Do Demographic Dividends in West and Central Africa exhibit the same patterns? A Generational economy approach

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Abstract:
Background: The population growth rate of Africa remains the fastest in the world. However, as population dynamics inside Africa is not homogeneous, the speed of the demographic transition is not the same among the different regions of Africa. Western and Central Africa stand out in a particular way with highest population growth rate, share of youth and fertility rate.
Materials and Methods: This article estimates the support ratios and phases of the first demographic dividend in West and Central Africa using data from microeconomic consumption and income surveys at the country level. The National Transfer Accounts (NTA) methodology is used to estimates these profiles from a sample of sixteen countries.
Results: The window of opportunity for the first dividend is already open in West and Central Africa.
Conclusion: Our results highlight that the economic potential derived from the demographic dividend is higher in Central Africa than in West Africa.
Key Word: **Life Cycle Deficit; Support ratio; Demographic dividend; NTA**.

I. INTRODUCTION

The population growth rate of Africa remains the fastest in the world. For instance, the average annual rate of population change for Africa was 2.58% under the period 2010-2015, while in the same period, those for Asia, Europe, and the World were 1.04%, 0.18%, and 1.18% respectively (United Nations, 2019). With a significant share of youth (41.1% under 15 in 2015), a high fertility rate (4.73 in the period 2010-2015), and a high mortality rate (life expectancy at birth estimated at 60 years in the period 2010-2015), Africa unlike other developing regions, just begun its demographic transition.

However, as population dynamics inside Africa is not homogeneous, the speed of this demographic transition is not the same among the different regions of Africa. Western and Central Africa stand out in a particular way. Indeed, these two regions are the fastest in terms of population growth and also have the highest value for the share of youth, the fertility rate, and the lowest life expectancy in the world for the period 2010-2015.

The population of these two regions and, consequently, Africa will continue to increase, and by 2050, will be more than 2.5 billion; about 26% of the world population if these two regions sustain the growth rate. Even though the share of the African population (or the population of the two African areas) under 15 will remain one of the highest in the world, it will decrease over time hence the demographic transition. This process provides an excellent opportunity for the reduction of demographic dependency ratios, the rapid growth of the labor force, and an increase in the savings rate. These factors could result in the demographic dividend if African countries make strategic investments in health and education and particularly, in Western and Central Africa, which have the highest fertility rates and the highest share of youth.

This paper's objective was to estimate the demographic dividend profiles in West and Central Africa using a methodology based on the National Transfer Accounts (NTA). These accounts analyze the economic life cycle and determine the life-cycle deficit, the support ratio, and then compute the demographic dividend. The analyses make it possible to identify better the disparities in the countries concerned in terms of consumption and income, as well as inter-regional differences. It also captures disparities in demographic opportunities.

Our findings' contributions to the existing literature are twofold.

First, the paper shows that the window of opportunity for the first dividend is already open in Western and Central Africa. Second, the economic potential derived from the demographic dividend is higher in Central Africa than in Western Africa.

This Paper presents firstly a literature review on the concepts and mechanisms of the demographic dividend, followed by a brief description of the analytical framework. Then, the paper presents and discusses the empirical findings while the last section outlines the conclusions.

Literature Review

The demographic dividend refers to the positive effect of changes in the age structure of the population on economic growth (United Nations, 2013). The introduction of the Demographic Dividend concept was made in the 1990s to qualify the process of acceleration of growth of East Asian Countries that resulted from changes in the structure of the age of these countries (Bloom, Canning, and Malaney 2000, Bloom and Williamson, 1998). The demographic transition is thus at the root of the demographic dividend process. East Asian countries made extraordinary progress in the decline of mortality, followed by the fall of fertility which together, led to the deterioration of the young dependency ratio and a high proportion of the working-age population. Indeed, having a large number of workers gives a boost to the economy, provided that there are enough job opportunities (Canning et al., 2015).

Decent job opportunities combined with a large number of workers could increase the savings rate and then create a surplus of income per capita. Thus, the demographic transition through the decline in fertility releases more resources that could be invested in human capital development and also in physical capital. However, to exploit the full potential of this opportunity, Canning et al. (2015) stress certain preconditions, including employment policies.

For Olaniyan et al. (2012), an economy that cannot create enough work for a large proportion of unemployed people cannot produce at an optimal level, and its growth is hampered. The mostly young working population does most of a country's production. Thus, according to Bloom et al. (2010), the high unemployment rate among people of working age can, in the long run, hinder the development of a country by limiting its ability to reap the benefits of demographic dividends.

The academic literature identifies two forms of demographic dividends. The first dividend reflects the benefits society can have in terms of an increase in GDP per capita related to the rise of the working-age population. The subsequent aging process can also give rise to a second demographic dividend if capital accumulation is oriented to meet this challenge. The second dividend is related to an increase in productivity, thanks to the rise of savings due to an increase in longevity (Mason, 2005; Mason and al., 1990). Aging of the population is thus at the root of the permanent increase in capital (Mason, 2005; Lee and Mason, 2007; Mason and Lee, 2007). The second demographic dividend is closely linked to how intergenerational transfers are funded. Many other factors, including labor productivity, human capital quality, among others, also contribute to achieving the demographic dividend.

Theoretical analyses of resource allocation between generations have been the focus of many studies. Among these, the Overlapping Generations Models (OLM) formulated by Samuelson (1958), Diamond (1965) and many other authors, offer an analytical framework to study the life cycle behavior, the implication of allocation of resources across generations on the income per capita, the determinants of economic growth, etc. However, OLM makes strong assumptions that are sometimes unrealistic. For example, some models assume that the life cycle is divided into two broad age groups by excluding the age group from child dependency. According to these models, the life cycle begins at entry into the labor market and ends with dependence on old age (Lee, 1994). This failure to take into account the child dependency can compromise the appropriateness of policy formulations based on these models not only because child dependency is an essential step in the economic life cycle but also the under 15 represent 41.5% of the population of Africa in 2015. Care and education of children up to higher education is expensive. According to Becker and Murphy (1988, there is a socially optimal amount of investment in children by parents for which an adequate investment in their education would be made to the point where the rate of one additional year of school would be equal to the rate of return of marginal units of capital**.**

The NTA framework allows us to deal with the link between the overlapping generations and these economic transfers within the life cycle. This framework is an accounting system that measures intergenerational transfers at the aggregate level in a manner consistent with the System of National Income and Product Accounts (Bommier and Lee 2003; Lee 1994).

II. MATERIAL AND METHODS

The methodology used is that of National Transfer Accounts (NTAs) that analyze the economic life cycle and determine the life cycle deficit, the support ratio, and the demographic dividend. The following subsections specify the definition and measurement of these indicators.

2.1. Life Cycle Deficit

The purpose of the NTA methodology is to produce a measure, both individual and aggregate, of the acquisition and distribution of economic resources at different ages. The National Transfer Accounts Manual published by the United Nations in 2013, include the most recent references. This reference manual describes the unified international methodology of NTAs[1]. These accounts intend to understand how economic flows circulate between different age groups of a population for a given country and year. In particular, they indicate at each age the different sources of income and the various uses in terms of consumption, whether private or public, and savings. They thus make it possible to study the consequences related to changes in the age structure of the population.

The general principle revolves around the concept of the economic life cycle, which highlights the mismatch between material needs at a given age and the material capacities of individuals to meet these needs at the age in question. The comparison of consumption and income streams of work at different ages allows determining this economic life cycle. On the one hand, the youngest and oldest individuals will be in a deficit situation as the resources of their labor income, when they are positive, are much lower than their consumption expenditure. On the other hand, working-age adults generate an economic surplus since the resources they obtain by participating in the labor market exceed their consumption at these ages.

The NTA methodology used to produce this measure is part of the national accounts framework to work on all economic flows but also to have a coherent framework both for inter-temporal comparison and for comparison between countries. National accounts provide information on household income and consumption at a given date but give no information on the distribution of this income and expenditure by age. Therefore, the principle is to disaggregate the different aggregates of interest of national accounts by introducing the age dimension. One of the recent advances of the NTA is also to propose decomposition by sex.

National Transfer Accounts are based on an accounting identity such that, at each age, resources must be equal to the uses made of them (UN, 2013):

$$C(a) - Y^l(a) = Y^a(a) - S(a) + \tau^+(a) - \tau^-(a) \qquad (1)$$

The term on the left is the deficit for age group a and represents the gap between their consumption and their income from work. The members on the right represent how the life-cycle deficit is financed (either with net transfers $\tau^+(a) - \tau^-(a)$, or with stocks of assets held $(a) - S(a)$.

Thus, if $C(a) - Y^l(a) > 0$ individuals in this age group are in deficit and receive more transfers than they pay or use more capital than they save. Thus, these individuals are dependent. If $C(a) - Y^l(a) < 0$ individuals in this age group generate a surplus. They so make more transfers or accumulate more savings for future consumption.

2.2. Support ratio and demographic dividend

The main objective of the calculation of the support ratio is to measure the capture of the demographic dividend, defined as the acceleration of a country's economic growth that results from changes in the age structure of its population (United Nations, 2013). Indeed, the economic behavior of individuals varies systematically over their lifetime. School attendance, childbearing, participation in the labor force and productivity, savings, and consumption vary with age. In this sense, if the structure of the population changes, it affects the economies of the countries (Mason and Lee, 2006; Bloom and al., 2001). This effect, however, remains transient and only occurs when dependent and working-age populations evolve at different rates. In other words, economic growth takes place when the actual workers bear fewer effective consumers (Lee and Mason, 2007).

The principle here is to construct an indicator capable of capturing the weight of the workers concerning the number of consumers to be supported. In classical literature, the demographic dependency ratio is determined by assuming that every individual between the ages of 15 and 64 is a worker (all others outside this age group are dependents). Also, consumers naturally constitute the entire population since everyone has to meet at least physiological needs. The ratio is obtained by reporting the two numbers.

This method, however, has many limitations. First, for the numerator (labor force aged 15 to 64), this calculation method considers that any person of working age is employed, while everything outside this age group is dependent. As a result, the ratio can only be influenced by one factor: the change in the theoretical limit between the working-age and the retirement age. But in reality, in any society, we observe that not all people of working age are necessarily active, let alone actively busy. Indeed, with the increase in the level of education of individuals, young people take longer to enter the labor market. Also, in agriculture and the informal sectors, it

is not easy to distinguish between the active and the retired, especially in low-income countries where parents take care of the household even when children begin to work. In other words, they are not economically dependent also though they are very old. Thus individuals are not obliged to stop working at age 64. Therefore, it is improbable to perceive the labor force to be between the ages of 15 and 64 and to consider others as dependents.

The second deficiency concerns the term of the denominator that is the total population. By taking the total population in absolute terms to approximate the number of consumers, the demographic support ratio gives all people, regardless of their age, an equal level of consumption. Thus, a child under five years would have the same consumption needs as an adult of 40 years, for example. However, consumption has been shown to increase considerably from childhood to early adulthood, at which point it reaches its maximum level (United Nations, 2007). Needs and consumption levels, therefore, differ according to the age of the individuals.

To overcome these limitations, Cutler and al. (1990) proposed an alternative calculation of the economic support ratio that takes into account the employed labor force (or "actual producers") and the number of "actual consumers." This methodology takes into account the entire population (even those aged 0 to 15 and those over the age of 65), the age-specific consumption needs, the variation in retirement age, the productivity of the working population, and the purchasing power of the workers.

For this purpose, the numerator and the denominator are the sums of the populations at all age, with a weighting specific to each age.

- In the numerator, the population is weighted with the ratio of per capita income level of the age group to the average income of individuals aged between 30 and 49 years. This numerator thus takes into account the variation of the retirement age, income by age (activity level by age), and their purchasing power. This ratio is the productivity of the age class x.

$$\delta(a) = y(x)/(\bar{y}(30-49))P(x) \quad (2)$$

This weighting thus captures for each age group the actual income level of the individuals who are there.

- For the denominator, the ratio of per capita consumption of the age group to the average consumption level of individuals aged between 30 and 49 years weighs the population. This denominator, therefore, takes into account the level of consumption of each age group as well as the population size.

$$\varphi(a) = c(x)/(\bar{c}(30-49))P(x) \quad (3)$$

This weighting takes into account the actual consumption level of individuals at each age.

Thus, unlike the demographic support ratio, the proposed economic support ratio in the national transfer accounts does not restrict the labor force in principle. The calculation is made over the entire population by measuring for each age (referring to individuals aged 30 to 49), the level of work (through income), and the level of consumption of the individuals that compose it. The economic support ratio thus represents the number of actual workers per actual consumers. Therefore, a support ratio of 45% means that there are 45 effective workers per 100 consumers. This means that the actual worker carries less responsibility for harnessing a demographic dividend.

This methodology has been extended to other levels, such as taxation (Miller 2011). At this level, it represents the actual number of payers to the number of beneficiaries. The economic support ratio is, therefore, privileged to reflect both the effect of the age structure and the age profiles of consumption and income generation. It gives a more productive and more accurate description of reality.

$$Support\ ratio = \frac{L}{N} = \sum_a[\delta(a)P(a,t)] / \sum_a[\varphi(a)P(a,t)] \quad (4)$$

This study uses the NTA framework to compute the life cycle deficit and the economic support ratio in fifteen West and Central African countries. A large part of these calculations is carried out by the Research Center for Economics and Applied Finance. Some profiles (Nigeria and Ghana) are taken directly from the NTA site. Country profiles are brought together on the same monetary basis (current 2014 USD) and adjusted to a reference year (2014). Then three regional profiles (West Africa, Central Africa, and both combined) are computed for the reference year.

III. RESULT

This section analyzes the economic life cycle, the support ratio, and the first dividend in West and Central Africa countries. The sample contains 16 countries: Benin, Burkina Faso, Cameroon, Central African Republic, Côte d'Ivoire, Gabon, Ghana, Guinea, Guinea Bissau, Mali, Mauritania, Niger, Nigeria, São Tomé and Príncipe, Senegal, and Chad. The analysis focuses on individual country profiles and also regional profiles from country groupings by zone (West Africa, Central Africa, and the two regions combined).

3.1. Analysis of regional profiles

Regional profiles of consumption, labor income, and the life cycle deficit at the average and aggregate levels are estimated for West Africa, Central Africa, and West and Central Africa combined. This made it possible to determine the evolution of the support ratio and the first dividend in these different zones. The following paragraphs present the main patterns and their interpretations.

3.1.1. Life cycle deficit profiles
a) West Africa

In West Africa, the average consumption per age stabilizes at 2,000 USD from age 15 (Figure 1). At birth, it is worth just under $ 1,000. As regards the labor income, it starts from 10 years and gradually increases until reaching a peak of 3,577 USD at 44 years. From this age, this income declines sharply with age to the negligible point at age 90 and over.

Figure 1: Average LCD profiles in West Africa
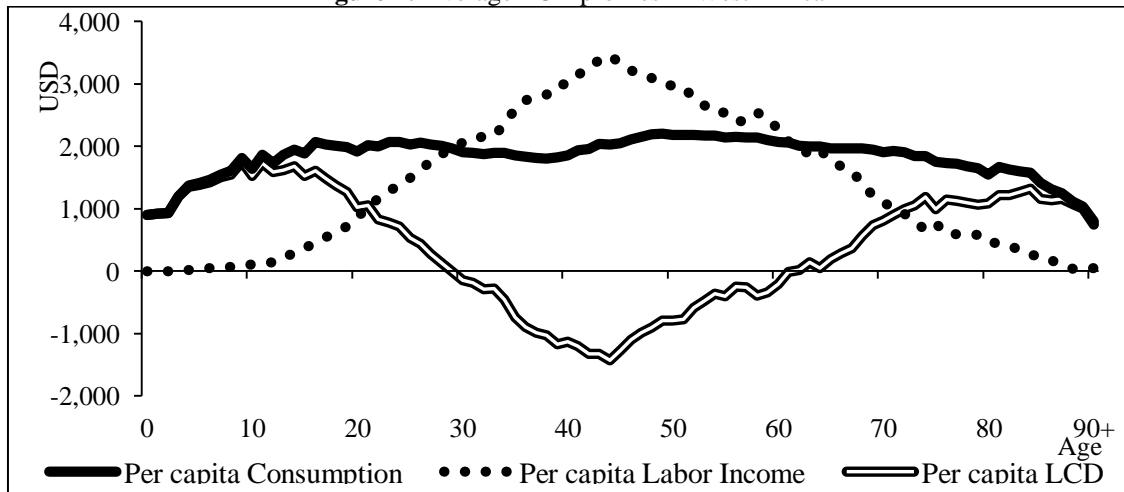
Source: CREG / CREFAT 2017.

The economic dependence continues until 28 years old and starts again from 62 years in West Africa. In other words, only the 29-61 age group (33 years duration) generates a surplus in the sub-region. At the aggregate level, there is a youth deficit that is much higher than the total surplus generated by the adult population (Figure 2). This deficit goes up to 15 billion USD at the age of 10 after reaching 10 billion at birth.

**Figure 2:** Aggregated profile of LCD in West Africa
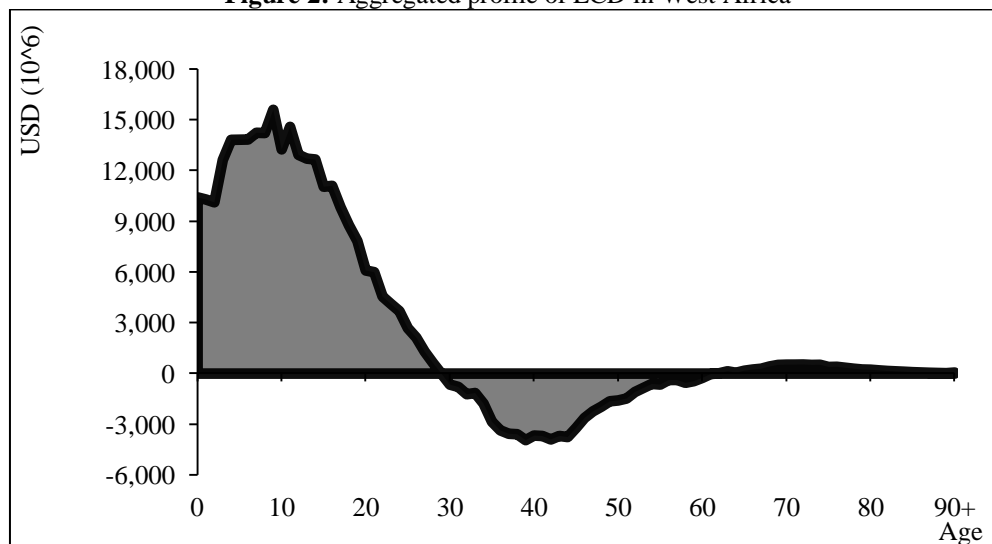
Source: CREG / CREFAT 2017.

b) Central Africa

As in West Africa, Central Africa is also characterized by the consistency of individual consumption beyond 20 years. The latter stabilizes around 1,400 USD after a slight change in the lower age group. The income from work starts tentatively to be generated at the age of 14 years. It reaches a high of US $ 2,913 at age 51 before gradually falling to the end of the life cycle.

**Figure 3:** Average LCD profiles in Central Africa
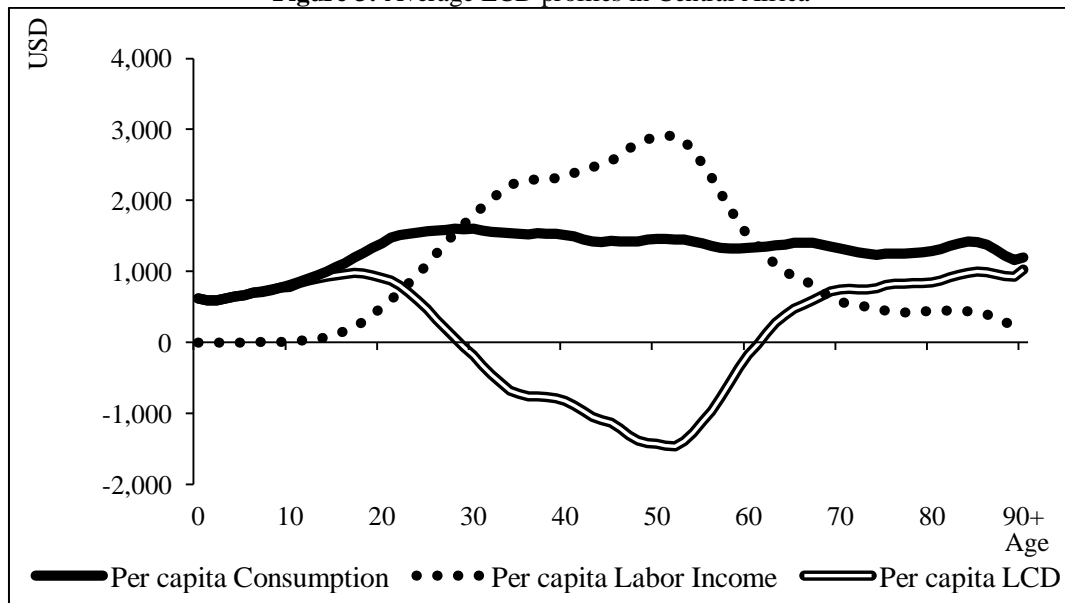
Source: CREG / CREFAT 2017.

In this sub-region, a life cycle surplus begins to emerge at 29 years of age, and this surplus continues until the age of 61 (33 years); the same same duration as for West Africa.

At the global level, the same pattern as in West Africa is emerging in terms of life cycle deficit. Figure 4 shows that the surplus generated in the 29-61 age group is far from sufficient to fill the life cycle deficit for children and young people.

Figure 4: Aggregated profile of LCD in Central Africa
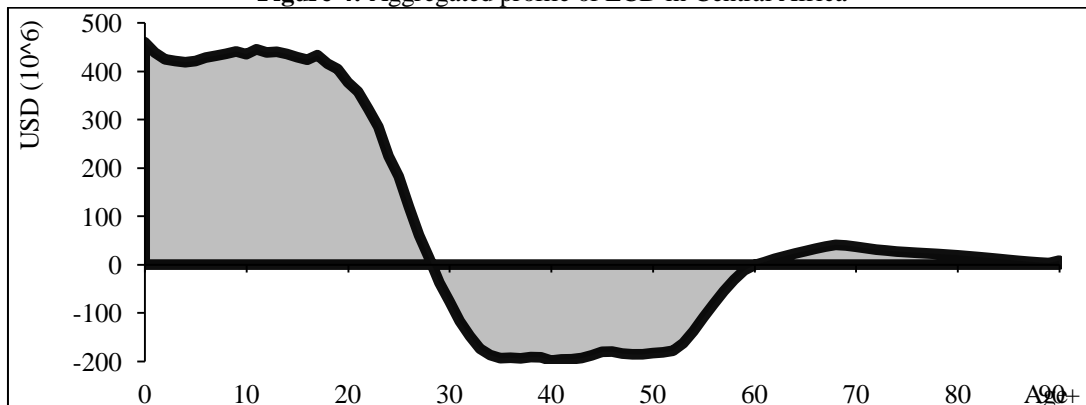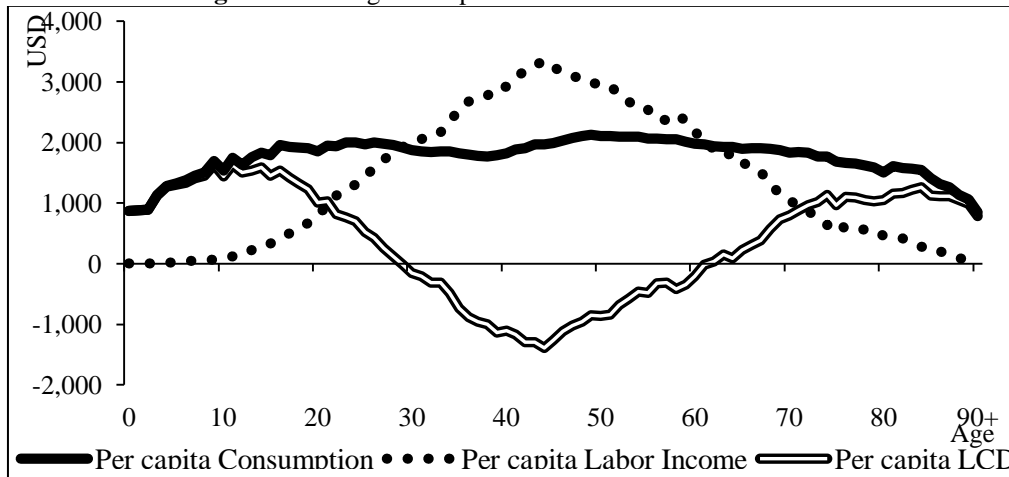

Source: CREG / CREFAT 2017.

c) West and Central Africa

Given the economic and demographic weight of some West African countries, particularly Nigeria and Ghana, it seems clear that the combined profiles of West and Central Africa are Western-looking (Figures 4 and 5).

Figure 5: Average LCD profiles in West and Central Africa

Source: CREG / CREFAT 2017.

Figure 5 shows a constancy of individual consumption from 15 years around $ 2,000. The income from work begins to be generated at ten years and reaches its peak of 3,500 USD at 44 years of age.
At the aggregate level, Figure 6 shows a very high youth deficit in West and Central Africa. This deficit is far from being filled by the surplus generated in the 29-61 age group.

Figure 6: Aggregated profile of the LCD in West and Central Africa.
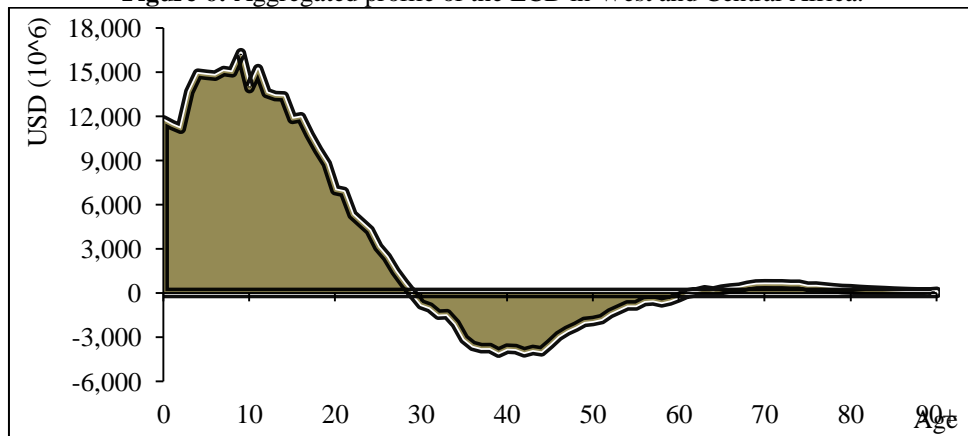
Source: CREG / CREFAT 2017.
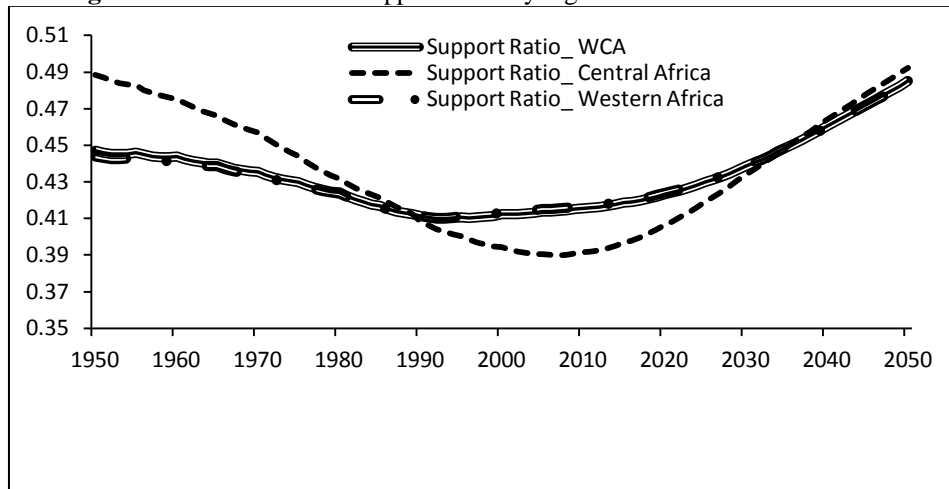
3.1.2. Economic support ratio
The economic support ratio measures the effect of the age structure on the ability of the population to contribute to current production. This ratio is the ratio of the number of actual producers to the number of actual consumers by fixing the shape of the age profiles of consumption and labor income. It challenges policymakers more than once to effectively implement appropriate economic policies for increasing productivity, matching training and employment (education), the efficiency of the health system, the sustainability of pension plans, and fertility control.

The following figure shows the evolution of the support ratio in West Africa, Central Africa, and the West and Central region between 1950 and 2050.

Starting in the 1950s, the evolution of Central Africa's economic support ratio has been in two phases. Since 1950, this support ratio declined steadily until 2007 from 0.49 to 0.39. It then had a steady rise until 2017 when it reached 0.40. If this trend is maintained, the increase will continue until 2050 and may reach 0.49.

In West Africa, the evolution of the support ratio decreased from 0.44 to 0.41 between 1950 and 1992, and from 1990 to 2020, there is a slight growth in this ratio. But until the 2050s, the support ratio would overgrow and could reach 0.49 as in Central Africa.

Figure 7: Evolution of the Support Ratio by region in West and Central Africa

Source: CREG / CREFAT 2017.

Given the importance of West Africa's demographic and economic weight compared with the one of Central Africa, it seems clear that this region's support ratio is similar to that of the West. Thus, around the year 2000, the age structure of the population began to have a positive impact on economic growth. In essence, the number of actual producers increased faster than the number of actual consumers. The public authorities must be aware of it and value the implications and consequences that such a phenomenon could have.

In 2017, the economic support ratio was 42%, i.e., 42 actual workers who support 100 actual consumers, and in 2050, this ratio is projected at 49%. Increasing worker productivity drives the growth of the economic support ratio, thus capturing a robust demographic dividend for the countries. However, this dynamic is not fixed and will depend heavily on the implemented policies in terms of governance, investments in human capital (education, health), jobs (investments and flexibility of the labor market), and fertility. If these policies are put in place by governments, the demographic bonus could be maximized by 2050 when more than 50 actual workers could support 100 actual consumers.

3.1.3. First demographic dividend

The first demographic dividend (DD) is calculated as the rate of growth of the economic support ratio. This phase of growth in the support ratio represents a period when the age structure of the population is potentially conducive to economic growth. The next box says more about the theoretical understanding of the demographic dividend.

The following Figure shows the evolution of the first demographic dividend in West Africa, Central Africa, and combined West and Central Africa.

Figure 8: Evolution of the 1st DD by region in West and Central Africa
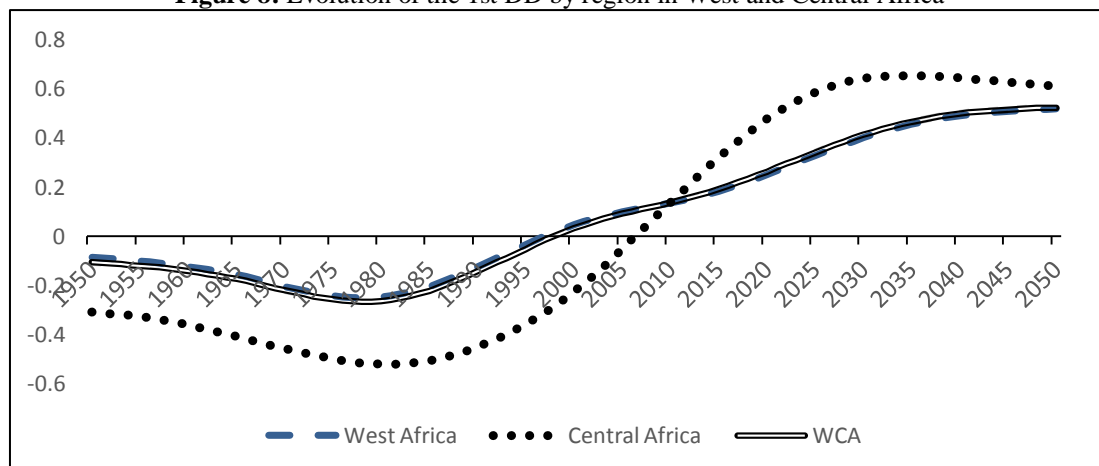
Source: CREG / CREFAT 2017.

The growth of the support ratio was negative over the period 1950 to 1996 in West Africa, while in Central Africa, it is negative until 2006 (Figure 8). On the other hand, from 1997, there was positive growth in the support ratio in West Africa. In Central Africa, this positive growth began in 2007. The evolution of the dividend in the combined West and Central Africa follows the pace of that in West Africa.

IV. DISCUSSION

This paper estimates the demographic dividend profiles in West and Central Africa using the National Transfer Account (NTA) methodology.

However, in the literature, researchers use two other methods to estimate the demographic dividend. The first one determines the opening date of the opportunity window based on the dependency ratio (below 15 and 65 and above relative to the working-age population), which should be below a certain threshold. Guengant (2014; 2017) used this method revising the lower age threshold to 20, to identify the emergence of the demographic dividend if the ratio is below 1. Computing the demographic dividend is straightforward, but this method failed to estimate the closing date.

The typology introduced by the World Bank (2016) through the TFR allows capturing variations in actual labor force participation and real dependency across countries. This typology permits to identify four types of states: pre-dividend countries (TFR of 4 and above), (ii) early-dividend countries (TFR below four children per woman), (iii) Late-dividend countries (TFR above the replacement level 2.1), (iv) Post-dividend countries (TFR below replacement level). This method introduces an arbitrary cutoff of four births per woman below which the window of opportunity is open. This method also fails to compute the closing date of the opportunity window.

These two above methods are only demographic and policy recommendations which result, are the decline of fertility rate to benefit from DD opportunity. This desirable decline is a necessary but not a sufficient condition to harness the full potential of the demographic dividend. Indeed, the Arab Spring events, particularly in Tunisia, showed the harmful consequences of the sharp decline of the fertility rate without sound employment policies to provide enough job opportunities for youth. Therefore, demographic indicators should not be the only factors to consider in determining the opening and closing dates of the demographic window and to benefiting fully from this Demographic Dividend.

By contrast, the NTA framework allows linking the interactions between changes in age structure and the lifecycle of production and consumption through the computation of the Economic Support Ratio (ESR), which is the key indicator (Mason and Lee, 2011). It precisely provides the opening and the closing date of the opportunity windows. Taking into account this advantage of NTA, this paper brings new evidence with a more intensive analysis of the West and Central Africa regions. It then refined global estimates from Mason et al. (2017) and computed figures for ESR and the windows of opportunity for these two regions.

The paper found that the economic support ratio began to grow in the 1990s and 2000s, respectively, in West Africa and Central Africa. Therefore, the window of opportunity for the demographic dividend is already open in these two regions but on different dates. In West Africa, the demographic window of opportunity has been open since 1998 with an increasing amplitude beyond 2050. For Central Africa, this window of opportunity for the demographic dividend opens from 2008 to 2050. These results concerning the opening of the demographic dividend window in the countries of West and Central Africa are contrary to those generally encountered in the literature on the demographic dividend in Africa, in particular, Francophone Africa.

Indeed, Bloom et al. (2007), using a dividend measurement approach based on the growth of the percentage of the working-age population (aged 15-64), found that the window of opportunity for the dividend would open around 2030 for Côte d'Ivoire and Ghana. Another study done in 2013 by the Economic Commission for Africa using the UN population projections for 2010 concluded that the window of opportunity for Côte d'Ivoire would open after 2050. The reason given to explain this time lag in the opening of the window of opportunity is the downward rigidity of the fertility rate observed in this country, which was not anticipated in the 2004 projections. A study conducted by Guenguant (2011) showed that the age structure of the Ivorian population would be favorable to economic growth around 2030. These differences observed in the estimation of the dividend date lie in the approach used to do the computations (Dramani and M'backé, 2017). As noted above, the national transfer account approach provides better estimates because it takes into account consumption and production patterns at each age in the 30-49 age group.

Despite controversies arising from the different approaches regarding the opening of the window of opportunity, countries in Sub-Saharan Africa and particularly in the Sahel, have to address significant challenges. Indeed, Sahel countries faced with high vulnerability, extreme poverty, conflict, violence, terrorist threats, steady population growth rate, youth bulge, forced migration, and the poor access of women to health care services (World Bank, 2019). Fortunately, a glimmer of hope remains because politicians are sensitive to the quest for the demographic dividend through initiatives like the Sahel Women Empowerment and Demographic Dividend (SWEDD) project (UNFPA-WCARO, 2020). The opening of the window of

opportunity in this perspective is a critical period to benefit from the positive effects of demaphy on economic growth (Dramani and Idossou 2016) through adequate economic and social policies. It should also be noted that the period of the first demographic dividend remains limited in time, and it is, therefore, a unique opportunity to boost economic growth, improve the well-being of people, and put the regions on the road of emergence (African Union, 2017)

V. CONCLUSION

Characterized by strong population growth, African countries, particularly those in West and Central Africa, experienced accelerated economic growth. The United Nations projection data showed that the African population grew at an annual rate of 2.6%, significantly faster than the world average, estimated at 1.7% between 1950 and 2014. This is explained by a drop in the mortality rate and a high fertility rate during this period. This phenomenon, better known as the demographic transition, has led to accelerated economic growth in other parts of the world, especially East Asia. These countries have taken advantage of their demographic transition to accelerate their growth and take advantage of the famous "demographic dividend." It is Africa's turn to seize this opportunity, hence the purpose of this paper, which aims to analyze demographic dividend profiles in West and Central Africa in particular.

The methodology based on the National Transfer Accounts (NTA) has made it possible to highlight the demographic dividend profiles in West and Central Africa. The approach resulted in analyzing the life cycle evolution, the support ratio, and the demographic dividend.

This methodology confirmed our expectations regarding the situation of the demographic dividend in West and Central Africa. First, the analysis at the aggregate level of the life cycle has shown a very high youth deficit in West and Central Africa despite the surplus generated in the age group 29-61. For the support ratio, the results showed a downward trend ranging from 49% to 39% in 1950 and 2007, respectively. In 2017, the economic support ratio was 42%, i.e., 42 actual workers supporting 100 actual consumers. It should be noted that this ratio began to grow in the 1990s in West Africa and the 2000s in Central Africa. In 2050 the projection is estimated at 49%, i.e., 49 actual workers per 100 actual consumers in the two regions. This situation, even if it is supported by the strong demographic and economic growth of West Africa, demonstrates that the window of opportunity for the demographic dividend is already open in these two regions.

Our simulation thus proved the existence of a potentially significant demographic dividend provided that the booming working-age population can take up lucrative jobs to boost savings and, subsequently, investment. For this, governments will have to demonstrate an unwavering commitment to education and the maintenance of stable and favorable economic and political conditions.

The task is tough, but the benefits are still positive. The impact could be even stronger if the demographic phenomenon is accompanied by strategic investments in areas such as education and health in particular. The implementation of economic policies and good governance could also create jobs among the youngest, thanks to increased investments in the driving sectors of the economy. Finally, these policies can promote trade to ensure access to international markets, create a secure environment, and encourage foreign direct investment.

Thus, the dividend obtained will depend on the efficiency of public policies implemented. The quality of these policies will depend not only on the level of resources mobilized but also on the adequacy of policies in the national context. Rigorous monitoring is therefore necessary, and to ensure this, the national capacity for dividend analysis will also play a key role. The demographic dividend will thus provide the emergence of Africa.

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