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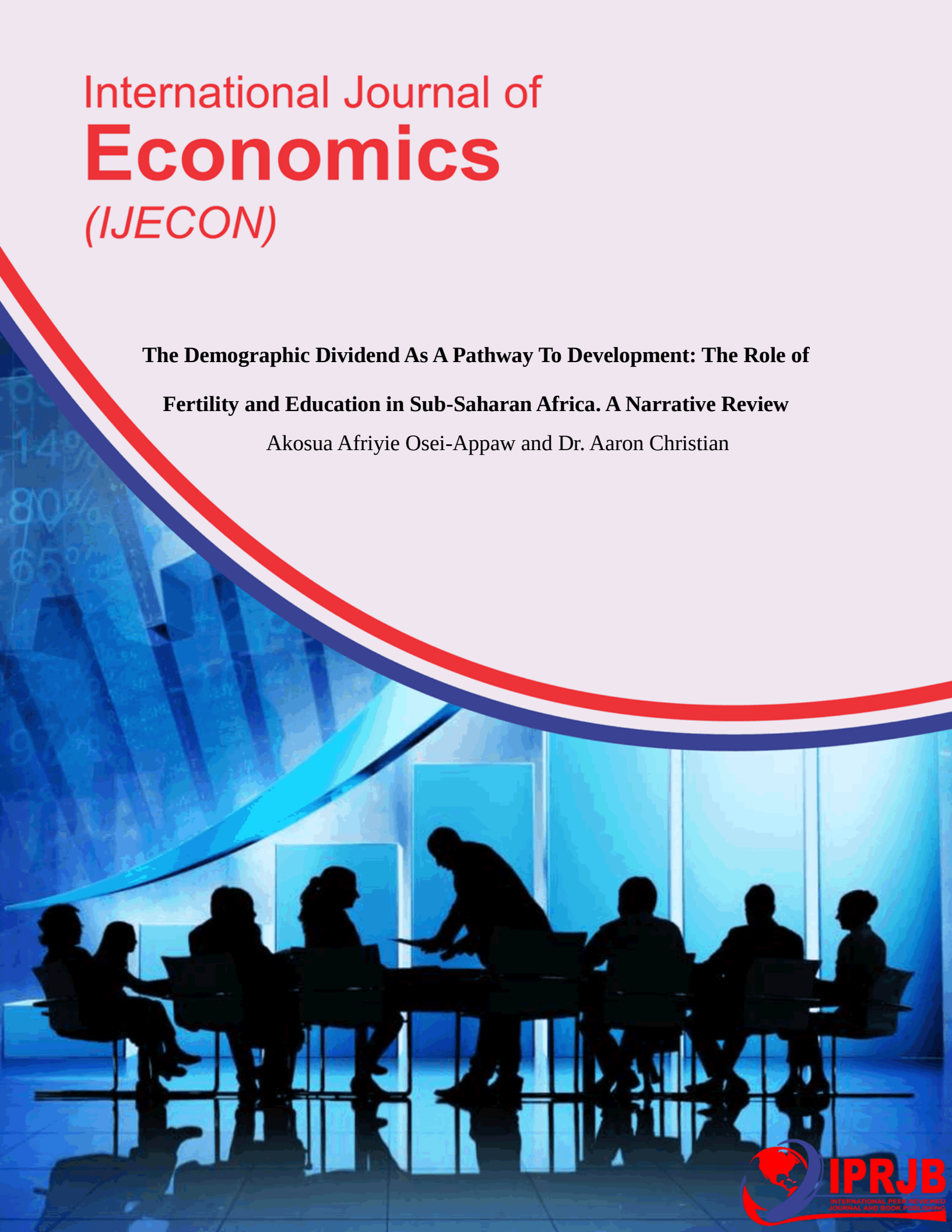

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The Demographic Dividend As A Pathway To Development: The Role of Fertility and Education in Sub-Saharan Africa. A Narrative Review

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Abstract

Purpose: Sub-Saharan African countries are experiencing rapid population growth. This is essential in achieving the Demographic Dividend. Age structure, fertility and education play a key role in the achievement of the Demographic Dividend. Although gains from age structure are crucial, its gains are not automatic. However, the inter-relatedness of fertility and education makes a reduction in fertility a cause and effect on investments in education.

Methodology: This narrative review looks at studies discussing the Demographic Dividend from a development theory point of view. It is an attempt to explain how different countries within Sub-Saharan Africa are faring due to the inter-play between fertility and education.

Findings: The results highlight how the Demographic Dividend is really an Educational Dividend. It also shows a negative correlation between education and fertility across regions and time. The political environment with emphasis on good governance plays a key role in harnessing the Demographic Dividend. Aside this, a fertility decline alone could worsen the existing economic conditions if it is not in tandem with higher education rates among young adults. This is in line with Ester Boserup's view of seeing population as a resource.

Unique contribution to theory, practice and policy (recommendation): A conducive political environment attracts investments and creates room for entrepreneurship and job creation which are necessary to be able to harness the Demographic Dividend. There's the need to however, look at the definition of working age group and conditions necessary to promote entrepreneurship.

Keywords: *Demographic Dividend, Sub-Saharan Africa, Entrepreneurship, Demographic Transition*

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INTRODUCTION

Globally, the world's population has been increasing at a fast pace. This has consequences for growth and development and steers the direction of development policy. Population growth of any country depends mostly on fertility and mortality rates (Jimenez & Pate, 2017). Sub-Saharan Africa (SSA), which is often described as a developing continent, has been the focus of recent research topics based on the prospects for development. This comes as no surprise considering the increasing youth bulge across various countries within the continent. Per the projections of Drummond, Thankoor & Yu (2014), 3.2 billion out of the projected 4 billion increase in global population by 2100 would be Africans with its working age population increasing by 2.1 billion people. Such an increase could either be a huge potential for development or could spell doom for the continent.

Robert Malthus' theory of population highlighted how exponential population growth would be met with arithmetic food supply, hence the need to control population growth (Lemmen, 2014). Opposed to this viewpoint was Ester Boserup who postulated that population is a resource hence population increase would be commensurate with intensification of agriculture and use of technology (Lemmen, 2014). Juxtaposing the current population growth pattern of SSA, either Malthus or Boserup could be right depending on the approach taken by the different countries in the region. However, considering the efforts being made by different governments within the continent to promote development, this paper leans more towards the Boserupian point of view where population is seen as a resource and not a liability.

Although the continent in general is experiencing rapid population growth, different countries are in different stages of the Demographic Transition Theory. As discussed by Slogget (2015), Frank Notestein in the mid twentieth century formulated the Demographic Transition Theory where he describes the changing patterns of mortality, fertility, and the growth patterns of societies as they moved from one demographic stage to another. According to him, every society goes through four (4) main stages starting with the pre-transition stage with high birth rates and death rates which usually fluctuates. Population growth tends to stagnate at this stage. This is followed by the early transition stage where death rates begin to fall primarily due to improvements in health whilst birth rates remain high. This usually results in rapid population growth. In the third or late transition stage, there's a decline in birth rates, contributing to slower population growth. The final or post-transition stage is characterized by societies with low birth and death rates causing a decline in population growth.

Most Sub-Saharan countries are seen to be in the early transition stage. Even though mortality

rates have been reducing in these countries, birth rates are still high. Taking these figures from STATCompiler (2021) with records from the Demographic and Health Surveys of various countries in Africa, Nigeria in 2018 had a Total Fertility Rate (TFR) of 5.3, Gambia recorded 4.4 in 2019, Ethiopia was 4.1 in 2019 and South Africa recorded 2.6 in 2016 – all of which are still higher than the replacement level of 2.1. Such figures have brought into question whether Sub-Saharan African countries can reduce their birth rates to achieve the Demographic Dividend and take advantage of it.

The Demographic Dividend as Bloom et al (2013) puts it, is the economic growth potential created by the favourable shifts in the age distribution of the population. This is achieved through a demographic shift from high to low mortality (particularly under-5 mortality) and fertility rates, a declining dependency ratio and effective public policies. The Demographic Dividend, when in full effect, creates a situation whereby the working population (who are gainfully employed) outnumbers the dependent population thus increasing savings and investments to make the population comfortable.

Three (3) critical issues come to the fore when discussing SSA's Demographic Dividend. These are the age structure, fertility, and education. Fertility and education, particularly female education are inter-related. The World Bank (2015) asserts that the higher the level of education of a woman, the fewer children she is likely to have. In Nigeria for example, increasing female education by an additional year led to a reduction in early fertility by 0.26 births. Essentially, as women become more educated, their opportunity costs of bearing children in relation to income increases and serves as a disincentive. As Bloom (2011) puts it, although the gains from age structure are important in achieving the Demographic Dividend, it is not automatic. However, the inter-relatedness of fertility and education makes a reduction in fertility a cause and effect of investments in education (Canning, Raja & Yazbeck, 2015).

Although there are disparities within Sub-Saharan Africa, collectively the continent sees the huge impact of the Demographic Dividend in propelling development. This is seen across many themes adopted by countries as well as the Africa Union. In 2017, the Africa Union adopted the theme 'Harnessing the Demographic Dividend through Investments in Youth' due to the huge potential seen in empowering the youth as part of achieving the dividend (Africa Union, 2016). In its report, the Africa Union (2016) projects how 46% of the 1.3 billion increase in the labour force of SSA would be between the ages of 15 and 34 between 2015 and 2063.

Theoretical Framework

Given the inter-relatedness of fertility and education (Canning et al, 2015), understanding how

education affects the achievement of the demographic dividend is important. In this quest, the Human Capital Theory comes to play. This theory was widely and quickly accepted by Economists and other disciplines which was unusual (Holden and Biddle, 2017). In the Human Capital Theory, Schultz explained Human Capital in the context of treating education as an investment which in turn becomes a form of capital (Schultz, T.W., 1960). The author goes on to explain how national income increases as a result of the increase in the stock of population educated. Guided by the underlying principle of the Human Capital Theory, this paper seeks to identify if education indeed increases the capacity of people culturally, intellectually and socially which then enables them to contribute to the economic gains of a country.

Going back to the fertility and education argument, Kravdal (2002) asserts that irrespective of the disparities present in Sub-Saharan Africa, reducing fertility is generally considered very important within the development agenda. Of equal importance is gaining insights into the role of education, formal and skills-based, in contributing to the improvement of humans' capacity to increase national income to be able to achieve the demographic dividend. Although the Human Capital Theory has received critiques, it is important to understand if indeed education helps contribute to national income. This research paper is an attempt to understand the dynamics of education keeping in mind its inter-relatedness with fertility in the development agenda and how to bridge the gap between expectation and reality within the context of Sub-Saharan Africa.

METHODS

The following methods were used for this narrative review.

First Level Screening

Manual search using search engines including Google search, Google Scholar, PDF Drive and Reference Seeker for relevant articles was done. A search was also done on Publons which is an affiliate of ISI Web of Science for peer reviewed published literature. Key words such as 'Demographic Dividend', 'Demographic Transition', 'Fertility Decline', 'Education', 'Development', 'Sub-Saharan Africa' and specific countries within the continent were used. This was done to include the key terms under PICO. The first level screening produced 56 articles and conference proceedings.

Inclusion Criteria

Desk studies on Sub Saharan Africa and individual countries within the continent who are yet to achieve the Demographic Dividend were included in the search. Most of these studies were from 2003 and beyond, which is when Bloom et al coined the term Demographic Dividend. Prior to this,

Bloom and Williamson in 1998 used the term Demographic Gift in a seminal article. Papers targeting fertility reduction, higher education and the achievement of the Demographic Dividend were also included in the search. The comparison groups for this review were mainly Asian and European countries who have experienced the Demographic Dividend.

Exclusion Criteria

Studies written in other languages apart from English as well as printed materials were excluded from the review for convenience. In addition, purely quantitative studies were excluded as the focus of the review isn't geared towards a quantitative analysis.

Second Level Screening

Following the first level screening, a second level screening was carried out. This took the form of a full text review to fully appraise the documents obtained. During the second level screening, the final documents were selected based on whether the introduction explained the Demographic Dividend using fertility and education and if findings made were generalizable. Based on these, a total of 31 articles were used for this review.

Limitations of Review

The literature search for this review was predominantly manual. This made the search process tedious considering the multitude of information and manually going through each document using the two-step approach. There is also the likelihood of selection bias based on the interests of the authors and selective outcome reporting to choose literature which would help in filling out the research gaps identified.

DISCUSSION

The Role of Education and Fertility in the Context of the Demographic Dividend

Education and the Demographic Dividend

Education, in context of the Demographic Dividend cannot be totally separated from fertility due to its relationship. Jungho (2016) in his paper conceptualizes this in relation to how the negative correlation between education and fertility is strong across regions and time. Within the framework of the Demographic Dividend, it is clear how low fertility is both a cause and consequence of investing in education as Canning et al (2015) explain. Pradhan (2015) also gives credence to how women with higher education tend to have fewer children owing to reduced teenage marriage, consequently leading to delayed marriages, knowledge on prenatal care and child health as well as making informed decisions about desired family size.

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The USAID in 2014 asserted how investments in education is likely to produce skilled workforce during a study in Kenya. According to them, when girls are provided with quality education to meet the changing demands of the labour market and are able to complete secondary school, it raises household income levels as well as increase the participation of women in the formal labour force. This assertion is in line with the Human Capital Theory postulated by Schultz in 1960.

A study by Pradhan (2015) in Ghana showed how women with high school education had a Total Fertility Rate (TFR) of between 2 and 3 compared with women with no education with a TFR of approximately 6 in 2008. A similar observation was made in Ethiopia in the same study where women in Ethiopia with a high school education had a TFR of 1.3. These add to the narrative of how educated women in general have less children than uneducated women (Jungho, 2016). This has implications for population growth and development especially for SSA.

Sub-Saharan Africa despite its many disparities has one thing in common, its human capital from the growing population. Although some countries are increasing more than others, it presents an immense potential for growth if the population is educated, equipping them with employable and entrepreneurial skills. These skills in turn serve as a source of income for the educated population which contributes to the income of the nation based on the Human Capital Theory (Schultz, 1960). Particularly for women, being educated enhances their ability to acquire different skills to improve their productivity (Kravdal, 2002). In recent years, Technical and Vocational Education and Training (TVET) has received overwhelming support due to its ability to increase human security and as a high-yielding human investment (Ansah & Kissi, 2013). The authors go on to explain how the Government of Ghana recognizes how TVET can help develop the technical and human resource base to stimulate industrial development whilst reducing working-age dependency.

Although this is the norm, Lutz et al (2019) highlights the need to rethink the concept of working-age group which they described as an abstraction adopted from Western welfare states. Per their analogy, labour force participation is not limited to particular age groups. Neither does the contribution to economic growth cut across equally for populations of a certain age. This notwithstanding, the role of human capital albeit education cannot be underestimated in the attainment of the Demographic Dividend. Reports from South Korea, as one of the countries known to have experienced the Demographic Dividend, are often silent on the contribution of the expansion of basic education in the 1960's to its economic growth (Lutz et al, 2019). As they consequently put across, a decline in fertility alone could worsen the existing economic conditions if they do not happen in tandem with higher education rates among young adults. Their study further confirms economic growth as a consequence of improvements in educational attainments thus the need to invest in human capital. In this regard, education does two (2) major things for the

Demographic Dividend – reducing fertility by educating women and girls and empowering the general populace to create jobs, open enterprises and be employed through skills development.

Fertility and the Demographic Dividend

Achieving the Demographic Dividend is often preceded by discussions on fertility. As Zulu (2017) puts it, accelerating fertility decline is the entry point for most African countries in harnessing the Demographic Dividend. Conferences such as that of the African Union Commission and Economic Commission for Africa (2013) dubbed 'Industrialization for an Emerging Africa' also showcased the need for investments geared towards reducing fertility and childhood mortality. Per their analogy, this move would contribute to having lower school-age population and a higher working-age population to reduce dependency.

On the global level, although there's a decline in fertility, it remains high in some sub-regions according to the United Nations Department of Economic and Social Affairs, Population Division (2020). It reports that the overall fertility rate declined to 2.5 live births in 2019 from 3.2 in 1990. It goes on to state how Sub-Saharan Africa's total fertility declined from 6.3 in 1990 to 4.6 in 2019 showing how the decline in fertility in SSA has been relatively slow. This notwithstanding, some countries within SSA including Uganda, Somalia, Chad, Ethiopia, Kenya, Sierra Leone and Malawi have seen significant drops in their fertility between 2010 and 2019 (UN, 2020).

In many parts of the world, a decline in fertility is linked to the use of modern contraceptives otherwise termed as the inverse relationship between contraceptive use and fertility as the UN (2020) reports. In this regard, lower fertility levels are recorded in countries with a higher proportion of women using contraception. They further go on to state how the use of contraceptives in 2019 was generally lower in SSA than other parts of the world although the first 10 countries with the largest increase in modern contraceptives between 2010 and 2019 were all African countries. They are Burkina Faso, Kenya, Lesotho, Liberia, Madagascar, Sierra Leone, Uganda, Malawi and Mozambique.

Besides the use of modern contraceptives to reduce fertility, the United Nations (2020) recognizes the need to empower women. This could be done through female education, banning forced and child/early marriage and promoting gender equality. The others include providing a conducive environment for women to freely access the labour market, including men in family planning, eliminating gender-based violence, improving social protection and making the political process fair to all. On the face of it, all these seem possible to achieve. However, there are deep-rooted cultural barriers which need to be addressed especially in culturally diverse countries(anecdotal).

As one of the fastest growing countries in the World and the fastest growing population-wise in

Africa, Johns Hopkins Bloomberg School of Public Health reported Nigeria's midyear population as of 2019 to be 201 million with an annual population growth rate of 2.5%. Out of this, 44% are below the age of 15 years making Nigeria's population a relatively young population and eligible to harness the Demographic Dividend albeit not automatic.

As it is with countries that have experienced the Demographic Dividend such as Korea, Thailand and France, achieving the Demographic Dividend was preceded by fertility decline, something Nigeria struggles with. According to the World Bank (2022), Nigeria's Total Fertility Rate (TFR) at 2019 was 5.3 making it one of the highest in Sub-Saharan Africa, even higher than the average of 4.9 for SSA. With over two hundred and fifty ethic groups, different languages, traditions, and customs (Onyejekwe, 2001), a cultural change seems somewhat difficult.

In comparison, South Africa has one of the lowest fertility rates in Southern Africa and SSA in general with 2.3 children per woman currently (Macrotrends, 2022). Interestingly, unlike other SSA countries, South Africa is noted to observe some of the determinants of fertility decline including the use of modern contraceptives, increased age at marriage and first birth and increasing the interval between subsequent births according to the South African Medical Research Council (2019). Despite this, South Africa according to the United Nations (2017) is still one of the most populous countries in SSA.

Going back to Nigeria, a decline in the TFR would be somewhat reliant on the education of women as reiterated by Orubuloye (1991). He adds how women's education and urbanization impacts marriage, reproductive behaviour, forming of families and family relationships. Orubuloye (1991) further states how only 20% of the total population use contraceptives and they are mostly the educated middle class. These altogether point to the influence of education of women on fertility reduction in Nigeria keeping in mind other socio-cultural factors.

Political Environment and Policy Implementation

The Demographic Dividend, as has been established earlier, would not occur automatically hence the need to deliberately put in place policies to guide its realization (Koussoubé, 2016). Unfortunately, the political environment within SSA is relatively unstable compared to the West. Countries such as Rwanda, Sierra Leone and Liberia have been riddled with civil wars over the years. These wars not only destroyed their social fabric as a people but destroyed both physical and social structures (Bloom, David, Günther & Jocelyn, 2007) needed to propel development. According to Mwai (2022) there have been coup attempts in Burkina Faso and Guinea Bissau in the first quarter of 2022 alone with an increase in the number of coups within the sub-region in 2021 compared to previous years.

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As this paper leans towards the Boserupian ideology of population as a resource, it means little to nothing without a conducive policy environment. This is echoed by Patierno, Gaith & Madsen (2019) stating how policies targeting good governance as well as promoting a stable and open economy are important in harnessing the demographic dividend. Compared to the rest of the world, Africa is noted for having relatively poorer economic policies and this, according to Sachs and Warner (1997), accounted for the continent's poor economic performance during their sampling period between 1965 and 1990. Although there have been improvements over the years, more work needs to be done.

Policy implementation is just as important as its formulation. However, this is one area substantive African Governments have performed poorly contributing to corruption, bureaucracy and lack of accountability. This puts Bloom et al's (2007) concerns on how corruption, bureaucracy and poor rule of law negatively affects investments, the setting up of businesses and creation of employment opportunities into perspective. Although Nigeria has the fastest growing population in West Africa, according to Mitchell (2022), Ghana has become more attractive for foreign investments attracting $2.5 billion in foreign investments in 2020 which was the highest in West Africa. He goes on to state how foreign investors prefer Ghana to Nigeria as a base for West Africa due to how politically unstable and the high incidence of violence in Nigeria is. Companies such as Twitter and Uber established their African headquarters in Ghana in 2021 amidst the COVID-19 pandemic sidelining Nigeria. The digitization agenda in Ghana's development process is also making it easier for businesses to register and operate online. A conducive political environment makes entrepreneurship and job creation easier.

SUMMARY AND CONCLUSION

Summary

Achieving or harnessing the benefits of the Demographic Dividend, as has been put forward throughout the paper, is not automatic. Experiences from countries such as South Korea and France who harnessed the benefits did so with the onset of a fertility decline. As Canning et al (2015) put across, a reduction in fertility is seen as a cause and effect of investments in education. This inter-relatedness is crucial in harnessing the Demographic Dividend. As education, particularly educating women, has the propensity of reducing fertility, increasing labour force participation, increasing savings and investment, and generally improving the quality of life which are all in line with the Human Capital Theory, more emphasis should be placed on this.

In advocating for a decline in fertility, at what point do we stop? Countries who harnessed the first Demographic Dividend including South Korea, France and Germany currently grapple with low

fertility rates and are engaging in providing incentives for women in their reproductive ages to have more kids and fertility migration where nationals of other countries, particularly women, are encouraged to have kids in these countries for a chance to be permanent citizens. Germany for example has a one-year maternity leave with pay policy to encourage women to have kids. If indeed, population is a resource, shouldn't fertility be encouraged in the hopes to getting more creative and taking advantage of it through technology as Boserup proposes?

Again, in line with the Boserupian point of view where population is seen as a resource, investing in people in the areas of education and health are important not only to reap the benefits of the Demographic Dividend (Koussoubé, 2016) but also to improve the quality of human capital and capital accumulation needed to propel development (Zulu, 2017). As the TFR is still high in most African countries, the child dependency burden tends to be high in such countries including Nigeria and South Africa.

However, the argument put across by Lutz et al (2019) where the concept of the working-age group is seen as an abstraction adopted from Western welfare states is valid in our societies currently. Even more so in our digital world where under 18s and over 60s are Digital Marketers and Social Media Influencers earning money from videos and content posted online. This draws our attention to the argument of Lutz et al (2019) that labour force participation is not limited to particular age groups. Perhaps, it is time to find a new definition for working age and how this would affect the concept of dependency.

Conclusion and Recommendations

The Demographic Dividend presents a great opportunity for Sub Saharan African countries. The continent is rife with a youthful population, who if given the right training and knowledge, would be able to propel development for the continent. The major issue at hand to deal with across board is fertility, which from earlier statistics presented indicates progress. There must be intensification of efforts to promote both modern and traditional contraceptive use based on what the people are familiar and comfortable with. However, in reducing fertility, caution should be taken in order not to go below the replacement level as is happening in some developed countries creating an entirely new dilemma of fertility migration and incentives to increase fertility.

Although it's been established that fertility and education are interlinked and critical in harnessing the Demographic Dividend, the policy and political environment plays an equally important role. Heads of States need to have the political will to change the lives of their people through sound, achievable and country-specific policies to drive development. This must be deliberate across board. Considering this, governments are encouraged to promote TVET Education. This will

provide the population, especially the youth with practical skills needed to create their own employment to help them contribute to the economy of the respective countries. Policies to promote entrepreneurship, the use of technology and social media as well as encourage the general populace particularly girls and women to pursue quality, skills-oriented education relevant to their communities, society and country should be promoted. Perhaps it is time for development theorists in Africa to take a second look at the Human Capital Theory, adopt the relevant aspects and implement them to suit local conditions. Harnessing the demographic dividend is possible and it all starts with the political will to effect changes especially in education and fertility.

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