

# **Reaping the benefits of demographic dividends in Sub-Saharan African countries: when are their windows of opportunity and what is different compared to experiences elsewhere?**

*Elke Loichinger<sup>1</sup>*

<sup>1</sup> Federal Institute for Population Research (BiB, Wiesbaden, Germany)

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## **Abstract**

An essential precondition for reaping the benefits of a demographic dividend is a decline in mortality and the subsequent decline in fertility. During this intermediate phase of the demographic transition, resources are freeing up that can be invested in economic development or family welfare. While the factors and circumstances that led selected Asian and Latin American countries to benefit from a change in their populations' age structure are well documented, the factors that are likely to allow African countries to benefit from the demographic transition are much less clear. The aim of the present study is twofold. First, to calculate the window of opportunity to benefit from changes in populations' age structure for each Sub-Saharan African country. This will be based on data for consumption and labor income from the National Transfer Account (NTA) project in combination with data for population projections. The second goal is to present a compilation of enabling factors that are likely to be the same as in other countries that benefited from a demographic dividend, as well as those that are likely to play a particular role in the Sub-Saharan African context. Expected similar factors are for example investments in education and the quality of institutions. Aspects that are different nowadays compared to the situation in the past will for example be changing global macroeconomic patterns as well as challenges related to climate change.

## **Introduction**

An essential precondition for reaping the benefits of a demographic dividend is a decline in mortality and the subsequent decline in fertility, as described by the demographic transition theory. During this intermediate phase of the demographic transition – characterized by a growing share of the working-age population, small number of elderly and a declining number of dependent children – resources are freeing up that can be invested in economic development or family welfare. However, changes in the age structure alone are no guarantee for higher productivity and accelerated economic growth; they create only the potential for it. It requires an enabling social and economic policy environment and investments so that the demographic dividend can be realized (Bloom, Canning and Sevilla, 2003). While the factors and circumstances that led selected Asian and Latin American countries to benefit from fertility decline and a change in their populations' age structure are well researched, the factors that will allow countries in Africa benefit from the consequences of the demographic transition are much less clear. A lot has been written about the potential of selected African countries (see e.g. Groth and May 2017), but given that fertility levels are currently still relatively high in most countries, it is hard to tell what exactly will allow these countries in a few decades to benefit from an increase in the share of their working-age population.

The aim of the present study is twofold. First, to calculate the window of opportunity for each Sub-Saharan African country. Second, to present a compilation of enabling factors that are likely to be the

same as in other countries that benefited from a demographic dividend, as well as those that are likely to play a particular role in the Sub-Saharan African context.

### **Data and research methods**

The window of opportunity where the population composition is advantageous for reaping a demographic dividend will be calculated for every Sub-Saharan African (SSA) country by combining data for population projections from the UN (World Population Prospects 2019) with data on labor income and consumption from the National Transfer Account network (<http://www.ntaccounts.org/>). While there are many approaches that have been used to estimate the window of opportunity based on demographic data alone, this one more elaborate since it includes data on actual economic behavior (Loichinger, Goujon and Weber, 2016; Mason et al. 2017). This means that it is not necessary to arbitrarily classify persons as dependent or not dependent, but that this classification is based on patterns of income and consumption.

Factors and circumstances that are deemed to have been responsible for the economic development of the Asian tigers as well as in the Latin American context are compiled based on a literature review. Additional factors that, as will be argued, are important to consider in the SSA context, are based on a literature review, contextual knowledge as well as the comparative analysis of relevant economic and social statistics.

### **Exemplary results and expected further findings**

This is a preliminary selection of the aspects and questions that deserve more attention and discussion when it comes to questions of reaping the demographic dividend in SSA countries (cf. also Bloom, Kuhn and Prettnner 2016):

- Evidence is increasing for the argument that part of the effect on growth that is commonly largely ascribed to changes in the population structure is actually a direct consequence of progress in educational attainment (Cuarema, Lutz and Sanderson 2014; Lutz et al. 2019). This would mean that public and private investments in education are even more important than often argued: they are not only important for increasing the human capital of the increasing share of the working-age population, but education per se is necessary for fertility decline and progressing along the demographic transition.
- What is the possible effect of inequalities within societies when it comes to benefitting from changes in age structures? Does the level of urbanization matter?
- The availability of natural resources (e.g. oil, specific minerals) can be a boon or a curse, depending how the revenues are used and who is benefiting from their investment. The situation in different SSA countries is very mixed in that regard.
- Where will the millions of jobs that are needed for productive engagement of the continents' large and growing number of persons of working-age come from? What's the role of digitalization?
- Human mobility between SSA countries and with the rest of the world has, depending on its magnitude, the potential to significantly affect SSA countries' population size and composition – not only by age but also by socio-economic factors like education. Given that migration usually increases with development, it can be expected that inter-African as well as migration between African countries and the rest of the world will generally increase.
- The global macro economy, demand for products and trade patterns are very different today compared to when the Asian tigers experienced their economic miracle. This likely opens up new opportunities, but also new challenges for African economies.

- The populations in many Sub-Saharan African countries are already experiencing the consequences of climate change, and while the vulnerability differs between regions and within countries, there is little doubt that the consequences will be felt even more severely in the future. What does this mean for progressing with the demographic transition and being able to benefit from the changing age-composition? The effects of climate change and environmental degradation on local living conditions may also contribute to internal as well as international migration, not least because of issues related to food security.
- Foreign direct investment patterns: there are many international players involved in selected SSA countries. What are the likely consequences of this for being able to harness the demographic dividend?

**Table 1: Selected factors that are evaluated in assessing the potential to benefit from a demographic dividend (more to be included in the final analysis)**

countries	share of women (age 20-24) with no education, 2015	share of women (age 20-24) with at least lower secondary education, 2015	share of men (age 20-24) with no education, 2015	share of men (age 20-24) with at least lower secondary education, 2015	Food security indicator: prevalence of undernourishment (2015-2017)	Income inequality, Gini coefficient	Vulnerable employment (% of total employment) 2017
Angola	48%	22%	24%	37%	24%	42,7	66,7
Benin	24%	20%	20%	36%	10%	47,8	88
Botswana	1%	85%	2%	81%	29%	60,5	15
Burkina Faso	63%	18%	50%	23%	21%	35,3	87,2
Burundi	23%	13%	12%	19%	-	38,6	92,4
Cameroon	17%	48%	12%	56%	7%	46,6	71,7
Cape Verde	1%	53%	1%	52%	12%	47,2	37,5
Central African Republic	16%	32%	6%	49%	62%	56,2	67,5
Chad	57%	11%	35%	28%	40%	43,3	91,5
Comoros	8%	50%	4%	47%	-	45,3	63,9
Congo	3%	42%	2%	52%	38%	48,9	74,9
Cote d'Ivoire	38%	24%	23%	35%	21%	41,5	73,3
Democratic Republic of the Congo	14%	41%	5%	68%	-	42,1	53,5
Djibouti	40%	29%	32%	34%	20%	44,1	39,1
Equatorial Guinea	2%	40%	2%	62%	-	-	35,7
Eritrea	40%	29%	32%	34%	-	-	46,3
Ethiopia	38%	18%	33%	21%	21%	39,1	88,2
Gabon	1%	48%	2%	50%	9%	42,2	32,2
Gambia	39%	41%	29%	52%	10%	35,9	71,2
Ghana	12%	62%	10%	70%	6%	42,4	66,1
Guinea	39%	25%	26%	43%	20%	33,7	90,1
Guinea-Bissau	31%	22%	14%	35%	26%	50,7	65,3
Kenya	8%	68%	7%	68%	24%	48,5	54,3
Lesotho	1%	47%	6%	33%	13%	54,2	59
Liberia	37%	31%	24%	45%	39%	33,2	77,7
Madagascar	17%	18%	15%	20%	43%	42,6	85,4
Malawi	15%	43%	11%	55%	26%	45,5	59,9
Mali	63%	13%	49%	22%	6%	33	87,9
Mauritania	41%	25%	36%	31%	11%	32,6	45
Mauritius	0%	82%	0%	73%	6%	35,8	16,2
Mayotte	0%	89%	0%	87%	0%	-	-
Mozambique	48%	26%	38%	33%	31%	54	84,6
Namibia	4%	62%	8%	54%	25%	61	25,3
Niger	60%	6%	40%	11%	14%	34,3	88,5
Nigeria	35%	46%	20%	65%	12%	43	80,4
Reunion	0%	89%	0%	86%	0%	-	-

Rwanda	3%	23%	5%	22%	36%	50,4	80
Sao Tome and Principe	2%	29%	2%	32%	10%	30,8	34,1
Senegal	41%	25%	36%	31%	11%	40,3	44,3
Seychelles	0%	90%	0%	88%	-	46,8	-
Sierra Leone	47%	26%	30%	39%	26%	34	87,7
Somalia	47%	22%	35%	31%	-	-	72,3
South Africa	1%	89%	1%	85%	6%	63	9,6
South Sudan	70%	16%	53%	28%	-	46,3	49,7
Sudan	35%	47%	27%	51%	0%	35,4	40,5
Swaziland	2%	63%	3%	62%	21%	51,5	19,1
Togo	23%	21%	10%	40%	16%	43,1	80,3
Uganda	7%	26%	6%	29%	41%	41	74,5
United Republic of Tanzania	8%	23%	9%	26%	32%	37,8	83,5
Zambia	10%	48%	7%	57%	45%	57,1	77,6
Zimbabwe	5%	76%	6%	75%	47%	43,2	65,7

Sources: Education data: Wittgenstein Centre for Demography and Global Human Capital, (2018). Wittgenstein Centre Data Explorer Version 2.0 (Beta) <http://www.wittgensteincentre.org/dataexplorer>; prevalence of undernourishment: FAO Food Security Indicators <http://www.fao.org/economic/ess/ess-fs/ess-fadata/en/#.XRY91Wes3-I>; gini coefficient and vulnerable employment: Human Development Databank <http://hdr.undp.org/en/content/human-development-index-hdi>

## Outlook

The analysis will reveal that the experience in SSA countries when it comes to the demographic transition and the potential to reap the benefits of the demographic dividend is in many aspects similar but also in several dimensions different to experiences elsewhere. The goal of this study is to understand these differences and to provide individual countries with the best possible assessment of what their prospects for benefitting from a changing age-composition of their population are. The varying position along the demographic transition and the subsequent varying timeframes for harnessing a demographic dividend between countries adds an extra aspect to this discussion.

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