are undeniably a variety of push and pull factors for why Nigerian students move to study abroad. For an extensive discussion on such factors see Manzuma-Ndaaba et. al., (2016). The point here is that the international mobility of Nigerian students further supports the quest and demand for higher education by Nigerians.

Engineering, business, physical sciences, as well as health-related disciplines is reported to continuously rank as the most popular fields of study among Nigerian international students (WES, 2017). An unintended consequence to this development is the brain drain debate, suggesting that Nigeria may be losing its best brains to the outside world, considering that not all those who travel for studies, returns to the country.⁴⁴ Education reports in Nigeria also suggests that the highest rates of enrolment growth to the Nigerian universities are recorded in the academic disciplines of engineering, sciences, medicine and business-related courses (NUC, 2012; JAMB, 2017). For example, it is noted that between 1989 to 2000, the share of science and engineering enrolments rose from 54% to 59% respectively, and this was consistent with national policy targets (Saint et al., 2003). This implies that there is a constant quest by Nigerians to gain knowledge in disciplines that are relevant to technological advancement, and thus imperative for development.

Indeed, there is a huge need for improvement in the Nigeria education system especially regarding funding, and increasing the carrying capacity of higher education institutions.⁴⁵ Nonetheless, the increase in the number of institutions thus far, the high application rate, and the admission ratio of around 30% since 2011, low as it might be, is still a considerable improvement compared to 2011 when it was around 10%. These developments points to the wider potential of the Nigerian education landscape.⁴⁶ The high amount of yearly applications for university studies suggests that most of the candidates already possess the basic knowledge required to embark on university studies. Additionally, the increase in the number of students admitted to higher education also suggests that given the right training platform, it is possible for the country to develop the students to become future leaders in its development process. Likewise, the surge in international mobility, despite the large-scale spending that associates it, is one of the clearest indication of the readiness of Nigerians to get modern education.

In summary, it is fair to say that if the quality of education in Nigeria can be further developed with the universities intake capacity increased, there will sure be plenty of opportunities to educate enough citizens that would possess the skills needed to serve the country in for example, the growing service sectors.

⁴⁴ See for example: Hagopian et. al., (2004); Ijim-Agbor (2009) for discussions on the impact of migration and brain drain on Nigeria's development.

⁴⁵ Considering, as earlier established, a 1% rise in successive growth in tertiary education is associated with almost 6% output growth (Gemmell 1996).

⁴⁶ Recall, earlier studies have indicated that increase in the number of universities are positively associated with future GDP per capita growth (Valero & Van Reenen, 2016).

CHAPTER 6

Summary and Conclusion

The overarching aim of this thesis was to explore the contribution of the service sector to Nigeria's post-2000 growth. Specifically, to show that services have been contributing immensely to growth in the Nigerian economy, and that the high demand for education in the country suggests that Nigeria is well positioned to be able to develop the skills needed to grow the service sector. The main and sub research questions were:

- *What role has the service economy played in Nigeria's growth process in the last decades?*
- *Is there evidence that the growth of Nigeria's education system can enhance the prospects of a sustained path of growth through services?*

This chapter provides a summary of the main findings that provides answers to these research questions, and closes with a conclusion.

6. 1 Summary of findings

The analysis provided evidence that shows the growth and contribution of Nigeria's service sector, especially the knowledge-intensive services to the economy (GDP), employment and capital imports. Furthermore, evidence was provided for the growth in the number of universities, candidate applications and enrolments to Nigerian universities. These analyses were done to highlight that the Nigerian economy is already well diversified and services are already playing a significant role in this process. Also, the increasing demand for tertiary education in Nigeria suggests that the country has a positive base of citizens ready for the uptake of higher knowledge. Since for a country to grow through services, it is expected that the knowledge-intensive services should play a bigger part, as they produce higher productivity to the economy (Ghani & Kharas, 2009b). This means that countries should develop the right knowledge and skills in the knowledge-intensive sectors if they are to grow through services (Dahlman 2009). The basis for thinking about growth through services, the link between education and growth, and the rationale for thinking about the importance of knowledge and skills to development was established through a review of relevant literature in **chapter 2**.

Through the analysis of descriptive quantitative statistics in **chapter 4**, the thesis showed that services currently account for about 60% of Nigeria's GDP, and its increase has been synonymous with increase in per capita GDP, indicating that the growth of services is being reflected in enhancing the economic life of Nigerian citizens. While the share of the traditional service sectors of trade, restaurants, and hotels, have been larger in service subsectors contribution to GDP (pre-revision) – accounting for about 75% against around 10% for the knowledge-intensive sectors of finance, insurance, real estate, business services as well as transport and communication, the 2014 GDP revision revealed that the share of the latter is larger than earlier thought, as they accounted for over 20% from 2010, while the traditional sectors accounted for less than 40%, much lower than earlier thought. Besides, compared to manufacturing, the knowledge-intensive services cumulatively occupied a bigger share of total GDP in a single year, indicating a significant contribution to growth by these services. Additionally, a comparison with other countries, revealed that the knowledge-intensive sectors in Nigeria (using the revised GDP), currently occupies a larger share in services composition than for example, Kenya, South Africa, SSA regional average, and India. This evidence clearly shows how Nigeria's development is going through a services-led path.

The analysis also revealed that, while agriculture currently employs a larger percentage of people, with an average of about 60% (of total employment), services averaged about 33% and industry about 7% between 2000-2011. The trend showed that the relocation of labour from agriculture has been to services, and not to manufacturing as conventional development theories would predict. Again, this supports the idea that services have been contributing significantly to the Nigerian economy. Although much of the services employment in Nigeria has been dominated by the non-tradable services, compared to the productivity enhancing knowledge-intensive services. The evidence provided, however, showed that over the years, there has been a decrease in the percentage share of the former (accounting for around 78% and less than 50%) of services employment in 1960 and 2011 respectively, while the latter accounted for about 13% and 20% of total share of services employment in the same period. In relative terms, the percentage growth in the share of employment by the knowledge-intensive sectors significantly exceeded that of other sectors. Between 1990 and 2011 they grew by about six-fold, compared to agriculture (just over two-fold) and manufacturing (less than two-fold). This further reiterates the rapid growth in contribution by the knowledge-intensive services, suggesting that, given adequate investment and

development, productivity from these sectors can be improved, thus enhancing further growth in the economy.

With respect to trade, it was shown that goods exports and imports has dominated Nigeria's trade, although from 2000 onwards services import has been on the rise, while services export has been marginal. Nevertheless, there has been a steady decline in goods export since 2014, with gradual increase in services export, albeit minimal. The increase in services export in recent times, coupled with the increase in services imports suggests that the service sector has become more dynamic in the last decade, especially with its high share in the attraction of capital. In recent times, the service sectors, especially the knowledge-intensive sectors are shown to have attracted the most foreign capital when compared with other sectors of the economy. For example, in 2015, out of the recorded total of USD\$9.643.001million imported capital to Nigeria, the telecommunication, banking and finance sectors accounted for over 80%, which also coincided with the noticeable increase in their share of services contribution to GDP.

In answering the central research question, the evidence provided about the Nigeria's service sector can be interpreted to be in concurrence with formulations in the literature on services-led growth suggesting that services are currently contributing significantly to GDP, employment, as well as the attraction of foreign capital (Yusuf, 2015; Wu, 2015; Mukherjee, 2015 etc.). Thus, one can conclude that Nigeria's growth path is currently driven more by services, and the evidence provided suggest this is a trend that is likely to continue. The implication of this realisation should contribute to the development plans of the country, because this means that the country can gain richly by devising ways to develop and improve the performance of its service sectors, and ensure that their current contribution to growth in the economy is enhanced and sustained. One way to do this as recognised in the literature will be to develop the skills and knowledge required to grow the knowledge-intensive services with productivity increasing potentials (Dahlman 2009). It is further shown that Nigeria currently have the platform for skills development with the increasing demand for higher education in the country.

In demonstrating the evidence to believe that the growth of Nigeria's education system can enhance the prospects of a sustained path of growth through services, the analysis on Nigeria's education system in **chapter 5** showed that there has been a constant growth of universities in Nigeria, increasing from 45 in the year 2000 to currently 152 in 2017. The number of applications to universities has also increased from around 417,773 to 1,735,729 in the year 2000 and 2013

respectively. Likewise, the number of admitted candidates also increased from about 78,550 to 520,000 respectively in the same period. Despite this progress in numbers, it is shown that the education system currently produces around 70% unadmitted candidates every year. Additionally, Nigeria is ranked by many global indicators as the top country of origin for international students from Africa, as it sends the most students overseas of any country in Africa. This further reinforces the point that there is a high demand for higher education in the country. However, issues of low funding, and poor institutional set up have contributed to the weak capacity of the Nigerian universities. This is an issue the government would need to critically address going forward, if it is to grow and develop the next generation leaders with the appropriate skills and knowledge that can enhance the performance and sustainability of the current service economy.

6.2 Conclusion

The results from the analysed data shows that services currently play a more significant role than industry in Nigeria's economy through its contribution to GDP, employment, and capital imports. Thus, services can indeed, offer a new growth path for development in Nigeria. As we have seen, the contribution of the knowledge-intensive sectors has also been significant, although there are room for improvements such as in their contribution to services share of total employment. It is against this backdrop that, Nigeria will need to do more to develop the needed skills and knowledge that would be relevant for ensuring growth through services.

The presented facts about Nigeria's human capital base may not be an adequate measure for possible success and the sustainability of growth through services as inferred in this thesis. The idea here, however, is that the quest for higher education in Nigeria, suggests that the country, indeed, has a base of knowledge from which, given the right opportunities, training and development could be harnessed, and in turn contribute immensely to the growing service sector. Thus, government and stakeholders, in calling for diversification of the economy, should also pay focus on developing the strategies that could enhance and improve the performance of the growing service sectors. From this understanding, I conclude by saying that, with the influx of investment currently attracted by the service sector, ensuring that the appropriate human capital base is provided to take the sector forward should be a preoccupation for the Nigerian government.

With the research being a case study, it is rather difficult to generalize and imply the findings from the case of Nigeria to other cases, however, the analysis and arguments made here provides

useful foundation for understanding the role of services in other similar cases to Nigeria. The thesis did not engage with questions of whether it is more appropriate for developing countries such as Nigeria to pursue a services-led path as opposed to industrialization, neither was it concerned with devising strategies on how to go about harnessing the demand for education in ways that will suit the service-sector led growth path. For future research, such investigations could offer valuable insights to further understand the prospects for services-led growth in developing countries.

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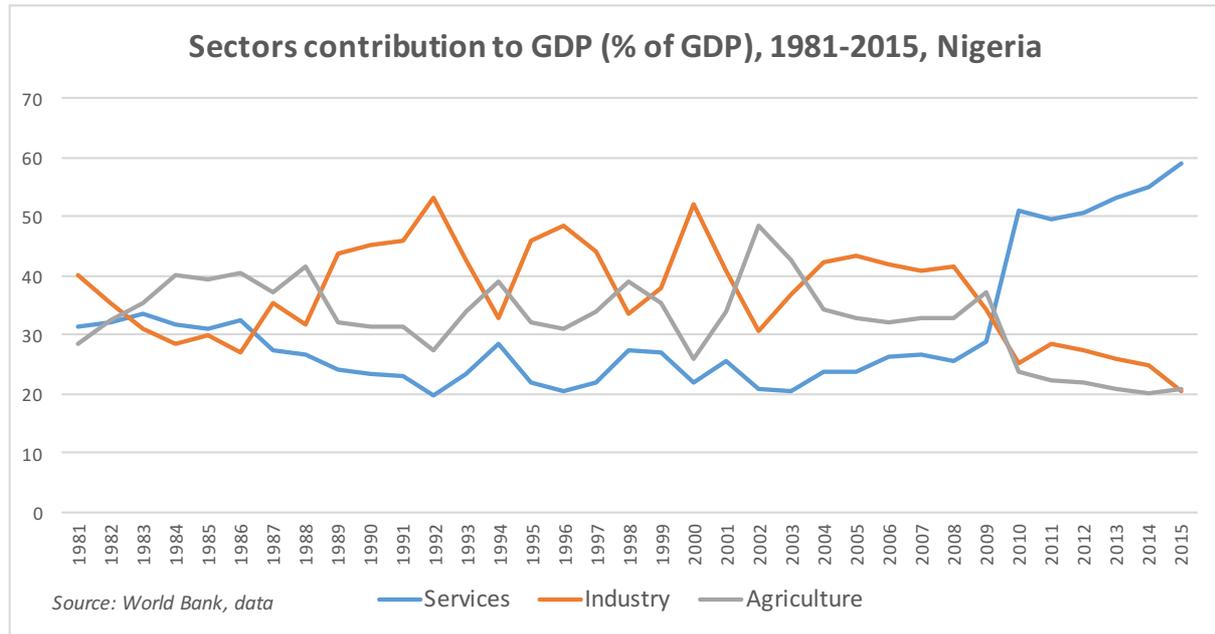
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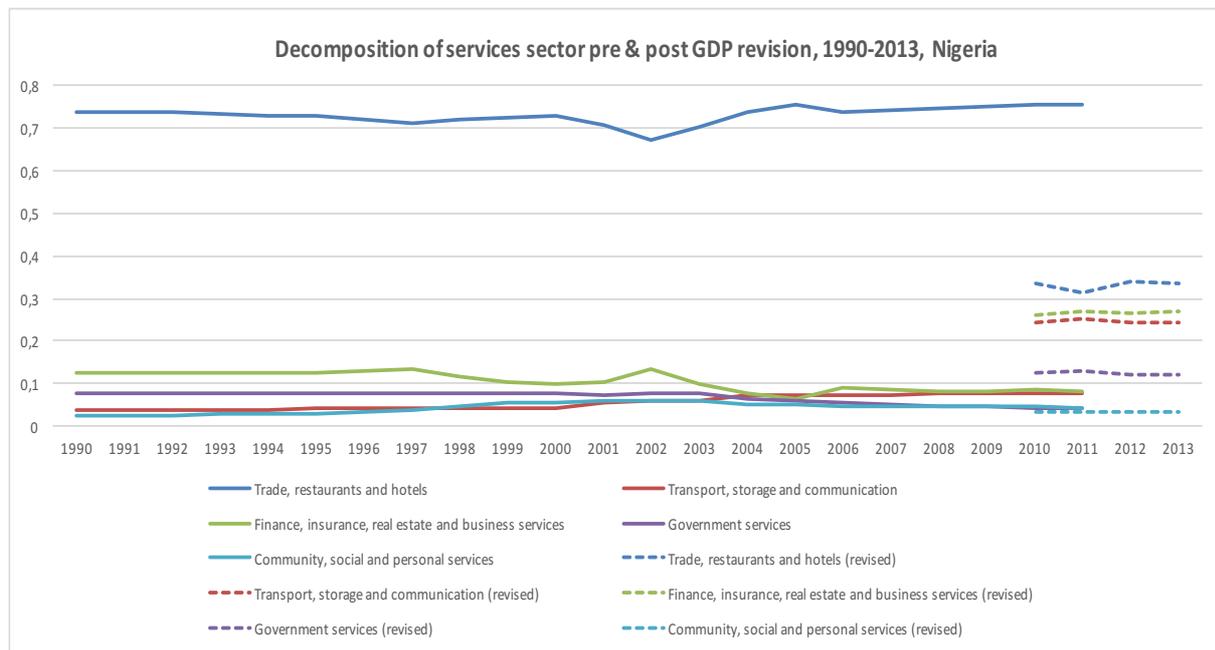
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Appendix A

Graph 1:

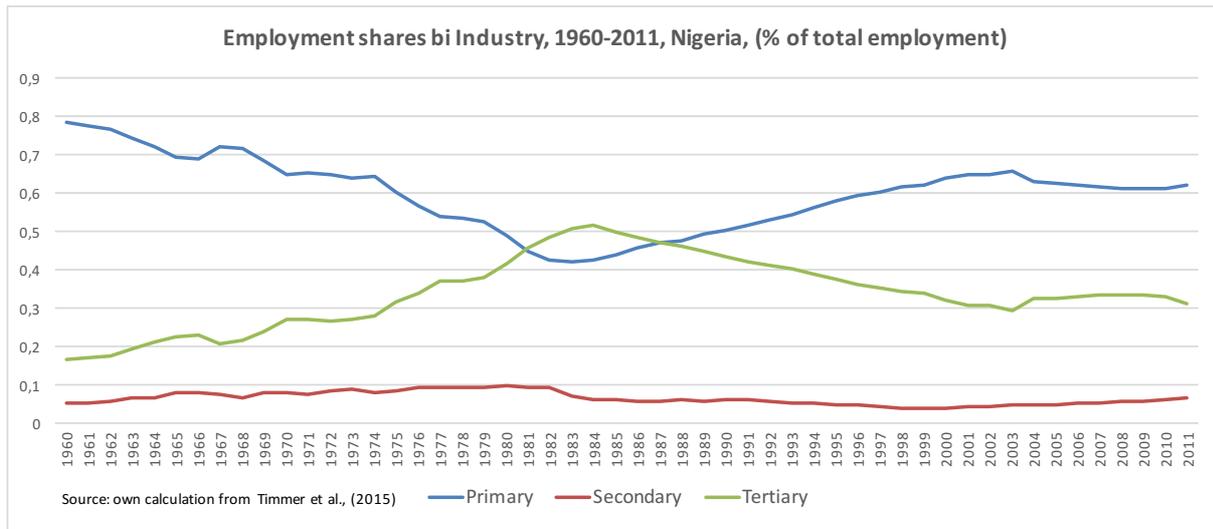


Graph 2:



Source: Own calculation from Timmer et al., (2015).

Graph 3:



Source: Own calculation from Timmer et al., (2015).

Appendix B

Table A: Total Number of Universities, Applications and Admissions Between 1999 - 2013

S/N	Year	No. of Universities	Number of Applications	No. Admitted	Left Overs
1	1999/2000	45	417,773	78,550	339,223
2	2000/2001	46	467,490	50,277	417,213
3	2001/2002	52	550,399	60,718	544,321
4	2002/2003	53	994,380	51,845	942,535
5	2003/2004	54	1,046,950	105,157	941,793
6	2004/2005	56	841,878	122,492	719,386
7	2005/2006	75	916,371	76,984	839,387
8	2006/2007	76	803,472	123,626	679,846
9	2007/2008	94	1,054,053	194,521	859,532
10	2008/2009	95	1,182,381	N/A	N/A
...
*11	2010/2011	112	1,493,611	450,000	1,043,611
*12	2011/2012	117	1,503,933	500,000	1,003,933
*13	2012/2013	128	1,735,729	520,000	1,215,729

Source: Adapted from (Ajadi, 2012).

* Adesulu (2013), and own calculation from available data on JAMB official website