

IMF Working Paper

The Global Financial Crisis and Workers' Remittances to Africa: What's the Damage?

*Adolfo Barajas, Ralph Chami, Connel
Fullenkamp, and Anjali Garg*

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Middle East and Central Asia Department

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Prepared by Adolfo Barajas, Ralph Chami, Connel Fullenkamp, and Anjali Garg¹

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Abstract

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Using data on the distribution of migrants from Africa, GDP growth forecasts for host countries, and after estimating remittance multipliers in recipient countries, this paper estimates the impact of the global economic crisis on African GDP via the remittance channel during 2009-2010. It forecasts remittance declines into African countries of between 3 and 14 percentage points, with migrants to Europe hardest hit while migrants within Africa relatively unaffected by the crisis. The estimated impact on GDP for relatively remittance-dependent countries is 2 percent for 2009, but will likely be short-lived, as host country income is projected to rise in 2010.

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Authors' E-Mail Addresses: abarajas@imf.org, rchami@imf.org, cfullenk@econ.duke.edu,
agarg@imf.org

¹ Barajas, Chami, and Garg are affiliated with the International Monetary Fund; Fullenkamp is affiliated with Duke University. The authors wish to thank Raju Singh for providing the data used in this study.

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I. INTRODUCTION

One of the distinguishing features of the global financial crisis of 2007–09 is its effect on remittances. Until the financial crisis, remittances had proven to be a remarkably dependable source of income for households in developing economies, growing robustly regardless of the state of the business cycle. But because real-sector spillovers from the recent financial crisis were quite severe, and fell most heavily on developed and energy-exporting countries, the main sources of immigrant remittances, the total quantity of remittances is expected to fall in 2009 for the first time in decades. The World Bank estimates that remittances in 2009 will be 6.1 percent below their 2008 levels, with only a weak recovery in 2010 and 2011. Remittances are expected to grow by only 1.4 percent in 2010, and 3.9 percent in 2011 (World Bank, 2009).

The fall in remittances implies hardship for many countries that increased their dependence on these flows in recent years. For example, a recent IMF Regional Economic Outlook for the Middle East highlights the case of the Central Asian countries Armenia, Azerbaijan, Georgia, Kyrgyzstan and Tajikistan, in which the fall in remittances to these countries is exacerbating the effects of the global recession. Not only is consumption falling faster because of the decline in remittances, but the governments' capacity to conduct countercyclical fiscal policy has also vanished because of a loss in tax revenues derived from consumption and importation activities financed by remittances. A similar story can be told for countries in Central America. The decline in remittances significantly increases the likelihood that many countries will need international assistance such as IMF lending programs in order to weather the economic downturn in a way that enables these nations to provide needed assistance to their citizens.

In this context, it is important to ask whether the global fall in remittances will impact Africa to the same degree as other regions. In particular, are there remittance-dependent economies in Africa for which a fall in remittances will cause, or exacerbate, economic stress? It is important to identify such cases early, so that timely and effective interventions can be designed and implemented.

Posing the question of whether there exist African countries that are vulnerable to a sudden and significant fall in remittances exposes a general lack of knowledge about remittances to this region. While there has been a surge of interest in remittances on the part of researchers and policymakers during the past decade, much of this interest has been focused either at the aggregate level or on particular regions such as South Asia or countries such as Mexico that receive the largest absolute remittance flows. Africa has typically received a small share of the billions of dollars in global remittances, and thus has tended to be overlooked by researchers and policymakers until quite recently. Even when researchers have examined remittances to Africa, the North African economies have captured most of the attention.

In this paper, we identify African economies both north and south of the Sahara that are vulnerable to a sudden fall in remittances, given the role that these flows currently play in their

economies and the expected fall in remittances to these economies caused by the global financial crisis. We estimate the impact of the changes in remittances on these countries' economies during the next two years, during which time remittances are expected to begin to grow once again. In addition, we utilize this opportunity to explore some of the characteristics of remittance flows to Africa, in order to contribute some stylized facts to our understanding of remittances to this region. For example, one of the key stylized facts that we need for our economic analysis is an understanding of where African migrants tend to go. We find that remittances to sub-Saharan Africa tend to be intra-African, which has implications both for the current vulnerability of this region to sudden remittance shocks as well as future growth opportunities related to remittances.

The remainder of the paper is structured as follows. In the next section, we describe the data on remittances to Africa. Then we examine data on migration from African countries in order to determine whether African emigrants tend to go to the economies that are most affected by the global financial crisis. We do this because data is only available for total remittances received by countries. Unfortunately, data is not available for remittances sent or for remittances received broken down by remitter's host country. In Section II, we present some stylized facts on African migrants and their remittance flows. In Section III, we outline the methodology we use to forecast the changes in remittances to African countries and to estimate their economic impacts. Section IV reports the results of this exercise, while Section V discusses the results and concludes.

II. MEASURING AFRICAN REMITTANCES AND MIGRATION

Part of the challenge of measuring the impact on African economies from the expected change in remittances is simply measuring the changes in remittances that are likely to take place. First, it is well known that these flows are often transferred through informal channels such as friends and family members travelling abroad, or informal money-transfer networks such as the *hawala* system. Remittances transferred through these and other informal channels can only be very roughly estimated. Although a growing share of global remittances is transmitted through the formal banking system, enabling them to be properly counted, Africa lags behind the rest of the world in terms of this trend. In this paper, we focus on remittances that can be directly measured through formal channels, so that the estimates should be taken as lower bounds on the effects of remittances on African economies.

Even within the category of formal remittances, there are different ways to measure this quantity. The World Bank maintains one of the most reliable and often-used databases on remittances. Within the data broadly considered "remittances" are three distinct categories of transfers. First, *workers' remittances* records current transfers to nonresidents by migrants who are employed in, and considered a resident of, the countries that host them. The category *employee compensation* is composed of wages, salaries, and other benefits earned by individuals in countries other than those in which they are residents for work performed for and paid for by residents of those countries. Finally, *migrants' transfers* are contra-entries to the flow of goods and changes in

financial items that arise from individuals' change of residence from one country to another, such as movement of accumulated savings when a migrant returns permanently to the home country. In most research on remittances, all three types of transfers are summed and labeled "remittances." But as Chami et al (2009) show, this aggregation is not appropriate, since the three different types of transfers have different properties and respond differently to economic shocks. Thus, in this paper, we use only workers' remittances as our measure of remittances.

Table 1 summarizes the workers' remittances data for African countries over the past 30 years. For several countries, few data points are available and the most recent observations are several years, and in some cases, over a decade, old. The table ranks the countries in terms of their remittances to GDP ratios, which is a good indicator of the importance of remittances to the receiving country. Half of the 44 countries in the sample had remittances-GDP ratios of 1 percent and higher during the most recent year for which data are available, and 12 countries had ratios of 5 percent and higher. The maximum remittance-GDP ratio occurred in Nigeria, at 10.9 percent, while an additional four countries had ratios of 9 percent or higher. Although remittances to Africa are small in an absolute sense as well as on a global scale, when scaled to the sizes of the African economies, they are quite substantial in many cases. Should remittances to the more remittance-dependent countries in the sample decline, this may cause GDP to fall significantly.

The difficulty of compiling data on an all-inclusive measure of remittances that would capture flows through informal as well as formal channels is illustrated in Table 2. Recently, the UN International Fund for Agricultural Development (IFAD) embarked on a worldwide effort to measure total remittance flows in 2006, using a variety of home and host country sources. For the African region, official flows captured in the IMF-World Bank databases correspond to about 75 percent of the total estimated by IFAD, about \$25 billion as opposed to \$34 billion.² However, excluding some outliers with relatively poor official reporting—for example, Comoros (14 percent), Burkina Faso (10 percent), Burundi (0 percent), and Mauritania (2 percent)—the coverage of official data tends to be relatively high, particularly for the top recipients in the region. In fact, in several cases, the official figures surpass the IFAD estimates by a significant margin.

The importance of remittances in several African countries is also comparable to that observed in some of the higher recipient countries in the world. In terms of the workers' remittances-GDP ratio, the Chami et al (2008) study showed only one African country (The Gambia) within the top 20 recipient countries for 2004, and only two (Morocco and Egypt) for the entire 1990–2004 period. However, if one notes that the cutoff for the 2004 ranking was at just under 10 percent, it

² The regional total reported by IFAD is actually somewhat larger, at \$38 billion. However, it includes some countries not included in our sample because no official remittance figures were reported in recent years.

is apparent from Table 1 that a cluster of about 7–8 African countries would certainly rank among the top 30 recipient countries in the world in 2007.

Table 1 also reports 1-year and 5-year cumulative average growth rates of the remittances-GDP ratios, where data permits. Interestingly, for over half the countries in the sample, this ratio fell in the most recent year for which data are available. In addition, the five-year growth rate was negative for 18 countries in the sample. While in some cases this may be due to a fall in remittances, this may also be due to an increase in GDP that outpaced the increase in remittances. For the countries with increasing remittances-GDP ratios, some of the increases are dramatic, on the order of 50 percent or more. This indicates that growth in remittances for these countries is much faster than GDP growth. Interestingly, many of the countries with high remittance-GDP ratios are also exhibiting very high growth in this ratio as well. This suggests that remittances are becoming even more important for these countries, increasing their vulnerability to a sudden fall in remittances.

The question raised by the data in Table 1 is whether the countries that are most vulnerable to a fall in remittances, according to their remittance-GDP ratios, will also be the ones to experience the greatest declines in remittance transfers. Estimating these declines is difficult, however, because of the lack of data on remittances that are sent from migrants' host countries. Generally, data on remittances are only collected by the receiving country, and recorded without indicating the transfer's country of origin. As we discuss below in more detail, the next best approach relies on the available data on stocks of migrants in host countries. Thus, the next important measurement issue is to analyze where African migrants go to find employment.

To construct and analyze African migration, we used data compiled by Parsons et al (2007) on international bilateral migration. Based on data collected from the census 2000 round, the Global Migrant Origin Database documents bilateral migrant stocks for 226 countries. For each African country in the sample, we collected the stock of migrants in each of its top 10 destination countries, then computed their respective shares in total outward migration. Table 6 summarizes this information. The geographic distribution of African migrants is summarized in histogram form in Figure 1. Each of the destination countries was assigned to one of six major geographic regions (Africa, Middle East, Asia Pacific, Europe, North America, and South America). The proportion of migrants living in each region was tallied for each African country. The histograms report the frequency of countries that have, for example, 0–9 percent of their migrants in the Middle East, 10–19 percent in the Middle East, and so on.

The histograms show that most international migrants from African countries stay within Africa. Over thirty countries send at least 20 percent of their migrants within Africa, and most countries send well over half their migrants within the continent. Europe is the second-most popular destination for African migrants, with eight countries sending at least half their migrants there. With only a few exceptions, most African countries do not send many migrants to the Middle East or Asia-Pacific regions. Migration to North America is also not very common, though a

significant fraction of countries send 10–20 percent of their migrants there. Finally, there are very few African migrants to the South American region.

Closer examination of the top 10 emigrant destinations for each African country in our sample confirms that most migrants stay within Africa, rather than migrating to other regions. Several North African countries such as Morocco and Egypt are notable exceptions, sending many of their migrants to Europe and the Middle East, respectively. In addition, many African countries are relatively regionally undiversified in terms of where they send their emigrants. There are 16 countries in our sample whose top four emigrant destinations are within the same region. Of these 16 “undiversified” countries, Africa is the main destination region, while Europe is the destination for the remaining “undiversified” country (Morocco).

In addition, for virtually every African country in the sample, the top four destination countries received at least sixty percent of all emigrants. In other words, the top few destinations attract large shares of the country’s migrants, and there is a sharp falloff in popularity of individual countries after that. This appears to reflect a situation in which for each migrant-sending country, there are a few destinations that hold some special attraction for those seeking work. This is probably the result of a number of factors, including geographic proximity and former colonial ties that lead to shared language (see Lueth and Ruiz-Arranz, 2007).

One implication that becomes clear from the analysis of migration is that there are relatively few African migrants in North America, one of the regions hit hardest by the financial crisis. But many African countries do send significant numbers of migrants to Europe, which also suffered a large fall in GDP because of the financial crisis. In addition, a few African countries send significant numbers of migrants to the Middle East, which suffered a downturn related both to financial market problems as well as the large fall in the price of oil between mid-2008 and early 2009. This suggests that significant declines in remittances, at least to some African countries, are to be expected.

III. METHODOLOGY

We use the following two-step procedure to estimate the economic impact of the change in remittances on African economies. First we forecast the change in remittances received by each African country implied by the forecast changes in GDP in the migrants’ host countries in 2009 and 2010. Then we estimate the impact on income in the receiving country using a short-run remittance multiplier. Methods for implementing both of these steps have been developed in the literature on remittances, and we discuss them below.

The first step requires the estimation of a remittance-determination equation. Because data on the quantity of remittances sent does not exist, aggregate remittance-determination equations estimate the relationship between the quantity of remittances received by a particular country and a set of driving variables. The set of explanatory variables typically includes income in the

remittance-receiving country and income in the main migrant destination country, the interest-rate differential between the remittance-sending and remittance-receiving country, and the real exchange rate (see Chami et al, 2008, for example). Of these variables, host-country income is consistently the most significant factor in remittance determination.

Most of the research on the determinants of remittances includes data from only one host country in the remittance-determination equation, due to lack of data on migration. This approach can nonetheless be appropriate if the vast majority of migrants go to the same country, or if the host countries are similar enough so that one country may serve as a proxy for all the host countries. Improved data on migration, however, now allows researchers to obtain a better picture of the actual distribution of a nation's emigrants, so that more accurate measures of host-country variables may be included in remittance-determination equations. In particular, Singh, Haacker and Lee (2009) use the Parsons (2007) data on migration to construct migrant-weighted averages of host-country income and interest-rate differentials, which they employ in their remittance-determination estimation. They use panel methods to estimate a remittance-determination equation for a large set of African countries.

Because their estimates were produced recently, we use Singh, Haacker and Lee's (2009) reported parameter estimates of the host-country income elasticity of remittances, resulting from panel data regressions on a sample of 36 Sub-Saharan African countries. They employed several different specifications, however, which yielded a range of different estimated elasticities. Their high and low estimates were used in the calculations described below in order to create a range of outcomes. The estimated host-country income elasticity of remittances was multiplied by the projected percent change in host-country GDP to construct a forecast of the percent change in remittances, which was then converted to a level by multiplying by the amount of remittances sent in the preceding year. The GDP forecasts are taken from the most recent issues of the IMF Regional Economic Outlook for each of the regions.

Weighted average host-country income for each remittance-receiving country was constructed in the following way. Migrant stocks in the destination countries as of the year 2000 were used to construct weights. For each African country, we found its top ten destination countries and formed weights as if these were the only destinations for this country's migrants. Figure 2 compares host to home country GDP per capita, as of 2008. Interestingly, there appears to be no clear relationship between the two; for a country of a given income level, there is virtually every possible range of values for average host country income. In fact, some countries send migrants abroad to countries which, on average, have a *lower* income level.

The second step of the process requires the estimation of a remittance multiplier. Simple Keynesian remittance multipliers have been estimated using input-output tables by Stahl and Habib (1989) and Adelman and Taylor (1990), while Nishat and Bilgrami (1991) estimate a simple Keynesian structural model. Recently, Glytsos (2005) estimates dynamic remittance multipliers for Egypt, Greece, Jordan, Morocco, and Portugal. This paper estimates a system of

reduced-form equations in which the endogenous variables are explained by lagged endogenous variables and contemporaneous exogenous variables, where remittances are an exogenous variable. For example, the equation estimated for GDP is given by

$$Y_{it} = \alpha_0 + \alpha_1 Y_{t-1} + \alpha_2 C_{t-1} + \alpha_3 M_{t-1} + \alpha_4 K_{t-1} + \alpha_5 G_t + \alpha_6 X_t + \alpha_7 R_t + \varepsilon_t.$$

We use a simplified version of Glytsos' procedure for this exercise, since we are only interested in the contemporaneous (one-year) multiplier. This is given by α_7 , the coefficient on remittances in the reduced-form equation with GDP as the dependent variable.

The estimated change in short-run GDP is given by the estimated change in remittances (obtained in the first step) multiplied by the estimated remittance multiplier.

IV. ESTIMATION AND RESULTS

Table 3 shows the migration-weighted growth rates of host country GDP for each remittance-receiving African country in our sample. In 2009, approximately half the countries in the sample are forecast to experience negative host-country GDP growth, though the maximum forecast decline is 3 percent. But for 2010, every country is forecast to experience positive GDP growth. Figure 3 plots these changes against per capita GDP in the home countries in 2008. As in Figure 2, there is no clear relationship; the income level of a given country says virtually nothing about the change in the income in its host countries in 2009–10.

The forecast growth rates of remittances to each country for 2009 and 2010 are reported in Table 4. The implied drop in remittances for those countries facing a drop in host-country income in 2009 is as large as 7.7–13.8 percent for Morocco and nearly this large for Tunisia and Algeria. This can be partially explained by the fact that these countries have the highest proportion of migrants who go to Europe, and Europe's GDP declines are larger than in other regions (with the possible exception of the US, which is however not a major host country for African emigrants). Of the remaining countries that are forecast to experience declines in remittances in 2009, most of the estimated declines fall in the 3–7 percent range.

The remittances multipliers for the countries in the sample were rather imprecisely estimated. This is mostly due to the fact that only annual data was being used, and most countries did not have a large number of observations. For many countries, the estimated multipliers were negative, but in general these estimates were not statistically different from zero. Nearly all of the countries reporting high values for the remittance-GDP ratios, however, had positive estimated remittance multipliers.

The estimated impact of the changes in remittances on GDP for 2009–2010 is reported in Table 5 for all countries whose estimated remittance multipliers were positive. Many countries are forecast to lose one to two tenths of a percent of GDP growth in 2009 because of the fall in remittances. In the case of several of the most remittance-dependent economies, however, the fall

in GDP is forecast to be much larger. Ethiopia is forecast to lose between 0.3 and 0.6 percent of GDP growth, the Seychelles are forecast to lose between 0.5 and 0.8 percent of GDP growth, and Tunisia is forecast to lose between 0.4 and 0.7 percent of GDP growth. By far the most vulnerable African economy, however, is Morocco, forecast to lose between 1.1 and 2.0 percent of GDP growth due to the fall in remittances. Interestingly, most of the hardest-hit African economies are in North Africa or have otherwise strong ties to Europe, as is the case of Ethiopia. Also, it is interesting to note that Egypt, which is highly dependent on remittances from the Middle East, is only forecast to lose up to 0.1 percent of GDP in 2009 through the fall in remittances. Much of this is due to the fact that host-country income for Egypt's migrants is only forecast to fall by 0.4 percent in 2009.

With the exception of a few countries in North Africa, the impact of the global fall in remittances on African countries' GDP growth is expected to be fairly mild. This is partly because host-country income will continue to grow in 2009 for many African countries, despite the global slowdown, or decrease by a small amount relative to the declines in developed-country GDPs. In addition, most countries have relatively small estimated remittance multipliers. For those countries that are forecast to lose a significant portion of GDP growth, there are two different cases. Some countries, like Tunisia and Morocco, simply face very large declines in host-country GDP in 2009. For other countries, like the Seychelles and Ethiopia, the drop in host-country GDP is fairly large but these countries also have large estimated remittance multipliers.

These results, of course, are subject to several caveats. First, the calculations assume that changes in host country income are the sole factor affecting changes in remittance flows during 2009–2010. However, other factors may come into play, most notably exchange rates. To the extent that the global crisis has led some countries to devalue their currencies, there may be a corresponding impact on remittance flows. The literature has shown that, most probably, the effect is negative, that is, remitters are likely to reduce their foreign currency transfers when the home country's currency weakens. Second, this study makes a simplifying assumption that the sectors in which migrants are employed are uniformly affected by the changes in overall economic activity in the host countries. This may not necessarily be the case; the performance of migrant-intensive sectors may differ substantially from overall GDP in host countries, and the sectors employing migrants of different nationalities may also differ substantially. More detailed information on employment of migrants and their relative income levels will be crucial in making more accurate estimates of the impact of global macroeconomic shocks on remittance flows. Third, in some of the countries subject to negative host country GDP shocks, there may be a compensating factor in the form of returning migrants who have lost their jobs. This flow, classified as *migrant transfers*, and thus excluded from this paper's strict measure of workers' remittances, might provide partial and one-time relief to a subset of these countries.

V. CONCLUSION

This paper has examined remittances to Africa and migration from Africa in order to forecast the impact on African nations' GDP of the expected drop in remittances caused by the global financial crisis. This exercise generally finds that these effects will be small for most countries, but countries with strong migration ties to Europe will experience much larger declines in GDP due to the fall in remittances.

One of the main reasons for this result is that, in terms of remittances, Africa is still relatively underdeveloped and undiversified. Nearly half of African nations have remittance-GDP ratios of less than 1 percent, indicating that remittances are not an important factor in these economies. For countries that do receive significant remittances, it is often the case that most of these remittances come from within Africa. The lack of diversification in this case protects Africa, since there are fewer migration ties to the regions that have experienced the most severe recessions and hence remittances are less likely to fall.

In this sense, the situation of many African countries with respect to remittances is reminiscent of the situation of countries like India and China with respect to capital flows during the East Asian Crisis of 1997. Unlike their neighboring countries in Southeast Asia, India and China were not severely affected by that crisis because their economies were relatively closed to the global capital market. Although this had a temporary benefit in terms of insulating these economies from the worst effects of the financial crisis, both countries subsequently found that integrating more deeply into the global economy was a more lucrative path to follow. Similarly, though many African nations currently benefit from their low exposure to global remittances, they stand to gain much more in the long run from increasing the amount of labor they send to other regions of the world.

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Table 1. Summary of Workers' Remittances Data (in billions)

	(Year)	RM/GDP	RM	Memo:	(Year)	1-year Growth Rate	(Year)	5-year CAGR
				RM, Current Prices					(4)	(5)	(6)	(7)	(8)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1 Nigeria	2007	10.921	976.42	2,256.24	2005	14.61	2007	62.40
2 Sierra Leone	2007	9.675	253.55	436.82	2007	168.59	2007	38.90
3 Togo	2007	9.637	104.18	120.78	2007	7.85	2007	7.29
4 Guinea-Bissau	2004	9.424	14.85	14.20	2004	10.79	2004	...
5 Senegal	2007	9.412	439.73	529.65	2007	10.72	2007	11.26
6 Cape Verde	2008	8.846	9.38	11.56	2008	(3.36)	2008	(7.89)
7 Morocco	2008	8.031	45.22	53.25	2008	(10.28)	2008	2.04
8 Gambia	2008	7.012	0.56	1.26	2008	(23.80)	2008	(17.76)
9 Egypt	2008	5.455	27.46	47.22	2008	(7.53)	2008	6.35
10 Sudan	2008	5.337	1.32	6.47	2008	40.58	2008	(4.67)
11 Comoros	1995	5.263	5.28	4.57	1995	(35.70)	1995	6.60
12 Uganda	2008	5.018	851.05	1,239.83	2008	36.68	2008	8.23
13 Mali	2007	4.516	126.68	154.65	2007	43.59	2007	9.59
14 Tunisia	2008	4.272	1.06	2.12	2008	4.12	2008	(1.21)
15 Benin	2007	3.964	94.03	112.07	2007	7.24	2007	31.12
16 Kenya	2008	2.184	29.76	45.87	2008	(8.11)	2008	(1.41)
17 Seychelles	2007	1.903	0.06	0.07	2007	0.50	2007	29.96
18 Rwanda	2008	1.561	16.93	34.77	2008	87.91	2008	33.91
19 Burkina Faso	2001	1.549	31.23	31.94	2001	(35.08)	1994	(4.12)
20 Ethiopia	2008	1.508	1.75	3.71	2008	(18.77)	2008	3.14
21 Sao Tome and Principe	2007	1.378	13.03	27.06	2007	7.41	2007	(7.20)
22 Guinea	2008	1.323	123.57	274.90	2008	264.97	2008	3.89
23 Niger	2007	0.971	17.05	20.43	2007	(25.42)	2007	22.12
24 Ghana	2008	0.846	0.03	0.13	2008	(2.88)	2008	(7.07)
25 Botswana	2008	0.602	0.25	0.55	2008	(7.21)	2008	4.48
26 Cameroon	2008	0.536	47.17	57.63	2008	(26.17)	2008	(3.67)
27 Algeria	1991	0.490	16.95	4.22	1991	(12.81)	1991	(10.22)
28 Zambia	2008	0.455	69.73	252.37	2008	(10.91)	2008	(15.42)
29 Djibouti	2008	0.435	0.39	0.76	2008	4.14	2008	(0.60)
30 Lesotho	2008	0.399	0.03	0.05	2008	(48.16)	2008	(22.60)
31 Burundi	2008	0.329	2.03	4.32	2008	1,522.85	2008	170.46
32 Mauritania	1998	0.181	0.42	0.42	1998	(5.75)	1998	(16.48)
33 Congo	2004	0.129	3.17	3.00	2004	(0.60)	2004	32.01
34 Angola	2008	0.084	0.20	5.33	2008	...	2008	...
35 Namibia	2007	0.071	0.03	0.04	2007	(13.35)	2007	(7.50)
36 Chad	1994	0.060	0.53	0.40	1994	454.90	1989	98.50
37 Swaziland	2007	0.049	0.01	0.01	2007	3.86	2007	...
38 Tanzania, United Republic of	2008	0.045	6.34	11.14	2008	(8.66)	2008	0.00
39 Malawi	2002	0.043	0.03	0.06	2002	0.66	2002	2.52
40 Madagascar	2005	0.027	1.58	2.71	2005	(71.75)	1996	(21.36)
41 Gabon	2005	0.017	0.67	0.78	2005	(14.20)	2005	(9.94)
42 Cote d'Ivoire	2007	0.011	0.91	1.13	2007	(2.32)	2007	...
43 Libyan Arab Jamahiriya	2006	0.010	0.00	0.01	2006	(36.26)	2006	(8.25)
44 Mozambique	2008	0.000	0.43	0.83	2008	(9.75)	2008	67.57

Source: IMF Balance of Payments Statistics Yearbook

This table summarizes the workers' remittances data for African countries. The countries included are ranked according to their remittances to GDP ratios (RM/GDP), as presented in column (2). 1-year and 5-year cumulative average growth rates of the remittances to GDP ratios are also reported, in columns (6) and (8), respectively. For several countries, the data points are several years old; columns (1), (5), and (7) indicate the most recent year for the data provided. Columns (3) and (4) present the level of remittances in constant and current prices, respectively, in the most for recent year for which data is available (as indicated in column (2)). Unless otherwise specified, data provided are in local currency at constant prices.

Table 2. Comparing Official to Total Remittance Estimates, 2006 (in billions)

	Official flows		Estimated flows	
	Workers' remittances	Workers' remittances + employee compensation + migrant transfers	Total	Official / estimated total
	(1)	(2)	(3)	(4)
Nigeria ¹	5.435	5.435	5.397	100.70
Sierra Leone	0.047	0.051	0.168	30.29
Togo	0.203	0.232	0.142	163.50
Guinea-Bissau ¹	0.028	0.028	...	...
Senegal	0.851	0.925	0.667	138.72
Cape Verde	0.136	0.137	0.391	34.94
Morocco	5.451	5.451	6.116	89.13
Gambia	0.063	0.064	0.087	73.18
Egypt	5.330	5.330	3.637	146.54
Sudan	1.177	1.179	0.769	153.33
Comoros ¹	0.012	0.012	0.085	14.12
Uganda	0.411	0.411	0.642	64.02
Mali	0.193	0.212	0.739	28.67
Tunisia	1.304	1.510	1.559	96.86
Benin	0.186	0.224	0.263	85.19
Kenya	0.570	0.570	0.796	71.67
Seychelles	0.013	0.013	...	...
Rwanda	0.017	0.021	0.149	14.20
Burkina Faso ¹	0.050	0.050	0.507	9.86
Ethiopia	0.169	0.172	0.591	29.13
Sao Tome and Principe	0.002	0.002	...	...
Guinea ¹	0.042	0.042	0.286	14.55
Niger	0.049	0.078	0.205	38.10
Ghana	0.105	0.105	0.851	12.37
Botswana	0.079	0.117	...	...
Cameroon	0.118	0.130	0.267	48.67
Algeria ¹	1.610	1.610	5.399	29.82
Zambia	0.058	0.058	0.201	28.71
Djibouti	0.004	0.028	...	...
Lesotho	0.004	0.361	0.355	101.82
Burundi	0.000	0.000	0.184	0.01
Mauritania ¹	0.002	0.002	0.103	1.94
Congo ¹	0.013	0.013	0.423	3.12
Angola ¹	...	...	0.969	...
Namibia	0.007	0.017	...	...
Chad ¹	...	...	0.137	...
Swaziland	0.001	0.099	0.089	110.81
Tanzania, United Republic of	0.009	0.015	0.313	4.91
Malawi ¹	0.001	0.001	0.102	0.98
Madagascar ¹	0.011	0.011	0.316	3.48
Gabon ¹	0.011	0.011	0.060	18.38
Cote d'Ivoire	0.002	0.167	0.282	59.14
Libyan Arab Zamahiriya ¹	0.006	0.016	0.134	11.94
Mozambique	0.016	0.080	0.565	14.17
Total	23.79	24.99	33.95	73.62
<i>Average value</i>	<i>0.57</i>	<i>0.60</i>	<i>0.89</i>	<i>51.30</i>
<i>Cross-country standard deviation</i>	<i>1.41</i>	<i>1.40</i>	<i>1.54</i>	<i>48.58</i>

¹ World bank estimates

Sources: IMF Balance of Payments Statistics Yearbook; World Bank Development Indicators; Sending Money Home: Worldwide Remittance Flows to Developing and Transition Countries (United Nation's International Fund for Agricultural Development)

This tables compares official remittance flows to estimated remittance flows through *both* formal and informal channels for 2006. Official remittance flows, as reported by the IMF's Balance of Payment Statistics Yearbook, are presented in columns (1) and (2). Estimated remittance flows, compiled by the United Nation's International Fund for Agricultural Development, are shown in column (3). Unless otherwise specified, data provided are in U.S. dollars at current prices.

Table 3. Migration-Weighted Growth Rates of Host Country GDP

	2009	2010
Morocco	(3.0)	0.8
Tunisia	(2.4)	1.2
Algeria	(2.4)	1.1
Egypt	(0.4)	3.4
Libyan Arab Jamahiriya	(1.5)	2.2
Botswana	(2.4)	2.9
Lesotho	2.7	4.8
Namibia	1.7	4.0
Swaziland	1.2	3.7
Malawi	1.8	4.1
Mozambique	2.1	3.9
Tanzania, United Republic of	1.1	3.5
Zambia	1.0	3.8
Angola	(0.6)	3.2
Seychelles	(1.5)	2.1
Madagascar	(2.1)	1.2
Uganda	(0.9)	2.6
Benin	2.4	3.9
Burkina Faso	3.1	3.9
Burundi	5.1	5.4
Cameroon	(0.8)	2.5
Cape Verde	(1.4)	1.9
Chad	3.2	4.8
Comoros	(1.2)	1.5
Congo	3.0	4.6
Cote d'Ivoire	0.0	2.4
Djibouti	1.0	3.2
Ethiopia	(2.0)	2.0
Gabon	2.1	4.2
Gambia	(1.0)	2.2
Ghana	1.7	3.5
Guinea	3.2	4.3
Guinea-Bissau	0.5	2.7
Kenya	0.1	3.0
Mali	2.8	3.9
Mauritania	0.9	3.1
Niger	3.0	3.9
Nigeria	0.9	3.4
Rwanda	5.1	5.3
Sao Tome and Principe	(1.6)	1.4
Senegal	(0.1)	2.6
Sierra Leone	(0.4)	2.9
Sudan	2.3	4.6
Togo	1.9	3.8

Sources: IMF Regional Economic Outlook; Global Migrant Origin Database

This table shows the migration-weighted growth rates of host country GDP for each remittance receiving country in our sample. Weights were constructed using migrant stocks in the destination countries as of the year 2000, and are based on the top ten destination countries. Forecast GDP figures are taken from issues of the IMF Regional Economic Outlook.

Table 4. Forecast Growth Rate of Remittances

	2009		2010	
	Low	High	Low	High
Morocco	(7.7)	(13.8)	2.0	3.5
Tunisia	(6.2)	(11.0)	3.0	5.4
Algeria	(6.2)	(11.0)	2.9	5.1
Egypt	(1.1)	(1.9)	8.6	15.3
Libyan Arab Jamahiriya	(3.8)	(6.8)	5.6	9.9
Botswana	(6.2)	(10.9)	7.4	13.2
Lesotho	7.0	12.5	12.2	21.7
Namibia	4.3	7.7	10.2	18.0
Swaziland	3.1	5.5	9.6	17.0
Malawi	4.6	8.1	10.4	18.5
Mozambique	5.5	9.8	10.0	17.7
Tanzania, United Republic of	2.9	5.2	8.9	15.8
Zambia	2.5	4.5	9.8	17.3
Angola	(1.4)	(2.5)	8.2	14.6
Seychelles	(3.9)	(6.9)	5.3	9.3
Madagascar	(5.5)	(9.7)	3.2	5.7
Uganda	(2.3)	(4.0)	6.7	12.0
Benin	6.1	10.8	10.1	17.9
Burkina Faso	8.0	14.3	10.0	17.7
Burundi	13.0	23.0	13.9	24.7
Cameroon	(2.1)	(3.8)	6.5	11.6
Cape Verde	(3.6)	(6.5)	4.8	8.5
Chad	8.1	14.5	12.2	21.7
Comoros	(3.1)	(5.5)	3.8	6.8
Congo	7.7	13.7	11.9	21.1
Cote d'Ivoire	0.1	0.1	6.3	11.1
Djibouti	2.5	4.5	8.2	14.6
Ethiopia	(5.1)	(9.1)	5.1	9.0
Gabon	5.4	9.5	10.7	18.9
Gambia	(2.5)	(4.4)	5.6	9.9
Ghana	4.4	7.8	8.9	15.8
Guinea	8.2	14.5	11.0	19.4
Guinea-Bissau	1.2	2.1	6.9	12.2
Kenya	0.2	0.3	7.8	13.8
Mali	7.2	12.7	10.1	17.8
Mauritania	2.3	4.1	8.0	14.3
Niger	7.6	13.5	10.1	18.0
Nigeria	2.2	4.0	8.8	15.6
Rwanda	13.2	23.4	13.6	24.1
Sao Tome and Principe	(4.1)	(7.2)	3.5	6.2
Senegal	(0.2)	(0.3)	6.7	11.9
Sierra Leone	(1.0)	(1.8)	7.5	13.2
Sudan	5.9	10.4	11.7	20.8
Togo	4.9	8.7	9.7	17.1

Sources: IMF Regional Economic Outlook; IMF Balance of Payments Statistics Yearbook; Global Migrant Origin Database; Singh, Haacker and Lee (2009)

This table shows the forecast growth rate of remittances to each country in our sample for 2009 and 2010. Estimated host-country income elasticity of remittances are multiplied by the projected change in host-country GDP to compute the forecast growth rate of remittances to each country. A range of high and low estimates is provided for each year based on the range of different elasticities produced by Singh et al. (2009).

Table 5. Estimated Impact of the Change in Remittances on GDP

	2009		2010	
	Low	High	Low	High
Morocco	(1.1)	(2.0)	0.2	0.4
Tunisia	(0.4)	(0.7)	0.2	0.3
Egypt	(0.0)	(0.1)	0.3	0.6
Namibia	0.3	0.6	0.7	1.3
Seychelles	(0.5)	(0.8)	0.5	0.9
Madagascar	(0.0)	(0.0)	0.0	0.0
Uganda	(0.1)	(0.2)	0.4	0.6
Burkina Faso	0.4	0.7	0.5	0.9
Cameroon	(0.1)	(0.1)	0.2	0.3
Cape Verde	(0.1)	(0.2)	0.2	0.3
Comoros	(0.2)	(0.4)	0.3	0.5
Djibouti	0.1	0.2	0.4	0.7
Ethiopia	(0.3)	(0.6)	0.3	0.5
Gabon	0.1	0.1	0.2	0.3
Guinea	0.0	0.1	0.0	0.1
Kenya	0.0	0.0	1.0	1.8
Mali	0.5	0.9	0.7	1.4
Mauritania	0.0	0.0	0.0	0.0
Niger	0.3	0.5	0.4	0.8
Rwanda	0.1	0.2	0.1	0.3
Senegal	(0.0)	(0.1)	1.2	2.2
Sierra Leone	(0.1)	(0.2)	0.7	1.3
Togo	1.8	3.2	2.7	4.9

Sources: IMF Regional Economic Outlook; IMF Balance of Payments Statistics Yearbook; Global Migrant Origin Database; Singh, Haacker and Lee (2009); authors' calculations

This table shows the estimated impact of the change in remittances on GDP for 2009 and 2010 for all countries whose remittance multipliers were positive. A range of high and low estimates is provided for each year based on the range of different elasticities produced by Singh et al. (2009).

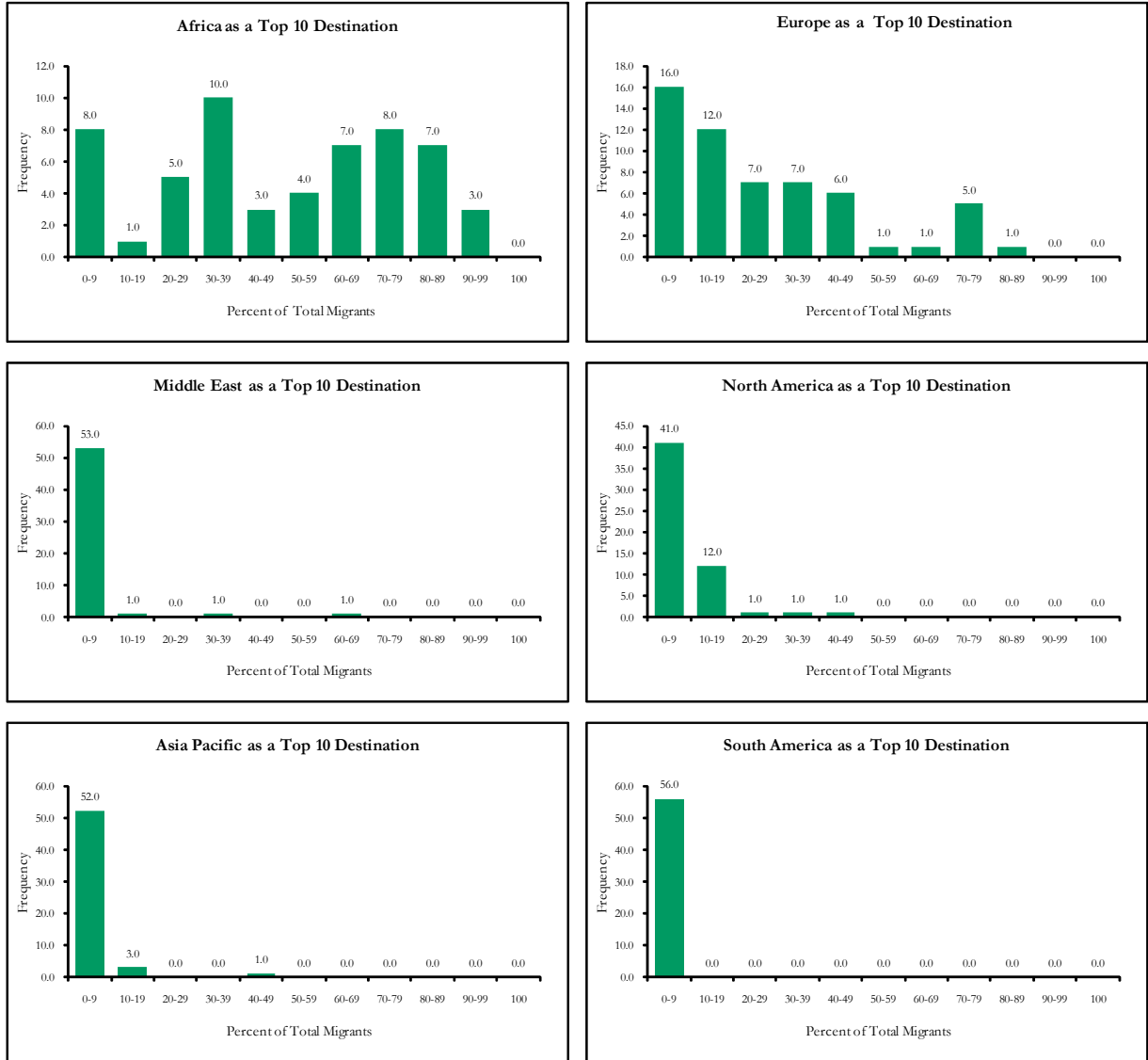
Table 6. Shares of Total Migrants for Each African Country in Each of its Top 10 Destinations

	Host 1	Host 2	Host 3	Host 4	Host 5	Host 6	Host 7	Host 8	Host 9	Host 10	Total
Morocco	FRA 29.3	ESP 12.1	DEU 11.3	ITA 7.3	ISR 6.4	NLD 6.0	BEL 4.5	LYB 2.6	USA 1.8	SYR 1.4	82.7
Tunisia	FRA 60.0	DEU 10.1	LYB 2.6	ISR 1.6	SAU 1.6	SCG 1.5	SYR 1.4	USA 1.4	COD 1.3	BEL 1.3	82.8
Algeria	FRA 64.4	DEU 10.5	LYB 2.6	ISR 1.5	SCG 1.5	SYR 1.4	ESP 1.4	COD 1.4	PAK 1.0	CAN 1.0	86.8
Egypt	SAU 46.7	JOR 5.8	USA 5.7	PSE 4.8	LYB 2.6	ARE 2.2	LBN 2.1	OMN 1.9	DEU 1.9	ITA 1.8	75.4
Libyan Arab Jamahiriya	ISR 24.6	GBR 11.8	USA 11.4	EGY 4.2	TUR 3.9	DEU 3.8	CAN 3.3	JOR 3.3	DZA 2.0	AUS 1.8	70.2
Botswana	ZAF 18.0	NAM 17.0	GBR 12.5	ZWE 11.6	USA 9.6	AUS 4.3	TZA 3.2	DEU 3.1	ZMB 2.9	MWI 1.4	83.6
South Africa	GBR 18.1	MOZ 16.0	AUS 10.1	USA 9.0	ZWE 7.4	CAN 4.8	NAM 4.6	DEU 4.4	NZL 3.3	NLD 1.4	79.3
Lesotho	MOZ 46.0	ZWE 19.5	ZAF 16.2	MWI 2.4	TZA 1.7	AGO 1.5	BWA 1.0	ZMB 1.0	COD 0.9	DEU 0.8	91.0
Namibia	MOZ 23.1	ZAF 17.3	ZWE 13.1	TZA 10.5	GBR 5.1	USA 4.2	DEU 1.9	ZMB 1.9	AUS 1.8	EGY 1.7	80.6
Swaziland	MOZ 28.5	ZAF 17.0	ZWE 14.5	GBR 7.4	USA 5.5	TZA 2.6	DEU 2.3	MWI 1.8	AUS 1.7	CAN 1.7	83.0
Malawi	ZMB 19.0	TZA 18.9	ZAF 17.7	ZWE 12.9	GBR 8.3	MOZ 6.3	DEU 1.9	KEN 1.4	USA 1.4	BWA 1.1	88.9
Mozambique	TZA 22.8	MWI 19.2	ZAF 17.7	ZWE 12.0	PRT 9.0	SWZ 2.5	DEU 2.1	KEN 1.6	BWA 1.1	COD 1.0	88.9
Tanzania, United Republic of	UGA 20.5	ZAF 18.3	GBR 11.5	ZWE 8.8	CAN 7.0	MOZ 5.3	MWI 4.8	USA 4.5	DEU 2.6	KEN 1.5	84.7
Zambia	TZA 23.1	ZAF 18.1	ZWE 10.7	MWI 9.5	GBR 8.8	NAM 5.2	USA 2.8	MOZ 2.4	DEU 2.1	KEN 1.7	84.5
Zimbabwe	ZAF 20.5	GBR 17.3	MOZ 13.9	ZMB 13.1	MWI 5.6	USA 4.3	AUS 4.1	DEU 3.5	CAN 1.4	AGO 1.3	84.9
Angola	PRT 19.8	ZMB 17.4	ZAF 17.3	ZWE 13.3	NAM 7.9	DEU 4.0	COG 1.7	MWI 1.6	PHL 1.3	BWA 1.1	85.2
Congo, the Democratic Republic of the	ZAF 18.2	COG 13.1	ZMB 9.2	RWA 8.7	ZWE 8.7	UGA 8.5	BEL 6.1	FRA 3.3	DEU 2.4	KEN 2.3	80.5
Mauritius	FRA 18.4	ZAF 18.4	GBR 15.6	AUS 9.7	DEU 6.5	ZWE 6.1	ITA 4.2	CAN 3.8	BEL 1.5	CHE 1.3	85.6
Seychelles	ZAF 18.7	GBR 17.4	AUS 14.6	ZWE 6.2	TZA 6.2	CAN 4.4	USA 4.3	ITA 3.5	FRA 2.4	83.9	
Madagascar	FRA 64.4	DEU 8.6	ZWE 4.2	COM 3.8	COD 1.4	CAN 1.3	SCG 1.2	USA 1.1	PAK 1.1	0.0	87.1
Uganda	GBR 32.4	TZA 23.8	USA 7.4	CAN 6.5	DEU 6.1	RWA 2.3	KEN 2.0	COD 1.5	SWE 1.4	PAK 1.2	84.6
Benin	NGA 27.7	BFA 12.7	TGO 12.5	CIV 10.6	GIN 9.8	GAB 5.6	GHA 5.2	FRA 2.2	NER 1.7	COD 1.4	89.3
Burkina Faso	CIV 72.5	GIN 11.0	GHA 5.1	COD 1.4	PAK 1.1	DEU 1.0	MLI 0.8	NER 0.8	NGA 0.6	KWT 0.5	94.8
Burundi	TZA 52.7	UGA 21.4	KEN 5.3	RWA 2.2	ETH 1.9	COD 1.5	PAK 1.1	BEL 1.0	CIV 0.9	89.4	
Cameroon	FRA 22.6	GAB 17.7	NGA 9.9	USA 7.5	DEU 5.4	TCD 3.0	CAF 3.0	COG 2.5	BFA 2.1	GBR 2.0	75.9
Cape Verde	PRT 22.5	USA 13.8	MOZ 8.4	FRA 6.6	DEU 6.6	SEN 6.3	NLD 5.5	GHA 5.0	ZWE 2.7	ITA 2.4	79.9
Central African Republic	SDN 46.1	COG 13.3	FRA 9.3	TCD 8.6	KEN 4.9	CMR 3.1	DEU 1.9	ETH 1.8	BDI 1.3	CIV 0.8	91.0
Chad	SDN 47.4	CMR 10.7	CAF 9.8	NGA 6.0	KEN 4.8	SAU 2.8	ETH 1.7	COG 1.6	FRA 1.6	GIN 1.3	87.7
Comoros	FRA 43.1	MIDG 22.5	DEU 7.0	TZA 4.7	LYB 2.6	KEN 2.0	SYR 1.4	COD 1.3	DZA 1.3	PAK 1.0	86.9
Congo	SDN 47.9	TZA 16.0	FRA 8.3	KEN 4.5	BEL 2.7	DEU 2.3	GAB 1.7	ETH 1.6	ZMB 1.3	BDI 1.2	87.7
Cote d'Ivoire	FRA 27.4	BFA 19.7	BEN 6.6	DEU 6.0	GIN 5.4	GHA 5.2	USA 4.6	ITA 4.1	NER 2.7	LBR 2.7	84.2
Djibouti	FRA 35.9	ETH 26.7	DEU 6.5	CAN 2.9	LYB 2.6	KEN 1.9	USA 1.7	EGY 1.6	GBR 1.5	DZA 1.5	82.9
Equatorial Guinea	GAB 52.3	ESP 14.0	CMR 6.7	KEN 4.2	NGA 3.3	DEU 2.9	ETH 1.5	COD 1.3	BDI 1.1	PAK 1.0	88.5
Eritrea	ETH 61.5	SAU 5.5	KEN 4.3	USA 3.4	LYB 2.7	SYR 1.5	DEU 1.4	COD 1.4	GBR 1.3	BDI 1.1	84.1
Ethiopia	USA 25.6	ISR 20.7	SAU 7.7	CAN 5.1	SWE 4.0	DEU 3.3	JOR 3.1	GBR 2.9	NLD 2.7	ITA 2.2	77.2
Gabon	SDN 47.3	FRA 19.7	SLE 4.4	KEN 3.7	DEU 3.4	CMR 2.9	COG 1.5	ETH 1.3	STP 1.1	GIN 1.0	86.4
Gambia	SEN 15.4	ESP 12.2	USA 11.9	NGA 8.4	GBR 7.7	DEU 5.5	SWE 5.4	BFA 5.2	GIN 5.1	GHA 4.9	81.6
Ghana	CIV 31.9	NGA 13.1	BFA 9.7	GIN 8.7	USA 7.3	GBR 6.0	TGO 4.0	DEU 2.3	LBR 2.3	CAN 1.8	86.9
Guinea	CIV 23.7	SEN 18.7	LBR 12.1	BFA 11.2	GMB 6.6	SLE 6.2	GHA 5.1	FRA 1.4	COD 1.4	DEU 1.3	87.7
Guinea-Bissau	SEN 25.4	PRT 16.7	GMB 13.4	FRA 6.3	BFA 5.8	GIN 5.7	GHA 4.8	DEU 4.4	NGA 2.6	ESP 1.8	86.9
Kenya	GBR 28.5	TZA 27.0	USA 9.8	UGA 7.4	DEU 5.4	CAN 4.6	COD 1.5	AUS 1.5	PAK 1.3	CIV 0.9	88.0
Liberia	USA 48.0	NGA 15.1	GHA 5.2	BFA 3.9	GIN 3.9	SLE 2.5	NLD 2.4	DEU 2.1	GBR 2.0	COD 1.4	86.5
Mali	CIV 30.8	BFA 27.7	GIN 10.3	NGA 5.8	GHA 5.2	FRA 2.7	GAB 2.2	NER 2.1	SEN 1.5	COD 1.4	89.8
Mauritania	SEN 34.2	NGA 10.3	FRA 8.8	BFA 7.7	GIN 7.6	GMB 4.8	ESP 3.2	DEU 2.7	LYB 2.4	USA 2.2	83.8
Mayotte	FRA 63.8	ZWE 19.4	MWI 2.3	ITA 2.0	NLD 1.6	NLD 1.6	DEU 1.3	DEU 1.3	PAK 1.0	0.0	94.4
Niger	BFA 27.8	CIV 26.2	NGA 11.9	GIN 10.8	GHA 5.2	TGO 3.4	BEN 3.0	COD 1.4	DEU 1.1	PAK 1.1	91.8
Nigeria	SDN 23.8	USA 13.7	GBR 8.6	CMR 8.4	GHA 5.1	NER 4.0	DEU 2.9	BEN 2.9	BFA 2.6	GIN 2.5	74.4
Reunion	AUS 40.9	NLD 18.7	FRA 14.0	ITA 7.0	DEU 4.1	NZL 3.5	CHL 1.8	COD 1.8	0.0	0.0	91.8
Rwanda	UGA 42.2	TZA 27.9	KEN 4.9	BEL 2.8	DEU 1.9	ETH 1.8	COD 1.5	BDI 1.3	USA 1.2	FRA 1.1	86.5
Saint Helena	GBR 52.3	ITA 14.0	DEU 7.4	CHL 6.7	GHA 4.4	USA 2.1	SCG 1.3	COD 1.2	BFA 0.9	0.0	90.1
Sao Tome and Principe	PRT 55.0	CPV 15.9	DEU 9.0	BFA 3.0	GIN 2.9	COD 1.4	SCG 1.3	PAK 1.1	FRA 1.0	CIV 0.8	91.4
Senegal	GMB 20.6	FRA 18.3	ITA 9.6	MRT 8.5	DEU 5.3	GHA 5.0	GAB 3.9	BFA 2.9	GIN 2.8	USA 2.5	79.4
Sierra Leone	USA 22.9	LBR 18.3	GBR 18.2	GHA 5.0	DEU 4.5	BFA 4.5	GIN 4.4	NGA 2.8	NLD 2.2	GMB 1.7	84.3
Somalia	ETH 36.0	GBR 8.2	USA 7.0	DEU 4.0	NLD 4.0	SAU 3.9	CAN 3.8	SWE 2.7	LYB 2.7	KEN 2.6	75.0
Sudan	SAU 32.0	UGA 24.3	JOR 3.8	USA 3.4	EGY 2.6	LYB 2.6	KEN 1.9	DZA 1.9	GBR 1.8	ETH 1.7	76.1
Togo	NGA 36.1	BEN 12.1	BFA 9.0	GIN 8.8	GAB 6.6	FRA 6.4	GHA 4.6	DEU 2.0	USA 1.6	COD 1.2	88.4

Source: Global Migrant Origin Database

This table shows the top 10 destination countries for each African country, and the corresponding share of total migrants living in each of the top 10 destinations. The home or source countries are reported in the first column. The top 10 destination countries corresponding to each source African country are in the same row as its source country, in the subsequent columns to the right. For example, the top 10 destination countries for Moroccan emigrants are: France (29.3), Spain (12.1), Germany (11.3), Italy (7.3), Israel (6.4), Netherlands (6.0), Belgium (4.5), Libya (2.6), the United States (1.8) and Syria (1.4).

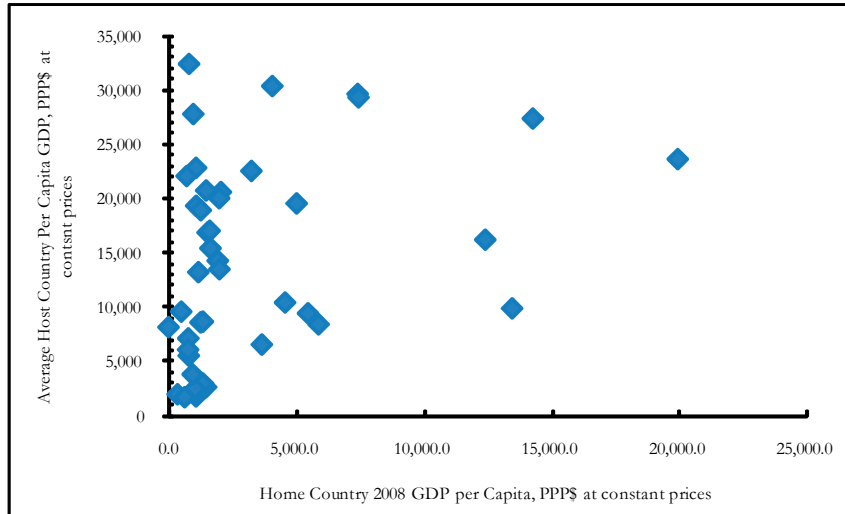
Figure 1. Geographic Distribution of African Migrants



Source: Global Origin Migrant Database

These histograms illustrate the geographic distribution of African migrants. Each histogram reports the frequency of countries that have a given percentage of their migrants in each of six major regions: Africa, Middle East, Asia Pacific, Europe, North America, and South America.

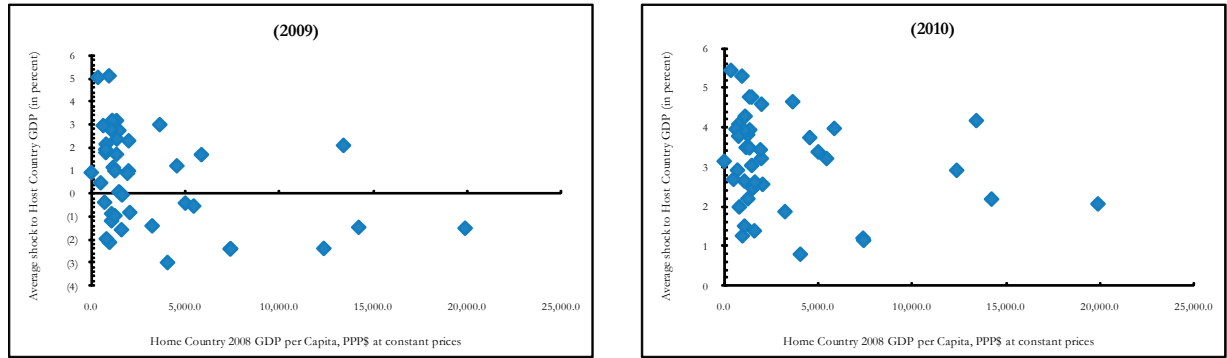
Figure 2. Average Host Country per Capita GDP



Sources: World Bank Development Indicators; Global Migrant Origin Database

This chart highlights the variation in average host country per capita GDP across African countries in our sample. 2008 per capita GDP for each African country is presented on the x-axis. Migration-weighted host country per capita GDP for 2008 is reported on the y-axis. Weights were constructed using migrant stocks in the destination countries as of the year 2000, and are based on the top 10 destination countries. Data provided are in purchasing power parity dollars at constant prices.

Figure 3. Shock to Average Host Country GDP, 2009 and 2010



Sources: World Bank Development Indicators; IMF Regional Economic Outlook; Global Migrant Origin Database

These charts illustrate the variation in the average shock to host country GDP in 2009 and 2010 across African countries in our sample. 2008 per capita GDP for each African country is presented on the x-axis. Migration-weighted growth rates of host country GDP are reported on the y-axis. Weights were constructed using migrant stocks in the destination countries as of the year 2000, and are based on the top 10 destination countries. Forecast GDP figures are taken from issues of the IMF Regional Economic Outlook. Per capita GDP figures are in purchasing power parity dollars at constant prices.