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Migration Patterns, Trends and Policy Issues in Africa

Abebe Shimeles



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Migration Patterns, Trends and Policy Issues in Africa

Abebe Shimeles

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Abstract

This paper documents the pattern, trend and determinants of migration in Africa using rich cross-country migration matrix data and household surveys from Burkina Faso, Ghana, Nigeria and Senegal. Results show that despite increase in the absolute number of migrants, Africa, particularly Sub-Saharan Africa has one of the lowest rate of emigration in the world and a majority of them migrate to other African countries signifying the importance of south-south migration. Poorer countries generally have lower rate of emigration

and higher rate of intra-African migrant. Bad socio-economic conditions generally seem to lead to higher rate of emigration by highly skilled individuals. Generally, migration is driven by motives to improve livelihoods with notable evidence on changes in labor market status. Often, self-employed or unemployed émigré ended up in wage employment. The paper outlines policy issues emerging from the migration trend in Africa.

Key Words: *emigration, immigration, trans-African migration, intra-African migration, Labor market adjustments*

JEL classifications: J61, J62

Introduction

Migration and its role for development received substantial interest recently that sparked a large body of empirical studies to identify and provide evidence on the channels in which the two are interlinked. Resurgence of interest is further fuelled by the global economic and financial crisis that crippled labor markets across major destination countries in the OECD where the midterm outlook is still fragile. UNDP's HDR(2009) focused on migration issues and OECD now has a dedicated annual publication on Migration Outlook where in its 2009 edition acknowledged that migration is a topical issue among the general public and noted that migrants in OECD countries bore the full force of the economic slowdown.

Africa is known for its long history of migration within and beyond the vast continent. It is estimated today that the number of people with African descent that live outside of the continent is close to 140 million, most in the Western Hemisphere (Shinn, 2008). The bulk of these immigrants lost their ties altogether with the country of origin. Migrants that left their country in recent decades are able to keep in close contact with their relatives and maintain economic, social and political relationship with the country of origin mainly due to the rapid pace of globalization and continuously improving, cheaper communication possibilities a fact that also contributed to the debate on the role of migration for development (Page and Plaza, 2005).

There is mounting evidence from recent studies suggesting that migrants, particularly from Africa are a reservoir of great potential that can be harnessed and unleashed to transform the development prospect of many countries and assist in the fight against poverty, hunger diseases and human suffering¹. It is documented that migrants from Africa, particularly those from poor areas generally send higher remittances to their relatives that served as a countercyclical instrument during negative shocks². Nations throughout Africa receive a significant share of their foreign exchange from remittances, which is stable and predictable (Ratha, 2003). Possibilities for transfer of skill acquired over the years by return migrants could also create a significant externality to skill starved economies of most countries in Africa. It is also acknowledged that most migrants face challenges that are complex in nature and magnitude that requires special attention and policy coordination.

Most importantly, the change in demographic structure in both origin and destination countries in the decades ahead is expected to generate huge labor market imbalances at a global level that could create substantial impetus for migration. Projections indicate that global labor deficit could reach to the tune of 200 million in the next four decades of which only 15% could be covered through migration amplifying the risk of sluggish growth, strain on the fiscal balance and welfare of the elderly for most destination countries. Migrant sending countries will have labor surplus particularly among the young and less educated who will be hard pressed to emigrate (Koettl,

¹ See Ratha et al (2008) on the role of migrant resources to finance development in Sub Saharan Africa

² This is particularly very important in settings where the persistence of shocks is a major source of poverty. Studies from panel data in Africa have shown that close to 50% of household poverty is caused by shocks and in most cases households take very long time to recover once exposed to it (Bigsten and Shimeles, 2008, 2010; Dercon 2005).

2010). Attaining a balance in the respective regions becomes a serious policy challenge in the years ahead. This paper provides a perspective on patterns and trends of migration in Africa by focusing on who is likely to migrate where and why and establish stylized facts that may be useful for policy making.

The paper relied on a number of cross-country and household surveys to capture the pattern and trend of migration in Africa. The main data set used is the bilateral migration matrix compiled by the World Bank (2010a) which provides stock of migrants by origin as well as destination. Other macro data sets used in this study include migration data provided by the United Nations Population Division (2009), the Dockier and Marfour (2005) data on emigration to OECD countries and the Human Development Report (2009). In addition, the Ghana Living Standard Measurement Survey of the 2005 round as well as household migration survey for six African countries collected in 2009 through the African Migration Project was used³. The migration data collected from the household surveys consist of unique migration modules that has not been available in any survey to this date, such as socio-economic characteristics of migrants before and after migration took place, cost of migration, remittances and other issues.

The next section presents migration trends, and patterns in Africa since the 1970s. Section 3 discusses correlates of cross-country variations in the rate of emigration in Africa and some underlying factors. Section 4 provides recent evidence on the determinants of migration based on household surveys. Section 5 highlights policy challenges and Section 6 summarizes and concludes the paper.

Movement of people within and outside of Africa: trends and patterns

Trends and patterns of emigration and immigration

Emigration

The earliest attempt to document migration pattern in Africa pointed out that Africa, particularly Sub Saharan Africa, revealed huge wave of human movement that even exceeded the global average (Russel et al 1990). Nevertheless, while emigration from Africa increased substantially in the last decades in absolute terms incidence of emigration or the proportion of stock of emigrants in total population of the country of origin, is currently one of the lowest in the world though with marked variation across countries. According to the recent version of the bilateral migration matrix data by World Bank (2010)⁴ it is estimated that in 2010 the number of people living in countries other than their birth place would be around 215 million of which 31 million

³ The household survey on migration in 2009 was conducted in Burkina Faso, Kenya, Nigeria, Senegal, and South Africa. At the time of writing this paper surveys for Burkina Faso, Nigeria and Senegal were available.

⁴ For details of this data see World Bank (2010), "Migration and Remittances Fact Book 2011". Data on migration certainly is a serious problem in general and it is relatively acute in the case of Africa. Even though periodic household surveys have begun to appear since the 1990s rarely were these survey instruments used to capture incidence of emigration, particularly international emigration, except that of the Ghana Living Standard Measurement Survey of 2005. A comparison of emigration rate from the household survey for Ghana (6%)-Adams(2009)- with the data from the bilateral matrix (4.2%) indicate some close parallel with the former understating slightly the migration rate.

are from Africa, which represents respectively 3.% and 2.5% of total population (Table 1). Of the 31 million emigrants from Africa, about 2.3 million are recognized as being refugees displaced mainly by war, drought or other forms of natural disasters (UNPD, 2010). Certainly this figure suggests a major improvement compared with the situation reported in the 1990s with five million refugees or early 2000 where 1 out of every 5 emigrant was a refugee (Hatton and Williamson, 2003; Lucas, 2006). One could attribute the decline in the number of refugees partly to the decline in the frequency of coups, guerilla insurgency, government collapse, and incipient unrest that could lead to major civil war, factors known to significantly generate a flood of refugees in Africa.⁵

Table 1: Emigrants as a percent of population in country of origin in selected regions: 2010

Region	Emigrant stock (millions)	population (millions)	Emigrants/population (percent)
Sub Saharan Africa	21.9	861.6	2.5
Northern Africa	8.7	170.1	5.1
Africa	30.6	1,031.7	3.0
Latin America	30.2	581.0	5.2
East Asia and Pacific	21.7	1,974.4	1.1
Europe and Central Asia	43.0	403.7	10.7
South Asia	26.7	1,644.0	1.6
World	215.8	6,908.7	3.1

Source: author's computations

The trend in net migration overtime reflects the tumultuous history of the continent, particularly that of Sub Saharan Africa where migration rates have fluctuated widely in the last three decades and a half for most countries⁶. Understandably countries that experienced large scale conflict and war contributed to the periodic instability in the net movement of people from Africa⁷. The last five years exhibited some easing of the average net migration as well as its variability across countries (Appendix Table 5). It needs to be emphasized that official data on migration in Africa, particularly that of Sub Saharan Africa significantly understates the actual movement of people for a number of reasons including inaccurate, infrequent and inconsistent recording by officials of movement of people across borders.

Even though Africa has on the average one of the lowest rate of emigration, there is significant variation across countries. There are some countries with emigration rate that far exceeds the global average. For example, countries with relatively high rate of migration (>10% of population) are Cape Verde, Equatorial Guinea, Seychelles, Sao Tome and Principe, Lesotho and

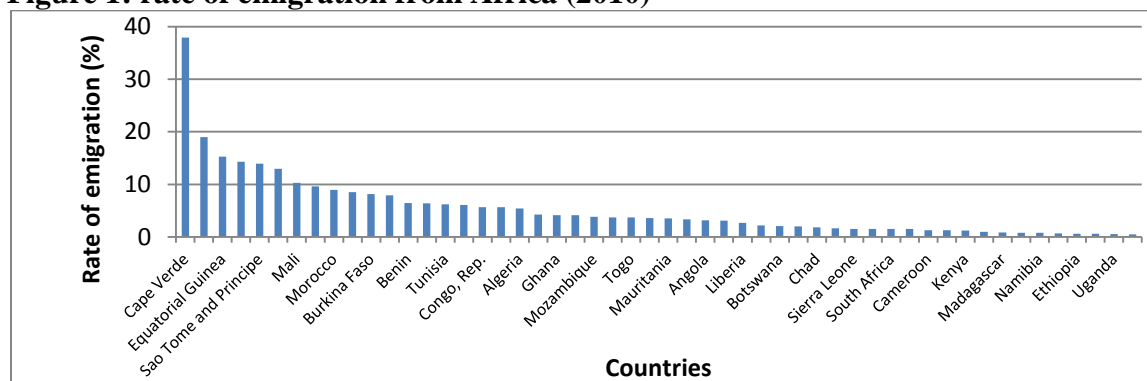
⁵ Hatton and Williamson (2003) reported that 45 refugees per one thousand in Africa was created by coups, and eminent civil war could lead also to 64 refugees per one thousand. Other important factors also include insurgency and government crisis.

⁶ The data for net migration is based on residual estimates from demographic accounting exercises compiled by United Nations Population Division using census data.

⁷ Hatton and Williamson (2003) estimated a regression model to capture determinants of net migration for Africa. Their findings suggest that movements of refugees, labor market conditions, specifically the wage gap and the supply of labor, particularly among the young explain a significant part of variation in net migration rates in Africa.

Mali. One common feature of these countries is that they are relatively small in comparison to the average African country in terms of population and resources, and tend to have higher rate of international mobility given narrow or limited livelihood opportunities and dependency on a specific commodity for trade (Docquier and Schiff, 2009). Other extenuating factors are also at play for such countries as Eritrea where protracted war for over three decades contributed to a massive wave of refugees that eventually settled indifferent parts of the world (Figure 1).

Figure 1: rate of emigration from Africa (2010)



Source: author's computations based on the Bilateral Migration Matrix data

A marked feature of movement of people across the globe is that at least half of it takes place within the same continent while the other half is transcontinental, except for emigrants from Latin America where the majority ended up in North America (Table 3)⁸. For Africa, the intra-Africa emigration rate is about 52%⁹ which is lower than Europe (59%) and Asia (54.7%). However, for countries from Sub Saharan Africa this figure is close to 65%, which represents the largest intra-continental or south-south movement of people in the world. According to the bilateral migration data of the World Bank (2010), out of the 29 million stocks of emigrants from Africa in 2010, about 23% are from North Africa and the rest originate from Sub Saharan Africa. More than 90% of the emigrants from North Africa generally head to countries outside of Africa (see Table 4a and Table 4b for details). Generally, the intra-African migration is driven by the complexities of the history of state formation where colonial borders overlooked often linguistic and ethnic commonalities, as well as waves of internal and cross-border conflicts. It also reflects migration in search of job opportunities across neighboring countries.

⁸ See also HDR(2009), Shaw (2007) and Page and Plaza (2006) for useful discussion on the intra-African migration in Africa

⁹ The rate of intra-Africa emigration reported in HDR(2009) and Table 4b here may be slightly different due to differences in country classifications.

Table 3: Origin and destination of migrants by region

Source Region	Destination Region					
	Africa	Asia	Europe	Latin America	Oceania	Other Regions
Africa	52.6	12.5	28.9	0.2	0.9	4.9
Asia	1.7	54.7	24.5	0.5	2.2	16.4
Europe	2.5	16	59	2.5	4.6	15.4
Latin America	1.1	5.1	10.3	13.4	0.3	69.8
Oceania	1.4	8.7	20.1	0.6	46.7	22.5

Source: HDR(2009)

It is clear from Table 4a¹⁰ that in most cases cross border migration dominates movement of people within the continent, particularly among migrants from West Africa where close to 90% of intra-African migration took place within the same sub-region. The other hotspot for migrants is Southern Africa, where economy of South Africa is evidently the powerhouse in attracting miners, and other potential job seekers from neighboring countries as well as from far away countries in East Africa where 27% of migrants from that region headed for Southern Africa. It is also interesting to note that close to 39% of all emigrants who remained in Africa headed to West Africa, followed by East Africa. North Africa stands out as an exception where few people migrate within the same region, rather most migrated to East Africa or Central Africa.

Table 4a: Sub-regional emigration matrix for Africa: 2010 (%)

Origin	East Africa	Central Africa	North Africa	Southern Africa	West Africa
East Africa	46.6	14.8	12.1	26.5	0
Central Africa	30.2	50.3	5.7	6.5	7.2
North Africa	51.2	26.9	20.4	0	1.5
Southern Africa	34.6	0.1	0	65.3	0
West Africa	3.2	6.6	0.7	0	89.5
Total	26.5	14	6.4	14.6	38.5

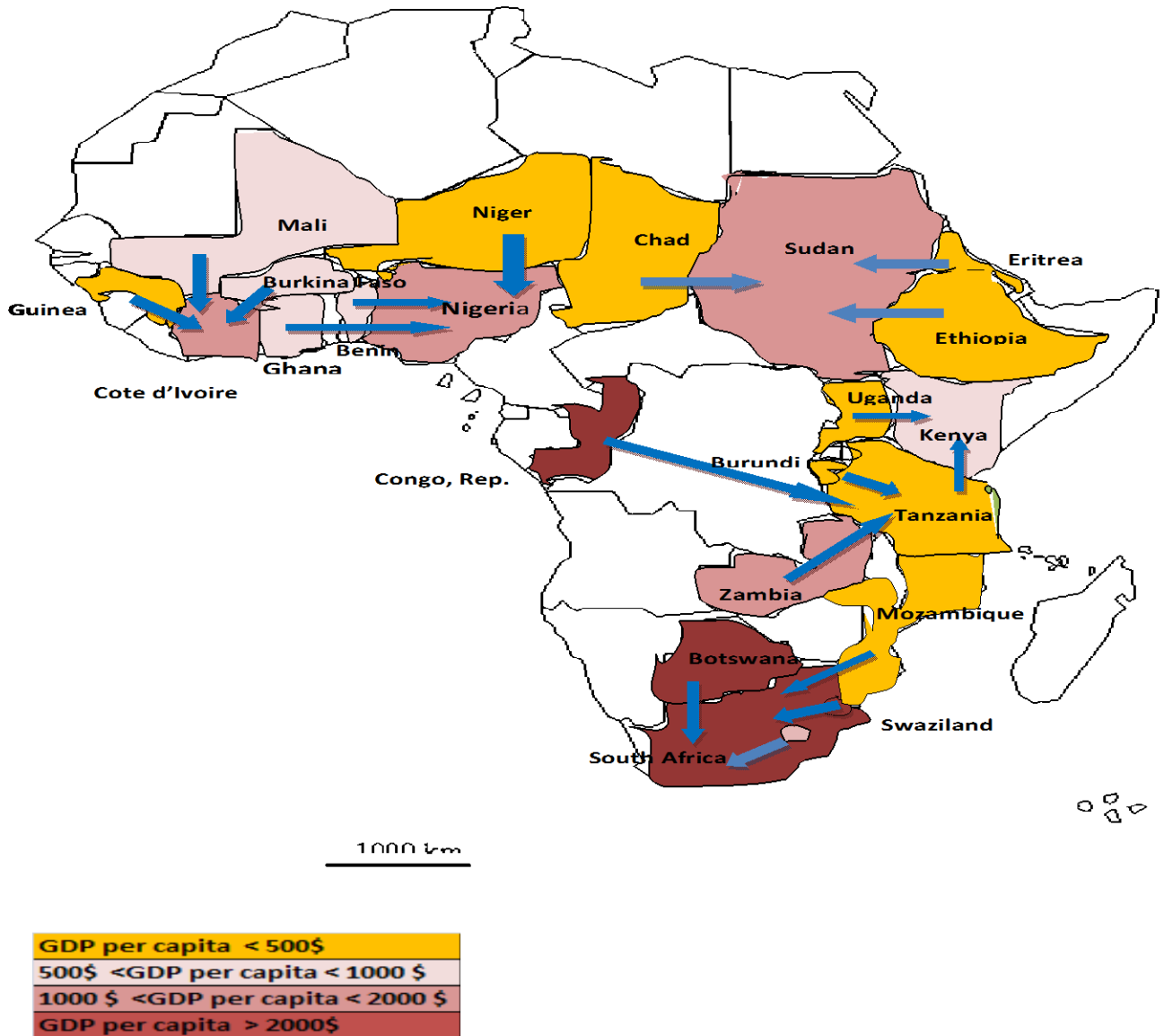
Source: author's computation based on the Migration Matrix data

Figure 2 below provides further clarity on the fact that cross-border migration is a predominant pattern in Sub Saharan Africa. For instance, the most common destination country for emigrants from Burkina Faso, Guinea Bissau and Mali is Cote D'Ivoire, and it has not changed despite its well known recent troubles. Likewise, emigrants from Benin, Ghana and Niger head to Nigeria. South Africa is a popular destination place for emigrants from Mozambique, Swaziland, Lesotho, Botswana and Zimbabwe. Evidently, prospect for a better work plays a significant role in attracting these emigrants. In East Africa, Sudan is most common destination for emigrants from Chad, Eritrea and Ethiopia, while Kenya is a popular destination for emigrants from Uganda and Tanzania, where the latter interestingly is a destination most favored by emigrants

¹⁰ The migration matrix reported in Table 4a and Table 4b are computed from country level data that are not adjusted for missing information which may bias to a certain degree the actual origin-destination pattern.

from DRC, Zambia and Burundi despite the fact that the difference in level of per capita GDP is negligible or in some cases even source countries do better.

Figure 2: Major migration corridors in SSA



When we take into account mobility of emigrants outside of Africa in the sub-regional matrix, we find that more than 90% of emigrants from North Africa, 63% from Southern Africa and 58% from Central Africa ended up in destinations outside of Africa suggesting that these three regions have better access to opportunities in OECD and Middle East countries (Table 4b).

Table 4b: Sub regional emigration matrix including trans-Africa emigration (%)

<i>Origin</i>	<i>East Africa</i>	<i>Central Africa</i>	<i>North Africa</i>	<i>Southern Africa</i>	<i>West Africa</i>	<i>Outside of Africa</i>
East Africa	30.9	9.8	8	17.6	0	33.7
Central Africa	12.6	21	2.4	2.7	3	58.2
North Africa	4.5	2.4	1.8	0	0.1	91.2
Southern Africa	12.8	0	0	24.2	0	63
West Africa	2.1	4.3	0.4	0	58.6	34.5
Total	12.9	6.8	3.1	7.1	18.7	51.4

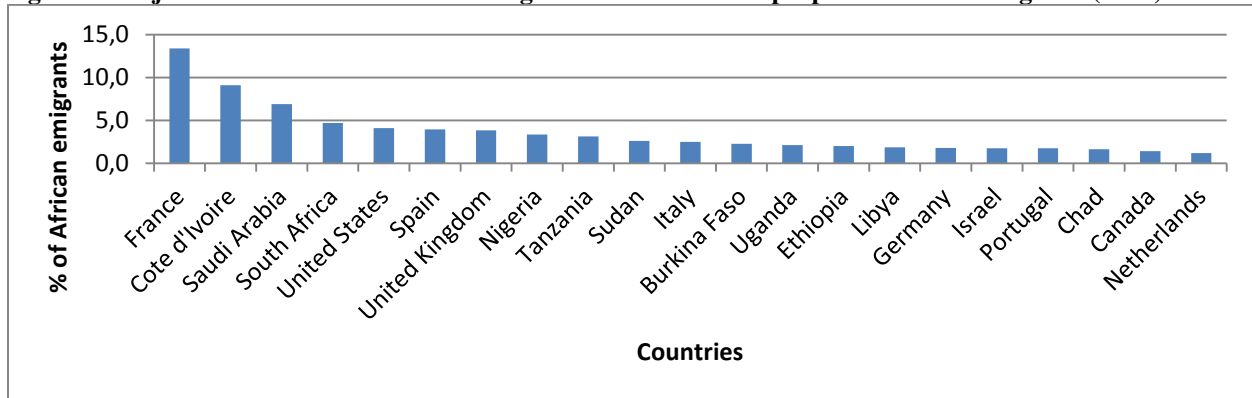
Source: Author's computations based on the Migration Matrix data

At a country level, France stands out as the most common destination country for emigrants from Africa (14%), followed by Cote D'Ivoire (9%), Saudi Arabia (8.1%), and South Africa and USA where each accounted for 5% of emigrants from Africa. Most OECD countries in the West had a share of African emigrants less than 3%. The total share of African emigrants living in Western Europe, Canada, USA and Australia is about 37%, which perhaps dispels the notion that the bulk of migrants from Africa are headed to these countries only. On the other hand, it should also be noted that these countries account for more than 65% of trans-continental migrants. In some sense, Western Europe, USA, Canada and Australia are the major destinations of emigrants who managed to leave the continent (Figure 3).

There are some features evident in the migration pattern which may be helpful to grasp the cross country variations. The existence of a community of people in the country of destination to whom a migrant can identify and fit easily certainly facilitates migration. Most African countries share extensive commonalities along borders, sometimes cutting through four or five countries. It is well recognized that cross border movements are facilitated by common linguistic and historical roots. For instance, a large number of emigrants from Somalia, Djibouti, Ethiopia and Eritrea are found in the same region due to strong ethnic, religious and linguistic ties along the vast borders shared by these countries. Similarly, emigrants from Burundi and Rwanda easily can fit into the population in Uganda and Tanzania because of large ethnic group residing in these countries that speak the same language and share historical ties. In Southern Africa, it is easy for migrants from Lesotho, Swaziland, Mozambique and Botswana to blend into communities in South Africa, making mobility and settlement comparatively easy for aspiring migrants. Cote d'Ivoire is a melting pot for neighboring countries as most migrants are able to communicate with people in the surrounding countries and share similar religious and historic bond. Migrants from Cape Verde headed principally to Portugal (29%), followed by USA (16%) and Mozambique (10%) to a certain degree due to the historical and linguistic roots as well as

search of better opportunities. On the other hand, migrants from Equatorial Guinea typically headed to two main destinations, Gabon (52%) & Spain (31%) which reflect colonial roots as well as economic boom in the wake of the discovery of oil reserves in Gabon.

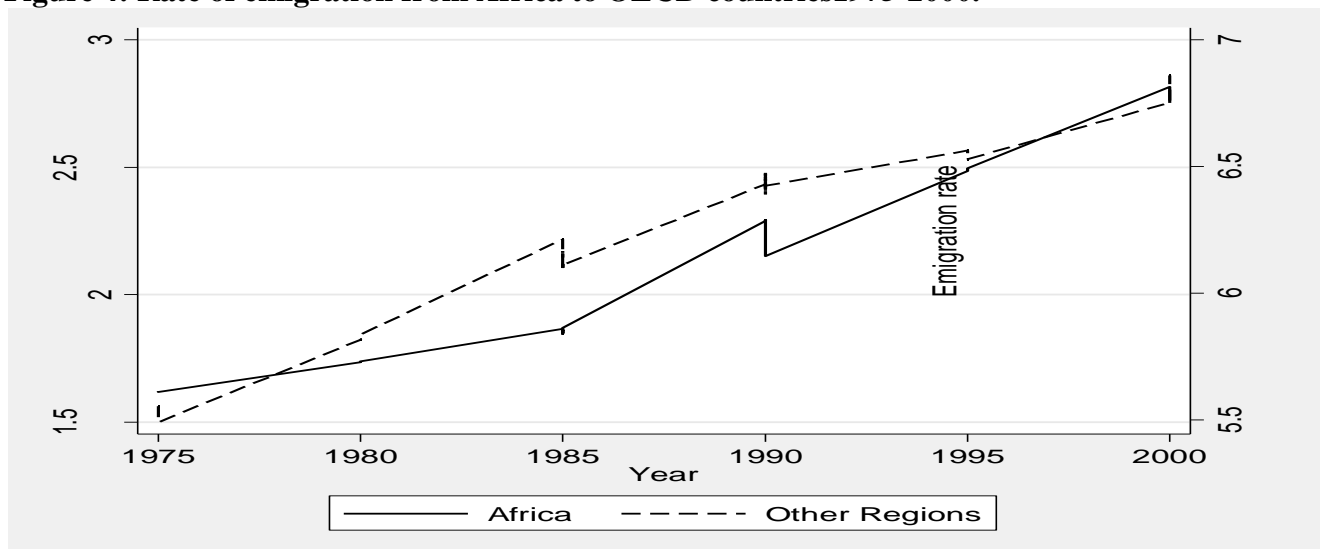
Figure 3: Major destination countries for emigrants from Africa as proportion of total migrants(2010)



Source: Author's computations based on the Migration Matrix data

The momentum for African emigration to OECD countries has been building up over the years and we may be in the midst of a major emigration surge catalyzed by demographic pressure, faltering economic growth and the cumulative effects of past migrations through networks established over the years. Figures 4 show clearly that emigration rates from Africa to OECD countries continued to rise over the last three decades essentially outpacing rate of growth of the general population. In contrast, migration from other parts of the world to OECD countries witnessed some degree of slowing down particularly during the period 1995-2000. Most of the decline originated from Asia where emigration rates from China and India showed some respite in this period.

Figure 4: Rate of emigration from Africa to OECD countries 1975-2000.



Source: Author's computations based on Dockier and Marfour (2005) data set.

The long term factors that may influence the pattern of emigration from Africa to OECD countries would be demographic and labor market pressures. According to recent projections (Table 5), the evolution of the labor force across the globe raises serious developmental concerns. In 2050, nearly all major industrialized nations are expected to experience a substantial deficit their labor force, particularly in the most productive age bracket, while currently poor regions such as Sub Saharan Africa and South Asia are expected to witness a huge surplus particularly among the young. The surge in labor surplus in Sub Saharan Africa is of particular concern as it would imply doubling of its current labor force and at a global level will be twice that of South Asia and India. The potential problem that may arise from such global imbalance in the labor market is significant to warrant dialogue and discussion early on to devise optimal policy coordination between labor surplus and deficit regions.

Table 5: Change in the size of labor force in selected regions of the world during 2010-2050 (in million of people)

<i>Age group</i>	<i>SSA</i>	<i>NA</i>	<i>South Asia</i>	<i>India</i>	<i>China</i>	<i>Europe</i>	<i>North America</i>
15-24	163.4	-10	25	-7.8	-67.6	-18.1	-10.8
25-39	261.6	-4	130	92.3	-85.8	-36.7	-7.4
40-64	274	-4	150	299	77	-33.4	1.2
Total	699	-18	305	383.5	-76.4	-88.2	-17

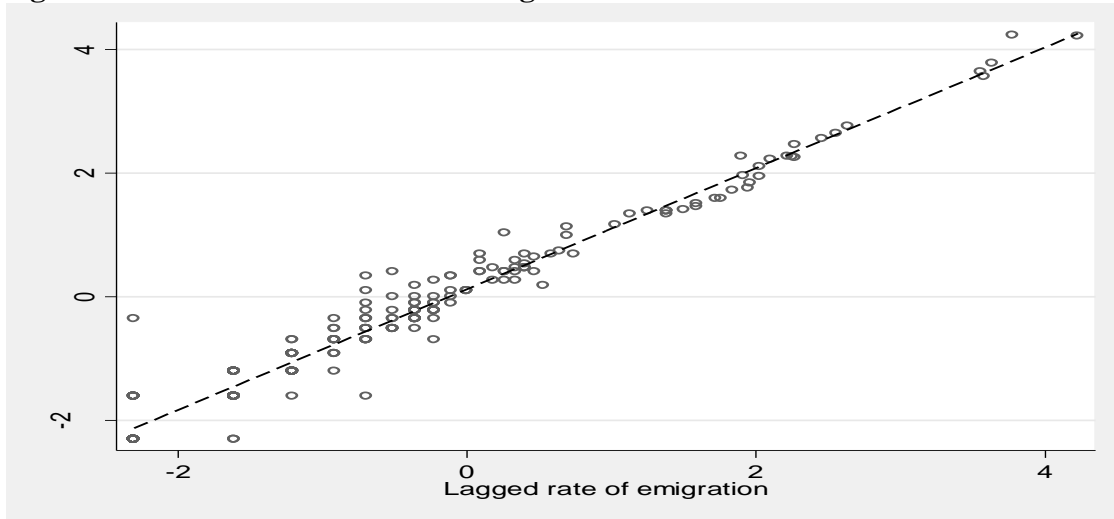
Source: adopted from Koettl (2010)

Evidently, the growing wage gap between African and OECD countries would continue to be an important factor in the incentive to emigrate. The general impression on the progress of African economies in generating gainful employment is so far muted. Some even go as far as to say that recent growth in has been generally a jobless growth in which case the prospect for the young and the unemployed can only be found in emigration. The demographic pressure of such magnitude could trigger waves of emigration from Africa as it narrows the resource base in the home country (see Hatton and Williamson, 2003).

Demographic and labor market conditions are not the only determinants of emigration to OECD countries. The cumulative effect of past migration could also facilitate further outflows from Africa because of several factors. Immigrants living in OECD countries help remove the constraint of emigration to aspiring emigrants in the country of origin in many ways (Hatton and Williamson, 2007). They finance trips, facilitate legal entry through family-reunion programs, information and other assistance that reduce the burden of resettlement. Thus, it is plausible to expect that for each country, the number of previous emigration rate could create its own momentum that is self-sustaining. Figure 5 depicts the rising tide over the period for emigrants from Africa where each period emigration rate produces a larger flow of migrants in future.¹¹

¹¹ We specified and estimated a dynamic model on the evolution of emigration rate over time which indicated a presence of true state dependence which satisfies all the statistical requirements for absence of spurious correlation. This implies that past migration trends are strong predictors of future trends with a high propagation term. It also suggests that factors that determine emigration rate (such as demographic and labor market conditions) would have a much persistent effect in the long term. Some of the control variables used for the estimation include differences in per capita income for each country in the sample with the OECD average, regional and time dummies as well as unobserved country specific factors.

Figure 5: Past and current rate of emigration to OECD countries from Africa: 1975-2000

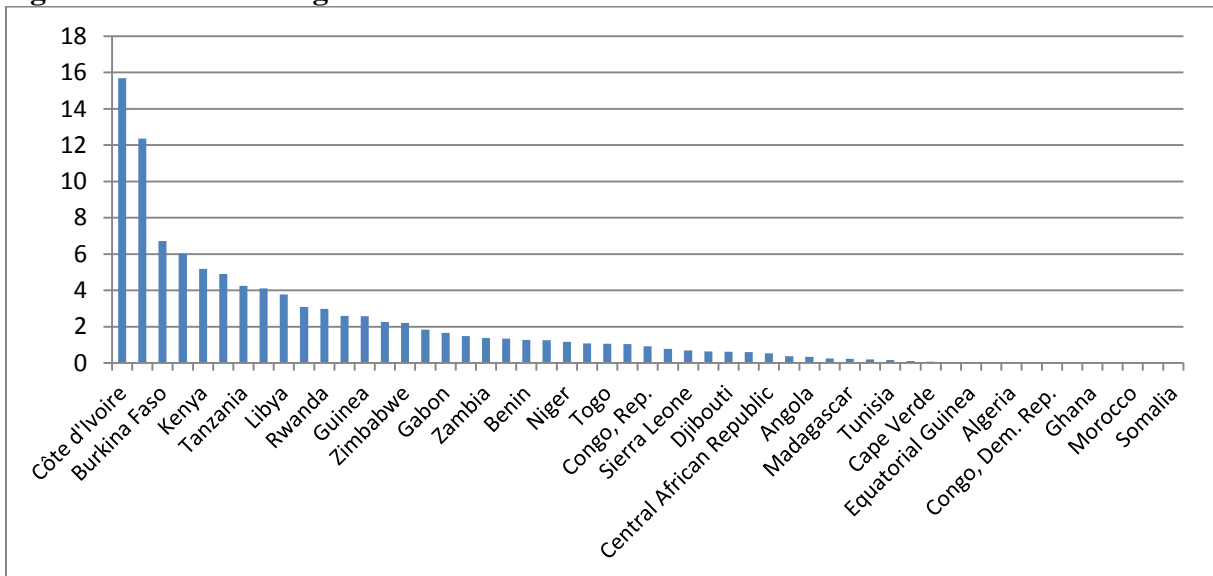


Source: Author’s computations based on Dockier and Marfour (2005) data set.

Immigration in Africa

Immigration to Africa by people born in regions outside of Africa is estimated at round 2.4 million in 2010, which is about 16% of total immigration into the continent, the rest being accounted for by migrants from the region. The most favored destinations by immigrants from within Africa are Cote d’Ivoire (16%), South Africa (12%) and Burkina Faso (6%). For immigrants from regions outside of Africa, South Africa and Egypt rank ahead of the others as they have a large community of migrants from Australia, Yemen, West Bank, Lebanon, Philippines etc.

Figure 6: Rate of immigration to Africa: 2010



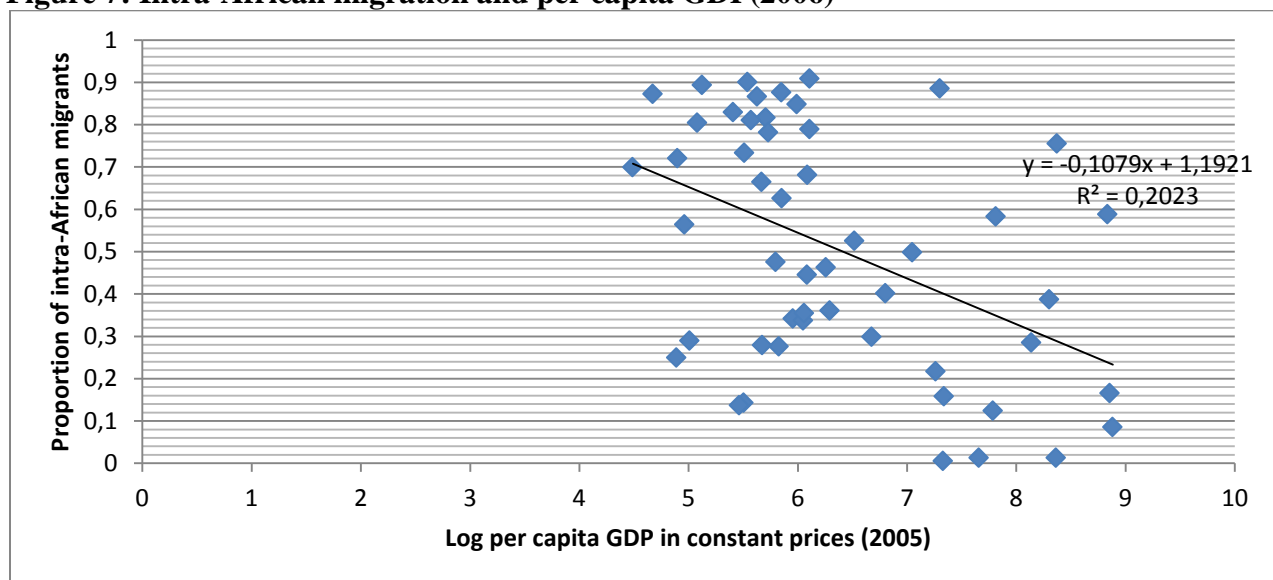
Source: Author’s computations based on the Migration Matrix data

3. Understanding (explaining) cross country migration patterns in Africa

Living standard and Intra-African Emigration

Prospect for a better life certainly is one of the most important factors behind people's decision to migrate, but it is not sufficient. Ability to migrate is also an important element which introduces a threshold effect on the decision to stay or emigrate (HDR, 2009; Shaw, 2007). Differences in living standard explain a significant part of the variation in the rate of intra-African migration. The pattern of migration by African emigrants depicted above suggests that countries from middle income countries tend disproportionately to migrate to destinations outside of Africa, whereas emigrants originating from poorer regions generally remained within the neighboring countries. To a certain extent, trans-continental migration may be impeded by, among other things, cost and related factors which could be a result of differences in living standards across countries. It is plausible to assume that emigrants from middle income countries have better chance of travelling far (outside of Africa) by being able to pay for transport, and other amenities in the destination country and may be better prepared to adapt to the environment outside of Africa, particularly in the developed Western countries. Figure 7 plots the proportion of emigrants that remained within Africa against log per capita GDP in constant price capturing this possibility. It is very clear that the poorer the country is the higher the percentage of emigrants staying within the continent. The relationship suggests that a 10% difference in per capita GDP could lead to a one percentage point difference in the proportion of emigrants staying in Africa¹². Certainly this is a large effect of per capita GDP on the capacity of prospective migrants to travel to distant places.

Figure 7: Intra-African migration and per capita GDP(2006)

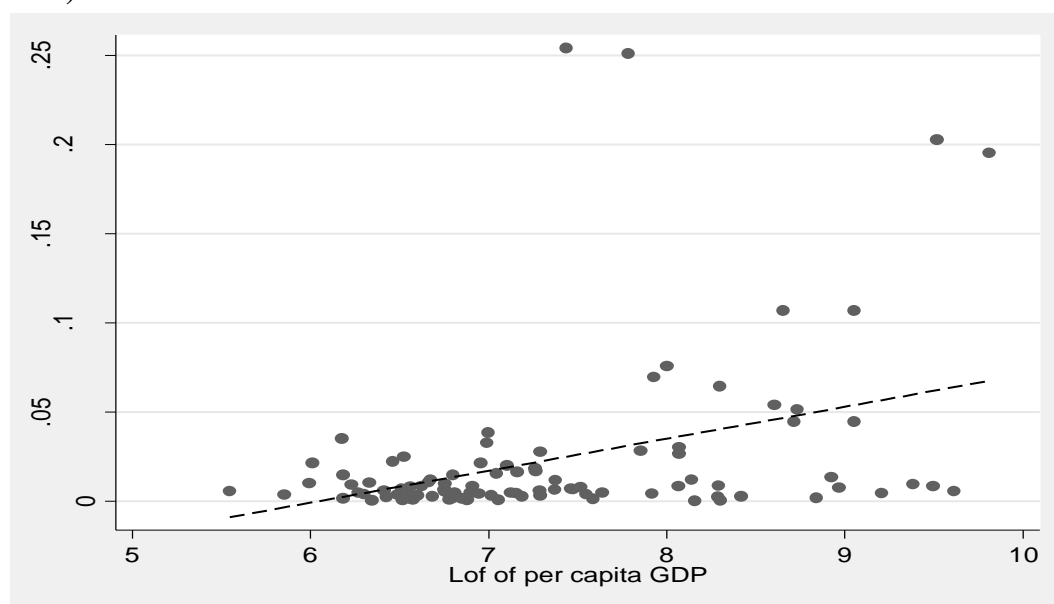


Source: Author's computations based on the Migration Matrix data and WDI (2009)

¹² The strong correlation between per capita GDP and emigration rates should not be taken at its face value. We cannot rule out for the possibility that the association may be spurious driven by say a third factor that influences both in the same direction or it could even be due to measurement error correlated with per capita GDP.

This picture is consistent with similar plot generated from a different data source (Figure 8) where we have only emigration rate to OECD countries in the vertical axis plotted against log per capita GDP in PPP terms for emigrants from Africa. It is evident that middle income countries generally have a high incidence of emigration to OECD countries¹³. The implications of the strong association between per capita GDP and emigration rates to OECD countries are interesting. The first, straightforward, but less surprising implication is that poverty in Africa is a strong deterrent of mobility particularly to OECD countries. Secondly, if migration has a net welfare gain to the country of origin, then, the patterns we observe for Africa imply that migration could increase continental level of inequality, further exacerbating differences in per capita GDP across countries.

Figure 8: Emigration rates to OECD countries and log per capita GDP in Africa (1990-2000)



Source: Author's computations based on Dockier and Marfour (2005) data set.

This simple correlation also implies that wage differentials alone do not explain migration trends, if it were one would have obtained a negative relationship between rate of migration and per capita GDP¹⁴. If all prospective migrants have equal possibility and capacity to migrate, then, the lower the wage rate in the country of origin relative to country of destination, the higher the rate of migration would be. This possibility is captured in a crude form in Figure 9. Skilled migrants (people with at least tertiary education) from developing countries have high hopes and evidently also better access to trans-Africa emigration compared to less educated people. In other words, high wage differentia between poor African country and a rich OECD country is a possible cause for the high proportion of skilled migrants from poor countries.

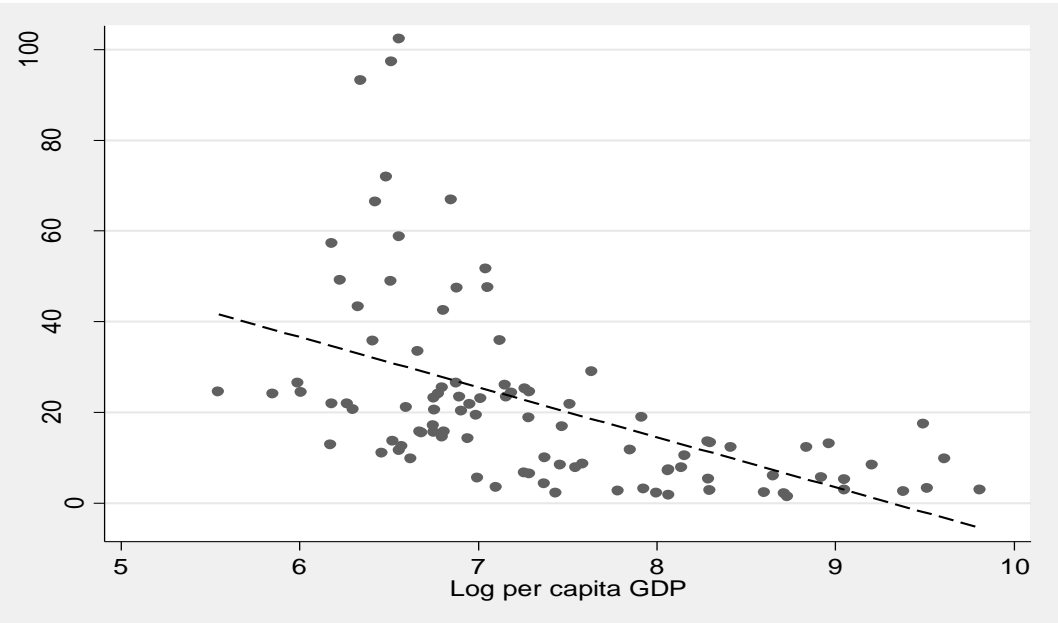
¹³ The outliers are Cape Verde and Seychelles obviously small economies with one of the highest emigration rates in Africa.

¹⁴ An important element emphasized in the literature is the role that “cost of migration” plays in affecting migration flows. See for instance, Hatton and Williamson (2003) and also Rosenzweig, (2005) who showed that apart from the cost of migration, for a given level of skill price, the higher the per capita GDP of a country, the higher becomes the rate of out-migration.

Depending on the direction of the welfare gain, emigration by the well educated, skilled people could be offsetting or reinforcing regional inequality. This is one of the intensely debated topics in the literature. From the perspective of the country of origin often it is argued that migration leads to depletion of the stock of human capital, particularly for highly specialized professions, such as medicine, engineering, law, scientists, researchers, etc. that deprives a developing economy of skills necessary for innovation, technological transfer and entrepreneurial development. While persuasive arguments along these lines are plenty (Bahgwati and Wilson, 1989), some of the theoretical and empirical work shows interesting dynamics where prospect for international migration could generate a high demand for skill accumulation (education) for each cohort in the labor force (e.g Beine, Docquire and Rapport, 2001). The unintended effect may very well be the opposite of “brain drain”, such as “brain gain” or in the extreme rising “educational unemployment” in most developing countries (Fan and Stark, 2007).

It is very important for policy makers in the country of origin to evaluate and respond appropriately to the medium and to long term implications of migration on the national economy. By all accounts, the size of skilled labor that Africa lost in the last decades was not a small fit. According to Shinn (2008), “between 1960 and 1989, an estimated 70,000 to 100,000 highly skilled African workers and professionals left for Europe and North America. This constituted about 30 percent of Sub-Saharan Africa’s highly skilled personnel. In 1984 there were 10,000 Nigerian professionals in the United States alone. Some 500,000 Sudanese, 80 percent of whom were skilled, worked abroad in 1985, mostly in the Gulf States. Sudan became a labor exporting nation and had to fill the gap by hiring Egyptians. In the first 30 years of African independence, the brain drain was a complicated phenomenon. Most of the movement by professionals and other highly skilled persons was away from the continent. Nevertheless, a few African nations like Nigeria in the 1970s and Botswana benefited by the arrival of well trained Africans from other countries”.

Figure 9: Skill intensity of emigration to OECD and per capita expenditure in Africa (1990-2000)



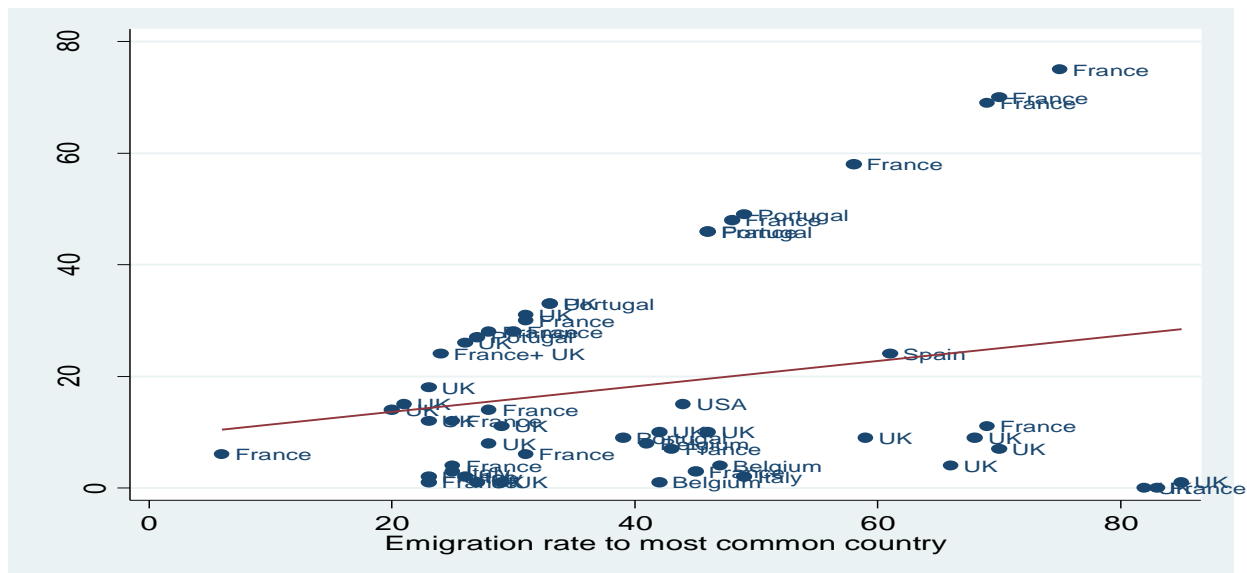
Source: Author’s computations based on Dockier and Marfour (2005) data set.

Colonial ties and Emigration in Africa

Post independence Africa maintained close economic, political, cultural and linguistic relationships with former colonial powers that continued to this day. Particularly France, Belgium and United Kingdom cultivated special relationships with their former colonies in Africa that included privileges for travels, study and business opportunities. It is easier for migrants from Francophone areas to travel to France and Belgium, those from Anglophone areas to UK and so on. As time passed by, countries in the New World (USA, Canada, and Australia) as well as emerging economies within the continent such as South Africa, Egypt, Cote d'Ivoire and countries in the Gulf also became favorite destinations for African emigrants. Figure 10 presents this trend where former colonial ties still continue to play some role as the most favored destinations for emigrants from Africa.

Using the bilateral migration matrix, the vertical axis plots the proportion of African migrants that left for the former colonizers and the horizontal axis measures proportion of emigrants to the most common destination. If for a given country the two sets match, then we have a plot that traces out the 45° line. We can see that for some countries, particularly for emigrants to France, while for others the commonest destination is different from former colonies¹⁵. Generally the line tracing out the colonial tie is flat inclining towards the horizontal axis. Interestingly this trend has not shown much change over the years. Preliminary investigation of the earliest bilateral migration matrix data constructed for Sub Saharan Africa by Russel et al (1990) suggest similar pattern where intra-African emigration dominate movement of people in the early 1970s and trans-African emigration tend to be to former colonizers.

Figure 10: colonial link and emigration pattern in Africa



Source: Author's computations based on Dockier and Marfour (2005) data set.

¹⁵ It is possible that the colonial tie might come out stronger if we restrict the data to emigration outside of Africa.

Political instability and poor socio economic conditions

One of the key features of emigration trends in Africa is the tide by relatively well educated labor force over time. Between 1990 and 2000 alone, emigration to OECD countries by the highly skilled increased at annual rate of 2.5%, while that of emigrants with some high school increased by 6.6% (Table 6). This picture is completely different from the trend in the early years of independence where the educated class had high hopes of the future and passionate about nation building that transcended search for personal gains and opportunities. We also note that the rate of emigration to OECD countries across all educational groups exhibited significant variation across countries such that the average is a poor indicator of the overall picture. Countries that had the highest skilled emigration rates were The Gambia, Cape Verde, Mauritius, Seychelles and Sierra Leone. These are particularly small economies which as argued above would have little to offer particularly to the skilled in terms of gainful employment and opportunities. The other possible reason for the increase in the rate of emigration particularly by the well educated is the bad state of political and socio economic conditions that characterized most African countries throughout recent history.

Table 6 : Trends in emigration rate from Africa to OECD countries

Variable	1990					2000			
	Obs	Mean	Std. Dev.	Min	Max	Mean	Std. Dev.	Min	Max
Primary	52	0.0176	0.0396	0.0001	0.2261	0.0161	0.0323	0.0001	0.1866
Secondary	52	0.0240	0.0563	0.0002	0.3518	0.0404	0.0595	0.0002	0.3744
Tertiary	52	0.1624	0.1826	0.0017	0.8042	0.2019	0.1720	0.0048	0.6746
Total emigration rate	52	0.0217	0.0469	0.0002	0.2541	0.0257	0.0449	0.0004	0.2511

Source: Author's computations based on Dockier and Marfour (2005) data set.

Attempt was made to capture the significance of such adverse conditions as political instability, dictatorial regimes and poor socioeconomic conditions on the rate of emigration. Data from International Country Risk Guide, one of the authoritative sources on political and economic governance, along with emigration data of the World Bank (2007) was used to establish the associations¹⁶. The result as shown in Table 7 clearly demonstrated that overall governance conditions indeed do matter for the rate of skilled emigration from Africa, explaining about 10 percent of the overall variation with large individual coefficients even after controlling for differences in per capita income levels, time changes and unobserved country specific effects. Improving political conditions, governance, and adhering to basic democratic principles can stem the tide of emigration by the educated and skilled Africans¹⁷.

¹⁶ Certainly we cannot rule out the possibility of the governance indicators to be endogenous in many ways. The fixed effects regression specification controls for the possibility of unobserved variables from being correlated with the error term. It is however possible that increased rate of emigration of skilled labor could lead to deterioration in the capacity of government often leading to dictatorial regimes or poor socioeconomic conditions. However the possibility of such reverse causation is remote at best given the small fraction of migrants in comparison to the overall population.

¹⁷ Recent study suggested that poor socio economic conditions, rampant poverty reinforce to explain the vicious cycle underlying most migration decisions (see Croix and Docquier, 2010)

Table 7: Governance indicators and migration of skilled labor in Africa: fixed effect regression(1990-2000)

<i>Dependent variable (log rate of skilled migrant)</i>	<i>Coefficient</i>	<i>t-ratio</i>
Socio-economic conditions	-0.09514	-2.35
External conflict	0.01675	0.46
Military in politics	-0.08856	-1.83
Religion in politics	-0.02126	-0.32
Ethnic tensions	0.050461	0.91
Constant	-1.65211	-4.47
R2	0.11	

Source: authors' computations. Regression controlled for time dummies and per capita GDP levels.

4. Socioeconomic characteristics of migrants from Africa: Evidence from household surveys

What community and household characteristics are correlated with decision to migrate?

Migration in economic theory is perceived as a strategy by an individual or a household to maximize present value of current and future welfare given labor market and other institutional constraints¹⁸. The fact that only 3% of the world's population is able to migrate suggests that it is not a common practice and in most cases it is not an easy decision individuals alone make in the manner they decide labor market participation or sector of employment in their own country. Often it involves complex factors and actors other than the individual. In the context of Africa, richer versions of such a model identified the role of the household and the community in making the rational decision based on careful evaluation of pay offs and costs (see for example, Bigsten, 1994; and Hoddinott, 1993 for illustration on Kenya). Thus, there is element of self selection in the migration decision and it is right to expect some attributes of the individual, the household and the community to play a decisive role. Understanding these determinants of migration decisions is important for policy purposes.

The evidence on determinants of migration at the micro level is available for Africa mostly for internal migration decisions¹⁹. It is only recently that household surveys begun to capture characteristics of households with an international migrant. For instance, the Ghana survey of 2005/06 and the recently completed household survey through the African Migration Project are one of the rich sources of information that could help in identifying characteristics of internal as well as international migrants. The latter includes unique information on labor market attributes of the migrant in the place of origin as well as destination offering fresh insight on the implications of migration on employment outcomes.

Analysis of these household survey data shows that migrants from these countries tend to be young adults, predominantly male and generally have some education beyond primary schooling (Table 8). The sex, age and educational composition of migrants vary by whether migration is within the country, to neighboring countries, or to the OECD. Not surprisingly, migrants to the

¹⁸ See for example, Todaro (1969) and Borjas(1994)

¹⁹ Earlier studies on Africa include Hoddinott (1994), Bigsten (1994), Lucas (1985). An exception is Azam and Gubert (2006) who studied internal as well as international migration in Mali in the Senegal River Valley.

OECD generally tend to be older, well educated and more than 70% are men. There are some differences in the motive for migration among the countries covered in the survey. While seeking employment is the predominant reason for emigration from Burkina Faso, education and family reunion are cited as the reason for emigration by almost half of those interviewed.

Table 8: characteristics of migrants from selected African countries: 2009

	Burkina Faso				
	Average Age	Men	Women	Primary	Tertiary
Internal	31	50%	69%	53%	76%
African Countries	32	49%	32%	46%	9%
OECD Countries	35	2%	2%	2%	15%
Total	31	100%	100%	100%	100%
	Senegal				
Internal	32	54%	45%	51%	50%
African Countries	35	11%	18%	17%	6%
OECD Countries	38	35%	37%	32%	44%
Total	35	100%	100%	100%	100%
	Nigeria				
Internal	27	76%	82%	93%	87%
African Countries	28	7%	5%	4%	3%
OECD Countries	33	18%	14%	3%	10%
Total	28	100%	100%	100%	100%
	Ghana				
Internal	34	72%	78%	85%	58%
African Countries	35	5%	5%	8%	3%
OECD Countries	37	23%	17%	8%	40%
Total	37	100%	100%	100%	100%

Source: data from the World Bank (2010)“African Migration Survey”

Appendix Table 1-4 provide respectively, a snapshot picture of determinants of household specific and community characteristics that are correlated with the probability of having an international migrant in the household for Ghana, Burkina Faso, Senegal and Nigeria. The variables of interest were selected carefully to reflect some of the predictions in models of migration decisions in a resource poor setting²⁰. In the extended models, migration is assumed to be a strategy that households and the extended family sometimes that includes clan members living in risky environment adopt to diversify or self-insure risk. Thus, higher size of the household would facilitate such risk diversification strategies by sending abroad members with high earning potential. Often the education of the head of the household is considered to be an important element in facilitating outward migration as it assists the household to gather and process relevant information necessary for international migration. Existence of networks provides externality to the members thus reducing enormously the cost associated with assimilation and adjustment to the new environment.

²⁰ E.g. Hoddinott (1993)

In Ghana, having an international migrant in the household is closely correlated with the following characteristics: The higher the education of the head and the parents of the head, the higher is the probability of having an international migrant. The marginal rate is about 8%, but the effect is dampened for households with relatively high wage rates. This is a labor-market effect of migration decision. Families rewarded better through high pay generally have lower probability of sending out their family members abroad. The higher the size of the household, the higher is probability of having an international migrant which as argued above could be a result of risk-diversification strategy by households. Some areas have substantially higher international migrants than others (Greater Accra, Ashanti). This may be a result of network effect as settlements in most African countries are along ethnic lines. It is also important to notice that when we control for variables that proxy earnings through level of education attained and employment status, we could not find significant direct impact of earnings on the probability of having an international migrant in the household.

We obtained a consistent result on the probability of a household to have an international migrant for Burkina Faso, Senegal, and Nigeria from the recently completed household survey through the African Project. The probability that households with large family size have at least one person as a migrant, both internal and international, are significantly higher in all these three countries capturing partly the risk diversification motive as well as other factors that affect labor supply decisions. The probability is much higher for households with an international migrant in comparison to those with at least one internal migrant. Interestingly, families with small children generally tend to stay marking the life cycle effect of decisions to migrate. The age of members of the household seem to influence the probability of emigrating in the case of Senegal as it did in the case of Ghana (though migrants tend to be younger-see Table 8). The direct effect of schooling on decision to migrate is not evident in the case of Burkina Faso but significant in the case of Nigeria. On the other hand, relatively richer households tended to have a higher probability of having a family member as an international migrant in the case of Burkina Faso a result generally found to be the case in several micro studies in Africa.

The survey data also provide information on the dramatic labor market effects of migration. In Burkina Faso and Nigeria, migration allowed a shift from self-employment, often in farming, to wage employment. In Senegal, the shift in labor market status is significant for students, many of whom were able to find wage employment due to migration (Table 9a).

Table 9a: Labor market status of individuals before and after migration in selected African countries (2009)

Percent of total	Burkina Faso		Senegal		Nigeria	
	Before	After	Before	After	Before	After
Self-Employment	80.3	64.1	42.2	42.7	15.7	25.6
Full-Time Wage Earner	2.5	8.8	9.0	24.3	13.9	33.5
Part-Time Wage Earner	1.5	12.2	3.3	4.2	2.7	4.1
Student	10.2	5.4	20.6	7.6	42.5	23.2
House Wife	2.9	5.1	9.4	7.6	1.3	4.9
Unemployed	1.9	1.5	8.9	3.4	22.0	4.3
Other	1.0	3.0	7.0	10.0	2.0	4.0

Source: Authors' computations

The Burkina Faso survey shows a significant change in labor market status due to migration. According to Table 9b, nearly all migrants were farmers in their original place of residence, which is not surprising given that the survey was predominantly administered in rural areas. However, migration frequently resulted in changes in occupations. Internal migration was often from rural to urban areas, and only one third of internal migrants remained farmers (about half of international migrants continued as farmers). While many internal migrants became traders and some even middle level managers, others ended up in unstable or casual employment.

Table 9b: Occupation of individuals before and after migration in Burkina Faso (2009)

Occupation	<i>Before Migration</i>		<i>After Migration</i>	
	Internal	International	Internal	International
Professionals (managers)	4.13	2.13	15.98	22.94
Unstable occupations	2.17	1.77	10.55	5.75
Farmer	85.71	91.6	36.37	58.79
Semi-skilled workers	2.5	1.55	6.09	1.26
Trader	4.45	2.39	20.85	6.8
Other	1.03	0.22	5.48	2.46

Note: total may not add up to 100% as some professions were not reported.

Source: authors' computations

Finally, the survey data show that low rates of return: the share of émigrés who returned was only 3 percent in Nigeria, 9 percent in Senegal, and 25 percent in Burkina Faso (table 10). The majority of those who do return in Burkina Faso and Nigeria come back in less than four years. In Senegal, however, 66 percent of returnees had 15 or more years abroad.²¹

Table 10: Return migration in selected African countries

	<i>% who returned in less than 4 years</i>	<i>% returned during 5-15 years</i>	<i>% returned after 15 years</i>	<i>% of return migrants</i>
Burkina Faso	67	16	16	25
Nigeria	69	23	8	3
Senegal	32	2	66	9

Source: authors' computations

²¹ see also Azam and Gubert (2005) for more discussion on the pattern of migration in rural Senegal.

5. Some policy implications

Migration in Africa is part and parcel of the broader agenda for economic integration that involves intra-African trade and investment. The policy challenge often raised with respect to migration is whether it is possible to attain optimal welfare gains (in terms of both efficiency and equity considerations) for all involved. The empirical literature generally provides a favorable view of migration as it impacts positively the economy of country of origin through flow of remittances and in some cases skill and knowledge transfer; and the country of destination by maintaining stable labor market conditions that is necessary for growth. In the case of Africa, particularly Sub Saharan Africa the bulk of emigration is south-south, often across borders, which in some ways can be regarded as an extension of the pattern of internal migration. It is not known to what extent such pattern of migration has impacted the economy of country of origin as well as destination (see also Shaw, 2007).

Migration episodes that responded to incentives for economic opportunities generally are part of the working of market forces in bridging excess demand in factor or goods markets thus allowing efficient allocation of resources and fostering greater economic integration. Despite lack of evidence, it is plausible to expect that south-south migration is followed by increased trade flows and adjustment of labor markets in both sending and destination countries, which both play a crucial role in promoting growth and ensuring employment²². The more formal and institutionalized flows of migration become, the greater economic integration will be and its benefits. The full benefit of such mobility of labor can be realized only if concerned national governments are able to jointly manage and coordinate the flow of migrants and protect basic rights for the entire duration of their stay. There are incidents of extortion, abuse and exploitation of migrants bound to other parts of Africa as both legal and illegal migration became commercialized (Lucas, 2006; Shaw, 2007). Limited or lack of well functioning financial intermediaries inhibit the flow of remittances thus reducing their potential impact on household welfare. There are also a wide range of issues on property rights, licensing of businesses and transfer of funds that African governments have not harmonized to encourage immigrants to engage in investment activities. Certainly this translates into areas of intra-African trade and investment which has not improved much over the years. In principle, greater economic integration helps to stem the flow of migration and limits its size and composition to what is allowed by economic fundamentals. The regional economic unions such as the COMESA, ECOWAS, EEC, SACU, SADEC, have been around for the greater part of post-independence Africa and yet their effectiveness in managing migration flows is still not sufficient.

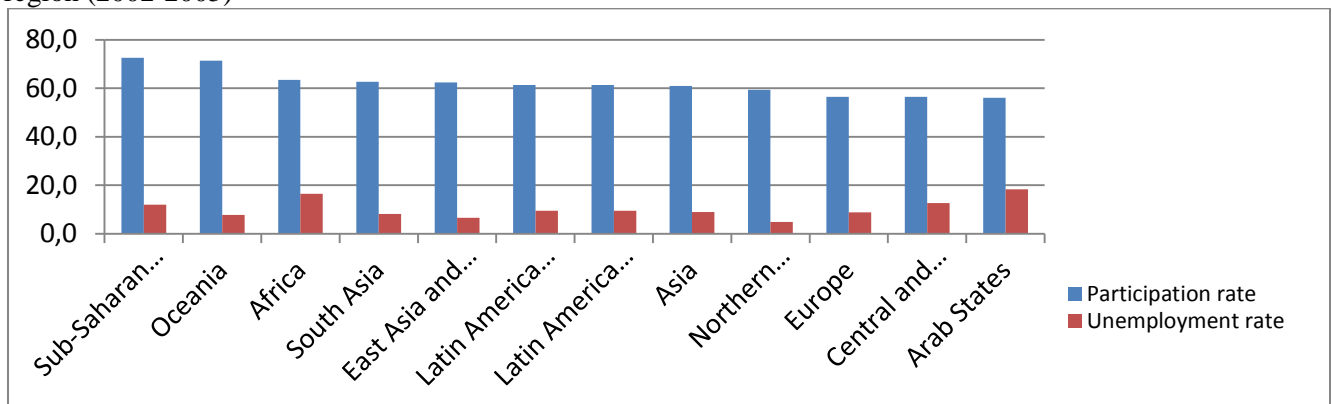
Transcontinental emigration from Africa is gaining momentum in recent decades, particularly by the highly educated groups. Even if African economies in general have done well in the last decade, the demographic and economic pressures to migrate particularly to OECD countries are still strong and have been building up over the years. There is a sufficiently large literature devoted to the study of whether emigration of skilled labor is a potential source for “brain drain”

²² Recent World Bank (2010b) report suggests that in Southern Africa region, generally wage rates follow that of South Africa with some lag for adjustment. Certainly the degree of adjustment is better for economies that are closely integrated with South Africa.

or “brain gain”. While the empirical evidence is inconclusive as it depends on several sets of factors, there are still avenues for policy makers to avert possibilities of a vicious cycle between underdevelopment and skilled emigration (Croix and Docquier, 2010). For typical African country, poor governance, bad socioeconomic conditions, political persecutions seem to be strongly correlated with incidence of skilled emigration although these factors do not seem to have a significant bearing on overall incidence of emigration to OECD countries in a systematic way, or on those with lower or middle level education. It is also possible that large scale emigration by the well educated could contribute to worsening socioeconomic conditions including poor quality of public service, etc. creating the vicious circle between development and skilled labor emigration. Such possibility brings the need for policy coordination by national governments of both origin and destination countries to determine and manage the size and composition of migrants.

Tightening immigration policy alone is not the solution to stem migration. Some of the well established theories of migration explicitly or implicitly imply that migration is a temporary phenomenon that would stabilize once the country of origin attains a certain level of development. For instance, Hatton and Willammson (2009) provide a historical parallel to what is often in the literature called the Migration Hump, where the tide of migration from Western Europe in the 19th century turned into a trickle after a couple of decades. The effectiveness of coordinated policy response could be dramatic. According to the data that we have, skilled emigrants from Africa to OECD countries do not seem to do very well in comparison to those emigrants from other regions (Figure 11). Immigrants of African origin generally have a very high labor market participation rates and yet their unemployment rates is one of the highest and certainly higher than the national average for OECD countries. If conditions improve in the country of origin, the potential for migrants to return home could be high. This is compelling for Africa since the effect of modest improvement in economic and political conditions at home could be substantial given the multiple challenges they also face to integrate in the destination countries.

Figure 11: Labor market participation and unemployment rates by immigrants in OECD countries by region (2002-2005)



Source: HDR(2009)

6. Summary and conclusions

Africa, particularly Sub Saharan Africa is one of the regions with the lowest incidence of emigration despite the mounting demographic and economic pressures to emigrate. The average however masks significant variation across countries. Smaller countries generally tend to have one of the highest emigration rates in the world. Generally, net migration rates varied considerably across time and countries due mainly to the difficult history of the continent that is shrouded with conflict, coups, insurgencies, dictatorship and war. As shown in previous studies²³ migration in Africa remained predominantly a south-south phenomenon, particularly in Sub Saharan Africa and has shown little change in the last few decades. West Africa continues to dominate as a sub-region with the highest mobility rate since the early 1970s, partly due to better coordination of immigration across nation states, deeper historical roots and relatively better integrated sub-region even in colonial times (see also Russel et al, 1990). East Africa has been dominated by a flood of refugees for long time. South Africa served as a main destination for emigrants from Lesotho, Swaziland, Botswana, Mozambique and Zimbabwe. The end of apartheid further increased emigration from other sub-regions also.

Trans-Africa emigration is typical of emigrants from North Africa where more than 90% of them headed to destinations outside of Africa, predominantly Europe, Middle East and North America. Poorer countries generally tend to have low incidence of emigration and typically they send proportionately higher skilled labor outside of Africa. Particularly interesting is that the proportion of emigrants that leave the continent is higher in middle income countries as opposed to poor ones. On the other hand a larger share of skilled emigrants come from poor countries emphasizing the point that such barriers as distance, language, legal requirements play a major factor in influencing migration pattern in Africa.

Political economy factors play a significant role in determining emigration by educated people. Over 10% of the cross-country variation in skilled emigration in Africa is due to bad socioeconomic conditions and dictatorial political systems, after controlling for country-specific unobserved factors. Improvements in anyone of these indicators are associated with an elasticity of about 0.4 which is quite significant. This effect is not evident for other categories of emigrants, particularly to OECD countries.

Past emigration patterns to OECD countries seem to have cumulative effect in facilitating current emigration. This state dependence of emigration rate is not spurious as examined by appropriate diagnostics tests and is strongly evident for less educated emigrants. Colonial link seem to have persisted to this day. Half of African countries reported that the most favored destination for emigrants are former colonies, a trend that seem to have persisted over time.

From the micro data, it was possible to observe that generally the motive for migration is economic opportunity as well as attempt to diversify risk by households living in risky environment. As a result, the characteristics of households that have at least one international migrant in Ghana for instance indicates that the size of the household, network externalities, education of the head of the household play a major role. Similar finding is also reported for

²³ For example, Page and Plaza (2006), Lucas(2006) and Shaw(2007)

Burkina Faso, Senegal, and Nigeria where the probabilities for a household to have an international migrant are highly correlated with such characteristics as size of the household, level of living standard and to a certain extent religious affiliations. Preliminary findings suggest that the labor market effect of migration is evident in Africa. Migrants generally change occupations and in most cases find jobs that require some degree of skills.

Going forward, the demographic dynamics expected to prevail in different regions in the next decades raise a serious concern on the nature of the global labor market as well as its implication to migration pressures. Developed regions such as Europe and North America are expected to experience a decline in the size of their labor force, particularly within the younger cohort at a rapid rate, generating a large deficit that would raise the stake for continued growth, maintaining healthy fiscal balance and caring for the elderly (Koettl, 2010). On the other hand, Sub Saharan Africa is expected to witness a surge in the labor force, particularly within the younger age bracket, which put enormous pressure on the propensity to emigrate as it may come on the back of weak economy, narrow resource base and fragile institutions (Hatton and Williamson, 2003).

Reconciling global imbalance in the labor market requires serious attention and policy coordination in a number of areas. Despite domestic efforts to reform labor markets, and improve labor productivity, Europe, North America and to a certain extent China may have to rely on immigration to meet growing shortfall in labor force. However, the degree to which available labor force is compatible with the needs of the labor market becomes central. Projected demand indicate that middle level skills tend to be in great demand and acquiring compatible skills remains a challenge to most emigrants from African countries.

Issues of migrant integration, social protection and improved financial services to transfer funds also become an integral part of the migration policy. Often, the contribution of immigrants to the advancement of the country of destination depends on the environment conducive to settle and blend with the native population. Possibilities for transferability of pension funds to country of origin or other benefits, access to cheap and convenient means of remittances all have a major role to play in the migration policy in the years ahead (Koettl, 2010).

References

- Adams, R.H.Jr, (2009) “An overview of data contained in the 2005/06 Ghana living standards survey (GLSSS 5) (sub-sample) on Migration and Remittances”, World Bank, unpublished
- Azam, JP, and Gubert, F. (2006), “Migrants’ remittances and the household in Africa: a review of the evidence”, *Journal of African Economies*, Supplement 2: 426-462
- Bahagwati, J and John, J, (1989), “Income taxation and international mobility”, MIT Press, Cambridge, MA
- Beine, M, F. Docquier and H. Rapoport, (2001), “Brain drain and economic growth: theory and evidence”, 64: 275-289
- Beine, M, F. Docquier and C. Ozden (2009), “Diasporas”, *Journal of Development Economics*, forthcoming
- Bigsten, A. and Shimeles, A. (2010), “The persistence of poverty in urban Ethiopia: a tale of two measurements” *Applied economics letters*, forthcoming
- Bigsten , A, and Shimeles, A (2008), “Poverty transition and persistence in Ethiopia” (2008), *World Development*, vol. 36(9), pages 1559-1584, September
- Bigsten, A, (1994), “The circular migration of smallholders in Kenya”, *Journal of African Economies*, 5(1): 1-20
- Borijas, G.J. (1987) “Self-selection and the earnings of immigrants”, *American Economic Review*, 77(2): 531-553
- Borijas, G.J. (1993), “The intergenerational mobility of immigrants”, *Journal of Labor Economics*, 2(1): 113-135
- Borijas, G.J. (1994), “ The economics of immigration”, *Journal of Economic Literature*, XXXII: 1667-1717
- Croix David de la and Docquier, Frederik, (2010), “Do brain drain and poverty result from coordination failures?” *Discussion Paper Series 09/10*, Center for Research and Analysis of Migration.
- Dercon, S, (2005), “Shocks and growth in Ethiopia”, *Journal of Development Economics*
- El-Gamal, (1994), “A dynamic migration model with uncertainty”, *Journal of economic dynamics and control*, 18: 511-538

- Fan, C.S and Stark, O. (2007), “International migration and “educated unemployment”, *Journal of Development Economics*, 83: 76-87
- Giesbert, L. (2007), “Seeking opportunities: migration as an income diversification strategy of households in Kakamega District in Kenya”, *GIGA Research Programme: transformation in the process of globalization*, No 58
- Hatton, T.J. and Williamson, J.G (2009), “Emigration in the long run: evidence from two global centuries”, *Asian Pacific Economic Literature*, article in press.
- Hatton, T.J. and Williamson, J.G (2003), “Demographic and economic pressure on emigration out of Africa” *Scandinavian Journal of Economics*
- Hoddinot, J, (1994), “ A model of migration and remittances applied to Western Africa”, *Oxford Economic Papers*, 46(3): 459-476
- Konseiga, A. (2005), “ New patterns of migration in West Africa”, *Stichproben. Wiener..Number 8/2005*
- Koettl, J, (2010), “Prospects for Management of Migration between Europe and the Middle East and North Africa”, *World Bank, Washington DC, memo*
- Lucas, R.E.B. (2006), “Migration and economic development in Africa: a review of evidence”, *Journal of African Economies, Supplement 2*, 337-395
- McKenzie, D and H. Rapoport (2007), “ Self-selection patterns in Mexico-US migration: the role of migration networks”, *Policy Research Working Paper 4118, World Bank, Washington DC*
- Ratha, D, et al (2007), “Beyond aid: new sources and innovative mechanisms for financing development in SSA”, *Policy Research Working Paper, 4609*
- Ratha, D. (2003), “Workers’ remittances: an external and stable source of external development finance” in *Global Development Finance*, World Bank, Washington DC
- Rosenzweig, M (2007) “Education and migration: a global perspective” *mimeo, Yale University.*
- Russel, S.S, K. Jacobsen, and W.D. Stanley (1990), “International migration and development in Sub Saharan Africa”, *Discussion Paper Series 101, World Bank, Washington DC*
- Shaw, W. (2007) “ Migration in Africa: a review of economic literature on international migration in 10 countries” *World Bank, memo*
- Stark, O, and J. Taylor, (1989) “Relative deprivation and international migration”, *Demography* 26: 1-14

Todaro, M. (1969), “A model of labor migration and urban unemployment in developing countries”, The American Economic Review 59: 101-114

World Bank (2010), “Migration and Remittances Fact Book 2011”.Development Prospects Group.

Appendix Table (1): Determinants of international migration in Ghana: 2005

	<i>Coefficient</i>	<i>Standard error</i>
Size of the household	0.003735**	[0.0410]
Age of the Head of the household	0.000596	[0.135]
Log of schooling attained	0.081388***	[2.55e-09]
Log of schooling * log hourly wage	-0.003574**	[0.0257]
Head is unemployed	-0.012027*	[0.0948]
Log hourly wage (mean 2.7)	0.005537	[0.184]
Regional dummies		
Central	0.027708	[0.156]
Greater Accra	0.045257**	[0.0123]
Volta	-0.024812*	[0.0830]
Eastern	-0.0039	[0.796]
Ashanti	0.084490***	[1.20e-05]
Brong ahafo	0.03311	[0.113]
Northern	-0.032159*	[0.0666]
Upper East	-0.046521***	[0.00904]
Upper West	-0.043897**	[0.0252]
Pseudo-R2	0.098	
Observations	5475	

Source: author’s computation based on Ghana LSMS

Appendix 2: Household and community characteristics correlated with probability of migration in Burkina Faso-2009 (multinomial regression with the household with no migrant is used as a base)

Household size	1.087***	[0.018]	1.120***	[0.017]
Household size squared	0.997***	[0.000]	0.996***	[0.000]
Dependency ratio	0.853	[0.171]	0.350***	[0.066]
Dummy for male	0.959	[0.059]	0.966	[0.056]
Religion is Islam	0.936	[0.076]	0.838**	[0.064]
Religion is Protestant	1.055	[0.166]	0.923	[0.139]
Religion is Traditional	0.824*	[0.088]	1.05	[0.103]
Anemist	0.439	[0.220]	0.070**	[0.073]
Ethnic group (Mossi is the reference group)				
Peulh/Rimaïbé	0.924	[0.096]	0.919	[0.092]
Dioula	0	[0.000]	1.058	[0.877]
Bobo/Bwaba	0.371***	[0.128]	0.778	[0.207]
Bissa	1.207	[0.153]	1.166	[0.145]
Samo	0.739**	[0.090]	0.906	[0.102]
Dafin/Marka	0.500**	[0.156]	0.881	[0.228]
Dagara	2.033***	[0.559]	1.307	[0.369]
Lobi	0	[0.000]	0.412	[0.479]
Bobo-Dioula	0.181***	[0.112]	0.486*	[0.182]
Gourounsi	0.728	[0.181]	1.365	[0.270]
Touareg/Bella	0.121**	[0.129]	0	[0.000]
autres	1.066	[0.160]	0.722**	[0.011]
Gourmantché	0	[0.000]	0	[0.000]
farmer	1.011	[0.071]	0.933	[0.062]
Consumption quintile (poorest is the reference group)				
quintile2	0.884	[0.079]	1.370***	[0.119]
quintile3	0.929	[0.083]	1.188*	[0.106]
quintile4	0.781**	[0.075]	1.128	[0.106]
quintile5	1.078	[0.111]	1.691***	[0.167]
Primary	0.932	[0.088]	0.892	[0.080]
Secondary	0.772*	[0.102]	0.887	[0.106]
Above secondary	0.64	[0.207]	0.727	[0.205]
Age: 25-34	0.99	[0.075]	0.939	[0.068]
Age: 35-44	1.027	[0.088]	0.962	[0.079]
Age: 45-54	0.963	[0.079]	0.991	[0.076]
Constant	0.681**	[0.110]	0.834	[0.127]
Observations	7,924		7,924	
Model chi-square	315.8		315.8	
df	66		66	
Loglikelihood	-8506		-8506	

Pseudo R2	0.0182	0.0182
N of observations	7924	7924

Source: authors computation based on Migration Survey through the African Project

Appendix Table 3: Household and community characteristics correlated with probability of migration in Senegal-2009 (multinomial Logit regression with the household with no migrant is used as a base)

	<i>Internal Migrant</i>	<i>International Migrant</i>	<i>Internal/International migrant</i>
Household size	1.121*** [0.022]	1.137*** [0.017]	1.268*** [0.028]
Household size squared	0.997*** [0.001]	0.998*** [0.000]	0.997*** [0.001]
Age squared	0.939*** [0.018]	0.951** [0.019]	0.918*** [0.024]
Age squared	1.001*** [0.000]	1.001** [0.000]	1.001*** [0.000]
Dummy for male	0.595*** [0.050]	0.670*** [0.055]	0.546*** [0.065]
Dummy if religion is Catholic	1.145 [0.293]	1.038 [0.288]	1.922 [0.867]
Dummy for ethnic group(reference is Bambara)			
diola	0.632 [0.276]	0.211*** [0.100]	3.076 [2.754]
mancagne	1.655 [2.027]	3.624 [4.318]	0 [0.000]
mandingue/socé	0.333** [0.168]	0.73 [0.310]	0.665 [0.716]
manjaque	0.080*** [0.070]	0.938 [0.525]	0 [0.000]
pular	0.287*** [0.102]	0.415*** [0.140]	1.171 [0.923]
sarakholé/soninké	0.387** [0.168]	0.438** [0.175]	0 [0.000]
sérer	0.306*** [0.113]	0.384*** [0.135]	0.58 [0.467]
woloff	0.276*** [0.097]	0.527* [0.174]	1.04 [0.813]
balante	1.454 [1.384]	0 [0.000]	0 [0.000]
autres	0.216*** [0.090]	0.218*** [0.087]	0.159* [0.157]
Dummy for education (reference is no schooling)			
Primary	0.973 [0.198]	0.896 [0.149]	0.769 [0.293]
Secondary	0.861 [0.235]	0.649* [0.157]	0.372 [0.233]
Technical	0.579* [0.178]	0.643* [0.146]	1.3 [0.549]
Tertiary	2.078*** [0.555]	1.088 [0.268]	0.541 [0.410]
Occupational dummies (Reference is self-employed)			
Administrative officer	0.857 [0.212]	1.285 [0.279]	1.216 [0.513]
Commercial officer (sales representative)	0.656* [0.161]	1.602** [0.308]	1.458 [0.558]
Agricultural extension worker	0.622*** [0.098]	1.347** [0.200]	1.066 [0.254]
Engineer of agriculture	0.703** [0.106]	0.931 [0.142]	0.901 [0.203]
Agricultural or industrial worker	0.733** [0.114]	0.873 [0.136]	1.088 [0.256]
Casual employment	0.873 [0.162]	1.358* [0.245]	0.494** [0.171]
Military officer	0.733* [0.118]	0.912 [0.147]	0.78 [0.198]
NSP	4.087*** [0.662]	0.623*** [0.096]	5.061*** [1.325]
Dummy for regions (Reference is Dakar)			
diourbel	6.679*** [1.829]	0.826 [0.262]	10.911*** [4.108]
fatick	3.228*** [0.580]	0.649** [0.112]	2.825*** [0.824]

kaolack	1.610*	[0.449]	0.374***	[0.113]	0.604	[0.329]
kolda	3.992***	[0.725]	0.813	[0.144]	3.885***	[1.134]
louga	2.383***	[0.459]	0.673**	[0.121]	2.252***	[0.680]
matam	1.846***	[0.353]	0.894	[0.148]	3.298***	[0.952]
st-louis	1.614*	[0.442]	1.345	[0.309]	0.587	[0.307]
tambacounda	2.222***	[0.367]	0.418***	[0.074]	3.598***	[0.954]
thies	2.888***	[0.983]	0.818	[0.339]	0.515	[0.382]
Constant	2.656*	[1.391]	2.252	[1.146]	0.068***	[0.065]
Observations	4,717		4,717		4,717	
Model chi-square	1189		1189			
df	114		114			
Loglikelihood	-5566		-5566			
Pseudo R2	0.0965		0.0965			
N of observations	4717		4717			

Source: authors computation based on Migration Survey through the African Project

Appendix Table 4: Household and community characteristics correlated with probability of migration in Nigeria-2009 (multinomial Logit regression with the household with no migrant is used as a base)

<i>Variables</i>	<i>Internal Migrant</i>		<i>International Migrant</i>	
Household size	1.030***	[0.009]	1.068***	[0.013]
Dummy for male	0.848**	[0.065]	0.753***	[0.070]
Number of years in school squared	1.103***	[0.025]	1.147***	[0.037]
Number of years in school squared	0.996***	[0.001]	0.996***	[0.002]
Dummy for urban areas	0.487***	[0.046]	0.383***	[0.037]
Marital status (Reference is married)				
Engaged to be married	1.569**	[0.354]	3.036***	[0.791]
Cohabiting/Consensual Union	3.369	[3.030]	0	[0.000]
Separated	1.577	[0.613]	1.5	[0.706]
Divorced	0.755	[0.271]	1.083	[0.756]
Widowed	2.099***	[0.263]	3.281***	[0.548]
Single/Never Married	0.874	[0.127]	0.595***	[0.104]
Religion (reference is Islam)				
Catholic	0.88	[0.132]	1.04	[0.187]
Protestant	1.179	[0.153]	0.791	[0.121]
Pentecostal	1.231	[0.613]	1.388	[0.688]
Traditional	0.806	[0.249]	1.977**	[0.610]
Ethnicity (Reference is Hausa)				
Yoruba	1.563***	[0.218]	56.411***	[20.113]
Ibo	3.473***	[0.600]	56.649***	[20.808]
Efik/Ibibio	2.749***	[0.526]	38.184***	[14.331]
Ijaw	2.691***	[0.557]	97.856***	[35.842]
Nupe	0.337***	[0.054]	0.025***	[0.019]
Bini/Esan	1.969***	[0.404]	84.938***	[32.346]
Other	1.393***	[0.179]	10.518***	[3.512]
Age group (Reference is 15-24)				
25-34	1.06	[0.132]	0.921	[0.142]
35-44	1.392**	[0.200]	1.352*	[0.240]
45-54	1.599***	[0.276]	1.820***	[0.419]
55-64	2.294***	[0.403]	2.968***	[0.693]
64+	3.620***	[0.687]	6.109***	[1.522]
Constant	0.160***	[0.031]	0.001***	[0.001]
Observations	8,103		8,103	
Model chi-square				
df	55		55	
Loglikelihood	-5637		-5637	
Pseudo R2	0.164		0.164	
N of observations	8103		8103	

Source: authors computation based on Migration Survey through the African Project

Appendix table 5: Net migration rates in Africa per one thousand population: 1975-2010

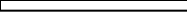
<i>Countries</i>	<i>1975-1980</i>	<i>1980-1985</i>	<i>1985-1990</i>	<i>1990-1995</i>	<i>1995-2000</i>	<i>2000-2005</i>	<i>2005-2010</i>
Eastern Africa	-1,09	-0,65	0,39	-1,56	1,2	-0,9	-1,1
Burundi	-2,83	4,33	-0,11	-8,6	-13,02	5,5	8,1
Comoros	5,68	-2,14	-1,83	0	0	-3,4	-3,1
Djibouti	56,77	5,65	38,49	-10,95	6,57	0,0	—
Eritrea	0	0	0	-22,42	-0,23	11,3	2,3
Ethiopia	-11,77	3,21	3,54	3,35	-0,15	-1,0	-0,8
Kenya	-0,04	0,04	0,05	1,74	-0,15	0,2	-1
Madagascar	-0,71	-0,17	-0,13	-0,09	-0,04	-0,1	-0,1
Malawi	-0,35	-0,3	20,95	-17,13	-0,93	-0,5	-0,3
Mauritius	-4,41	-5,45	-5,77	-1,28	-0,35	0,0	—
Mozambique	1,54	-5,89	-19,46	9,79	1,01	-0,2	-0,2
Réunion	-9,54	0,72	-0,62	2,68	2,45		—
Rwanda	-2,18	-3,96	0,48	-57,56	61,49	0,1	0,3
Somalia	59,79	-25,37	-16,06	-21,86	1,71	-5,1	-5,6
Uganda	-2,7	-1,56	3,11	1,44	-0,6	0,0	-0,9
Tanzania	-0,25	0,36	0,57	4,16	-1,25	-1,9	-1,4
Zambia	0,19	1,51	0,85	-0,16	1,74	-1,5	-1,4
Zimbabwe	-3,08	3,74	2,71	-3,28	-0,25	-11,2	-11,1
Central Africa	0,2	-0,43	-0,09	3,71	-3,27	0,2	-0,2
Angola	0,58	6,12	-3,41	2,83	-2,07	2,3	0,9
Cameroon	1,45	-1,05	0,46	-0,08	0	-0,1	-0,2
Central African Republic	-0,09	3,25	-2,94	2,38	0,64	-2,3	0,2
Chad	-5,37	-3,14	1,53	0,63	2,73	4,8	-1,4
Congo, Rep	0	0,11	0,18	1,05	2,6	0,2	-2,8
Congo, Dem, Rep,	0,77	-2,31	0,43	5,9	-6,4	-0,9	-0,3
Equatorial Guinea	-26,85	48,77	0	0	0	5,3	3,1
Gabon	6,17	5,31	4,53	3,88	2,43	1,5	0,7
Sao Tome and Principe	-2,53	-10,68	-4,42	-3,24	-2,86	-9,6	-8,8
Southern Africa	-0,05	0,73	0,39	0,25	-0,26	2,4	2,4
Botswana	-2,05	-1,66	-1,54	-1,01	-0,86	2,2	1,6
Lesotho	-3,27	-2,27	-7,28	-7,37	-4,15	-3,7	-3,5
Namibia	-9,16	-5,39	11,78	0,46	2,27	-0,1	-0,1
South Africa	0,54	1,16	0,25	0,81	-0,16	3,0	2,8
Swaziland	-2,95	0,33	5,98	-8,37	-109	-8,4	-1
Western Africa	0,4	-0,8	-0,71	-0,71	-0,45	-0,4	-0,6
Benin	-4,85	-3,75	-3,23	1,84	-3,2	2,7	1,2
Burkina Faso	-6,73	-5,98	-3,07	-2,66	-2,3	1,6	-0,9
Cape Verde	-17,37	-11,11	-10,1	-4,65	-2,42	-5,5	-5,1
Côte d'Ivoire	11,07	9,11	4,35	2,98	0,8	-3,7	-1,4
Gambia	7,29	7,01	10,53	8,78	7,42	4,4	1,8

Note: negative values indicate inflows exceed outflows and vice versa for positive values. Country classifications are based on UNPD (<http://esa.un.org/unpp/index.asp?panel=5#Africa>) and may not fit to those used by the African Development Bank or the World Bank.

Source: Lucas (2006) and UN Population Division, Department of Economic and Social Affairs, World Population Prospects: 2010 Revision

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