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Structural transformation and jobless growth in Nigeria



Executive Summary

Despite strong economic growth which averaged 6.5% between 2000 and 2017, high unemployment remains a critical challenge facing the Nigerian economy. The latest available data puts the unemployment rate at 18.8%, and underemployment at 21.2%, the highest since the National Bureau of Statistics (NBS) adopted a new methodology for measuring unemployment in 2010.

The incidence of high unemployment in Nigeria can be attributed to the slow pace of job creation, which has been considerably weaker than labour force growth. Between 2010 and 2017, average job growth was 1.6%, weaker than labour force growth of 3.9%. To reduce the unemployment rate, we estimate that employment growth of at least 4-5% is required. This would translate to at least 3 million new jobs annually.

Delivering jobs capable of boosting incomes and reducing poverty requires creating more high productivity jobs within the formal sector. The informal economy which is usually associated with weak productivity growth is large in Nigeria and accounted for an estimated 41.4% of GDP and 68.0% of jobs created between 2013 and 2016.

The economic development model which resulted in industrialisation in advanced economies and East Asia followed a three-stage process where the Agriculture, Industry and Services sectors dominated output in that sequence. In contrast, structural change in India has made a positive contribution to growth and employment, driven by the expansion of the high productivity activities within the services sector,

largely Information Technology (IT) and Business Process Outsourcing services (BPO).

Nigeria has evolved in this same pattern as declining shares of output and employment in agriculture have been absorbed by the services sector. In addition, estimates of employment elasticities suggest Nigeria's services sector has the highest employment potential at 0.5, relative to agriculture's -0.1 and manufacturing's 0.3.

Services sector jobs require a wide range of skills from artisans in traditional services, to ICT experts in modern services. Without higher productivity in both segments, the potential of services to drive employment will be unrealised. Hence, enhancing productivity in services requires a significant investment in human capital development. Specifically, investing in tertiary education is required to provide high-skilled workers in modern services, while investing in vocational centers and technical colleges is required to improve the supply of skilled labour in traditional services.

Similarly, the services sector can be harnessed to diversify exports. This is particularly important because services is less reliant on physical infrastructure. Despite this, boosting services exports would still require significant improvements to telecommunications and power infrastructure. Turning these around would involve wide-reaching reforms to resolve structural and policy issues that currently restrict investment in these sectors.





Introduction

With unemployment and underemployment on the rise, Nigeria faces tremendous challenges in terms of sustainable job creation and productivity. In fact, the incidence of high unemployment has become a major socio-economic challenge over the past decade, despite strong economic growth.

In recent years, job creation and the quality of jobs have been marred by a slowdown in economic growth, and the recession. Latest available data from the National Bureau of Statistics (NBS) puts Nigeria's unemployment rate at 18.8% as at Q3'17. Two years prior, this rate was 9.9%. Similarly, the underemployment rate reached the highest on record at 21.2%, from 17.4% over the same period.

Nigeria's population is projected to rise to 410 million by 2050 (2018E: 206 million)¹. With this population, the country will rank as the third largest populated country globally. As such, implementing policies that will deliver inclusive growth and engender a productive labour force is imperative.

This report, through an empirical approach, examines the socio-economic drivers of unemployment in Nigeria, analyses the sectoral employment trends, and highlights the drivers of productivity growth in the services sector.

1. UN Population Database

Jobless growth: economic boom and high unemployment

The Nigerian economy expanded rapidly between 2000 and 2014, recording an average annual growth of 7.6% y/y. Over the same period, employment growth was 1.2%, markedly below the labour force growth of 2.9%. As a result, the unemployment rate, which also reflected underemployment at the time, increased from 13.1% in 2000 to 24.3% in 2014.

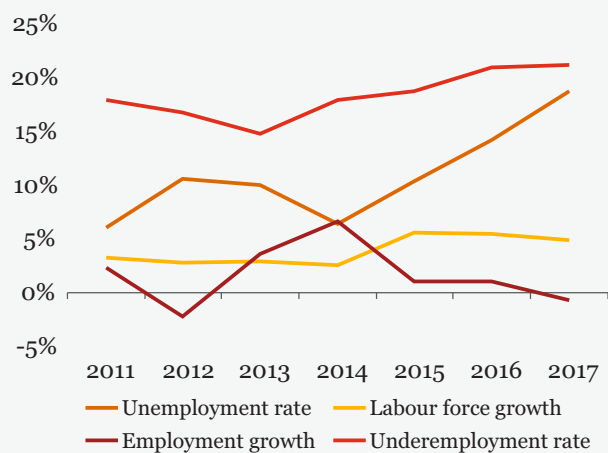
This suggests that the responsiveness of employment to economic growth, also known as employment elasticity, has not been large enough to reduce unemployment. Empirical studies which examine the relationship between growth and employment in Nigeria (Ajaikaye et al, 2016) show that Nigeria experienced a period of jobless growth between 2005 and 2014. The authors attribute this to a positive but weak employment rate, especially in the manufacturing sector.

The informal sector continues to support employment growth

Based on trends observed in recent years, the informal sector continues to absorb the largest proportion of Nigeria's workforce, accounting for 73.7% of jobs created in 2016, up from 54.0% in 2013². This sharp increase in new jobs created in the informal sector was associated with a decline in the share of jobs created in the formal and public sectors from 37.2% and 8.8% in 2013 to 29.9% and 0.0% respectively in 2016. Informal jobs are defined by the NBS as those generated by individuals or businesses employing less than 10 persons or businesses operating with little or no structure.

The sizeable share of informal employment and its prominence in new jobs created is a reflection of the pace of structural transformation, which has been accompanied by the shift towards labour-intensive jobs in the services sector. Other important drivers include the rise in entrepreneurial activity and more recently, the economic slowdown. In fact, the 2016 economic recession saw job creation decline to 422,000, the weakest in four years. The implication was an increase in the informal sector share of new jobs created to 73.7%.

Figure 1: Labour market trends



Source: NBS, PwC Analysis

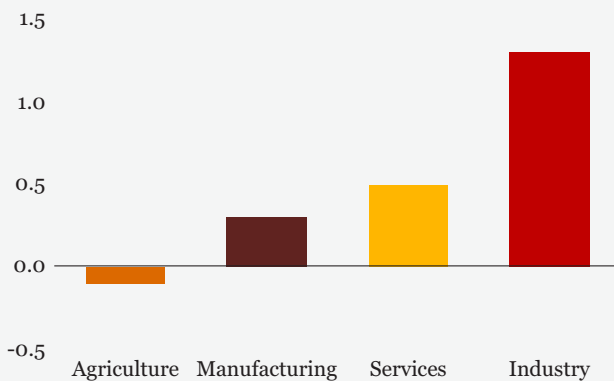


2. NBS Job Creation Survey 2012-2016

Sectoral employment elasticity: Identifying sectors with huge employment potentials

Employment elasticities measure the responsiveness of employment to growth in a particular sector or total GDP. The result indicates the potential of an economy to generate employment for its population. These elasticities are also commonly used to track sectoral potential for generating employment, and in forecasting future growth in employment. To compute the elasticities, we obtain data on the share of employment across various sectors, employment and real GDP data from the NBS and the World Bank database. This analysis covers the period 2010-2014.

Figure 2: Sectoral employment elasticity (2010 - 2014)



Source: NBS, World Bank, PwC Analysis

Weak employment elasticity in Agriculture at -0.1% reflects rapid urbanisation and productivity gains from mechanisation

Despite steady growth in Agricultural real GDP, which averaged 4.5% between 2010 and 2014, employment growth in the sector has been weak since 2010. Results show that a 1% increase in agriculture sector growth led to a 0.1% decline in employment in the agriculture sector between 2010 and 2014. We believe this could be a reflection of several factors, which include urbanisation and increasing labour productivity. Rapid urbanisation has reduced youth participation in Agriculture due to large movement of labour to the more attractive services and manufacturing activities in major

urban cities. Similarly, with increasing participation of large-scale private investors in farm production activities in Nigeria, efficiency gains from improved mechanisation use have increased labour productivity in the sector. The state of insecurity has also discouraged farming in some key food production clusters across the country, particularly in the North-East region where Boko-haram continues to hit hard, and in the South due to the farmer-herdsmen conflict.

Employment elasticity is highest in the services sector at 0.5%, although less than proportionate

The services sector is the largest sector in the economy, with its share of GDP rising from 54.1% in 2010 to 56.9% in 2017. Although the sector accounts for the largest proportion of employment at 57.4%, employment growth in the sector has been less than proportionate to its average annual real GDP growth of 7.8% recorded between 2010 and 2014. Our analysis shows that a 1% increase in services growth led to 0.5% increase in employment. This is perhaps due to the dominance of the less productive traditional services sub-sectors such as transport and trade, where scope to increase productivity is low. On the flipside, higher productivity sectors such as financial services, real estate and professional services are crucial to increasing employment, given the relatively higher employment elasticity (Rani, 2013).

Manufacturing elasticity is weak at 0.3%, reflecting low employment potential

Elasticity estimates show that a 1% increase in industrial sector growth led to a 1.3% increase in employment in industry between 2010 and 2014. However, if the crude petroleum sector is excluded, the results show that a 1% increase in manufacturing growth led to a less than proportionate 0.3% increase in employment in manufacturing between 2010 and 2014. This suggests that the high elasticity is a reflection of the productivity of the crude petroleum sector which is capital intensive and absorbs only a few workers, usually with specialised skill sets. The manufacturing sector on the other hand, has not been a strong driver of employment since 2010. This could be the impact of a relatively small formal manufacturing sector, which has increased utilisation of capital over labour in recent years.

Common misconceptions about unemployment in Nigeria

People without white-collar jobs are unemployed

It is common for people to classify persons who are working, but without white collar jobs as unemployed, but this is a misconception. According to the NBS, people who work more than 20 hours but less than 40 hours a week are considered underemployed, and not unemployed. This also includes those engaged in activities that underutilise their skills, time and educational qualifications. For instance, a person with a university degree who is working as a bar tender is underemployed and not unemployed.

The national unemployment rate is not reflective of the situation in my state

There is another misconception that the national unemployment rate should represent the reality of individual states. However, the contribution of each state to the national unemployment rate could be different, depending on the level of economic activities and the size of the economically active population. As such, the unemployment rate in individual states could be either below or above the national unemployment rate. For instance, in Q3'17, although the national unemployment rate was 18.8%, unemployment was lowest at 3.2% in Kastina State and highest at 41.8% in Rivers State.

The unemployment rate is the most important labour market indicator

The unemployment rate is popularly used to assess the health of the labour market as well as gauge overall economic activity. However, using unemployment in isolation will not adequately capture the true economic conditions. The use of other indicators such as the underemployment rate, which captures workers whose skills are not fully utilised or who do not work the minimum hours required, provides a more robust understanding of the labour market. In Q3'17 for instance, although unemployment was 18.8%, underemployment was higher at 21.2%. The high underemployment rate signals that the potential of the labour force is not fully utilised, resulting in low productivity in the economy. Similarly, an indicator such as employment growth is a better measure of job creation at a point in time, regardless of the level of unemployment.



Drivers of unemployment in Nigeria

To ascertain the key drivers of unemployment, we reviewed academic literature on the determinants of unemployment in both advanced and developing economies. From these papers, we obtained several variables relevant to our study. These include demographic variables: population and labour force; macroeconomic variables: *FDI, trade, inflation and real GDP*; education indicator: *literacy rate*, and health indicators: *life expectancy and maternal mortality*. Using a panel of 45 emerging and developing countries over the period 1990-2015, we analyse the determinants of unemployment using a panel regression:

$$\text{Unemployment rate} = a + b (\log \text{ real GDP}) + c (\text{FDI/GDP}) + d (\text{trade/GDP}) + e (\log \text{ population}) + f (\text{inflation}) + g (\text{urbanisation rate}) + h (\text{life expectancy}) + i (\text{mortality rate}) + j (\text{literacy rate}), \dots \dots \dots (1),$$

where a is the intercept and the coefficients b to j capture the impact of the explanatory variables on unemployment.

After analysis and robustness checks, we arrive at the following estimate:

$$\text{Unemployment rate} = 34.2 - 8.55 (\log \text{ real GDP}) - 0.44 (\text{life expectancy}) - 0.31 (\text{literacy rate})^3 \dots \dots \dots (2)$$

The estimation results show an inverse relationship between the unemployment rate and all the explanatory variables. All the variables were statistically significant, asides trade/GDP. Thus, we establish that asides economic growth and demographic factors, human capital indicators such as life expectancy and literacy rate strongly influence the unemployment rate.

Indeed, this is confirmed by our estimate of the level of economic growth required to keep unemployment constant. If we assume that the overall long term employment elasticity which is 0.3 stays constant, and the economy needs to create jobs at least at the pace of people entering the labour force which is 4.3%, the implication is that real GDP growth needs to be at least 16.3%, an unrealistic target to achieve. Hence, economic growth cannot be the only lever to reduce unemployment, but also significant improvements in human capital, in line with the findings in equation 2.

Empirical evidence suggests that high quality human capital, arising from investments in health and education, support a healthy and educated workforce, and boosts economic growth over the long run (IMF, 2000). Increased economic growth in turn boosts employment. This suggests that policy makers would need to develop and implement policies that improve education and health to achieve national employment objectives.

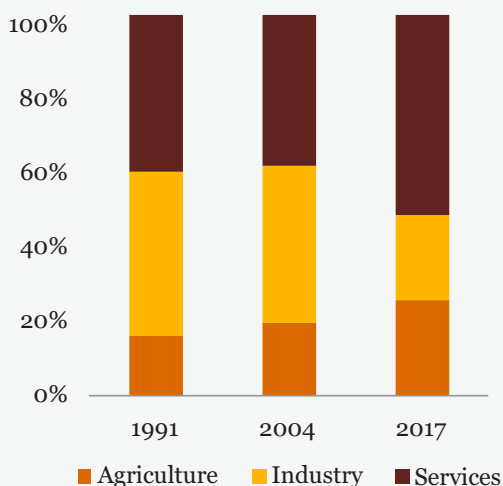


3. The resulting equation has been reduced to focus on key variables used in our analysis. From the equation output, the variables: inflation and trade have coefficients of zero

Structural transformation and potential employment drivers in Nigeria

Most of the early economic literature, have from the experience of developed economies, ascribed structural transformation to a three-stage process where the Agriculture, Industry and Services sectors dominate output in that sequence. However, this three-stage development process has been challenged in recent literature (Gordon and Gupta, 2004; Rath and Tajesh, 2006; Eichengreen and Gupta, 2009), with recent experience showing that some developing economies have evolved in a distinct pattern where increases in per capita income are associated with a shift from Agriculture to Services, and less to Industry. Nigeria has followed this pattern, transiting from agriculture to a large services sector without a big industrial sector base. This has been evident in the structure of Nigeria's GDP and employment from 1981 until date.

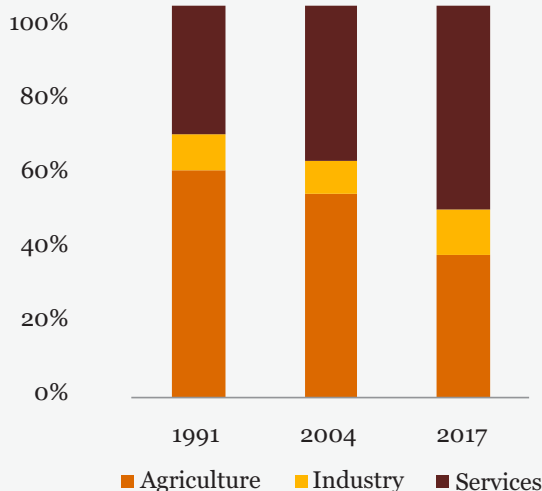
Figure 3: Composition of real GDP by sector



Source: World Bank, PwC Analysis

“Like India, Nigeria can leverage its sizeable services sector to drive growth...”

Figure 4: Composition of employment by sector



Source: World Bank, PwC Analysis

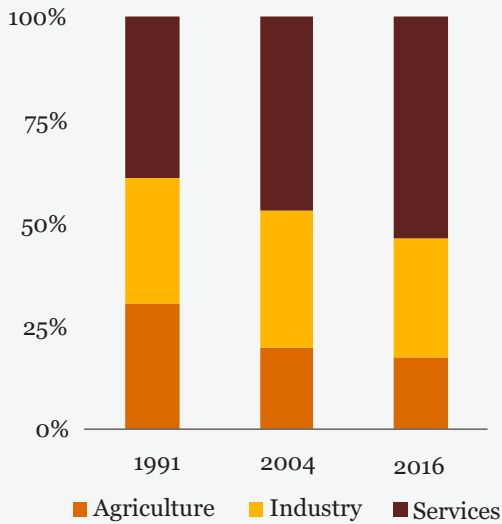
Although the services sector in Nigeria has recorded remarkable growth, there are potential areas for improvement considering the progress countries like India have made in modern and highly productive service sub-sectors such as IT-BPO offshoring, telecommunications, real estate and financial services.

In Nigeria, traditional services such as wholesale and retail trade, public administration, accommodation and food services, and transportation still dominate the services industry, with low employment, growth and export potentials. Like India, Nigeria can leverage its sizeable services sector to drive growth, promoting forward and backward linkages in other sectors that create opportunities for employment.

Case Study: Services-led growth in India

The services sector has been the main driver of output and employment in India, and accounts for the largest share of investment and exports. Indeed, the industrial sector in India continues to lag behind Agriculture and Services both in employment and output terms. This is a deviation from empirical studies that show that having a highly industrialised economy is critical for rapid economic development and productivity gains (Ghani, 2010). However, East Asia is a reference point as a region that accelerated quickly and became globally relevant due to industrialisation.

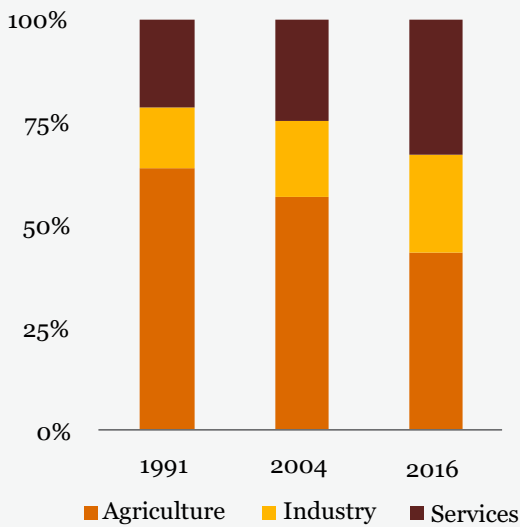
Figure 5: India (Composition of real GDP by sector)



Source: World Bank, PwC Analysis

To engender employment and output growth in the services sector, India implemented structural reforms in the 1990s. This included the liberalisation of foreign trade through reduced tariffs on imports, and the easing of stringent investment regulations which encouraged foreign ownership of businesses. These reforms were instrumental to the growth of India's IT services sector, which accounted for an estimated 67.0% of India's service exports in 2016⁴. Indeed, some sector-specific initiatives were implemented which include the creation of clusters, such as the Software Technology Parks of India (STPI). Through these clusters, government provided tax incentives, incubation services, and access to infrastructure such as power and telecommunications to software companies. Similarly, to deliver an adequately educated workforce, the Indian government increased spending on education. This is particularly true of tertiary education where its share of total education spending was 34.7% in 2011, higher than 22.1% and 26.1% in the UK and US respectively⁵. There was also a strong collaboration with the private sector in the development of technology institutes which provided highly skilled professionals to support the modernisation of the IT industry.

Figure 6: India (Composition of employment by sector)



Source: World Bank, PwC Analysis

Reducing unemployment in Nigeria through services-led growth: critical success factors

Overall, there is a need for structural reforms to lay the foundation for long-term sustainable growth in the broader economy and the services sector. Such reforms include business environment reforms, which are necessary to improve the ease of doing business, sustain macroeconomic stability, and attract investments.

In specific terms, improving human capital development, providing enabling infrastructure and intellectual property rights are necessary to drive growth and productivity in the services sector.

Human capital development

The services sector relies on high-skilled workers to drive high productivity sectors which include ICT, medical services and other professional services. Indeed, empirical evidence suggests that rapid growth in high productivity sectors depends on higher enrollment and spending on tertiary education (Barry et al, 2010).

Similarly, traditional services sectors such as transportation, accommodation and food services, rely on semi-skilled labour such as cooks, technicians, carpenters, plumbers, electricians, amongst others. Improving human capital for these category of workers would require increased spending on vocational centers, apprenticeships and technical colleges to improve skills.

In Nigeria, firms cite the low quality human capital as a key constraint to doing business. To develop adequate human capital, there needs to be a ramp up in investment in education, through increased funding for schools, and public research and technological institutes. However, given the poor state of public finances, where spending on education was allotted only 7.0% of the Federal budget in 2018⁶, unlocking investment in education would require increased participation from the private sector.

Enabling infrastructure

Infrastructure is required to drive growth in the services sector. According to the World Bank (2013), telecommunications infrastructure and reliable power supply are the most crucial for services-led growth, aside quality human capital.

However, Nigeria suffers chronic deficits in these areas. Telecommunications infrastructure is weak. As a result, broadband penetration is low at 21%, lower than 58.6% and 52.6% in South Africa and Egypt respectively. Similarly, there is a widening power infrastructure deficit, given that Nigeria's installed power generating capacity is low at 10 GW, when compared with over 39 GW and 47 GW in Egypt and South Africa respectively⁷.

To cover the shortfall in infrastructure, significant private investments in utility infrastructure such as telecommunications, power and transport is required. To attract investment, policies have to be consistent, while regulations need to allow market-reflective pricing which guarantees cost recovery, and contract enforcement between the private and public sector. These reforms are necessary to boost competition and promote efficiencies.

Intellectual property rights protection

Establishing a framework that protects Intellectual Property Rights (IPR) is crucial for sustained innovation in sub-sectors which require huge spending on research and product development. Intellectual property rights help companies secure exclusive rights and extract value from their inventions. This incentivises further innovation. A good framework for IPR should capture patents, trademarks, design rights and copyrights. These are particularly essential for the growth of the arts and entertainment, and IT sub-sectors which are currently taking off in Nigeria.

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