

Potential Challenges to Nigeria Enjoying a Demographic Bonus

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Abstract

Nigeria is currently experiencing rapid population growth and is projected to become the third most populous country in the world by 2050. While there is a great potential for economic growth due to greater labor participation in the economy and a smaller dependency ratio, its increasing population size could potentially become a disadvantage due to poor resource management and distribution. In this paper, we identify and analyze potential challenges which might prevent Nigeria from enjoying the demographic bonus. In particular, we look at both economic data and the history of policy implementation — with an emphasis on population policy— to explain how the gender gap, poor healthcare, and poor education could potentially undermine the benefit of rapid population increase in Nigeria, if not worsen it. In addition, our paper evaluates and suggests policies that could potentially propel Nigeria to an ideal position as it enters the next stage of its demographic transition.

1. Background and Overview

1.1 Demographic Profile of Nigeria

Nigeria is the most populous country in Africa and the seventh most populous country in the world. As of 2021, its population is estimated at 213.4 million (World Bank Open Data, n.d.). Over the past few decades, Nigeria has experienced rapid population growth, with its population growing from 59.6 million to 174.7 million, averaging a growth rate of 2.65% between 1973 and 2013 (World Bank - WDI 2021). In addition, Nigeria averaged 6.26 births per woman and 186 deaths per 1000 live births-between 1970 and 2020 – numbers much higher than the average for Sub-Saharan Africa (World Bank Open Data, n.d.). Regarding age structure, it has an age-dependency ratio of 86 dependents per 100 working-age population as of 2021 (World Bank Open Data, n.d.) The current decline in Nigeria's total fertility rate (from 6.9 births per woman in 1978 to 5.3 in 2020) and projected reduction in dependency rates suggest that the country is presently in its pre-demographic bonus phase (World Bank Open Data, n.d.). This pre-dividend period is an important phase of the demographic transition period for Nigeria to improve conditions that will allow for maximum productivity during the dividend phase.

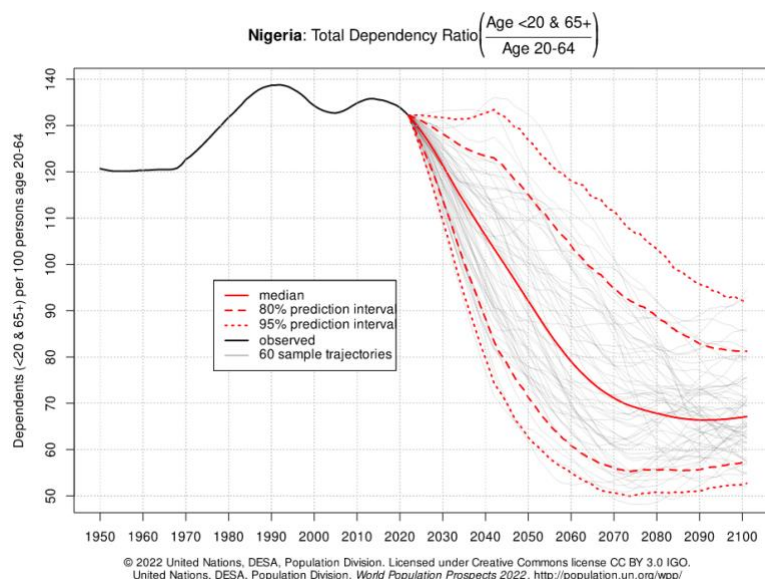


Figure 1.1: Nigeria's total dependency ratio (UN World Population Prospects)

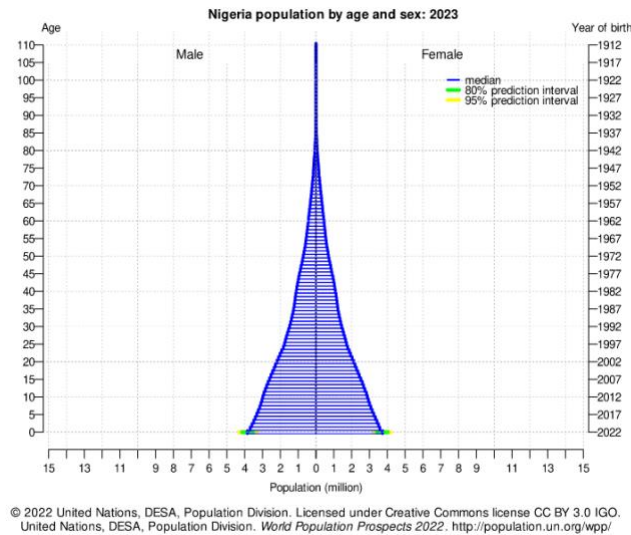


Figure 1.2: Nigeria's Age-Sex Structure – 2023 (UN World Population Prospects)

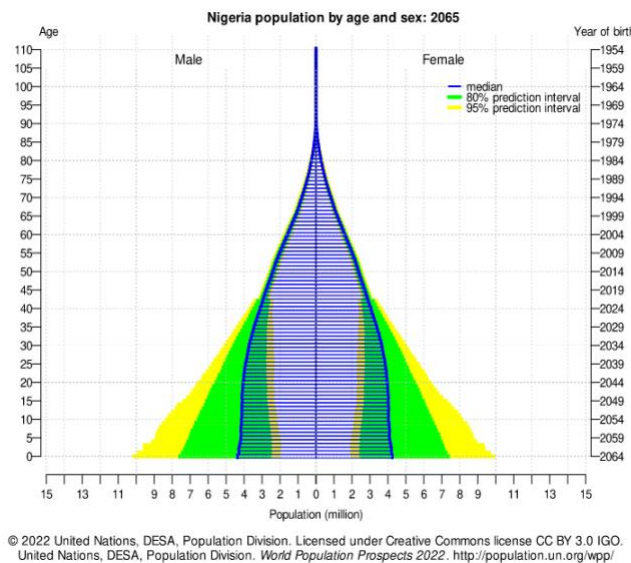


Figure 1.3: Nigeria's Age-Sex Structure – 2065 (UN World Population Prospects)

1.2 Historical Context of Nigeria's Population Growth

Nigeria's accelerated population growth in recent decades stems from its sustained high fertility rate and a rapidly declining infant mortality rate, driven by advancements in healthcare. Since 1970, Nigeria has been experiencing a sharp decline in total fertility rate and infant mortality rate (World Bank Open Data, n.d.). These shifts could positively impact Nigeria's economic growth potential by increasing investments in human capital and expanding female labor force participation, as less time would be dedicated to childbearing and caregiving (Li et al., 2018). Historically, Nigeria's net international migration rate has been fairly low, even though the internal rural to urban migration trend has been increasing. Thus, the relative impact of migration on Nigeria's population growth is small.

1.3 Purpose and Scope of the Paper

Even though Nigeria is expected to attain the typical demographic profile of a dividend-bound nation by 2050, a demographic bonus will only be possible if this is complemented with increased education and technological progress which in turn will result in increased growth and GDP per capita (Bloom et al., 2017). In this paper, we analyze the challenges that might impede Nigeria's growth efforts in healthcare and education as well as the gender gap and the associated implications, looking at economic data and trends. We also examine how Nigeria's growing population could become a burden rather than an advantage if not harnessed through higher labor force participation and enhanced productivity. Furthermore, we suggest policies to address the identified challenges, drawing from the successful practices of countries that experienced similar demographic transitions and achieved significant economic growth.

2. Demographic Bonus

2.1 The Demographic Bonus and its Benefits

The Population Reference Bureau defines the demographic bonus as the “accelerated economic growth that a country experiences as a result of rapid declines in fertility and mortality rates and the resulting change in age-dependency ratio” (Achieving a Demographic Dividend, n.d.). For a country to experience a demographic bonus, it must supplement its population growth with investment in education, technology and infrastructure to ensure that the working age population maximizes its productivity potential. As a notable fertility decline is a necessary precondition for a country to benefit from demographic bonus, the availability and effectiveness of voluntary family planning plays a key role in its progress towards a demographic bonus. A demographic bonus can yield substantial benefits for a country, such as economic growth and heightened productivity. With a larger working-age population, increased savings and investment can further stimulate economic growth. Additionally, governments can allocate resources towards social welfare sectors, enhancing the population's standard of living and promoting economic development. If realized, Nigeria's demographic bonus has the potential to positively impact the country in all the above aspects.

2.2 The Importance of Nigeria’s Demographic Bonus

Over the years, Nigeria's total fertility rate has been on a decline from 6.9 in 1978 to 5.3 in 2020, positioning the country to benefit from a demographic bonus, as indicated by World Bank data. Despite this positive trend, it's noteworthy that Nigeria's fertility rate still remains high. To fully reap the benefits of a demographic dividend, Nigeria needs to further reduce its fertility rate in the near future, as projected by UN Population Prospects. A country that successfully harnesses a demographic dividend can experience prolonged economic growth. Li et al. (2018) show the impact of age structure on dividend prospects and income by comparing South Korea and Nigeria’s difference in GDP per capita after South Korea’s change in age

structure. In 55 years, South Korea's GDP per capita increased 26-fold while Nigeria's stayed roughly the same (Li et al, 2018).

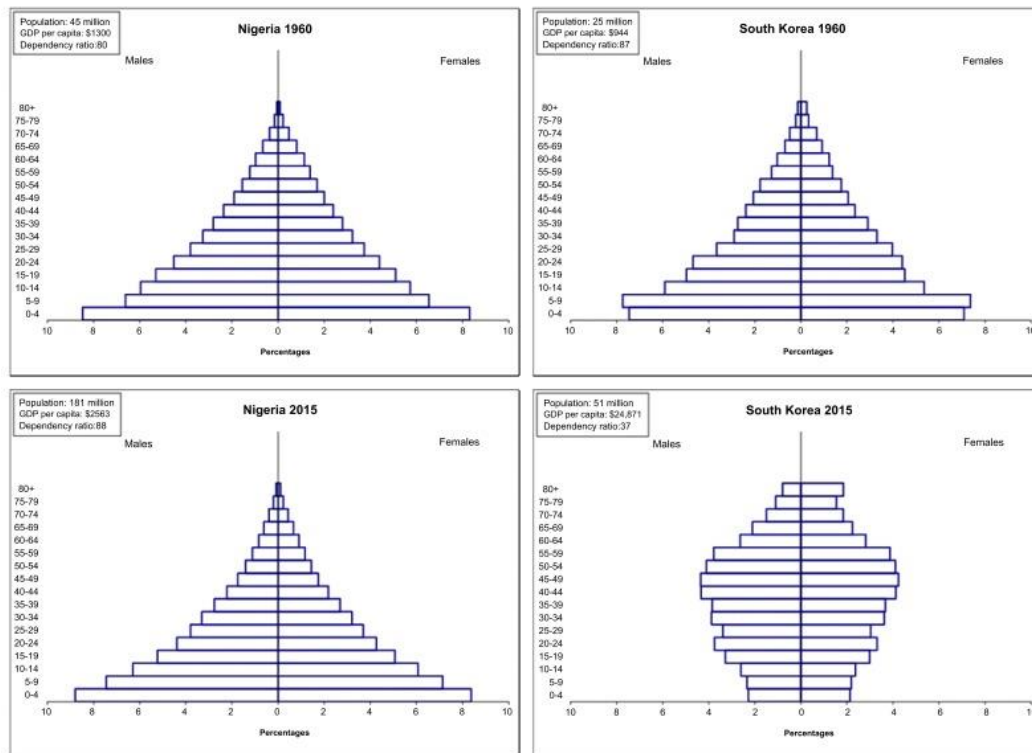


Figure 2.1: Change in age structure of South Korea and Nigeria 1960-2015 (Li et al, 2018)

Although the demographic trends in Nigeria and the improvement in the fertility and death rates offer a promising possibility for a demographic dividend, a number of challenges need to be overcome in order to fully realize its potential. Education, healthcare, and the gender labor force participation gap are major areas of concern that are essential to utilizing the demographic bonus. These topics are interlinked, and addressing problems in these areas would be beneficial to build a climate in which Nigeria could advantage from its demographic shift.

3: Potential challenges that might prevent Nigeria from enjoying demographic bonus

3.1 Gender Labor Force Participation Gap

Socio Cultural Barriers

The importance of closing the female labor force participation gap in the effort to attain a full demographic bonus cannot be overemphasized. An increased female labor force participation can boost economic growth and improve living standards during the demographic bonus phase. According to a cross-country analysis on 97 countries by Bloom et al. (2009), the fertility reduction observed during the pre-demographic bonus phase triggers a positive behavioral response and increases total female labor supply by about 18 percentage points, which translates to a 7% gain in income per capita under Cobb-Douglas utility function assumptions.

Nigeria is a country where culture is closely related to religious beliefs. The majority of Nigerians are Muslim and Christian, which account for 50 and 40 percent of the total population, respectively (Abubakar, 2017). As a culture that adheres to religious beliefs, Nigeria faces two central social norms that are detrimental to gender inequality. First, women are “*sine qua non*” of the household, and the other is that women’s role is defined by the ethnic or religious group in which they belong (Abubakar, 2017). This is reflected well in the participation rate of women in the workforce. The below graphs show the decreasing trend of female labor force participation in Nigeria despite the increasing female population. Expectations around women’s primary roles as wives and mothers means that their ability to contribute to the economy is limited by the social barriers in place. In addition, women’s limited participation in the labor force (particularly aged 15-20) indirectly contributes to the high total fertility rate that Nigeria has experienced in the past few decades. Early marriage and childbearing rates in Nigeria are among the highest in Sub-Saharan Africa (World Bank Open Data).

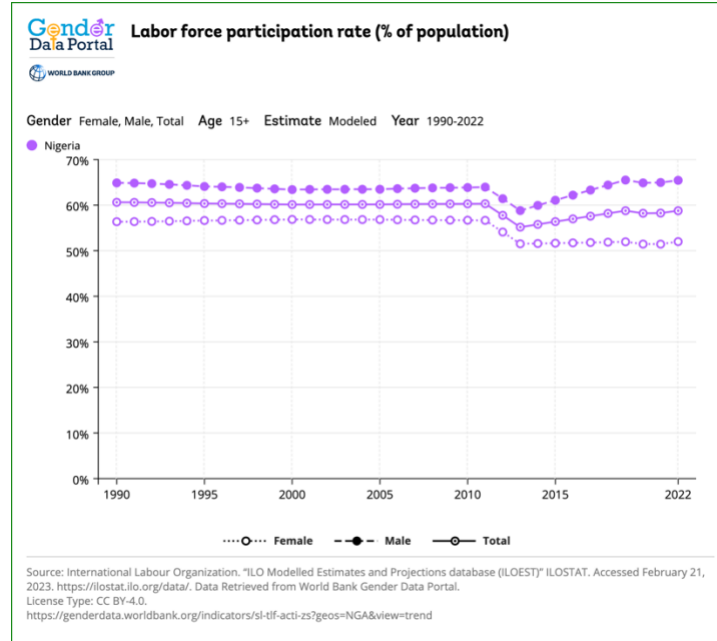


Figure 3.1: Nigeria's Labor Force Participation Rate 1990-2022 (Nigeria - World Bank Gender Data Portal, n.d.)

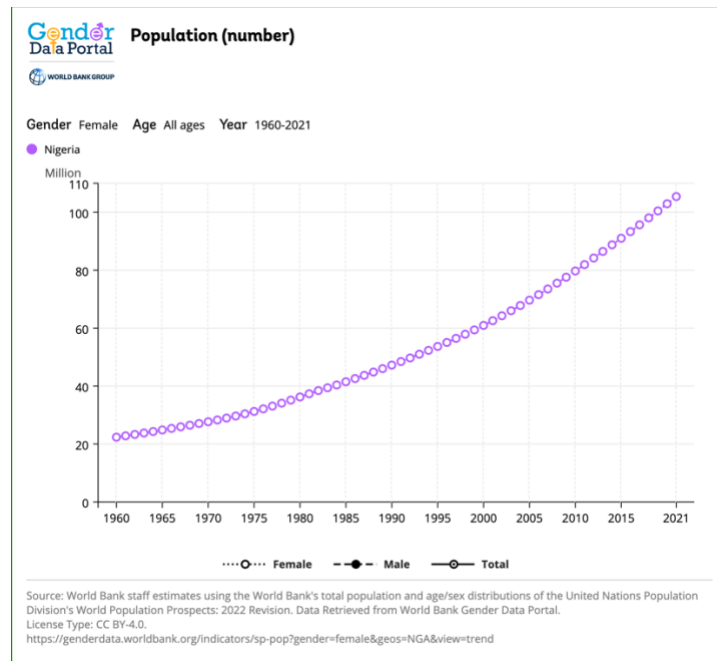
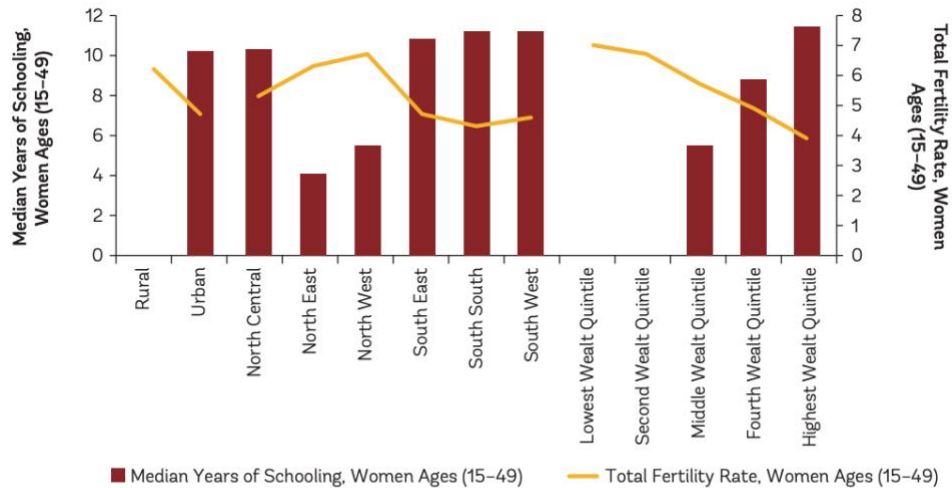


Figure 3.2: Nigeria's Female Population 1960-2022 (Nigeria - World Bank Gender Data Portal, n.d.)

According to the Hasan et al. (2019), approximately a third of girls aged 15-19 are married and a quarter are pregnant or already mothers in Nigeria. Not only is this a challenge to bolstering women's participation in the labor force, it is a trend that signals peril to Nigeria's growth prospects as achieving a demographic bonus requires a fast and notable decline in fertility rates and the economic demand for education, employment and child/maternal care needs will keep increasing.

Regional Gender Disparities in Access to Education

One in every five children out of school is in Nigeria (UNICEF Nigeria, n.d.). This striking statistic paints a bleaker picture for the girls in Nigeria who are already at a disadvantage due to gender roles and cultural expectations. According to the World Bank's WDI, 40% of girls who are of primary school age in Nigeria are out of school. Furthermore, the regional disparity in access to education for women in Nigeria is alarming: Northeastern and Northwestern Nigeria have a female net primary attendance rate of about 47% (UNICEF Nigeria, n.d.). As shown below, the median years is also much lower for these regions compared to others (Hasan et al, 2019). These areas are rural areas prone to repeated unrest and school closures due to safety concerns. In the two aforementioned predominantly Muslim states, 29 and 35% of students receive Qur'anic education, which does not include basic skills like literacy and numeracy (UNICEF Nigeria, n.d.). This means that they face a significant barrier to enter the labor force and make a contribution to Nigeria's productivity.



Source: Demographic and Health Survey 2013.

Figure 3.3: Regional differences in median years of schooling and TFR for women in Nigeria (Hasan et al, 2019).

In addition to making a direct contribution to the working population and the economy's productivity, girls' education can make a notable impact in decreasing fertility rates and unwanted pregnancies which is vital for a country to enjoy a demographic bonus. A study conducted by the World Bank in 100 countries found that there was a 1 birth per woman decrease in fertility for every 4 additional years of girls' schooling (Hasan et al, 2019). In addition, the study finds that on average, a 1% increase in the share of women who attain secondary education results in per capita growth of 0.8 percentage points (Hasan et al, 2019). In figure 3.3, we can see a clear connection between median years of schooling and total fertility rate. North East and North West regions have a substantially higher total fertility rate and lower median schooling. As Nigeria's youth population grows, harnessing a demographic bonus requires the incoming workforce to acquire knowledge and skills that would enable the country to maximize productivity during the low-dependency ratio era. In conclusion, addressing the gender labor force participation gap is crucial for Nigeria to fully capitalize on its demographic dividend. Closing this gap can significantly enhance the nation's economic productivity, helping

to meet the increased demand for resources that accompanies population growth. Failing to address the gender disparity may hinder Nigeria's potential economic gains and lead to adverse consequences, such as perpetuation of gender inequality, limited access to education, and inadequate infrastructure. Therefore, it is imperative for Nigeria to prioritize narrowing the gender gap in order to unlock the full potential of its demographic dividend and foster sustainable economic growth.

Addressing the gender gap and supporting women's rights across different sectors

Despite the growing share of women's population, their participation in Nigeria's economy remains low. Thus, there is a need for targeted policies and programs to enhance women's skills. Okorie (2013) emphasizes the need for lawmakers and schools to be aware of the shifting labor market and promote programs targeted at increasing women's labor force participation.

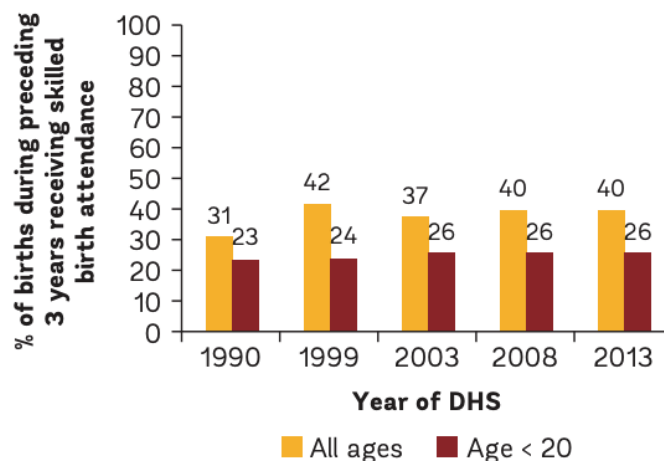
For instance, in the agricultural industry, women's primary needs include land ownership and access to essential production capital. If the objective is to reduce the gender gap in agriculture, the emphasis should be on enacting specific laws to increase women's land ownership, rather than solely focusing on educational programs.

3.2 Healthcare Challenges

Addressing healthcare challenges is of paramount importance for Nigeria to enjoy a full demographic bonus. Currently, Nigeria ranks poorly on most major healthcare-related metrics including maternal mortality rate, malnutrition as well as contraceptive use. Family planning and reproductive health are essential to the demographic bonus. Nigeria faces key healthcare challenges that need addressing for its potential to be realized.

Maternal and Child Health

Nigeria has a maternal mortality ratio of 576 maternal deaths per 100,000 births as of 2017 – the fourth highest in the world (Hasan et al, 2019). The above figure is rather unsurprising when looking at the skilled birth attendance rates over time – very little progress has been made on that front since 1990 (Hasan et al, 2019). Moreover, there are significant regional and age-based disparities in skilled birth attendance rates- with women under age 20 being the most vulnerable. As Fig 3.5 and 3.6 demonstrate, the use of skilled birth attendance for women under age 20 is much lower than the overall, and the gap between Northern and Southern Nigeria is significant. Even though there are many factors contributing to the disparity in healthcare infrastructure and personnel, prolonged periods of violence, criminal gangs and unrest in the Northern part of Nigeria have had a notable impact.



Source: Demographic and Health Surveys.

Figure 3.4: Use of skilled birth attendance in Nigeria by year and age group (Hasan et al, 2019).

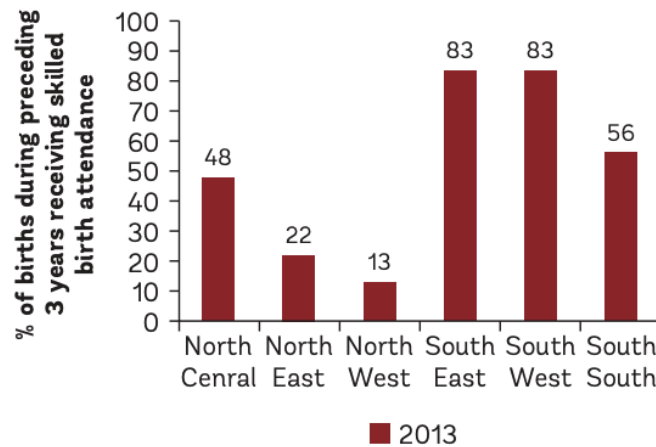


Figure 3.5: Use of skilled birth attendance in Nigeria by region (Hasan et al, 2019).

Addressing the maternal healthcare problems has a positive behavioral effect on lowering fertility rates. Parents tend to have fewer children when the survival rate of infants increases. In addition, ensuring the wellbeing of mothers is critical to Nigeria's demographic bonus as it enables them to get more involved in the workforce contribute better to the economy. In addition, the resulting reduction in fertility rates will help reduce the dependency ratio and boost per capita GDP.

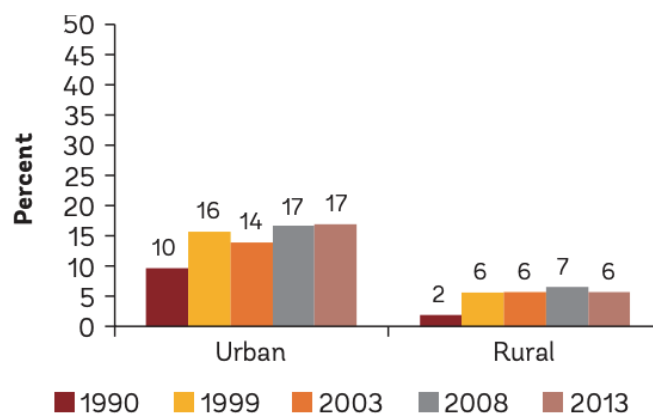
Family Planning and Reproductive Health

The rapid population growth that Nigeria has experienced in the past few decades is largely a result of an unsuccessful family planning implementation policy besides the social and cultural inclination towards having more children and the behavioral aspect due to low survival rates. For Nigeria to experience a full demographic bonus, fertility rates have to decline considerably and quickly. In Nigeria, use of modern contraceptives is very low, and there are significant disparities in fertility rates and contraceptive use by education levels and region. Surprisingly, wanted fertility is very close to actual fertility across all groups, suggesting that there is a cultural and social element to the problem besides the accessibility of modern

contraceptives. However, the disparities in other aspects of healthcare between southern and northern regions of Nigeria are still present, and the urban-rural contraceptive use gap is quite significant and requires immediate attention.

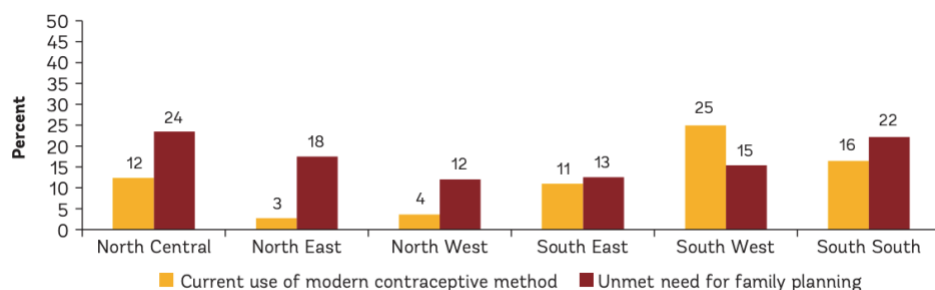


Figure 3.6: Total & Wanted Fertility Rate in Nigeria by Region, Income, Education and Area of Living (Hasan et al, 2019).



Source: Demographic and Health Surveys.

Figure 3.7: Modern Contraceptive Prevalence by Area of Residence (Hasan et al, 2019).



Source: Demographic and Health Survey 2013.

Figure 3.8: Unmet Needs for Family Planning by region 2013 (Hasan et al, 2019).

As shown in the above figures, Nigeria's family planning issues demand a multidisciplinary approach due to the cultural and infrastructural nature of the skyrocketing fertility rate problem. Family planning and reproductive health play a crucial role in shaping the demographic bonus potential, enabling Nigeria's female population to make informed decisions, allowing them to take a bigger role in the productive workforce and reducing the dependency ratio even further.

3.3 Healthcare's Importance for the Demographic Bonus

Healthcare is at the core of the demographic bonus – both as a driver of the decrease in fertility rates and a measure of economic performance and productivity (Cooper et al., 2003). According to Cooper et al. (2003), certain health policies should be prioritized for a country to enjoy a demographic dividend: effective medical healthcare for infants, women's access to reproductive healthcare services, children's adequate access to healthcare to enhance their productivity in the education system, increased private and public investment into healthcare and using health enhancement policies as a tool to combat social exclusion and allow underutilized human resources to contribute to overall productivity. As discussed in section 3.2, Nigeria ranks fairly low in almost all of the above aspects with a clear trend of regional disparities between the North and the South as well as rural and urban areas. Thus, addressing child and infant care

concerns, improving maternal health through increased investment, boosting children's healthcare including availability of vaccines and essential medication will be important as a larger portion of the population prepares to enter the workforce.

3.4 Healthcare improvement through human capital training programs

Nigeria's healthcare challenges stem from inadequate funding and low human capital quality. To address these issues, the government should allocate more resources to programs that promote healthcare service skill development. One effective approach used in other countries is the Advanced Practice Nursing (APN) program, which can be seen as an accelerated human capital improvement initiative. Implementing this program could benefit Nigeria's healthcare system by increasing the number of healthcare workers.

Currently, Nigeria has only 0.4 physicians and 1.6 nurses per 1,000 patients, falling short of the Sustainable Development Goal (SDG) target of 4.45 healthcare workers per 1,000 patients families (Arowolo et al., 2023). The urgent need for healthcare services in rural areas underscores the importance of implementing programs that provide access to medicine and treatment for people living below the poverty line. The APN program has the potential to address this need by training reliable healthcare workers to assist individuals and families (Arowolo et al., 2023). Implementing an APN program could significantly improve Nigeria's healthcare system, ultimately contributing to the successful realization of the demographic bonus.

4. Nigeria's education system and the Demographic Bonus

The education system plays a crucial role in harnessing the demographic bonus, as it equips the growing workforce with the necessary skills and knowledge to be productive contributors to the economy. In the context of Nigeria, a rapidly growing economy, substantial improvements in education are essential to fully capitalize on the potential benefits of its

demographic transition. However, according to a UNICEF Nigeria report, the current state of Nigeria's education system poses significant challenges, potentially undermining the country's ability to benefit from its demographic bonus.

4.1 Access to education in Nigeria

In section 3.1, we looked at gender disparities in access to education. The picture for the overall population is not much different. With over 10.5 million children in Nigeria not receiving any education and only 61 percent of children aged 6-11 attending school, the inadequate educational opportunities may hinder the development of a skilled and competitive workforce, thus limiting the potential gains from the demographic bonus (UNICEF Nigeria, n.d.) Even though different factors affect quality access to education in Nigeria, regional and gender disparities are quite standout.

4.2 Implications of limited access to education

Lack of quality access to education is detrimental to a country with a big youth population like Nigeria. Not only does it hinder the opportunity for a demographic bonus, but also exacerbates problems related to crime, worsens unemployment and affects both the quality and quantity of the labor force negatively. As governments are the primary actors in designing policies that shape the educational landscape in a country, the role of educational policies in developing human capital is important (Barro, 2001).

4.3 Education and the Demographic Bonus in the context of Nigeria

Education is a vital element in a country's efforts to harness a full demographic bonus. Nigeria's growing population demands better quality and easier access to education at the primary, secondary and tertiary levels. Regional and gender disparities in access to education will further perpetuate poverty if not addressed in a timely manner. Particularly, women's

education is significant in the context of the demographic bonus as it offers multi-dimensional long- term returns in productivity and fertility reduction.

4.4 Effects on Nigeria’s overall growth and unskilled economy

In this section, we will discuss two main challenges in Nigeria's education system and how they might impact the demographic bonus as the population rises. First, research indicates that education is crucial for developing social skills, which can contribute to social cohesion in a diverse population (Arowolo et al., 2013). As Nigeria's population expands, it is essential that the country invests in quality education to ensure individuals from various backgrounds, such as ethnicity, religion, and culture, can interact harmoniously. Education at an early stage exposes children to diverse perspectives, fostering understanding and reducing the likelihood of conflicts in the future (Arowolo et al., 2013). Thus, a strong education system can support Nigeria's demographic bonus by promoting social stability.

Secondly, the current state of education in Nigeria has implications for the nation's economic potential during the demographic bonus. As shown in Figure 3, nearly forty percent of Nigeria's workers have never attended school, suggesting that the availability of skilled labor within the workforce could be limited due to the lack of foundational knowledge among a significant portion of the working-age population (Adeyeye, 2020). To harness the demographic bonus, Nigeria must invest in education to develop a skilled workforce that can drive economic growth and productivity. Addressing these education challenges is vital for Nigeria to fully benefit from the demographic bonus and ensure a prosperous future for its growing population.

Educational Qualification	Labour force population	Educational qualification per labour force population	Percentage of fully employed	Percentage of unemployed
Never attended school	15,847,257	19.74	39.73	23.56
Below primary	85,711	0.11	27.11	46.24
Primary	14,831,238	18.47	47.54	21.43
Junior Secondary School	4,984,100	6.21	41.37	26.98
Vocational/commercial	281,535	0.35	55.94	17.89
SSS	28,558,044	35.57	46.48	28.49
NCE/OND/nursing	6,530,801	8.13	45.15	30.76
BA/BSV/BED/HND	6,956,600	8.66	39.58	40.89
MSC/MA/MADM	521,108	0.65	54.53	22.93
Doctorate	76,526	0.10	51.47	23.30
Others	1,618,973	2.02	42.95	18.01

Figure 4.1: Education levels in Nigeria's workforce (Adeyeye, 2020)

4.5 Boosting education through private and government funding

As shown in Section 3, Nigeria's education system is impaired due to a lack of funding from the government for schools. Therefore, the strategy to elevate the education system in Nigeria must involve getting those schools the funds they need to operate efficiently. The policy suggested in the recent research by Arowolo et al. (2013) is that the government must first spend more to fund schools. But, more importantly, they suggest that the government should force the private sector to participate in the merit act to support the education system (Arowolo et al., 2013). Two main strategies are proposed here— first, the government should force any multinational company that profits from operating in Nigeria to pay a 5 percent fee to support the education system. This way, Nigeria can instantly gain more funding needed for development (Arowolo et al., 2013). The second strategy is that private companies must offer grants or

research awards to universities (Arowolo et al., 2013). These strategies could help Nigeria fund education at a greater level and boost enrollment.

Conclusion

Nigeria's demographic transition presents a unique opportunity for the country to harness its demographic bonus and drive sustainable economic growth. However, realizing this potential is contingent upon addressing the numerous challenges that currently plague Nigeria's education, healthcare, and gender equality sectors. In this paper, we have discussed various policies and programs that can help Nigeria achieve this demographic dividend.

Firstly, closing the gender gap in the labor force participation rate is crucial for Nigeria to capitalize on its demographic dividend. Increasing women's access to education, supporting women's rights across different sectors, and promoting female land ownership in agriculture are all necessary to boost women's participation in the economy. Additionally, empowering women and girls through education will help reduce fertility rates, which is essential for achieving the demographic bonus.

Secondly, addressing Nigeria's healthcare challenges is of paramount importance for the nation to fully reap the benefits of its demographic transition. Improving maternal and child health, providing access to family planning and reproductive health services, and investing in healthcare infrastructure and personnel are critical steps towards achieving this goal. Implementing programs such as the Advanced Practice Nursing (APN) initiative can help increase the number of healthcare workers and improve the overall quality of the healthcare system.

Thirdly, investing in Nigeria's education system is vital for harnessing the demographic bonus, as it equips the growing workforce with the necessary skills and knowledge to be productive contributors to the economy. Improving access to education, addressing regional and gender disparities in education, and fostering social cohesion through education will help prepare Nigeria's youth for a competitive global economy. Boosting education funding through both private and government sources can improve enrollment rates and enhance the quality of education provided.

In conclusion, Nigeria's potential to reap the benefits of its demographic bonus hinges on its ability to address the gender labor force participation gap, improve its healthcare system, and invest in education. By prioritizing these areas, Nigeria can unlock the full potential of its demographic dividend and foster sustainable economic growth, ensuring a prosperous future for its growing population.

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