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The Challenge of the Youth Bulge in Africa and the Middle East

Migration and The Brain Drain



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EXECUTIVE SUMMARY

By 2050, the population of Africa is expected to double, the proportion of people in their working age is projected to increase sharply and a “youth bulge”, namely a relatively large increase in the number and proportion of the population of youthful age, is rapidly forming beneath looming economic uncertainties. This indisputable fact exacerbates the issues of migration and the brain drain, as unemployment threatens African youth and rampant poverty and inequalities still cloud the perspectives of those living where sound structural change has yet to take place.

The lack of good quality job opportunities represents a severe challenge for Africa and the Middle East and, since many states fail to absorb the increasingly large youth population, more and more young people are resorting to migrating abroad permanently, since intra-Africa migration is often hindered by regional regulations on worker mobility. As many young people migrate towards Europe and America in search of better prospects, the “brain drain”, namely the migration of engineers, physicians, scientists and other very highly skilled and educated professionals, becomes a particularly compelling issue. While on the one hand, this greatly damages origin countries by removing the very people who could most help stimulate economic growth from local productive capacities, on the other hand destination countries rarely pay for the cost of training of the workforce they recruit and also offer subpar work contracts and conditions to those joining them. This imbalance hampers structural change and stunts economic development. It is, however, mitigated by the fact that diaspora communities regularly send home parts of their remuneration and acquire new skills while abroad, both of which have the potential to enrich origin country value chains.

Against this background, this report identifies three feasible strategies to tackle this phenomenon. While mandatory service in sensitive sectors is a viable option to deter early migration, networks for knowledge transfer and investment facilitation schemes should foster diaspora contributions to origin economies. Also, investments from donors should aim at job creation and labour productivity, thus facilitating the voluntary repatriation of those who have emigrated by fostering employment and increasing wages back home. Finally, in the cases of extreme brain drain, systems of quota for selective migration could be jointly considered by origin and destination countries.

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INTRODUCTION

This report has three primary objectives:

- a) To list the factors behind migration patterns using a comparison of age groups in the populations of the regions of Africa and Middle East;
- b) To review the effects of the migration of highly educated, skilled and talented individuals – brain gain vs. brain drain;
- c) Provide conclusions and possible courses of action.

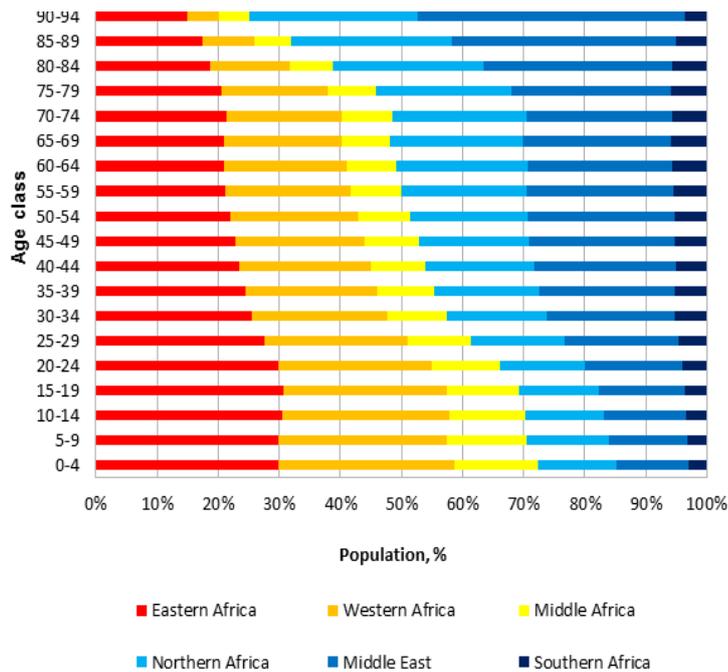
Firstly, it provides a comprehensive geographical overview of the issues of migration and the brain drain within Africa and Middle East. This is fundamentally connected to the phenomenon of the ever increasing youth bulge, which unquestionably exacerbates these issues. Secondly, it deepens the understanding of an individual's motivation to migrate by examining the push and pull factors, set out in two categories: economic and social. Finally, it investigates the economic, developmental and cultural contributions which migrants make to origin countries and compares them to the respective losses.

Data

This report uses data from the United Nations Department of Economic and Social Affairs (UN DESA), World Bank and International Monetary Fund (IMF), and the International Labour Organization (ILO). The various specific sources are: "Employment by sex, age and economic class", "Output per Worker (GDP constant 2010 US \$)" and "Unemployment rate by sex and age" from ILO, "Personal remittances received, current US\$" from World Bank and IMF, and population figures from UN DESA. The international sources are complemented with domestic sources, as in the case of 2018-2019 National Survey on International Migration in Morocco (*l'Enquête nationale sur la migration internationale 2018-2019* published by Le Haut-Commissariat au plan). Finally, economies are geographically gathered into Northern, Eastern, Western, Middle, Southern Africa and Middle East inspired by the UN M49 prepared by the Statistics Division of the UN Secretariat.

MIGRATION

The objective of this section is to review population data and highlight the geographical distribution of age groups in Africa and Middle East. The push and pull factors, in particular those relating to an individual's motivation to migrate, will then be thoroughly investigated.



Migration and the brain drain are not evenly distributed throughout the regions of Africa and the Middle East. This is intrinsically connected to the population growths being caused by the youth bulge. While Eastern, Middle and Western Africa account for more than half of all the under-35s, Northern Africa and Middle East host more than half of the over-65s. This imbalance implies that the migration and the brain drain are concentrated mostly in Western, Middle and Eastern Africa. Interestingly, Eastern, Middle and Western Africa have approximately

75% of the new-born children. While this suggests that the youth bulge is a fairly recent phenomenon, it also highlights that within the next two decades the challenges generated by the bulge, such as migration and the brain drain, are going to become increasingly more impelling, especially when considering the push and pull migratory factors on the ground.

Push and Pull Factors

The Push-Pull theory (Lee E., 1966) lays out the sociological ground for understanding an individual's motivation to migrate. It explains international migration on the basis of the differences between the levels of development between origin and destination countries. The latter usually have a set of attractive living conditions for immigrants who leave their origin countries because of less pleasant standards. Lee's analytical framework bases the decision to migrate on four key factors: area of origin; area of destination; intervening obstacles; and personal factors. This paper will only tackle the first of these, in particular the push factors in the countries of origin of highly skilled migrants from Africa and Middle East, and how it feeds the phenomenon commonly known as "the brain drain".

The law of intervening opportunities (Stouffer S. A., 1940) is another analytical framework that offers interesting insights into understanding the drivers of the brain drain. The central idea is that "The number of persons going a given distance is directly proportional to the number of opportunities at that distance and inversely proportional to the number of intervening opportunities". Such analysis is particularly relevant to highlight the fact that the brain drain can also happen intra-continently, as international migration of highly qualified persons can occur from one location to another within the borders of the same continent. In the case of Africa, an accurate illustration would be migratory flows towards hubs like South Africa and Northern African countries.

Against this background, an International Organization for Migration (IOM) report in 2020 (IOM, 2020) classifies economic reasons as the main driver for international mobility, a motivating factor which is particularly applicable in the case of African and Middle Eastern migration. Albeit the fact that the latter has been widely linked to the political instability of the region, because of the media coverage of irregular migration in the Mediterranean, and the Iraqis and Syrian refugees' crisis. However, the drivers of migration are deeper than the effects of conflict situations in recent years, explaining why, despite efforts and international development aid, origin countries of migrants still struggle to achieve satisfactory living standards, pushing their nationals to seek better opportunities abroad. Firstly, the African population is currently the fastest-growing in the world, with an estimated 2 billion people by 2050, of which half will be under 25, hence imposing tremendous challenges on African governments to meet the basic needs of all citizens. Africa is also the continent that hosts the biggest number of refugees and internally displaced persons, as of 2017. As far as Middle East is concerned, countries torn by conflicts and violence like the Syrian Arab Republic and Yemen became large sources of refugees with a variety of educational and professional backgrounds fleeing for their lives.

By omitting several of the underlying drivers of migration, the debate systematically fails to explain why the efforts spent in origin countries still struggle to translate into satisfactory achievements, and loses track of the future challenges exacerbated by the youth bulge. Additionally, while local governments do not meet the basic needs of all their present and future citizens, refugees and internally displaced persons from war-torn countries such as the Syrian Arab Republic, Libya and Yemen add additional pressure to the region (Mrabet E. A., 2018), as their economies are still not ready to accommodate them. It is challenging to exhaustively list the drivers of migration in Africa and Middle East since important economic and social disparities exist between them. However, there are general trends in the socio-economic context across the region and, in order to properly illustrate them, this report groups the main drivers behind migration into economic and social factors.

The 2019 National Survey on International Migration

The 2019 National Survey on International Migration lists the main drivers of migration from Morocco. Interestingly, people in rural areas are more willing to migrate than the ones living in urban areas, respectively 26.5% against 21.6%. Besides this, more men than women, young than old, single than married, educated than less-educated individuals expressed interest in international migration. In general, two main drivers are behind the decision to migrate: economic factors (73.5%) and social reasons (21.8%), leaving a mere 4.6% for all other motivations given by respondents. These shares strongly depend on gender. While economic reasons are mostly represented amongst men, social and family drivers motivate most of the women. Specifically, family reasons, such as reunification, marriage and separation, are addressed by 4.7% of female respondents against 0.1% of male interviewees. Additionally, economic motivations strongly depend on the place of residence: while they are addressed by 79% of people living in rural areas, city dwellers refer to them in 69.8% of the cases. Nevertheless, unemployment features as the main driver motivating migration, as 50.9% of unemployed people seriously consider the option of migrating out of the country.

Economic factors: income and unemployment

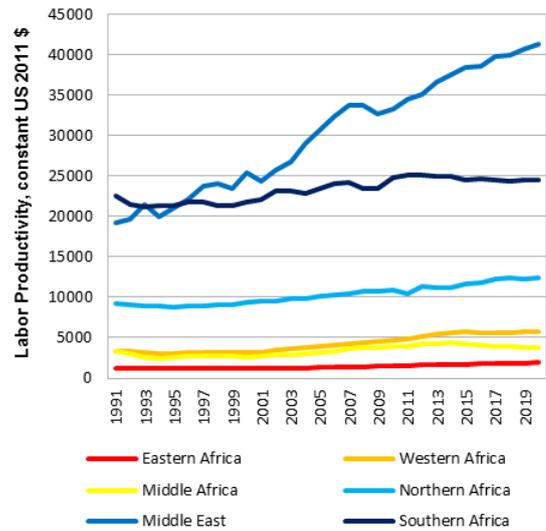
Income varies widely in Africa and Middle East. While Sub-Saharan Africa is predominantly composed of low income countries, Middle East and North Africa have a large share of high and upper middle income countries. Unfortunately, this fact clashes with the conflicts and political unrest that are the main push factor in some countries scattered across Middle East. In the table below, States are listed by their income¹, and conflict-torn countries are highlighted in red.

High income	Bahrain, Kuwait, Qatar, Mauritius, Seychelles, Saudi Arabia, United Arab Emirates, Oman, Israel.
Upper middle income	Gabon, Jordan, Lebanon, Libya , Iran, Iraq , Namibia, South Africa, Equatorial Guinea.
Lower middle income	Algeria, Angola, Benin, Egypt, Nigeria, Ghana, Sao Tome, Burundi, Guinea, Senegal, Cabo Verde, Guinea Bissau, Cameroun, Djibouti, Kenya, Sierra Leon, Lesotho, Somalia , Liberia, Comoros, Madagascar, Malawi, Morocco, Tunisia, Congo Democratic Republic, Congo, Tanzania, Togo, Mauritania, Côte d'Ivoire, Uganda, Eretria, Mozambique, Zambia, Zimbabwe, Kingdom of Eswatini, West Bank and Gaza, São Tomé and Príncipe, Cabo Verde.
Low income	Syrian Arab Republic , Yemen , Ethiopia, Niger , Gambia, Rwanda, Eritrea, Burkina Faso, Central African Republic, Chad, South Sudan, Sudan, Mali

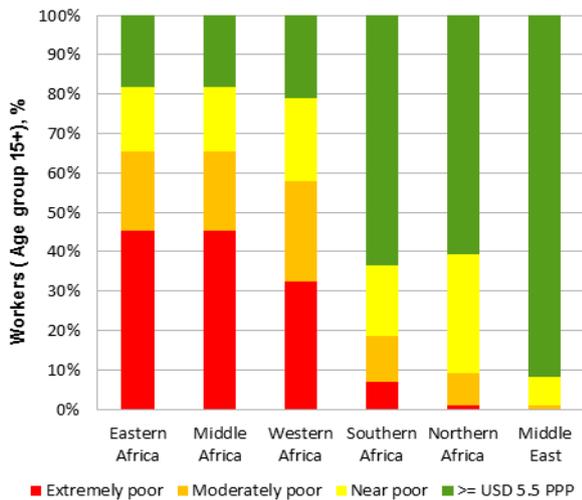
¹ World Bank Country Classification by Income Groups

<https://datahelpdesk.worldbank.org/knowledgebase/articles/378834-how-does-the-world-bank-classify-countries>

It is in this context that income levels are strongly influenced by labour productivity. The latter represents the total volume of output produced per unit of labour during a given time frame. In turn, it is strongly influenced by structural changes and favourable economic and institutional conditions. By defining wage levels, labour productivity is simultaneously a push and pull factor depending on its intensity as, generally, a rise (decline) in labour productivity generates an increase (decrease) in output, which in turn sets higher (lower) wages and income levels.



In fact, the standard microeconomic theory suggests that productivity and wages are tied in a proportional relationship where the first, considered exogenous, largely defines the latter, and one never exceeds the other. In Africa and the Middle East, labour productivity is not homogeneous: while in the last three decades Middle East witnessed its labour productivity rise dramatically, Western, Eastern and Middle Africa have seen below-average labour productivities, and Southern and Northern Africa constantly lead the African continent. By defining wages, labour productivity is one of the factors shaping the life of workers living in poverty (Fox L., Thomas A. and Haines C., 2017).

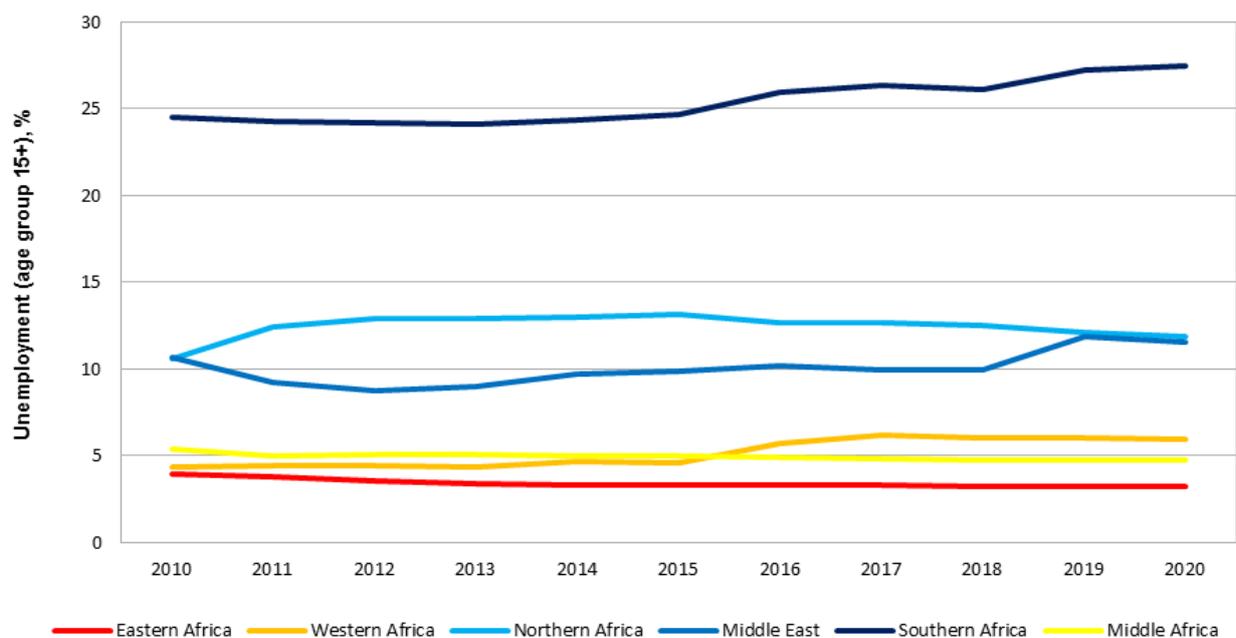


It should not be surprising that workers living in areas with low labour productivity, such as Eastern, Western and Middle Africa, find themselves below the poverty line. Conversely, people in Northern Africa and Middle East attain higher wages thanks to superior productivity. For this reason, the first economic factor determining migration is labour productivity (Sachs, 2016), as it defines migration patterns of workers migrating from Western, Eastern and Middle Africa towards Northern and Southern Africa, Middle East and beyond.

In this context, unemployment unevenly scourges Africa and Middle East, and shatters opportunities faced by migrants. In Africa and Middle East unemployment is at the highest where productivity soars, and this is somewhat unsurprising. In fact, employment growth is limited where aggregate demand does not rise in concordance with labour productivity, and this condition can even reduce employment (Ocampo JA, Rada C and Taylor L, 2009). This happens because the insufficient domestic demand leads developing countries towards structural

heterogeneity, namely stark differences in labour productivity between sectors, and overspecialization (UNCTAD, 2014), which together increase the risk of contracting the Dutch disease².

For this reason, Southern and Northern Africa and Middle East are characterized by high unemployment rates, floating between 10% and 29%, which hinder the opportunities of the working age population. Conversely, the economies in Western, Eastern and Middle Africa ensure high employment rates thanks to their labour intensive economies, but sacrifice workers' perspectives due to the negligible value-addition along domestic value chains. From the perspective of migrating youth, unemployment hampers intervening opportunities from blooming along the path. In fact, young skilled workers opt for endless travel as there might be no suitable employment at the desired wage along their migration path.



² The Dutch disease (Corden W. M. and Neary J. P., 1982) is a condition where a specific sector develops at the expense of all other sectors. Often, developing countries specialize in natural resources and neglect other sectors, such as manufacturing. This happens because domestic aggregate demand does not support (buy) local supply, and countries focus on their comparative advantages in international trade. When this happens, the average labour productivity might increase, but structural heterogeneity confines employment to a small number of relevant sectors, most often extractive industries. As consequence, unemployment can either remain constant or slightly decrease as other sectors die out, and domestic aggregate demand remains depressed as the bulk population is increasingly marginalized from the relevant productive processes.

Social factors: multidimensional poverty, inequality and weak institutions

Along with the pushing economic factors leading to migration from Africa and Middle East, other dimensions also play a relevant role in determining people's movement patterns. For the sake of time and space restrictions, this report overviews poverty, inequality and weak institutions only, without excluding the importance of other factors, such as the consequences of climate change, political instability and violence and ethnic conflicts.

Adding to low income, multidimensional poverty includes the limited access to education, health services, social protection, clean water, sanitation and electricity,³ and the UN DESA closely links it to rural populations, as 79 % of the world's poor live in rural areas. In fact, in 2015, 736 million people lived on less than \$1.90 a day, of which 413 million live in Sub-Saharan Africa, and the world's average poverty rate in that year was 13% while that in Sub-Saharan Africa stands at 41%⁴. Similar to poverty, inequalities in Africa are interlinked and multidimensional. As in many Sub-Saharan societies, inequalities are driven by race, ethnicity, gender, religion, class and wealth, amongst other factors. In the absence of appropriate levels of public service delivery, inequalities are often exacerbated by the disparities of the parents' education and wealth. For example, in countries like Nigeria, the most populous African country, a child from the poorest quintile is twenty-three times less likely to attend school than a child from the richest. Poverty levels and multidimensionality are detailed further in Annex I.

Moreover, weak institutions and corruption is another aspect that hinders the potential of African countries, as they impair trust in public institutions and deter foreign investment on the continent. In 2019, Sub-Saharan Africa was the worst scoring region in terms of Corruption Perceptions Index (CPI)⁵, with the Seychelles leading the fight against corruption, followed by Botswana and Cabo Verde, while the bottom scorers are Somalia, South Sudan and Sudan.

Obstacles to effective intra-African skills mobility

The poor application and, sometimes absence, of regulation on workers' mobility in Africa hinders the opportunities that can be brought by intra-continental migration, particularly during periods of economic crisis or political tensions, when reticence towards interregional migration tends to expand. For example, the National Preference - the fact that many countries, not only African, favour the recruitment of their own nationals as a way to curb unemployment – reduces the likelihood of effective skills mobility in the region. Hence, even if the brain drain stops, African countries will not be able to take advantage unless a continental or regional agreement is developed to ensure the protection of workers' rights.

3 <https://www.brookings.edu/blog/africa-in-focus/2018/11/21/figure-of-the-week-understanding-poverty-in-africa/>

4 <https://www.worldbank.org/en/news/feature/2018/12/21/year-in-review-2018-in-14-charts>

5 <https://www.transparency.org/en/cpi>

In the absence of a continental mobility agreement, migration within African borders varies between regions. In 2017, three African regions accounted for more than 85% of intercontinental migration. These are West Africa with 40%, followed by East Africa with 34% and Central Africa with less than 12% (UN Population Division, 2018). These regions function through regional economic communities, respectively the Economic Community of West African States (ECOWAS), the East African Community (EAC) and the Economic Community of Central African States (ECCAS). Amongst them, ECOWAS was the first to implement legally binding instruments for its member states to commit to the free mobility among its members, although most of mobility was towards Nigeria, which is considered a migratory hub.

However, these efforts are not without frictions. In 1984, Nigeria expelled more than 2 million African workers despite the fact that it was one of the signatories of the ECOWAS Protocol on the Free Movement of Persons, Right of Residence and Establishment. Similarly, in the Southern African Development Community (SADC), South Africa expresses reticence to the promotion of interregional mobility because of migratory pressures from other African countries.

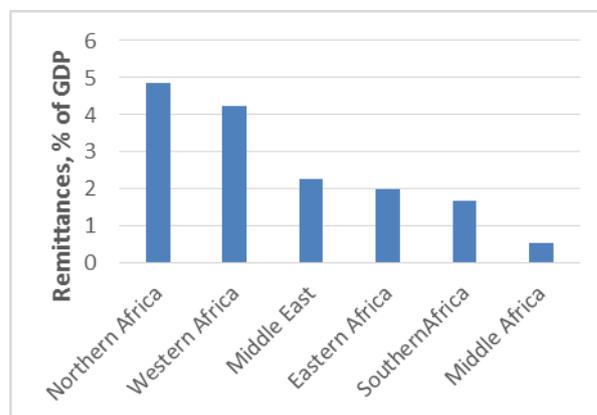
BRAIN GAIN vs BRAIN DRAIN

As mentioned before, media coverage focuses on irregular migration from Sub-Saharan Africa and Middle East only, and overlooks all the other forms of mobility. In fact, a more subtle but still important kind of migration is taking place. As highly qualified migrants seek opportunities abroad to improve their social and economic wellbeing, this type of movement of persons undermines the development of origin countries by draining important skills. In fact, highly skilled individuals, regardless of their origins, are valuable assets in all countries, and they are often offered attractive packages in countries abroad which origin countries find difficult to equal. Tier I Visas for Highly Skilled Migrants in the UK, H-1B Visas in the United States of America, Carte Compétences et Talents in France, are all illustrations of how developed countries attract highly qualified and skilled persons. For this reason, this report highlights the gains and losses stemming from this particular form of migration, and highlights continental strategies to repatriate qualified migrants and enhance knowledge transfer.

Gains

On the one hand, migrants make important economic, developmental and cultural contributions to origin countries. Remittances are private monetary transfers that a migrant makes to the country of origin, including investments made by migrants in their home countries. They are believed to have a positive impact on poverty reduction and development in origin countries, substantially contributing to their economic development.

Studies also find that remittances significantly reduce poverty in origin economies (Anyanwu J.C., 2010), but results are more reliable for countries where remittances make up 5% or more of GDP (UNCTAD, 2008). Since skilled workers emigrate abroad along with their talents accrued through formal education, it is estimated that remittances per capita should be at least 5%⁶ of the GDP, even though other studies raise this figure to 30% (Esterly W. and Nyarko Y., 2008), to fully recover the cost of their education originally sustained by origin economies. Against this background, remittances contribute to the creation of new social assets, services and physical community infrastructures such as schools, health centres, roads and other community projects (Ghosh, 2006; Sorensen and Pedersen, 2002), but empirical analysis finds that origin countries experienced a weaker effect of migration on structural transformation. The reasons encompass, but are not limited to, loss of skilled labour and lower tax revenues, structural constraints to economic development as well as regulatory hurdles such as the high costs of remittances and of recruitment services. Together, these barriers hinder the benefits of migration on sustainable structural transformation in origin economies (UNCTAD 2018).

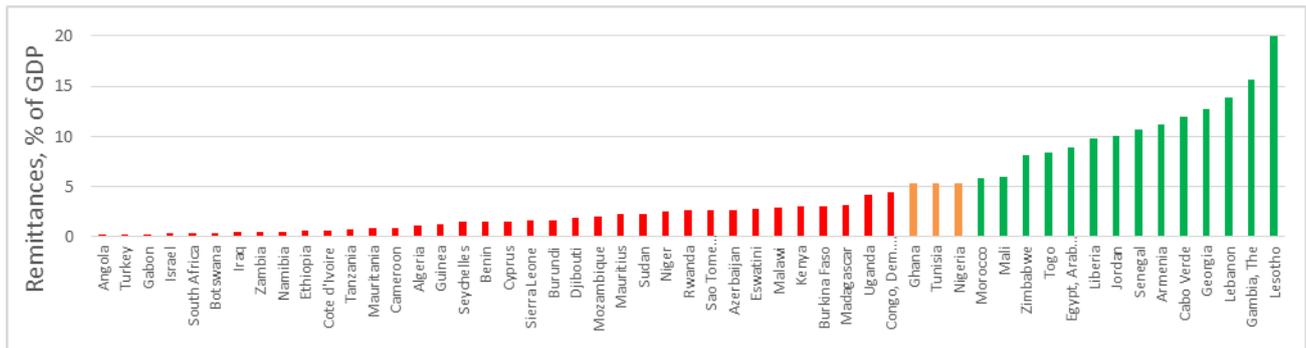


In Africa and Middle East remittances flow mostly towards Northern and Western Africa and they only residually target Eastern, Southern and Middle Africa, and Middle East. Specifically, while remittances in Northern and Western Africa hover around 4.5% of their GDP, in Middle Africa they reach a minimum of 0.54%. However, this evidence is characterized by informal money transfers and data gaps which, together, imply downward estimates,⁷ especially in the cases of Eastern and Middle Africa.

⁶ The average government expenditure on education is around 5% of GDP (World Bank, Government expenditure on education, total, % of GDP)

⁷ Missing countries are Bahrain, Central African Republic, Chad, Congo (Rep.), Equatorial Guinea, Syrian Arab Republic, Eritrea, Iran, Libya, Yemen (Rep.), Somalia, South Sudan and United Arab Emirates.

At the national level, remittance ratios over GDP are highly volatile, ranging from a maximum of 20% to a minimum of 0.003% in Lesotho and Angola, respectively. Even though the education repayment rate of 5% is met in less than half of the cases only, in more than twenty other countries remittances are not even enough to significantly impact poverty, as their share is lower than 5%. This has a twofold implication: while remittances are often insufficient at combating poverty, they are even less adequate at repaying the loss of talented people emigrated abroad.



This picture is somewhat expected and further aggravated by high remittance transfer fees: as the cost of sending money to Africa remains relatively high, the cost of sending remittances within the continent is far higher (IFAD, 2009) and intraregional corridors are amongst the costliest (World Bank, 2018). Such high money-transfer fees not only hit migrants and their families hard, but also hamper regional integration processes and hinder the contribution of diaspora communities to origin countries.

Additionally, knowledge transfer is often referred to as one of the gains from migrating people. Knowledge is regarded as an important driver of productivity or economic growth and an important tool for development, as human capital is a fundamental determinant of a country's absorptive capacity. The lack of specialized knowledge and skills constitutes a major limitation in developing country contexts. In fact, the underutilization of skilled persons in developing countries makes the benefits from reverse capital flows smaller, as the success of technology transfer and its spill overs depend critically on economic conditions and the level of development of productive capacities in home countries (UNCTAD, 2007). It compounds with the lack of productive capacities which, negatively impacting labour productivity, determines wages which are a long way from meeting the acceptance of expatriates, whose skills are often mismatched with what is domestically needed and what is developed abroad. Therefore, expatriates often develop skills far from those required to fulfil development priorities back home, since foreign countries match the skill sets of migrants to their own development strategies through selective migration regulations. For this reason, professional opportunities beyond the borders may not always develop the skills required by productive processes back home.

Losses

On the other hand, the brain drain causes losses to the qualified workforce in origin countries and translates into lack of man-power in industry, medicine, IT and other strategic fields. This not only exacerbates differences between origin and destination countries, but also further incentivizes migration of talented individuals, widening the sending-receiving country divide. However, there is no consensus over the real magnitude of the brain drain in origin countries and, while some observers argue that in most cases the skills leaving their countries would not have been absorbed into the job market anyway, other analysts highlight that skilled workers often leave their jobs opting for compelling opportunities abroad.

Similarly, students also contribute to the brain drain as they often settle and work in host countries. Nevertheless, origin economies invest up to the 30% of government expenditure in the education of highly qualified migrants. For example, Lebanon spends around 5.9% and Tunisia invests as much as 25.3% on the education of its youth. Against this background, the French Agency for Development (AFD) warns that, in 2017, 17% and 35% of graduates left Lebanon and Morocco, respectively. For example, 600 engineers leave Morocco annually, a figure which equals the graduates of four engineering schools in Morocco, while health practitioners are leaving Tunisia in their droves.

The costly migration of Health Practitioners

In Sub-Saharan Africa, frequent migration and lack of infrastructures have led to scarcity of doctors in many countries and this is particularly alarming as, in the context of the current COVID19 pandemic, the competition to attract health workers is at its peak.

For instance, Malawi struggles to keep its doctors because of limited training facilities, and often this leads health professionals to train and settle abroad. Unfortunately, Malawi is not the only African country facing the challenge of keeping highly qualified medical staff. As in 2004, Ghana lost more than £35 million spent on the training of health practitioners who left for the UK, which saved £ 65 million on training of doctors thanks to selective migration. Tunisia is another prominent example: recently, the Ministry of Health contacted nearly 3,000 Tunisian doctors working abroad to encourage them to return to the country, at least temporarily, in solidarity with the authorities in their fight against the coronavirus. Health practitioners replied protesting lack of career evolution as, since 2012, tensions have been mounting between them and the Tunisian government.

In fact, investing in training facilities along with increasing the mandatory service and training is allegedly cost effective when compared to sending doctors to specialize abroad. However, such investment requires governments spending up to 3.5 times more for the training of general practitioners. This is compounded by the reluctance that some doctors have towards national programmes, particularly when no mandatory public service period is required.

CONCLUSIONS

As the youth bulge is rapidly forming within African and Middle Eastern borders, development plans fail to address the root causes behind the movement of people within and beyond the regions. These root causes are complex and multidimensional, spanning within and beyond the realms of economic and social factors, and often depicting a grim environment to live in. While unemployment and unsatisfactory wages are the main drivers behind migration, weak institutions, inequality and poverty add to other exacerbating factors, such as climate change, political instability, violence and ethnic conflicts. All these factors contribute to the movement of talented and bright people, and often this specific kind of migration hinders further the development plans of origin countries.

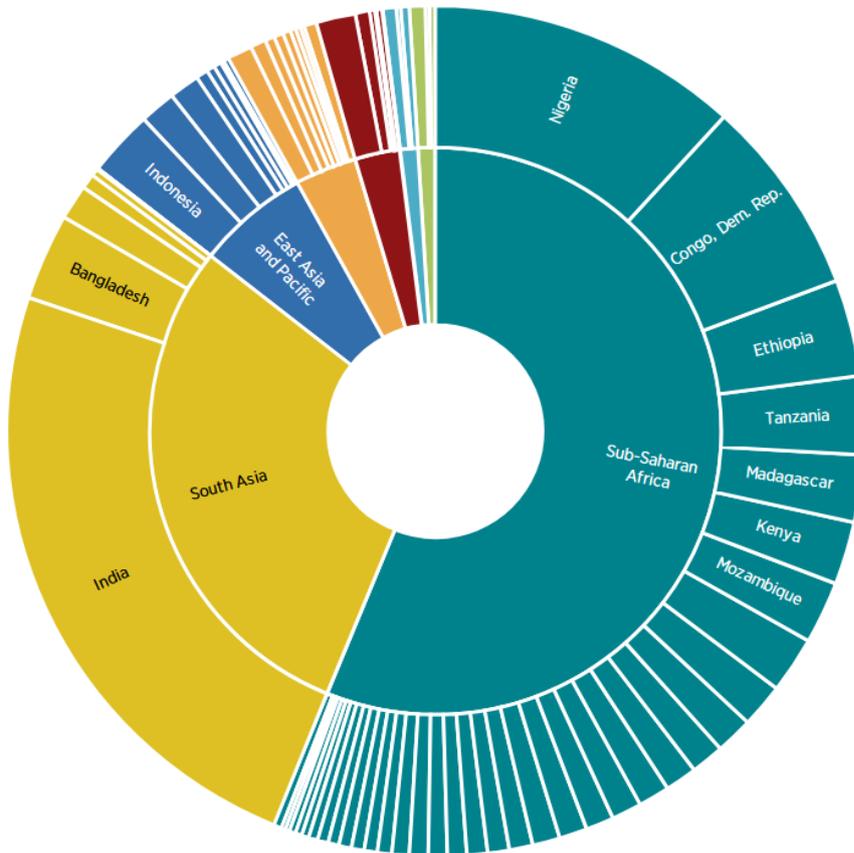
In fact, of all types of mobility, the migration of highly qualified and educated youths proves to be the most costly. The brain drain causes losses in the qualified workforce in origin countries and translates into obstacles in sectors strategic to the structural change of origin economies. Moreover, remittances do not always make up 5% of the GDP per capita necessary to recover the education and training costs sustained by origin countries. Additionally, repatriation schemes often fail, as prospective repatriates do not always find suitable employment opportunities back home due to lack of economic development. Now more than ever, holistic strategies curbing the brain drain are deemed necessary, even though migration remains a personal choice and there are no easy leverages to relieve the impact of this phenomenon.

A few possible courses of action are now outlined. While mandatory service in sensitive sectors is a viable option to deter early migration, priority should also be given to engagement with the diaspora abroad through knowledge transfer networks and investment facilitation schemes. Additionally, as most of the destination countries are also donors, their investment should aim at job creation and labour productivity, thus facilitating voluntary repatriation by fostering employment and increasing wages back home. Finally, in the cases of extreme brain drain, systems of quotas per category could be used to limit the effect of national selective migration policies, and this approach could be jointly considered by origin and destination countries.

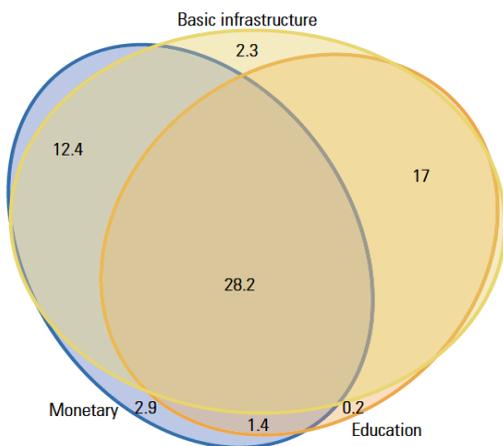
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ANNEX I



Source: PovcalNet (online analysis tool), World Bank, Washington, DC, <http://iresearch.worldbank.org/PovcalNet/>.
 Note: The inner circle is proportionate to the percentage of the total population of poor people living in each region. The outer circle is similarly proportionate, but at the country level. The 10 countries with the most poor people in the world are listed.



Source: Estimates based on the harmonized household surveys in 119 economies, circa 2013, GMD (Global Monitoring Database).
 Note: The diagram shows the share of population that is multidimensionally poor, and the dimensions they are deprived in. The size of the ovals is scaled such that they represent the respective proportions in each of the regions. For example, the numbers in the blue oval for Sub-Saharan Africa add up to 44.9 percent, which is the monetary headcount ratio. Adding up all the numbers for Sub-Saharan Africa results in 64.3 percent, which is the proportion of people that are multidimensionally deprived. (Numbers may not add to totals because of rounding.)

