

Migration Remittances and Development: A Review of Global Evidence¹

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A considerable amount of research has been conducted on the topic of migration and remittances over the last few years. Early studies on immigration policy assumed that migrants leave their countries, settle in a new country, start integrating in their new society, and abandon their ties with their country of origin. Today, however, globalization makes it possible for immigrants to remain connected with their native countries while residing abroad. To address the latest developments on migration and remittances, the authors provide a global survey of the analytical and empirical literature on these issues. This paper reviews evidence on how migrants contribute to the economic development of their countries of origin. In addition to describing the state of knowledge regarding flows of people and migrant remittances worldwide, it focuses on the current literature dealing with the development impact of transfers of money, knowledge, and skills by migrants back to their home countries. The paper also examines the complex question of the impact of highly skilled migration on labor sending countries. There is a continuing debate over what role migration should play in the mix of policies available in order to promote economic development. Although mechanisms for liberalizing goods, services and capital markets are in place, the international mobility of labor still faces stringent restrictions. The paper, therefore, reviews proposed mechanisms to strengthen the governance of international migration, including policy options to make migration management bilateral, regional, or

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global. It also considers the relationship between international trade and development policies and migration policies, including how to tap to the diaspora.

1. Introduction

Worldwide migration pressures are expected to rise with growing demographic and economic differences between developed and developing countries. About 3% of the world's population, more than the combined populations of Nigeria and South Africa, has moved from their countries of origin to live and work elsewhere. The increase in migration since the 1990s, and the growing importance of remittances as a source of development financing is pressuring policy makers to consider how best to make use of these human and financial flows.

A considerable amount of research has been conducted on the topic of migration over the last few years. Early studies on immigration policy assumed that migrants leave their countries, settle in a new country, start integrating in their new society, and abandon their ties with their country of origin. Today, however, globalization makes it possible for immigrants to remain connected with their native countries while residing abroad, thus diminishing their loss of identity and separation from their countries of origin.

This paper reviews evidence on how migrants contribute to the economic development of their countries of origin. In addition to describing the state of knowledge regarding flows of people and migrant remittances worldwide, it focuses on the current literature dealing with the development impact of transfers of money, knowledge, and skills by migrants back to their home countries. This article also examines the complex question of the impact of highly skilled migration on labour sending countries.

There is a continuing debate over what role migration should play in the mix of policies available in order to promote economic development. Although mechanisms for liberalizing goods, services and capital markets are in place, the international mobility of labour still faces stringent restrictions. This article, therefore, reviews proposed mechanisms to strengthen the governance of international migration, including policy options to make migration management bilateral,

regional, or global. It also considers the relationship between international trade and development policies and migration policies.

The paper is organized in six sections besides this introduction. Section 2 discusses global and regional trends in migration. Section 3 presents the latest trends and issues in international remittances. Section 4 discusses the impact of migration on growth and poverty reduction in labour sending countries. Section 5 highlights some elements of the current policy debate on migration and remittances, and Section 6 concludes.

2. Migration: Scale, Structure, and Regional Trends

Voluntary international migration is not a new phenomenon. The 19th and early 20th century saw mass movements of people from Europe to North America and Australasia. Today, however, many migrants flow from developing to developed countries for a variety of economic, political and personal reasons. These late 20th and 21st century migration flows from the South to the North have been fueled by:

- Reduced transport and communications costs, making it easier for people to move back and forth, and making people more aware of opportunities in other countries.
- Economic and political instability in a number of countries located in Central and Eastern Europe and in Africa, and,
- Strong economic conditions in developed countries and a widening income gap between developed and developing countries.

2.1. Patterns of Global Migration

Despite the importance of international migration, we have surprisingly little systematic evidence about its scale, structure and regional distribution. The UN World Economic Survey, 2004 reviews global trends in the stock of international migrants by major region for the period 1960–2000. These estimates are based on census data for 210 countries. The data for 156 of them relate to the number of foreign-born persons. For a further 54, the data available refer to the number of foreigners.

The number of international migrants in the world rose from 76 million in 1960 to 82 million in 1970, and then more than doubled

Table 1: *International Migrants by Region of Destination, 1960–2000*

Region	Millions				
	1960	1970	1980	1990	2000
World	75.9	81.5	99.8	154.0	174.9
Developed countries	32.1	38.3	47.7	89.7	110.3
Developed countries excluding USRR	29.1	35.2	44.5	59.3	80.8
Developing countries	43.8	43.2	52.1	64.3	64.6
Africa	9.0	9.9	14.1	16.2	16.3
Asia ^a	29.3	28.1	32.3	41.8	43.8
Latin America and the Caribbean	6.0	5.8	6.1	7.0	5.9
Northern America	12.5	13.0	18.1	27.6	40.8
Oceania	2.1	3.0	3.8	4.8	5.8
Europe ^b	14.0	18.7	22.2	2.3	32.8
USRR (former)	2.9	3.1	3.3	30.3	29.5

Source: United Nations, Trends in Total Migrant Stock: The 2003 Revision (POP/DB/MG/Rev 2003 and ESA/P/WP.188).

^aExcluding Armenia, Azerbaijan, Georgia, Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan.

^bExcluding Belarus, Estonia, Latvia, Lithuania, the Republic of Moldova, the Russian Federation and Ukraine.

to 174.9 million in 2000 (Table 1). According to the OECD, however, migration may have stabilized—at least temporarily—in 2004, due to security concerns after September 11 and the SARS scare in Asia. In all likelihood, the UN data seriously under-estimate the actual number of international migrants produced by any given labour-exporting country, because they do not include the large number of illegal migrants working in the United States and OECD Europe (see Stanton 1994, Harrison 2003 and Wilson 2003 for additional estimations).

Where do Migrants Go?

International migration to industrial countries increased continuously between 1970 and 2000, and the share of migrants in

Table 2: *Growth in International Migration to Countries of Destination, 1970–2000 (Percent Change Per Year in Stock of Migrants)*

	1970–1980	1980–1990	1990–2000
World	2.0	4.4	1.3
Industrial Countries	2.4	2.9	3.1
Developing Countries	1.8	5.5	–0.1
Excluding former USSR	1.9	2.1	0.0
Former USSR	0.5	25.0	–0.3

Source: UN.

industrial countries’ populations almost doubled over the 30 year period (Table 2). By contrast, migration to developing countries declined from 1990 to 2000, and with rapid population growth, the share of migrants in developing countries’ population (excluding the former Soviet Union) fell (Figure 1).³

Geographic proximity continues to be a significant determinant of migration patterns, as evidenced by the large flows between Mexico and the United States, North Africa and Southern Europe, Eastern European countries and Western Europe and among Middle Eastern countries. Cultural, historical and colonial ties, and the networks built up over many years, also prompt large movements. For example migrants from a number of Sub-Saharan African countries moved to the former colonial countries, France, the UK, Belgium and Portugal Cape Verde and Angola together account for 20% of the foreign population in Portugal. (OECD, 2005). But there also have been important changes in the geographical composition of migrant flows. More Asians are today seeking work in other Asian countries, and more Latin Americans are turning to Europe for work opportunities (Wickramasekera, 2002; OECD, 2005; IOM, 2005).

Migration to OECD Countries. The OECD (2005) has recently published revised time series data on the stock of migrants in OECD

³ The breakup of the Soviet Union and emergence of 15 new independent countries in 1991 created new populations of ‘international’ migrants without migration having taken place (UNPD, 2004).

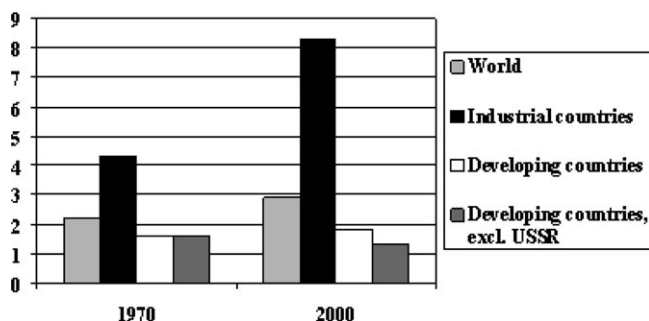


Figure 1: *The Stock of International Migrants as a Share of Destination Countries' Population (%)*. Source: UN (2005)

countries by region of origin (Table 3). These data are the most comprehensive available for migration into two significant labour receiving areas, North America and Europe, but they suffer from both definitional problems and lack of coverage. These data do not count the unknown number of international migrants working in other labour-receiving regions like the Arab Gulf and

Table 3: *Stocks of Total Foreign-born by Region of Origin, OECD Countries Year 2000*

Region	Stock	%
Africa	7,078,167	8
Of which North African Countries	3,193,667	4
Latin America	15,633,942	18
North America	2,413,463	3
Caribbean	5,283,645	6
Oceania	1,177,196	1
EU25	20,351,626	23
Other Europe	12,065,948	14
Unknown	1,794,230	2
Total	88,959,942	100

Source: SOPEMI (2004).

South Africa. Nor, do they capture south-south migration in such important regions as Asia and Africa.

Migration data by country of destination depend on census data and on the definition of 'foreign born' residents. Most European OECD countries use an ethnicity-based definition of immigration status. This method classifies a person on the basis of the ethnicity of the parents, rather than on place of birth. Thus, a child of Turkish parents born in Germany is typically classified as an immigrant. This way of classifying immigrants has the net effect of increasing the stock of immigrants in any particular OECD country. However, use of census data means that undocumented immigrants may fail to report their immigration status, providing an offsetting downward bias to the estimates. In the case of the United States, migration estimates are constructed using the 'place of birth for the foreign-born population'. It is not clear how many of those who enter the United States illegally are included in the 'foreign-born' population figures. Some observers have suggested that U.S. Census data may grossly undercount the actual migrant population that is living, legally or illegally, in the United States.

According to the OECD (2005), international migrants from Africa totaled seven million (8% of total foreign-born in OECD countries) in 2000 and migrants from North African countries accounted for half of this population (Table 3). These proportions are relatively small when compared to other regions, such as Asia, which has the largest stock of total foreign born living in OECD countries. A number of nationalities now dominate immigrant inflows to the OECD countries, namely Russians and Ukrainians as well as Chinese and Indians (OECD, 2005). The stock of Latin American immigrants amounts to more than 15 million persons, among whom Argentines, Venezuelans and, more recently, Bolivian and Ecuadorians, comprise the largest groups. A higher proportion of Latin Americans can be found in Spain, Italy and Portugal than in other European countries. A high degree of mobility can also be observed between OECD member countries, particularly with regard to US, German and UK nationals (OECD, 2005). 47% of immigrants to OECD countries are from other OECD countries.

Migration among Developing Countries. The Middle East and North Africa offers one of the most complex migration patterns

of any part of the developing world. It is both a labour sending and receiving region, characterized by outflows to Europe and North America and inflows into the oil exporting economies of the Arab Gulf. Intra-regional migration primarily takes place to the Gulf States. Emigrants in these areas mainly immigrate to work as contract workers or in skilled professional and managerial positions. Initially, most migrant workers in the Gulf were from Egypt, Jordan and Syria. Recently, however, the Gulf States have limited Arab immigration and new immigrants are arriving from South and East Asia. This region is also second to Sub-Saharan Africa in terms of intra-regional refugees, and many immigrants enter other countries without documentation.

There has been a slow down in migration within Latin America, following a doubling of intra-regional migration in the 1970s. Migration flows stagnated in the 1980s, because of the economic crisis (Villa and Martinez, 2001). During 1970–1990, almost two-thirds of Latin American immigrants were concentrated in Argentina and Venezuela. Currently, however, due to the worsening economic situation, there has been an increase of emigration from both countries. Intra-Asian migration is mainly of a temporary nature. As a consequence of the perceived temporary nature of migration flows, few Asian countries allow for permanent residence of foreign nationals. Hong Kong is the only economy that has a special settlement program for foreigners. African migration is still primarily intra-regional. Estimates of the magnitude of these flows are difficult to construct. However, large numbers of immigrants from Burundi and Congo continue moving to Tanzania. Somalis are still living in Kenya, and Zimbabweans in South Africa. Lesotho and Mozambique has large stocks of migrants in South Africa. Traditional migration configurations in West Africa have changed in recent years, as West African countries have become both source and destination countries for migrants. Ghana has been one of the major host countries in the sub-region. Cote d'Ivoire and Nigeria were also traditionally key destinations. However, the disruption in Cote d'Ivoire and the economic crisis in Nigeria have diminished the number of migrants into these countries. Burkina Faso, Guinea, Mali and Togo are the main sender countries. Senegal has been both a receiving and sending country (ECA, 2004).

What do We Know About Undocumented Migration?

Undocumented and often illegal migration appears to have increased significantly in major countries of destination, although the estimates are unreliable. (NFIB, 2001, Jandl, 2004, Martin, 2004, Spencer, 2004).⁴ For example, undocumented migration may have doubled in the United States between 1990 and 2000 (U.S. Department of Homeland Security), and now accounts for some 11 million workers, or about 6% of the labour force (Passel, 2005). Mexicans are the largest group of undocumented migrants in the US at 5.9 million, representing 57% of total undocumented population. This share has not changed for the past decade, despite the fact that the size of the undocumented population has grown very rapidly. Other undocumented migrants are largely from Latin America (24%). Of the remainder about 9% are from Asia, 6% from Europe and Canada, and four percent from Africa and the rest of the world (Figure 2).

Undocumented migration in Europe is also of growing significance (Figure 3). Lower approval rates for asylum-seekers in the European Union, where, about 400,000 sought asylum in 2000, have prompted more migrants to enter the EU as undocumented. Illegal immigration has grown ten fold in less than a decade—to 500,000 in 1999, compared to less than 50,000 in 1993, according to one estimate by the International Center for Migration Policy Development.⁵ Almost one million undocumented migrants (just under 6% of the labour force) are expected to be targeted by the recent amnesty drive in Spain (OECD, 2005).

How Significant is Migration to the Labour Sending Countries?

During the last decade, outward migration has had a significant impact on the labour force in a growing number of developing countries. Once again, our ability to estimate with any precision the proportion of a developing country's population that works outside its borders is severely limited by lack of data. Few of the major labour-exporting countries publish accurate records on the

⁴ Undocumented migration in this context means any person entering, residing and working in a country without proper documentation relating to their legal status in that country.

⁵ The estimates were taken from the *Growing Global Migration and Its Implications for the United States*, NIE 2001-02D, National Foreign Intelligence Board.

Estimates of Undocumented Immigrants in United States

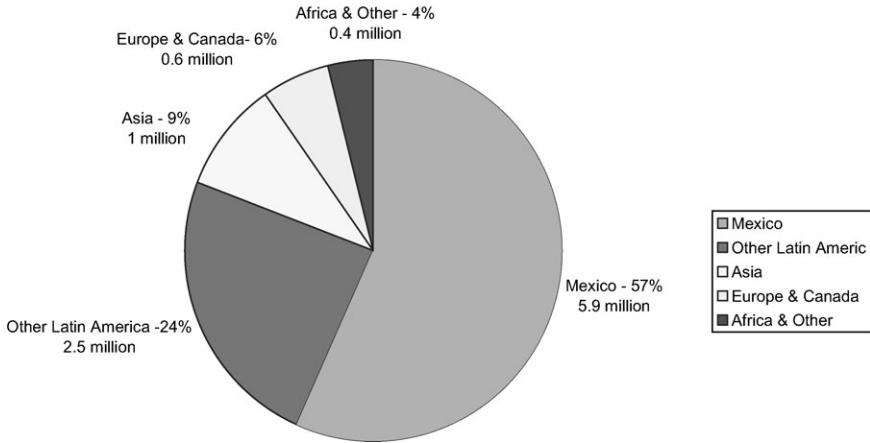


Figure 2: *Undocumented Immigrants in the United States: 10.3 Million in 2004.* Source: Pew Hispanic Center based on March 2004 Current Population Survey (Passel, 2005). Includes an Allowance for Persons Omitted from the CPS

number or characteristics of the international migrants that they produced. It is therefore, necessary to estimate migration stocks and flows by using data collected by the main labour-receiving countries. These data suffer from a host of definitional and coverage problems, but perhaps their greatest limitation is uncertainty concerning the extent to which they account for undocumented migrants.

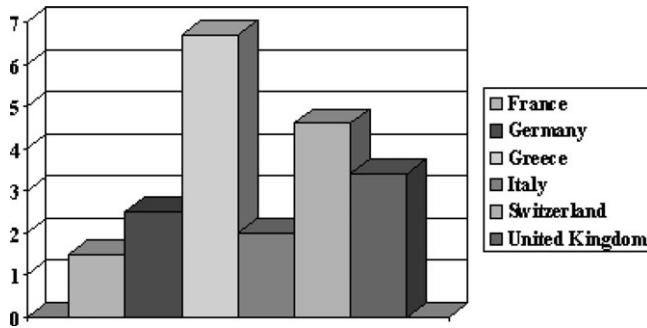


Figure 3: *Estimates of Stock of Irregular Migration (% of labour force)*

Table 4: *Migration Intensity by Regions*

Region	Migration as Share of Population
East Asia and Pacific	3.42
Europe and Central Asia	3.85
Latin America and Caribbean	15.56
Sub Saharan Africa	1.72
Middle East and North Africa	1.97
South Asia	0.41

Based on the new OECD database on international migrants, Table 4 presents estimates of the share of migrants in the population of 134 developing countries,⁶ and the average for each region. These ratios can be seen as indicative of the extent to which a country or region is an exporter of labour. For East Asia, Europe and Central Asia, the Middle East and North Africa and Sub-Saharan Africa, the share of migrants in the population lies between about 2 and 4%. Latin American and the Caribbean have an average migration intensity of 15.56. Among the highest migration intensity countries are islands in the Caribbean: Antigua and Barbuda (35.13), Barbados (34.07), Belize (17.91), Dominica (38.75), Grenada (48.24), Guyana (42.54), Jamaica (32.55), St Kitts and Nevis (46.36), Grenadines (32.73), Suriname (45.75), and Trinidad and Tobago (22.65). In contrast, South Asia has an average migration intensity of less than 1%, indicating that the majority of the migrants from South Asia remained within Asia, or migrated to destinations, such as the Arab Gulf, that are not represented in the OECD data.

Countries that are not islands, but have a large proportion of their population abroad are concentrated in Eastern Europe and Latin America: Albania (19.97), Bosnia and Herzegovina (14.32), El Salvador (14.12), Croatia (10.15), Serbia and Montenegro (10.10), and Mexico (9.62). In Sub-Saharan Africa excluding the islands,

⁶ OECD (2005) has developed a new data set on immigrants and expatriates that contains detailed information on the foreign born population for almost all member countries of the OECD. For the great majority of the countries involved, data by country of birth are available.

the two countries with the highest share of migrants in their populations are Congo Republic (2.24) and Somalia (2.01). Both countries have suffered civil conflicts that generated sudden and large-scale migration flows into the United States and other OECD countries.

Using data compiled by Adams and Page (2005), it is possible to compare 1990 and 2000 migration intensity estimates for 71 developing countries. Globally migration intensity has grown on average by 1.38% points. Turkey is the only country that shows a reduction in its migration intensity from 4.27 in 1990s to 3.17 in 2000. However, countries such as Jamaica, Trinidad and Tobago, El Salvador, Mexico, and the Dominican Republic have experienced increments of more than 4% points.

2.2. Patterns of Migration by Labour Skills

Historically, patterns of migration by skills have been determined by the human capital endowments of migrants and the immigration policies of the major destination countries. Until recently immigration policies have tended to be 'skill blind' in the majority of OECD countries. The major destination countries have admitted the largest share of permanent immigrants for family reunification, or in the case of the EU countries, for humanitarian or refugee resettlement. But, countries like Australia, New Zealand, Canada, and some in Europe, increasingly re-direct their migration policy towards economic (largely skilled) immigration. The share of labour-related migration is increasing in all of the major labour receiving regions.⁷

Trends in Unskilled Labour Migration from Developing Countries

The stock of low-skill emigration averaged about 0.8% of developing countries' working-age residents in 2000, about the same as in 1990. The regions with countries close to the major destination countries (Europe and Central Asia—3.8%, Latin America and the Caribbean—2.9%, and Middle East and North Africa—2.1%) had

⁷ Germany, Ireland and the Czech Republic, are in the process of establishing new immigration regimes, with a major focus on economic migration. The European Union is also discussing a Green Paper on an EU Approach to Managing Economic Migration (EU 2005).

relatively high rates of low-skilled emigration, while regions where most countries were at considerable distance to major destination countries (East Asia and the Pacific—0.2%, South Asia—0.2%, and Sub-Saharan Africa—0.4%) had relatively low rates.⁸ While low-skilled emigration is small from countries on average, it exceeds 10% of the working age population from Mexico, from several Central American and Caribbean countries, and from a few of the Central European countries.

Trends in Skilled Labour Migration from Developing Countries

The number of skilled migrants from developing countries has increased dramatically over the past four decades. The United Nations estimated that the total number of highly-skilled South-North migrants between 1961 and 1972 was 300,000 (UNCTAD, 1975). By 1990, there were more than 2.5 million highly-educated immigrants from developing countries residing in the United States alone. Worldwide, average emigration rates amount to 5.5% for high-skill workers, compared to less than 1% for low-skill ones (Docquier and Rapoport, 2004a, b).

The United States is the major OECD destination country for skilled workers (SOPEMI, 2004, 2005; OECD, 2005). The European Union is the second destination, followed by Canada and Australia. Among non-OECD countries, countries comprising the former USSR have the largest community of skilled expatriates (4.2 million), former Yugoslavia is second (2.2 million), followed by India (1.9 million).

Latin America and Africa are the two regions of the developing world that have the highest shares of skilled and highly skilled migrants residing in the developed countries; 14 of the 30 countries with the highest emigration rates of skilled workers are African.⁹ Table 5 presents the numbers and percentages of the stock of expatriates of highly skilled migrants from Africa and Latin America in OECD countries. The five countries with the largest number of skilled immigrants from Latin America are Jamaica, Colombia, Brazil, Peru and Argentina. In the case of Africa, South

⁸ These data are described in Docquier and Marfouk (2004), which in part relies on official sources (plus extensive estimations), and thus undercounts irregular migrants, who are less likely to report their immigrant status. As most irregular migrants are unskilled, the data probably understate low-skilled migration.

⁹ Docquier and Rapoport (2004).

Table 5: *Number of Highly Skilled Expatriates in Latin America and Africa*

Total Number of Highly Skilled Expatriates in Latin America and Africa								
Latin America				Africa				
Country	Total Number of Expatriates	% of Highly Skilled	Number of Highly Skilled Immigrants	Country	Total Number of Expatriates	% of Highly Skilled	Number of Highly Skilled Immigrants	
1	Jamaica	796,046	24.0	191,051	South Africa	342,947	47.9	164,272
2	Colombia	682,156	25.1	171,221	Nigeria	247,497	55.1	136,371
3	Brazil	351,878	31.7	111,545	Kenya	197,445	37.4	73,844
4	Peru	361,506	30.2	109,175	Ghana	150,665	34.0	51,226
5	Argentina	266,070	37.8	100,574	Congo	100,052	36.6	36,619
6	Haiti	466,897	19.8	92,446	Ethiopia	113,838	31.2	35,517
7	Trinidad and Tobago	276,934	29.5	81,696	Zimbabwe	77,345	43.3	33,490
8	Venezuela	200,461	40.2	80,585	Uganda	82,232	39.2	32,235
9	Guyana	305,544	24.9	76,080	Tanzania	70,006	41.0	28,702
10	Ecuador	490,267	15.4	75,501	Madagascar	75,954	32.0	24,305
11	Chile	200,366	33.0	66,121	Mauritius	86,410	28.0	24,195
12	El Salvador	839,511	7.8	65,482	Senegal	104,715	23.1	24,189
13	Panama	140,631	32.6	45,846	Cameroon	57,050	42.3	24,132
14	Nicaragua	224,531	17.9	40,191	Mozambique	85,337	26.5	22,614
15	Guatemala	489,772	8.2	40,161	Congo DRC	66,488	32.5	21,609

Source: (SOPEMI, OECD, 2004).

Africa and Nigeria are comparable. Dumont and Lemaitre (2004) estimates emigration rates by educational attainment and country of origin, using the latest OECD database. In their sample, Africa has nine of the 15 countries with the highest ‘emigration rates’ of skilled people. Highly skilled migrants—doctors, nurses, lectures, engineers, scientists and technologists—have moved from Ghana, and recently, Nigeria and South Africa attracted by higher salaries and better living conditions abroad (Adepoyu, 2000, 2003). Latin America and the Caribbean account for the majority of the remainder, and Oceania the residual. Smaller countries in these regions can have more than 40% of their highly-skilled populations abroad.

The skilled labour market in the United States is perhaps the most interesting of the OECD countries from the standpoint of signaling international trends. United States immigration policy has consistently shown a bias toward highly skilled immigrants admitted under economic criteria. Table 6 shows the distribution of immigrants admitted under such preferences in 2003. Asia and Europe clearly dominate the share of workers admitted under these criteria. Africa accounts for less than 4% of immigrants admitted. The same situation is reflected in the admission of temporary workers (Table 7).

Table 6: *Immigrants Admitted by Employment-based Preferences by Region Fiscal Year 2003*

Region	Number	%
Africa	3,113	4
Of which North African Countries	522	1
Asia	51,758	63
Europe	10,898	13
Caribbean	1,251	2
Central America	1,584	2
Other North America	7,619	9
Oceania	675	1
South America	5,151	6
All countries	82,137	100

Source: Fiscal year 2003 Yearbook of Immigration Statistics, Authors own calculations.

Table 7: *Non-Immigrants Admitted as Temporary Workers, Exchange Visitor and Intra-company Transferees by Region: Fiscal Year 2003*

Region	Number of Skilled Workers Visas	%
Africa	24,249	2
Of which North African Countries	3,295	0
Asia	284,087	25
Europe	469,545	42
Caribbean	12,892	1
Central America	9,441	1
Other North America	175,198	15
Oceania	33,676	3
South America	117,568	10
All countries	1,109,639	100

Note: The categories include: registered nurses, workers with specialty occupations, industrial trainees, exchange visitors, intra-company transferees, workers with extraordinary ability or achievement, artist or entertainers in reciprocal exchange programs. North American Free-Trade Agreements Workers.

Source: Fiscal year 2003 Yearbook of Immigration Statistics, Authors own calculations.

The number of skilled worker visas approved for immigrants from African countries is 24,249. Immigrants from Asia and Europe have received 284,087 and 469,545 visas, respectively.

3. Remittances: Trends and Determinants

Workers' remittances has emerged as a major source of external development finance in recent years. Given their large size, governments from developing and developed countries has focused attention on both the development impact of remittances and on regulatory issues in sending and receiving countries.¹⁰ As in the case of migration, reliable data on remittances are hard to come by. While the IMF publishes statistics on 'worker's remittances,

¹⁰ The G8 Heads of State Summit at Sea Island in June 2004, for example, has called for '...better coherence and coordination of international organizations working to enhance remittance services and heighten the developmental impact of remittance receipts'.

compensation of employees and migrants transfers', these data are neither comprehensively reported nor do they capture flows of monies that take place outside of formal financial channels.

3.1. Remittance Trends

Global transfers of remittances to the developing countries has grown steadily in the last 10 years and exceed \$100 billion worldwide (IMF, 2005). For most countries, remittances exceed the volume of foreign aid and investments. Using the definition developed for its Global Development Finance, World Bank (2003) estimates that global flows of migrant remittances were \$204.5 billion in 2004, an increase of 43.5 from 2001 (Table 8). Developing countries received more than \$144 billion in 2004, an increase of nearly 57% since 2001 (World Bank 2004).

The growth of remittances has outpaced that of private capital flows and official development assistance during the last ten years (Figures 4 and 5). In 2004, remittance receipts were about 5% of developing countries' imports and 8% of domestic investment and were larger than official flows and private non-FDI flows to developing countries (World Bank, 2005). In Mexico it is larger than FDI. In many countries, remittances are larger than the earnings from their most important export (IADB, 2004). In Sri Lanka, rimmittances larger than tea exports, and in Morocco it is larger than tourism receipts (World Bank, 2005).

Patterns of Remittances to Developing Countries

Rich countries are the leading originators of global remittances, with the United States dominant. South-South remittance flows are believed to be large, even in relation to North-South flows, but data are severely limited. Estimates are that in East Asia, South Asia, and Sub-Saharan Africa, more than two-thirds of emigrants from poor countries migrate to a country in the same region, and in South Asia and Sub-Saharan Africa, most of them migrate to another developing country. Upper-middle-income developing countries are an important source of remittance flows. Saudi Arabia, Malaysia, Russia and China are among the top 20 source countries of remittances (World Bank, 2005).

Table 8: *Workers' Remittances to Developing Countries, 1990–2004*

\$ billions	1990	1995	2000	2001	2002	2003	2004 e	Change 2004 – 2001
World	68.9	101.9	128.8	142.5	161.5	186.3	204.5	62.0
Developing countries	31.4	57.4	82.3	91.8	109.6	129.8	144.3	52.5
Lower middle income	17.6	35.5	47.4	51.3	59.7	68.6	75.3	24.0
Upper middle income	5.7	8.6	13.1	16.8	18.8	24.5	28.2	11.5
Low income	8.1	13.3	21.7	23.8	31.1	36.7	40.8	17
Latin America and the Caribbean	5.8	13.4	20.2	24.2	28.1	34.4	39.1	14.9
South Asia	5.6	10	16	16	22.2	26.8	29.7	13.8
East Asia and the Pacific	3.3	9.7	16.7	20.1	27.2	32.9	37.1	17
Middle-East and North Africa	11.7	13	13.5	15.2	15.5	16.8	16.9	1.7
Europe and Central Asia	3.2	8.1	11	11.4	11.5	12.9	14.9	3.5
Sub-Saharan Africa	1.9	3.2	4.9	4.9	5.2	6	6.6	1.7

Source: World Bank Staff Estimates based on IMF BoP Yearbook 2004 and country desks.

Remittances are defined as the sum of workers' remittances, compensation of employees, and migrant transfers (see data annex).

Source: GEP (2005) forthcoming.

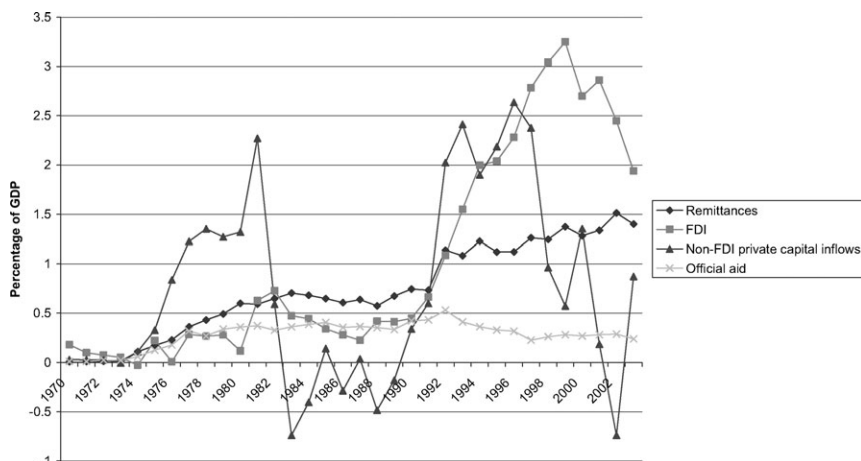


Figure 4: Worker’s Remittances—Exchange Flows—1970–2003 (Percentage of GDP). Source: IMF, 2005

Remittances from South Africa and India are also believed to be large (CGAP, 2005).

Table 8 provides some insight into the dynamics of remittance growth across income categories and regions of the developing

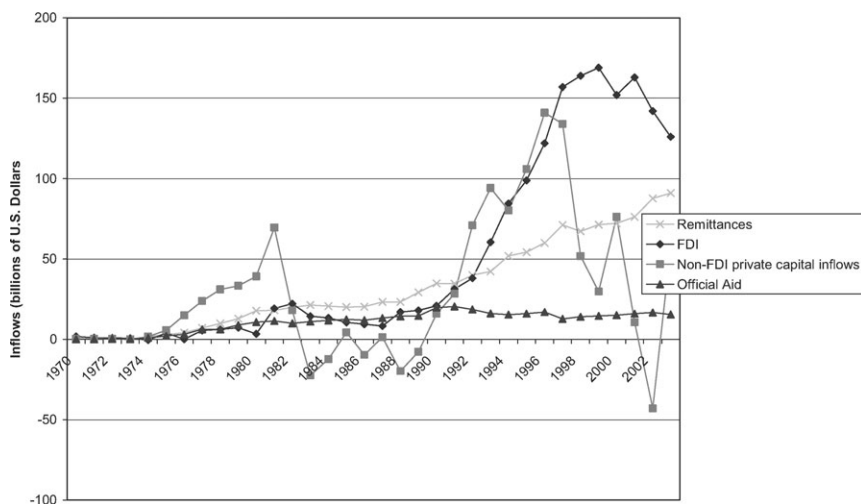


Figure 5: Worker’s Remittances and Other Foreign Exchange Flows to Developing Countries 1970–2003. Source: IMF, 2005

world. Lower-middle income countries have historically dominated the share of remittances received by developing countries, followed by low income countries. The rate of growth of remittances since 1990, however, has favored low income countries with more than a five fold increase.

Among regions, the Middle East and North Africa dominated the remittance picture in 1990, with remittance income more than twice that of the next region, Latin America and the Caribbean. In 2004 Latin America and East Asia and the Pacific had become the largest regions in terms of remittance receipts. South Asia has also experienced a dramatic increase in the volume of remittances. African remittances receipts began at a low base in 1990 and continue to lag other developing regions in terms of the absolute volume of remittances received. Its growth rate of remittance income similarly lags those of the more dynamic receiving regions.

Table 9 shows the top 20 recipients of remittances among developing countries in 2004, according to the IMF,¹¹ India, Mexico, the Philippines and Egypt were the top recipients among developing countries. World Bank estimates move China into the number one position, with more than \$20 billion of remittance receipts. There were no sub-Saharan African countries included among the twenty largest receivers of remittances.

It is not surprising, that large countries and more populous regions are among the top recipients of remittances in dollar terms. However, when remittances are expressed in per capita terms or as a share of GDP, the global picture changes (Figures 6 and 7). In 2003, upper-middle income countries received the equivalent of US\$ 73.55 in remittances per capita, compared to US\$ 15.87 per capita in low income countries. Latin America and The Middle East and North Africa received the largest remittances per capita, while, Sub-Saharan Africa received the smallest amount of remittances in per capita terms (US\$ 8.52 in 2003), and had a slower growth rate in remittances per capita (Table 10).

Figure 7 shows the share of remittances in GDP by income group and region. For South Asia, Middle East and North Africa, remittances are an important share of GDP. In contrast, remittances accounted for 1.37 percent of the GDP in Sub-Saharan Africa in

¹¹ It is interesting, however, that several rich countries, including France, Spain, the United Kingdom, Germany, Belgium, and the United States rank among the top receivers of remittances globally.

Table 9: *Largest Recipients of Remittance in Developing Countries*

Countries	US\$ Billions	Countries	% of GDP
India	6.91	Lesotho	39.5
Mexico	6.37	Tonga	24.4
Philippines	4.9	Lebanon	23.9
Egypt	3.72	Samoa	21.4
Turkey	3.26	Jordan	19.9
Morocco	2.28	Bosnia & Herzegovina	18.6
Lebanon	2.13	Kiribati	17.9
Russia	2.08	Cape Verde	16.8
Brazil	1.92	Albania	16.5
Pakistan	1.8	West Bank & Gaza	15.0
Bangladesh	1.59	Yemen, Rep. of	13.3
Jordan	1.46	El Salvador	13.0
Thailand	1.34	Moldova	11.7
Serbia & Montenegro	1.27	Grenada	10.9
China	1.25	Jamaica	10.6
Colombia	1.22	Serbia & Montenegro	10.3
El Salvador	1.22	Vanuatu	8.7
Yemen, Rep. of	1.18	Haiti	8.5
Iran	1.16	Georgia	8.4
Dominican Rep.	1.12	St. Kitts & Nevis	7.9

Source: World Economic Outlook: Globalization and External Imbalances. IMF, 2005.

2003. Small countries such as Haiti, Tonga, Lebanon and Jordan dominate the top recipients in terms of contribution to national income (Table 9). Regionally, small countries from the Middle East, Central America and the Caribbean, and the former Soviet Union are strongly represented, reflecting their close proximity to labor importing countries. Two African countries, Lesotho and Cape Verde are also among the top twenty recipients in terms of remittances as a share of GDP.

Unrecorded Remittances

Official data on remittances are believed to be underestimated, perhaps severely, but there is little agreement as to their magnitude.

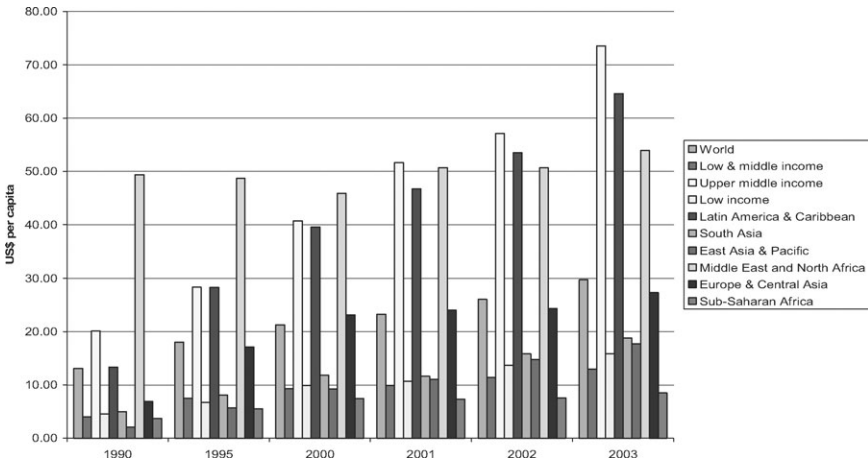


Figure 6: Remittances per Capita. Source: GDF 2005

A recent by IMF study (El-Qorchi *et al.*, 2003) estimated that unofficial transfers of remittances to the developing world currently amount to \$10 billion per annum. Another study estimates that global remittances are about 2.5 times the size of recorded remittances reported in the IMF Balance of Payments data (AITE, 2005). These estimates differ by a factor of 25!

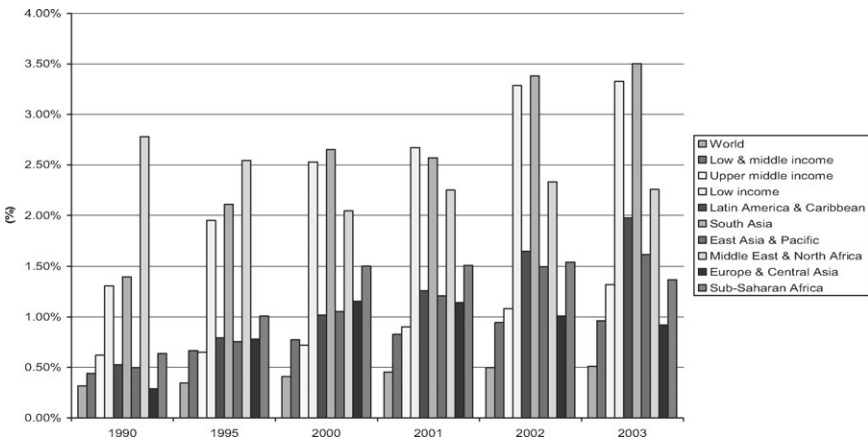


Figure 7: Remittances as Percentage of GDP. Source: Global Development Finance, 2005

Table 10 Workers' Remittances US\$ per capita

	1990	1995	2000	2001	2002	2003
World	13.12	18.00	21.28	23.26	26.05	29.70
Low & middle income	4.03	7.49	9.30	9.93	11.41	12.94
Upper middle income	20.15	28.35	40.71	51.62	57.10	73.55
Low income	4.56	6.72	9.92	10.68	13.70	15.87
Latin America & Caribbean	13.34	28.29	39.57	46.72	53.49	64.57
South Asia	5.00	8.10	11.82	11.61	15.84	18.81
East Asia & Pacific	2.07	5.68	9.25	11.03	14.79	17.74
Middle East and North Africa	49.34	48.69	45.85	50.67	50.68	53.91
Europe & Central Asia	6.86	17.13	23.16	24.03	24.37	27.32
Sub-Saharan Africa	3.72	5.51	7.45	7.27	7.55	8.52

Source: Global Development Finance and World Development Indicators 2005.

Undercounting arises from two sources. First, most remittance source countries do not require reporting of 'small' transactions.¹² Remittances through post offices, exchange bureaus and other agents of money transfer companies are often not reflected in the official statistics (World Bank, 2005).¹³ Second, official data do not capture remittance flows through informal channels.¹⁴ Remittances transferred through agents such as informal operators or hand carried by travellers may be nearly as large as remittances through official channels. Many household surveys (Bangladesh, Pakistan, Moldova and Uganda) show widespread use of informal channels of remittances. The fact that in several Asian countries (China, Pakistan and India) recorded remittances quadrupled, tripled or doubled between 2001 and 2003 may be in part due to a shift in flows from informal to formal channels¹⁴ in response to tightened regulatory scrutiny since September 11, 2001 (World Bank, 2005).¹⁵

¹² For example, the reporting threshold (typically per person per day) is \$10,000 in the United States, 12,500 euros in West Europe, and 3 million yen in Japan.

¹³ The Bank of Ghana is one of the few banks that collect statistics in remittances and requires information from registered banks and transfer agencies.

¹⁴ See the IMF Balance of Payment Manual for a definition. IMF 1993.

¹⁵ The Financial Action Task Force (FATF) prepared recommendations on anti-money laundering (AML) and combating financing of terrorism (CTF) after September 11. The implementation of the recommendations can have an impact on the transfer of remittances via informal channels.

A recent World Bank study by Sander and Maimbo (2003) reports that unrecorded flows appear to be high in Africa. In Sudan, for example, informal remittances are estimated to account for 85 percent of total remittance receipts. Preliminary findings from Mazzucato *et al.* (2004) of the Ghana Transnational Networks research program in Amsterdam find that as much as 65 percent of total remittances to Ghana may be sent informally and the Bank of Ghana estimates that informal flows are at least as high as recorded flows. In South Africa, an informal money remittance system exists side-by-side with the formal system, and the bulk of remittances to neighboring countries flows through informal, rather than formal channels (Bester *et al.*, 2004).¹⁶ In Comoros, informal transfers account for approximately 80 percent of remittances (Da Cruz *et al.*, 2004). One explanation for the generalized use of informal channels is the weakness of the Comoros banking sector. Comoros has only one commercial bank.

One example of an informal remittance transfer system is the Somali *xawilaad*. The *xawilaad* is an informal system of value transfer that operates in almost every part of the world (Horst and Van Hear, 2002; Horst, 2001, 2004). This system is operated by Somalis and mainly used by Somalis (Abdalla 2004). Interviews conducted in Virginia (one of the areas with the largest Somali migrant population) report that there are two large companies providing transfer of remittances to the Somali community: Dahbbshil and Amal.¹⁷ This system relies heavily on telecommunications. For that reason *xawilaad* companies have invested in telephones, mobile radio systems, computer networks, and satellite telecommunications facilities (Montclos and Kagwanja, 2000; Gundel, 2002, 2003). Transfers by *xawilaad* are fast and made with great efficiency (Montclos, 2000, 2002). However, it is very difficult to estimate the amount of remittances sent through this system to Kenya (the largest refugee site of Somalis) and Somalia.

An estimate of Total Remittances

In the absence of systematic studies of the magnitude of informal, unrecorded remittances it is difficult to assess their impact or the

¹⁶ Genesis Analytics (2003).

¹⁷ After September 11, one of the largest *xawilaad* company, Al Barakat, was closed down.

policy significance of efforts to move them into formal financial channels. In this section we use a simple econometric technique to estimate the extent to which unrecorded remittances may exceed official estimates, using data on 143 observations on migration and remittances for developing countries taken from Adams and Page (2005, forthcoming).

Adams and Page data reveals two types of situations in which it is likely that international remittances are underreported: first, observations where there is international migration but no recorded official remittances ($N = 35$); and second, observations where international migration as a share of country population is much larger than official remittances as share of country GDP ($N = 41$). In each of these situations it is likely that there is a large volume of informal, unofficial international remittances flowing back to the labour-exporting countries.

To predict total remittances, and hence derive an estimate of unofficial, unreported remittances, we assumed that recorded remittances are less than or equal to total remittances. We also assumed that remittances per migrant in the labor-importing country are proportional to per capita income in the labor-exporting country and are influenced by other factors such as the educational level and macroeconomic stability of the labour-exporting country (Adams and Page, 2003, 2004). If these assumptions hold, country observations that have high levels of official remittances as a share of GDP relative to the share of migrants in the population, controlling for other migrant and macroeconomic characteristics, are likely to define the 'true' relationship between total remittances and these variables. These observations define an 'outer-bound' relationship between total remittances (official and unofficial) and their determinants.

To predict total remittances (official and unofficial) we specify the following equation for the 67 observations in the Adams-Page data set which have positive values for both migrants as a share of population and official remittances as a share of GDP:

$$\begin{aligned}
 REM_{it} &= a_0 + a_1MIG_{it} + a_2BM_{it} + a_3EDS_{it} + b_jD_j \\
 &= +e(i = 1, \dots, N; t = 1, \dots, N) \quad (j = 1, \dots, 5). \quad (1)
 \end{aligned}$$

where for labour-exporting country i at time t REM is the share of official recorded remittances in country GDP; MIG is migrants

as share of country population, BM is the black market exchange rate premium ($(\text{black market rate}/\text{official exchange rate} - 1) \times 100$) in the country, EDS is the share of country population over 25 years that has completed secondary education, and e is an asymmetric error term that constrains most observations to lie below the regression plane. Five regional dummy variables, D_j are also included in the model to allow for fixed effects.

From an economic standpoint, the level of international remittances received in a country will depend heavily on the number of migrants produced by that country. The relationship between remittances share and share of migrants in equation (1) should therefore be positive and significant. Various studies suggested that the larger the black market premium (that is, the difference between black market and official exchange rates), the more remittances will be remitted through unofficial, rather than official, channels. The relationship between remittances share and black market premium in equation (1) is thus expected to be negative and significant. With respect to the educational variable, human capital theory generally argues that more educated people are more likely to migrate, and some micro-level studies have found that since more educated people earn more, they are also tend to remit more of their earnings. It is therefore, expected that the relationship between remittances share and education will be positive and significant.

If the error term in equation (1) is assumed to be distributed normally with zero mean, the predicted values of total remittances (official and unofficial) derived from estimating the model using official remittance data as the dependent variable will under predict the 'true' value of total remittances. One approach to this problem would be to estimate equation (1) using an asymmetric error term or a composite error consisting of both a symmetric and asymmetric component. This 'outer-bound' function would conform to our assumption that official remittances must be equal to or less than total remittances, and would allow us to predict total remittances for observations in which total remittances were un- or under-reported on the basis of the outer-bound parameters.

We know nothing, however, about the likely distribution of the asymmetric component of the error, making application of the outer-bound method problematic. For this reason, we allow the regression plane to lie above the 'average' estimate in migration-

remittance space by defining a dummy variable (MIG1) to be 0 in cases where the ratio of migrants as a share of population to remittances as a percentage of GDP is greater than 2, and 1 otherwise. This decision rule is equivalent to assuming that severe underreporting of remittances occurs in 60% of the observations for which we have data on both migration and remittances. The MIG1 dummy variable, thus represents a simple approach to deal with the asymmetry of the error term implied by the assumptions above.

Table 11 summarizes the results obtained from estimating equation (1) by OLS with a normally distributed error. All the

Table 11: *Regression to Predict Total Remittances (Official and Unofficial) as Share-Country GDP*

Variable	Regression Coefficient	t-ratio
Migrants as share of country population	0.224	2.55**
Black market exchange rate premium (black market rate/official exchange rate - 1 * 100)	-0.005	-2.82**
Share of country population over age 25 with secondary education	0.213	2.04**
MIG1 dummy variable (1 if migrants as share of country population/official remittances as share of country GDP less than 2, zero otherwise)	1.441	1.42
East Asia	-1.815	-0.89
Europe, Central Asia	-0.752	-0.31
Latin America	-0.075	-0.05
Middle East, North Africa	7.372	3.65**
South Asia	1.228	0.73
Constant	-1.546	-0.92
Adj. R ² = 0.472		
F-statistic = 7.56		

Notes: Regression is based on 67 observations which have positive values for migration, remittances and education. The parameters are used to predict total remittances (official and unofficial) as share of country GDP for 76 observations which have either of the following: (a) migrants as share of country population/official remittances as share of country GDP more than 2; or (b) migration but no records official remittances.

**Significant at 0.05 level.

variables have the expected signs and, except for the MIGI dummy variable, all are statistically significant. The magnitude and precision of the parameter estimates of the explanatory variables are quite robust to changes in the percentage of observations constrained to lie below the regression plane in migration-remittance space. The range of the estimated parameter of the MIGI dummy variable is also reasonably compact (1.98–1.44), when the percentage of cases of underreporting is allowed to vary from 30–75% of the observations. The significance of the parameter estimate on the MIGI dummy variable increases, not surprisingly, as we constrain a smaller proportion of the observations to lie below the regression plane.

To predict total remittances (official and unofficial), we apply the parameters from equation (1) to the 76 observations in the data set where either: (a) migrants as share of country population divided by official remittances as share of country GDP is greater than 2 (that is, migration as a share of population is much larger than remittances as share of GDP); or (b) there are migrants, but no recorded official remittances. In this step, the MIGI dummy variable is set to 1 for all predicted values. For cases that do not meet the above two criteria (those which define the ‘outer-bound’ subsample) we accept the reported level of official remittances as the estimate of total remittances (official and unofficial).¹⁸

The results of our estimates are reported in Tables 12 and 13. The share of unrecorded (unofficial) remittances in total remittances is reported for each developing region, together with an estimate of the volumes of these remittances. Our results supports the widely held belief that unrecorded remittances are large. The share of unrecorded remittances in total remittances in our estimates averages 48% worldwide, ranging from 73% in Sub-Saharan Africa to a negligible amount in South Asia.¹⁹ Sub-Saharan Africa has the highest share of unrecorded remittances, which

¹⁸ Since the predicting model—equation (1)—includes several variables with negative coefficients, a small number ($N = 7$) of the predicted values for total remittances (official and unofficial) are negative. These negative values are set to zero.

¹⁹ The zero estimate for South Asia is an artifact of the estimating technique. The country observations for which we have data in South Asia form a portion of the ‘outer bound’ regression plane and hence their officially recorded remittances are accepted as total remittances. We know this is not strictly true, but the pattern does conform to the observation that remittances in South Asia increasingly have moved through recorded channels.

Table 12: *Share of Unofficial Remittances in Total Remittances by Region*

East Asia and Pacific	0.57
Europe and Central Asia	0.45
Latin America and Caribbean	0.49
Middle East and North Africa	0.27
South Asia	0.00
Sub-Saharan Africa	0.73

reflect the fact that the informal channels are common in many African countries because the formal financial infrastructure is limited (Sander and Maimbo, 2003). In terms of absolute amounts our estimates suggest that total unrecorded remittances worldwide to developing countries may have been on the order of \$57.53 billions in 2004, with East Asia and Pacific leading in terms of the regional distribution.

The results are very similar to estimates presented in other recent studies using very different methods. For example, Adams argues that, while no one knows the level of unofficial or informal

Table 13: *Workers' Remittances to Developing Countries, Including Unofficial Remittances*

	2004	Unofficial Remittances	Total
East Asia and Pacific	37.1	21.28	58.38
Europe and Central Asia	14.9	6.77	21.67
Latin America and Caribbean	39.1	20.33	59.43
Middle East and North Africa	16.9	4.60	21.50
South Asia	29.7	0.00	29.70
Sub-Saharan Africa	6.6	4.55	11.15
	144.3	57.53	201.83

Source: World Bank Staff Estimates based on IMF BoP Yearbook 2004 and country desks. Unofficial remittances are calculated using the index of unofficial remittances from Adams and Page paper.

remittances, some estimate that unofficial remittances may amount to 40 to 50% of official remittances.²⁰ The ILO-ARTEP (1989) and Puri and Ritzena (2003) studied the remittances among Asian countries, estimate unrecorded remittance flows as percentage of total remittances ranging from 13 (Sri Lanka) to 50% (Philippines). Present studies show a value of 0 for Sri Lanka and 0.72 for Philippines.

3.2. The Remittance Market

The importance of remittances as a means of development finance and household income in developing countries has sparked substantial interest in how the decision to remit is determined and what influences the volume and duration of remittances. This section reviews the literature on these issues.

What Influences Remittance Flows?

It is important to underline that not all immigrants send home remittances, and equally, not all migrant households receive remittances. Remitting behavior varies depending, among other things, upon age, education, occupation, employment, motive for remitting, gender, size of the household, access to credit, and years since migration.

Microeconomic Determinants of the Decision to Remit. There is a growing body of literature which sheds some light on the microeconomic motives behind remittances (Stark, 1992; Brown, 1997; Poirine, 1997; Smith, 2003; Rapoport and Docquier, 2004, 2005; Russell, 1986, 1992; and Solimano, 2003, 2004). These surveys list three basic motives for remittances: altruism (family obligations, assistance and inheritance), insurance (indemnifying the human and social development of the family left behind against income shocks), and investment (asset accumulation back home as part of migration life-cycle planning). Table 14 provides a summary of the different models and the variables proposed to explain why emigrants send part of their income to family and relatives in source countries. Table 14 gives the predicted signs for the effects

²⁰ Adams (2005).

Table 14: *Models for Explaining Migrants' Desire to Remit*

Motives Expl. Variables	Individual motives				Familial arrangements	
	Altruism	Exchange	Inheritance	Strategic motive	Insurance	Investment
Migrant's income	+	+	+	+	nde	+
Migrant's education	nde	-	nde	+	nde	+
Time since arrival	- or = 0	nde	nde	- or = 0	nde	nde
Distance from family	- or = 0	nde	-	nde	nde	+
Number of migrants/heirs	-	nde	Inverse U-shape effect	nde	nde	nde
Recipient's long run income	-	+ or -	nde	-	nde	= or -
Adverse short run shocks in recipients' income	+	+ or -	nde	+	+	+
Recipient's assess (land, cattle, etc)	nde	nde	+	nde	nde	nde

Source: Taken from Rapoport and Docquier (2005).
nde: Not determined.

of explanatory variables on the decision to remit. For example, the altruistic model predicts that the migrant, is motivated by the well being of the family in the home country, would tend to decrease his remittances over time. This prediction is shown with a negative sign in Table 14.

In fact remittance decisions are complex and respond to multiple motives. Van Dalen *et al.* (2005) examined empirically the motives for remittances to households in Egypt, Turkey and Morocco with family members living abroad and results show that it is difficult to determine clearly which motive prevails. Motives vary across countries, and within a country different motives can explain remittance behavior among households and over time. As they state, 'the inconclusive nature of empirical research is understandable. One cannot expect remittances to be driven by a single motive'.²¹

Data from similar surveys of Latin American migrants in the United States and Japan pointed out some interesting differences in behavior related to the age, education and job status of the remitter. In the United States, Orozco (2004a, 2004b, 2004c, 2004d, 2004e) found that migrants from Central American and Caribbean send an average of US\$ 200–300 monthly to their countries of origin. A Survey performed by the IADB during 2001 found similar results. The Inter-American Development Bank recently commissioned a study to gain a better understanding of the behaviour of migrant workers from Brazil and Peru living in Japan, where more than 435,000 Latin American adults are live (IADB, 2005). Orozco (2004a, b, c, d, e) finds that migrants living in Japan on average send US\$ 600 monthly to their home country, compared to US\$ 200 remitted by immigrants living in the USA.

Table 15 shows the differences across remitters from Latin America in the two destinations. Migrants to Japan are older, higher skilled, and earn substantially larger incomes than their counterparts in the United States. They also remit a larger portion of their incomes than migrants residing in the US. The channels through which the two groups remit are also quite distinct, with Latinos in the US using mainly cash to cash transfer mechanisms (such as Western Union) and those in Japan preferring account to account transfers through financial institutions.

²¹ Van Dalen *et al.* (2005).

Table 15: *Latin American Remitters' Profile*

Profile	Immigrants Living in the USA	Immigrants Living in Japan
Age	Senders are 35 years old or younger	Senders are 35 years old or younger
Level of education	17% of Latin American adults have more than a high school diploma	85% of Latin American adults have more than a high school diploma
Average income	About US\$ 25,000	About US\$ 50,000
Primary channel	'cash-to-cash'	'account-to-account'

Source: Authors' own elaboration from papers presented at the IDB Annual Meetings 2005.

These data largely confirm a number of hypotheses regarding migrant behaviour. Temporary workers (or migrants planning to return) such as those in Japan tend to remit a larger share of their income. Less educated migrants and those with lower incomes tend to use informal financial channels and cash transactions. But, a number of empirical studies also find that unskilled workers have a higher propensity to remit than skilled workers, although the latter category earn larger incomes and hence may send larger nominal amounts of remittances. This is not borne out in the US–Japan comparison where skilled Latin American workers, remit both larger absolute amounts and a higher proportion of their income.

Macroeconomic Influences on Remittance Behaviour. Macroeconomic factors also appear to influence the volume of remittances, once the decision to remit has been made. Several studies have found that the flow of remittances is positively correlated with growth in the host countries. The income and employment situation in the remittance source country affect the migrant's disposable income, as well as saving behaviour, both of which affect the size of remittances (IMF, 2005). The cost of living in the recipient country is also an important factor affecting a migrant's

remittance decision. Surveys suggest that the same remitter may reduce flows to destinations where the cost of living is lower.

Recent studies supports the hypothesis that remitters may respond to homeland crises (Hysenbegasi and Poza, 2002). As a country situation deteriorates, emigration numbers may rise and remittances increase. Kapur and McHale (2003), Kapur (2004) reviews the effects of the economic downturn in Ecuador in the late 1990s on the increase in remittances received. Remittances more than doubled, from US\$ 643 million in 1997 to US\$ 1.4 billion in 2001. The experience of the Philippines during the Asian crisis demonstrates how exchange rate movements can affect the amount of remittances. Yang (2004) and Yang and Choi (2005) finds that the appreciation of a migrant's currency against the Philippine peso leads to an increase in the amount of remittances received from abroad.

Moving the Money: Market Structure and Costs

Surveys revealed that the migrants use a wide array of mechanisms to send money to their home countries: banks, credit unions, small and large money transfer companies, postal services, hand delivery and other mechanisms such as *hawala* (Pakistan and Bangladesh) or *hundi* (India). A number of surveys on migrants have been undertaken to gauge the extent of difficulty encountered by migrants in using these channels (Citizenship and Immigration of Canada, CIC 2004; DFID, 2005). These surveys reach similar conclusions, finding a series of problems in both sender and the receiver institutions and markets.

The choice of the intermediary is affected by, among other things, costs, trust in the intermediary, and convenience factors—such as location, hours of operation and language—and identification requirements. Among these, high remittance costs stand out as the most important factor affecting the choice of service provider, instrument (check, money order, electronic wire, pre-paid card, debit card, and hand-carry), and amount of remittance flows. The fee for sending remittances generally reflects two components: a fee to send the money and the commission on the exchange rate of the quantity converted into local currency.

The cost of sending money to home varies significantly by country, transfer channel, and method of transfer. In the US, for

example, the cost of sending money to Latin America from the US ranges from, 4.94% in El Salvador to 11.75% in Venezuela (Orozco, 2004a, 2004b, 2004c, 2004d, 2004e). Most market analysts believed that, the main reason for high transfer costs is lack of competition. For example, transfer companies to Mexico, El Salvador, and Guatemala charge lower fees than companies sending money to Jamaica and the Dominican Republic, where there is no competition. Countries having market restrictions such as Cuba and Haiti face higher charges. Venezuela for which Western Union conducts nearly 50% of the remittances has higher costs than for Colombia, Ecuador, Peru and Bolivia to which Western Union transfers only around 10% of total remittances (Solimano, 2004). The industry in the Andean Markets is dominated by a small number of money transfer firms that generally charge higher fees than banks, which have a small participation in the remittance market.

In recent years, the remittance market for Latin Americans in the US has become more transparent and competitive and the costs of sending money have been slowly decreasing (Lindsay and de la Garza, 2000, 2002). Charges have been decreased with greater competition and use of technology (e-remittances, debit card transfers, etc).²² According to Solimano (2004), the costs of sending money from the United States to Latin America are double those of sending it to India or the Philippines. The foreign exchange spread is also higher. This in part, is explained by higher concentration in the operators markets in Latin America.

In the U.K., a flat money transfer fee is charged by service providers. The fee declines as a percentage of the amount transferred, and as in the case of the United States, it varies with the destination. The fee for £100 can range between 3% and 35% of the value sent, while it ranges between 2% and 6% for sending £500 (Table 16). Major money transfer operators charged from £3 to £14 for sending £100 depending on the country of destination. The DIFD Survey (2005) finds that money transfer operators (MTOs) in the U.K. tend to offer lower rates than banks, as well as more convenient services, such as longer opening hours.

²² For a detailed analysis see: 'Sending Money Home: Remittance to Latin America and the Caribbean', May 2004. Inter-American Development Bank. Multilateral Investment Fund.

Table 16: Fees (GBL) from Transferring Money through Transfer Operators

	Ghana		Kenya		Nigeria		Bangladesh		China		India	
Transfer amount	100	500	100	500	100	500	100	500	100	500	100	500
Chequepoint	3	15	6	21	5	25	n/a	n/a	7	11	n/a	n/a
First Remit	5	21	n/a	n/a	5	21	n/a	n/a	n/a	n/a	5	21
Money Gram	12	36	12	36	7	25	12	20	12	22	12	20
Travelex MT	7.5	24	n/a	n/a	7.5	24	n/a	n/a	7.5	15	n/a	n/a
Western Union	12	32	14	37	12	32	12	25	12	25	4	4

Source: Sending money home: A Survey of Remittance Products and Services in the United Kingdom.

Note: Fees may be lower for electronic transfer, where available. n/a = No service. Each provider will usually offer differing exchange rates.

4. Migration, Growth and Welfare

While there is general agreement that remittances channel billions of dollars in money and goods from immigrants back into developing countries, there is less consensus on the welfare implications of the movements of money for developing countries. Controversy also remains as to migration's overall impact on labour exporting countries and their migrant-producing communities. This section looks at the growing body of evidence on how migration and remittances impact economic development and poverty reduction.

4.1. The Impact of Remittances on Growth, Poverty and Inequality

Many studies agreed that the remittances are primarily used for household expenditures, such as the construction of homes and consumption (Black *et al.*, 2003; Martinez Pizarro and Villa, 2005). These transfers have consequences at both the household level and at the level of the economy as a whole, affecting macroeconomic management, labour force participation, education and health outcomes, income distribution and patterns of household expenditure.

Remittances, Economic Growth and Macroeconomic Management

Large and sustained remittance inflows—like other sources of exogenous foreign exchange, such as development assistance—can cause an appreciation of the real exchange rate, making tradable goods production less competitive overall, and perhaps making low cost manufacturing unprofitable. Empirical evidence on the adverse effect of large inflows of foreign exchange is scarce. It is even more scarce with reference to remittances (El-Sakka & McNabb, 1999, Glytsos, 1998, 1999). Amuedo-Dorantes *et al.* (2004) find that a doubling of worker's remittances results in real exchange rate appreciation of about 22% in a panel of 13 Latin American countries.

Whether exchange rate appreciation has a longer term impact on growth, however depends on the consequences of the shift in the structure of the economy for savings, investment and productivity change. Much of the theoretical and empirical literature concerning the impact of the so-called 'Dutch disease' on growth rests on a loss of externalities associated with technological mastery in

manufacturing, particularly in nontraditional exports. This is an area of research that remains largely unexplored.

Several studies have been undertaken to test the impact of remittances on GDP growth. Their results have been mixed. Faini (2002, 2003a, 2003b) finds a positive relationship between growth and remittances using cross-country data. Although his results are not robust to alternative specifications (IMF, 2005). Bougha-Hagbe (2004) finds that increased construction activity is correlated with remittances. Adelman and Taylor (1990) find that 'every dollar Mexican migrants send back home or bring back with them increases Mexico's GNP from anywhere between US\$ 2.69 and US\$ 3.17, depending on which household income group received the remittances', and Durand *et al.* (1996), Massey and Parrado (1998) suggest that for every US\$ 2 billion in remittances that entered Mexico, there was over a US\$ 6.5 billion dollar production increase in agriculture, manufacturing and services. Spatafora (2003, 2005), in contrast, finds that there is no direct link between real per capita output growth and remittances. Chami *et al.* (2003, 2005), using a panel of data for 113 developing countries find that remittances have a negative effect on economic growth. They argued that receiving remittances might lower recipient households' labour force participation or savings rates and limit their job search efforts.

Microeconomic analyses of the growth potential of remittances have tended to focus on their impact on investment and productivity in the senders' countries of origin. Early discussions on the effects of migration on development concentrated on the uses of remittances. The effect was judged negative or positive, depending on whether remittances were used for consumption or investment. Bohning (1975) and Rempel and Lodbell (1978) argued that remittances reduced investments by promoting greater finance consumption or housing expenditures. Stark (1991), in contrast, argued that remittances are fungible and investment may increase, even if the cash received is not invested immediately. Since the 1980s, the debate has shifted to underscore the importance of remittances in alleviating liquidity constraints in low income households, promoting investment in new agricultural techniques, education and further migration (Stark *et al.*, 1986, 1988; Taylor and Wyatt, 1996; Stark and Wang, 2002; Taylor, 1986; Taylor and Wyatt, 1996, 1999, 2003). Another strand of this

literature suggests that at the household level remittances can spur entrepreneurial activity (Funkhouser, 1992; Yang, 2004; Woodruff and Zenteno, 2001).

Remittances offer some important advantages from the point of macroeconomic management in poorer countries. Remittances tend to be relatively stable, so that the resulting real exchange rate level may be sustainable (IMF, 2005). Sometimes, remittances may also behave counter-cyclically with respect to the economic cycle of the recipient country. Surveys indicate that the relatives and friends often send more remittances in response to negative shocks or a general downturn, and more affluent migrants portfolio choices are affected by exchange rate movements. Yang (2004) for example, shows that remittances respond positively to falls in the real exchange rate.

Thus, the greater stability of remittance flows and their anti-cyclicality may contribute to the stability of recipient economies by compensating for foreign exchange losses due to macroeconomic shocks. Remittances can also serve as an important support for a country's creditworthiness and improve access to international capital markets (World Bank, 2003). One question that still remains is the sustainability of remittances over time. Recent studies have indicated that the long term flow of remittances depends on various factors such as the anticipated flow of migration, whether the migrants come alone or with their family, and how this changes over time (Solimano, 2004).

Migration, Remittances, Poverty: Evidence from Cross Country Studies

Adams and Page (2005, forthcoming) used a large data set that includes information on international migration, remittances, income inequality and poverty for 74 developing countries to estimate the relationship between migration, remittances, and the extent, depth and severity of poverty. They found that the remittances have a strong impact on reducing poverty, controlling for income (or its growth) and inequality. For example, a 10% increase in the share of international migrants in the population or of remittances received in GDP reduces the fraction of people living on less than one dollar per day by 1.9 and 1.6%, respectively. Their results also indicate that the depth and severity of poverty were even more

strongly reduced by increases in migration and remittances.²³ They speculate, that the reason for the impact of remittances on poverty, independent of changes in mean survey income, may reflect a positive distributional bias in the targeting of remittances that is not captured in changes in the gini coefficient, their measure of income inequality, due to the lack of frequency of household surveys on which the distributional data are based.²⁴

Recent cross-country studies broadly confirm the Adams-Page results. Spatafora (2005) reports similar results using data from a sample of 101 countries for the period 1970–2003. The results shows there was a link between poverty reduction, whether measured using the poverty headcount or the poverty gap, and remittances. Munzele (2005) used a cross-country data set composed of 71 developing countries to estimate a growth-poverty model and results shows that ‘official international remittances reduce poverty in the developing world’, but he finds that ‘in South Asia, official remittances have no statistical impact on the level and depth of poverty’. When he adds estimated values for unofficial remittances to official remittances figures, however he finds that total remittances reduce the level of poverty in South Asia.

Remittances and Poverty at the Household Level

Stahl (1982), Stark (1991), and Adams (1991) pioneered the effort to assemble household data that could shed light on the impact of remittances on welfare. The generality of their findings was limited by small sample sizes. In the past five years, data have become more complete and analysts are using national census and household surveys to study the relationship between remittances and some aspects of household welfare. Quartey and Blanson (2004) increase use the most recent waves of the Ghana Living Standards Survey to estimate the impact of remittances on the household. Using a random effects model, they find

²³ Adams and Page (forthcoming) addresses one of the more vexing problems in the empirical literature on cross country estimates of the migration-poverty relationship, endogeneity of the migration or remittance variable, by instrumental variables techniques.

²⁴ Adams (2005) in a paper for this conference reviews the microeconomic evidence on the remittance-poverty relationship and finds similar results with respect to the incidence, depth and severity of poverty.

that: 1) the flow of migrant remittances to Ghana increases in times of economic shocks; 2) the impact of economic shocks in reducing household welfare is reduced by migrant remittances; and 3) the proportion of males receiving migrant remittances exceeds that of females. Adams (2004a) has found that remittances reduce the severity of poverty in Guatemala. According to the author, 'when the poorest of the poor households receive remittances, their income status changes dramatically'.

Migration and Health and Education Outcomes

A few empirical studies have found positive linkages between migration, and remittances and education or health outcomes. Rapoport and Docquier (2005) reported that the remittances can have positive effects on the educational attainment of children from households with migrant members. Hanson and Woodruff (2002) writing on Mexico find that children in households with a migrant family member completed more years of schooling. Cox Edwards and Ureta (2003) find that in households with at least one family member living abroad in El Salvador, remittances significantly contributed to a reduction in the probability of children leaving school. When Yang (2003) analyzed the impact of remittances on Filipino households he found that 'a rise in remittances of 10% of initial income will increase the fraction of children, aged 17–21, attending school, by more than 10% points'.

Frank and Hummer (2002) reports a positive correlation between remittances and health profiles for Mexican households receiving remittances. They concluded that children born in remittance receiving migrant households are less likely to be exposed to health risks at birth. Hildebrant and McKenzie (2005) found that the migration from Mexico to the United States improved child health outcomes in Mexico, resulting in lower rates of infant mortality and higher birth weights. An interesting finding of the authors' research is that mothers in migrant households have more health knowledge than their counterparts in non-migrant households, importantly, they also find significantly higher levels of health knowledge among non-migrant households in high migration communities, supporting the hypothesis that knowledge spillovers exist within these communities.

Lopez Cordova (2004) uses a cross-section of all Mexican municipalities (over 2400) in the year 2000 to look at the impact of migration on education and health outcomes. He finds that as the proportion of households receiving remittances rises in a community, developmental outcomes improve, 'If the fraction of remittance-receiving households increased by 5% points, starting from zero, infant mortality falls by almost 5%, children's school attendance rises by more than 3%, while illiteracy drops by 34%'.

4.2. Migrants in Developed Country Labour Markets

Migrants have mixed success in the labour markets of receiving countries. Some migrants are very successful, but others are unemployed or inactive. In part, labour market outcomes are influenced by education and foreign language fluency, which are key determinants of labour market success. There also appear to be significant differences between the job market success of expatriates from developed countries and those from developing countries.

Wages, Incomes and Employment Rates

Case study evidence of migrants' labour market performance in receiving countries shows that most immigrants from developing countries, regardless of their destination, suffer an earnings penalty and higher inactivity levels and unemployment rates than nationals. Additionally, recent arrivals from developing countries to developed ones face lower earnings and greater competition in labour markets, relative to more established immigrants. Table 17 gives employment rate estimates for legal foreign residents in the EU by region of origin. Unemployment rates for immigrants originating from developing countries are uniformly higher than those from more developed economies. This gap is more pronounced for women than men across all skill levels. The highest unemployment rates are encountered by immigrants from Africa, the Middle East, and Turkey.

Munz and Fassmann (2004) found that the third country nationals, who immigrated to the EU after the late 1990s tended, on average, to have higher skill levels than those immigrants who had entered the EU in the 1970s and 1980s. However, the activity rates of the newcomers were lower and their unemployment rates

Table 17: *Economic Activity of the 15–65 Year Old Immigrant Population with Country of Birth Known EU 15*

	EU West (2)	EU South (3)	CEEC (4)	Turkey (others)	Africa, Middle East	USA, Canada, Australia	Latin America, Caribbean	Asia	Total	EU 15
Employed	67.1	67.3	63.2	50.0	51.4	76.3	62.7	58.6	61.3	64.2
Unemployed	4.7	4.2	7.8	9.2	9.8	3.5	8.3	5.2	6.6	5.4
Inactive	28.1	28.4	29.0	40.8	38.7	20.2	29.0	36.2	32.1	30.4
Total (%)	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Active	71.8	71.5	71.0	59.2	61.2	79.8	71.0	63.8	67.9	69.6
Unemployed rate (%)	6.5	5.9	11.0	15.5	16.0	4.4	11.7	8.2	9.7	7.8

Source: Labor Force Survey 2002 (Europe), data for Germany and Italy not available; (2) EU 15 (except Italy, Greece, Portugal, Spain), Iceland, Liechtenstein, Norway, Switzerland; (3) Italy, Greece, Portugal, Spain; (4) new EU member states, accession countries, other countries in Central/Eastern Europe and the Balkans, Russia, Belarus, Ukraine, Caucasus, Central Asia. Taken from Munz and Fassmann (2004): 'Migrants, labor markets and integration in Europe: a comparative analysis', pp. 30.

higher than those who immigrated two decades before. The employment rate of migrant's from non-EU countries who arrived in 2001 (45%) was almost 20 points below that of those who arrived ten years earlier (OECD, 2005; SOPEMI, 2003, 2004). A number of Canadian studies (Bloom Grenier and Guderson 1995; Grant, 1999; Frenette, 2002; Morrisette, 2003) show a substantial deterioration in the entry level earnings of more recent male immigrant cohorts through the 1970s, 1980s, and first half of the 1990s.

Sweden is a country in which income differences between migrants from developed and developing countries are increasing. Over the years, Sweden has seen inflows of two distinct groups of foreigners. One group, arrived mainly in the 1960s and 1970s, and was comprised of economic immigrants from Norway and Finland. The second, more recent group is mostly composed of migrants from Iran, Iraq and the former Yugoslavia. These immigrants, in contrast with the Nordics have different skill sets and languages from the general Swedish population. According to Groff (2005) there exists a substantial and persistent income gap between recent refugee populations in Sweden and the Swedes. However, the Nordic immigrants who arrived in the 1970s received wages very similar to the Swedish population. Bevelander (2000) similarly reports a collapse in Swedish immigrant employment rates after 1975. The employment rates for both foreign born and foreign citizen immigrants dropped to about 60% by the late 1990s, in marked contrast to the 1960s when both groups enjoyed employment rates of 90% at the same wage level as the Swedish born population.

Returns to Skills, Education and Foreign Labour Market Experience

If the stock of an immigrant's human capital obtained in his home country is not fully transferable to the requirements of the host country's labour market, the migrant faces an earnings disadvantage at the time of migration. In order to narrow this wage gap, migrants invest in country-specific human capital in the labour receiving country and adapt their stock of human capital acquired in their country of origin. Immigrants acquire skills that are relevant for the labour market in the host country such as language, and ways of doing business. This form of investment is called 'economic assimilation' (Chiswick, 1978; Borjas, 1985, 1999, 2000).

Econometric studies have used the attributes of immigrants to explain entry and post-entry wages and earnings growth (Chiquiear and Hanson, 2005). While, much of the wage differential between migrants and local labour force participants can be explained by migrants attributes, some studies have found that migrants' qualifications are undervalued in the labour market. Borjas (1987), Jasso and Rosenzweig (1986) and Dullep and Regets (1996) Mattoo et al. (2005) found that the immigrants from English-speaking countries perform better than immigrants from non-English-speaking countries in the U.S. Kee (1993) analysis the earnings of Dutch immigrants from Turkey, Morocco, Surinam and the Antilles. His findings, unlike those in Turkey and Morocco indicate that similarity of the schooling system in Surinam, the Antilles and the Netherlands results in a positive effect of education obtained in those countries on wages. Bell (1997) and Shields and Wheatley Price (2002) find that male migrants receive a lower return per year of education than natives and that education abroad is valued less than education in the U.K. Shields and Wheatley (2001) find that language fluency increases the mean hourly occupational wage for ethnic minority migrant men by around 17%. Green and Green (1995) and Green and Worswick (2002) show that immigrants who have passed the point system in Canada are working in positions commensurate with their skills, while family migrants and refugees are employed in lower skilled positions. Hunt (2004) concludes that between one-quarter and one-half of the overall difference in entry earnings between Canada's immigrant men and women and nationals can be attributed to declining wage returns to foreign labour market experience.

Self Employment Opportunities in Host Countries

Lack of access to employment opportunities commensurate with immigrants' human capital may encourage them to look for self employment, business alternatives. Some research has been conducted (Logan *et al.*, 2003; Portes *et al.*, 2002; Guarnizo and Smith, 1998, 2003) on immigrant entrepreneurship. It finds that where the process of integration of immigrants into the host's labour market is difficult, immigrants have established small and medium firms as self-employment alternatives.

Table 18: *Foreigners in Self-Employment in Selected OECD Countries 1998–2003 (%)*

	Share of Foreigners in Total Self-Employment		Share of Self-Employment in Total Foreign Employment
	1998	2003	2003
Austria	4.3	4.9	6.9
Belgium	7.2	6.2	13.5
Czech republic	0.5	2.5	27.4
France	5.2	4.3	10.5
Germany	7.5	8.1	10.5
Greece	1.0	1.3	8.7
Ireland	3.7	4.2	10.8
Luxembourg	25.9	29.7	4.9
Netherlands	2.4	2.5	7.6
Norway	2.8	3.8	8.1
Portugal	1.4	1.4	12.7
Spain	1.2	2.1	11.0
Sweden	4.2	4.8	10.8
Switzerland	11.6	12.6	9.8
United Kingdom	4.7	4.9	11.7
United States	...	13.9	9.8

Source: Taken from SOPEMI 2004. Trends in International Migration. OECD 2005. Sources indicated in the table: European Community Labor Force Survey and U.S. Current Population Survey.

Self-employment of migrants from developing countries has not been well researched.²⁵ Self-employment is spreading among foreign workers in the OECD with the exception of France and Belgium SOPEMI 2004 (Table 18).

Immigrant-owned firms are mainly retail, wholesale, personal and professional service enterprises (Table 19) and are typically operated by family members. The management structure is

²⁵ The largest survey to date of entrepreneurial activities among immigrant communities of different nationality is the Comparative Immigrant Enterprise Project (CIEP) in the United States. This study was undertaken between 1996 and 1998 by UCLA, UC-Davis, Johns Hopkins, Brown, and Princeton Universities.

Table 19: *Characteristics of Colombian, Dominican and Salvadorian Firms by Immigrant Communities in USA*

Business Activity	Colombian	Dominican Republic	Salvadoran
Construction	5.3	3.8	2.7
Manufacturing	13.5	7.7	8.6
Retail Sales	21.6	40.4	27.5
Credit, finance, real state	5.3	4.2	11.0
Personal services	13.5	16.3	9.1
Business services/telecommunications	27.4	15.7	27.0
Health Services	13.5	3.8	6.9
Others	0.0	8.1	7.0
Total	100.0	100.0	100.0
Mean monthly income	US\$ 3,618	US\$ 2,350	US\$\$ 4,306

Source: Robinson (2005) who has adapted it from Portes *et al.* (2002).

comprised of the immigrant owner and his/her close family members and relatives. Portes *et al.* (2001) found that these firms sell their goods and services to co-immigrant communities and are ‘an alternative form of economic adaptation’. They also suggest that these activities have ‘potential significance for immigrant integration into receiving countries and for the economic development of countries of origin’.

4.3. *Brain Drain or Brain Gain? The Migration of Highly Skilled Labour*

Much of the literature on the development impact of migration focuses on the effect of emigration of skilled migrants on the composition of the labor force in the home country (see Box 1). Since the 1960s, a major debate on the effect of migration on development has been focused on the ‘brain drain’, the emigration of qualified professionals from developing countries and the subsequent loss of skills faster than the replacement rate (Carrington & Detragiache, 1998, 1999).

Box 1: Selected Paper on Brain Drain/Brain Gain

Papers	Brain Drain/ Brain Gain	Findings
<i>Theoretical Studies</i>		
Grubel and Scott (1966)	Brain Drain (in the short term)	Short-term losses due to the intra-generational and fiscal externalities could be offset in the long run thanks to various effects in the form of remittances, networks or innovations.
Bhagwati and Hamada (1974)	Brain Drain	The departure of skilled workers reduces unskilled workers' expected earnings.
Miyagiwa (1991), Haque and Kim (1995)	Brain Drain	Endogenous growth models. A person's knowledge not only provides a direct benefit in terms of available skills but also has positive effects on the productivity of other. Emigration of those with skills eliminates this indirect benefit to the economy at large.
Fuita (1999)	Brain Drain	Skilled labour is an important variable in attracting foreign direct investment. Hence, low labour skills will not promote transfer of technology by multinationals in developing countries.
Mountford (1997), Stark (1998), Vidal (1998), Beine (2001)	Brain Gain	Migration prospects could foster human capital formation and growth in sending countries.
Stakr and Helmenstein (1997), Dos Santos and Postel-Vinay (2003)	Brain Gain	Knowledge diffusion brought by returnees contributed to the diffusion of more advanced technology. Potential sources of growth for the home country.

(continued on next page)

Box 1 (*continued*)

Papers	Brain Drain/ Brain Gain	Findings
Dos Santos and Postel-Vinay (2004)	Brain Gain	A shift in immigration policy, with an increase in the share of temporary visas, may benefit the sending countries of educated migrants. A higher proportion of returnees among emigrants increase the country's stock of knowledge, a complement of human capital.
Cinar and Docquier (2004)	Brain Gain	Feedback effects through remittances.
Dustmann and Kirchkamp (2002), Mesnard and Ravallion (2002)	Brain Gain	Creation of business and trade networks.
<i>Empirical Studies</i>		
Lowell and Findlay (2001)	Brain Drain	Migration of skilled labour from Eastern Europe during the 1990s slowed economic growth in some countries.
Pang, Lansang and Haines (2002)	Brain Drain	Each migrating African professional represents a loss of US\$ 184,000 to Africa.
Kangasmani (2004)	Brain Gain	Migration premium in the medical profession in U.K. is between 2 and 4; About 30% of Indian doctors surveyed acknowledge that the prospects of emigration affected the effort put into studies.
Commander (2004)	Brain Gain	Migration premium for India I.T. workers contemplating emigration to the U.S. lies between 3 to 5. (depending on the type of job).

One implication of this literature is that investments in education in labour exporting countries may not lead to economic growth, if highly educated people leave. Lowell and Findlay (2001) find that migration of skilled labour from Eastern Europe during the 1990s slowed economic growth in some countries. In addition, there may be fiscal losses from three sources: i) lower returns on public investments in education when higher education is subsidised by the government; ii) the cost of training replacement workers; and iii) the loss in current and future income tax revenues. Desai *et al.* (2000) estimate a potential tax revenue loss of US\$ 700 millions for India due to the migration of high skilled workers. Pang *et al.* (2002) find that 'each migrant African professional represents a loss of US\$ 184,000 to Africa'.

In Africa, the emigration of those with scarce professional skills such as doctors, nurses and engineers, the majority trained at public expense, is of particular concern. For example, in Zimbabwe, three-quarters of all doctors emigrate within a few years of completing medical school. Registered doctors in the U.K. trained in Ghana have more than doubled between 1999 and 2004.²⁶ According to the International Organization for Migration (IOM), 'the departure of health professionals has eroded the ability of medical and social services in several sub-Saharan countries to deliver even basic health and social needs. Thirty-eight of the 47 sub-Saharan African countries fall short of the minimum World Health Organization (WHO) standard of 20 physicians per 100,000 people'.²⁷

In the late 1990's, the literature shifted from brain drain to 'brain gain' exploring the potential benefits of skilled migration arising from remittances, return migration, creation of trade and business networks, and the possible incentive effects of migration prospects on human capital formation at home. Stark *et al.* (1998), Vidal (1998), and Beine *et al.* (2001) argue that migrants invest in higher education when they see that their migration prospects increase with additional years of education. Stark and Wang (2002) show that migration to a richer country may serve as a substitute for subsidies for human capital formation. Domingues and Postel-Vinay (2003) and Stark *et al.* (1997) argue that migrants promote brain circulation

²⁶ 'Plugging the brain drain from BBC News', March 11, 2005.

²⁷ Tebeje, Ainalem. 'Brain Drain and Capacity Building in Africa', http://web.idrc.ca/en/ev-71249-201-1-DO_TOPIC.html

instead of brain drain, when returnees contribute to the diffusion of more advanced technology.

Using the Diaspora: Trade, Investment and Transfer of Technology

Migrants maintain connections with their families and with other people in their home country. These groups form what is called a diaspora. Spurred by the highly publicized role of the Indian diaspora in India's technology boom, recent attention has shifted from analysing the impact of skilled migration on sending country labour markets to a broader agenda that also considers the possible channels by which migrants might promote trade, investment and technological acquisition. The recent socio-economic literature on the role of diasporas argues that trade, technology diffusion and capital formation are facilitated by migrants. The argument is that migrants facilitate host and source country bilateral trade and investment because they help to overcome information asymmetries and other market imperfections (Black *et al.*, 2004).

Migration and Technology Transfer. For a labour sending country, the diaspora can be an important source, and facilitator of research and innovation, technology transfer, and skills development. Japan, Korea, and Taiwan (China) are examples of economies that have tapped into their diaspora as a source of knowledge of international best practice. The governments in these economies promoted the return of foreign educated students or established networks of knowledge exchange with them (Pack and Page, 1994).

Involvement of the diaspora in sending countries' economies can take several forms:

- licensing agreements to provide technology transfer and know-how between diaspora owned or managed firms in host countries and sending country firms;
- direct investment in local firms, as a joint venture;
- knowledge spillovers when diaspora members assume top managerial positions in foreign-owned firms within their country of origin;

- networks of scientists or professionals to promote research in host countries directed toward the needs of sending countries;
- virtual return, through extended visits or electronic communications in professional fields such as medicine and engineering;
- return to permanent employment in the sending country after work experience in the host country.

Drawn partly by the high wages made possible by exports, many residents of Korea and Taiwan (China) who were trained abroad, particularly in new sectors such as electronics and computing, have returned home to work. (World Bank, 1993). Their return has provided a significant transfer of best practice methods. For example, foreign-educated nationals accounted for all the post-graduates employed in the electronics industry of Taiwan, (China) in the early 1990's (Pack, 1993). Several of these foreign educated professionals became managers and played leading role in building Taiwan's semiconductor industry.²⁸ The transfer of technology via return migration in the semiconductor industry has continued during the 1990s first to Taiwan and then from Taiwan as well from the United States to China (Saxenian, 2005).

More industrialized labor sending countries with large skilled migrant populations have also been able to tap their expatriates and develop some form of mentor-sponsor model in certain sectors or industries. How the knowledge is transferred varies according to the different types of diaspora networks: 1) networks of scientists and R&D personnel, 2) business networks of knowledge-intensive start ups and 3) networks of professionals working for multinationals. Expatriates from India, China and Israel have played a critical role in accelerating technology exchange and foreign direct investment in the economies of their homelands by establishing official business links with their host countries.

Saxenian (2001), Arora and Gambardella (2004) and Commander *et al.* (2004) has described the role of the diaspora in the case of the software industry. Table 20 summarizes various stages of growth in the IT industry in India, and the role the

²⁸ Ding-Hua Hu earned his doctorate in engineering at Princeton University and became the first general manager in H&Q Asia Pacific's Taipei office. H&Q Asia Pacific's early investments included Acer, UMC, Microtek, and Tai Yan.

Table 20: *Evolving Roles of the Indian Diaspora*

Stage of Growth	Characterization of the Stage of Growth of IT Industries	Role of Diaspora
The 1970s	Building a foundation for 'first movers' Key role for the very few entrepreneurs who created initial entrepreneurial projects (both within established and new firms).	Exposure of Indian talent to US firms. Executives of Indian origin start to outsource through 'body shopping' contracts.
The 1980s	Emergence of a software cluster in Bangalore and a critical mass of professional entrepreneurs	Continuation of business linkages and 'body shopping' contracts.
The 1990s	Emergence of high value-added outsourcing (R&D and consulting).	Diaspora is engaged in a concerted effort to promote an image of India as an attractive outsourcing location. Diaspora firms provide the specifications for the software to be manufactured and as well as a market for the products.
Present day	Emergence of knowledge-process outsourcing.	Highly-placed executives of Indian origin pioneer knowledge-intensive outsourcing (R&D and professional services).

Source: Taken from Table 4 in *India's Transformation to Knowledge Based Economy—Evolving Role of the Indian Diaspora* (Abhishek Pandey, Alok Aggarwal, Richard Devane and Yevgeny Kuznetsov, July 2004).

diaspora played in its evolution. A group as small as 200 professionals; can provide reliable business and technologies linkages with the rest of the world. Replication of successful experiences in smaller countries will be more difficult, however, because they may be unable to reach a critical mass of influential people in any given sector (e.g., medicine, engineering, large corporations, etc).

Trade and Foreign Direct Investment. A growing body of research suggests that diasporas and country networks abroad are an important reservoir of knowledge and information on trade and investment opportunities. (See for example, Rauch, 2001; Greif, 1993). India is one example of a country that is using its diaspora to enhance host-home country bilateral trade and investment expansion.²⁹ China also benefits from its diaspora. In 2000, 45% of its total US\$ 41 billion in foreign direct investment came from the Chinese diaspora (Wei, 2003, 2004).

In the Heckscher-Ohlin model trade and migration are substitutes. This is the assumption that underlies NAFTA, ASEAN'S Free Trade Agreement (AFTA) and other FTA regimes. The NAFTA agreement was signed with the intention that Mexico would export goods and create jobs, instead of sending immigrants to the United States. Markusen (1983) and Wong (1986), however argue that if in addition factor endowments, trade is also based on technology, economies of scale or business networks, migration and trade can be complements. Trade in services is one example under which trade and migration are positively linked.

Several authors have tested the hypothesis that immigration increases bilateral trade flows. Gould (1990, 1994) used a gravity model to estimate the effects of immigration on United States bilateral trade with 47 migrant-sending countries for the period 1970–1986. He finds a positive relationship between bilateral flows of exports and imports and the stock of immigrants. His findings suggest that 'a 10% increase in immigrants to the United States is associated with a 4.7% increase in United States exports to immigrants' countries of origin and an 8.3% increase in imports from immigrants' countries of origin'. Similarly, in Canada, a 10% increase in the number of migrants has been associated with a 1% increase in exports to, and a 3% increase in imports from, their countries of origin (World Economic and Social Survey, 2004). Ligth *et al.* (2002) used panel data for emigration countries with which the US conducted bilateral trade during the period 1973–1980. They decomposed exports and imports into finished and intermediate goods. Their results show that the immigration effect on source country exports (US imports) is positive for finished

²⁹ See <http://indiandiaspora.nic.in/contents.htm>.

and intermediate goods. However, the effect on source country imports (US exports) is positive only for finished goods.

Dunlevy (2003) used a different specification of the gravity model to test the hypothesis that that stock of immigrants are more trade creating when the native population in the host country does not know the language of the partner country, arguing 'The more distant their native language is from English, the greater will be the immigrants' advantage in dealing with members of their origin countries'. He finds that the elasticity of exports with respect to the immigrant stock is significant at 0.29. Rauch (2003) and Rauch and Trindade (2002) also found that the trade and migration are complements and underscore the importance of ethnic networks in helping to overcome information problems linked to the nature of the goods exchanged. Head and Ries (1998) estimates a Tobit specification of the augmented gravity model using Canadian data for 136 countries. Their results suggest that, 'a 10% increase in the stock of immigrants increases exports by 1.0–1.3% and imports by 3.1–3.9'. They also reported that the trade creating effects of immigration vary across immigrant classes. Skilled migrants have the largest pro-trade effect on both exports and imports, following by family class immigrants. Refugees have the least impact.

Trade policy can also affect the mobility of workers and people. When a country applies restrictive measures to exports from other countries, these measures can accelerate the push factors of migration. Faini (2004a, b), for example, argue that the Common Agricultural Policy of the EU that bans the expansion of agricultural exports from Northern African countries fosters out-migration from these countries.

5. An Emerging Policy Agenda

Given current global trends, the world will be a very different place in 20–30 years. It is projected that by 2050, Africa will have 20% of global residents and Europe have 7%, a reversal of each region's global demographic weight. Migration pressures are expected to rise with growing demographic and economic differences. Both sending and receiving countries are beginning to realize that the volume of resources currently being channeled through immigrant communities will continue to grow, and that public policies must be

jointly developed to increase the development impact of both migratory movements and the remittances they generate.

5.1. Policies to Increase the Development Impact of Remittances

The remittance market is a new and expanding financial link between developed and developing countries. Annual remittances to developing countries already have more than doubled over the last decade and account for larger international transfers than official development assistance. On current trends they will soon equal more than half of FDI flows.

Our survey of the current literature indicates that these flows are complementary to the poverty reduction, conflict prevention and post-conflict reconstruction objectives of development assistance in developing countries. It is therefore unsurprising that both developed and developing countries are beginning to search for ways to increase the development impact of financial transfers between host and origin countries. As one development minister has noted: 'We want to make remittances contribute more effectively to international development, and making it easier and cheaper for people to send money home to families and communities abroad is an important way to do this'.³⁰

Improving Market Structure and Reducing Costs in Sending Countries

Much of what we know about the internal workings of remittance markets comes from the numerous studies on the United States-Latin American market, and lately from Japanese-Latin American markets. These studies underscore problems such as information asymmetries, non-competitive behaviour, lack of transparency, predatory pricing and the lack of service diversity at the sending end of the market. They also highlight the costs of weak financial markets in developing countries. As new studies and surveys are being conducted, the same findings are emerging in different countries. For example, DFID has just announced the results of

³⁰ Introduction to the UK (2005) remittance study summarized in Box 2.

Box 2: Conclusions from the UK Remittance Survey 2004/2005

Information is lacking. Customers do not feel they have enough information, and do not know where to look for the information they need. They therefore rely on word of mouth. Advertising, staff training, and providing suitable information are extremely important. Information on provider websites should also be improved, as should scope for online remittance services.

Security and trust are the most important factors in choosing a service provider. Banks have an advantage as they are perceived as the most secure and trustworthy of providers.

Speed and cost are traded off against one another. These are the key areas of product attributes for providers to work on.

Remittance senders rely on word of mouth. It is therefore important that banks, building societies and money transfer operators increase awareness of their products and the information they make available.

Good customer service is crucial. Banks in particular need to train their staff to have a greater knowledge of the services they offer, and to take into consideration the needs of customers in areas with a large number of residents from a particular ethnic group or speaking a particular language.

Outlets in the receiving country need to be easily accessible. It may be necessary to seek partnerships with local agents if the network is currently limited. An improved branch presence or partnership networks in receiving countries would make the banks a more viable competitor to the money transfer operators.

Banks are perceived as too expensive and slow for low value transfers. Provision of variable fees depending on the amount to be transferred, as well as speedier fulfillment processes, would make banks a viable and competitive alternative to money transfer operators for urgent, low value transfers.

Country-specific banks are seen as slow and inconvenient. There is a need for an improved service and a fostering of trust in order to gain more custom. There is also scope for using their comparative advantage of cultural understanding to a greater extent. 50% of mystery shoppers had difficulty sending money via these channels, so the quality of their service needs to be scrutinized.

Informal methods are seen as cheap but risky. Formal providers have scope to attract users of informal remittance services if their products are appropriately designed and priced.

Customers are confused about informal providers. Customers suggested that regulators set up a system of authentication for smaller high street providers, so that consumers are able to differentiate between legitimate independent money transfer operators and illegal providers.

Greater information and education is required on ID requirements. If customers know what is required of them — and why — in advance of going to a provider to make a transfer, ID requirements may not be perceived as the onerous burden they currently are.

Banks are not making the most of cross-selling their services. Remittance transactions give banks the opportunity to offer additional services, but no more than 8% are currently doing so.

Customers need to know that the money has been received. An appropriate service improvement would be to offer free confirmation on all transactions.

Source: Taken from <http://www.sendhomemoney.org>

the first UK survey of money transfer products to developing countries.³¹

All of the studies have recommended:

- promoting competition at the sending end of the market;
- strengthening the financial environment in remittance-receiving countries; and
- enhancing the linkages between developed countries' financial systems and financial systems in developing countries.

In addition, the surveys have indicated that some of the measures proposed to regulate the transfer of money through informal channels after September 11 could be costly for developing countries. As Ratha and Riedberg (2004) states, 'there is a need to strike a balance that minimizes money laundering, terrorist financing, and general financial abuse, and one that enhances and facilitates the flow of funds between migrants and their families back home'.

Recommendations for tackling the problems mentioned above include: measures to improve the competitive structure of the marketplace; transparency in the pricing and services delivery system; and the reduction of information asymmetries (Ratha, 1999, 2003). A number of concrete measures to accomplish these objectives are outlined in Table 21 which summarizes the findings of the recently completed UK study.

³¹ On Thursday 31 March the UK Department for International Development (DFID) launched the results of a UK survey into the best ways for people to send money to relatives and friends in developing countries. For more information. Visit www.sendmoneyhome.org

Table 21: *Selected Inventory of Policy Measures to Enhance the Impact of Remittances*

Objective	Measure
Capturing a share of remittances for development purposes	<ul style="list-style-type: none"> • Taxation of emigrants • Duties or levies on remittances transfers • Voluntary check-off for charitable purposes (on transfer forms)
Stimulating transfers through formal channels	<ul style="list-style-type: none"> • Remittance bonds • Foreign currency accounts • Premium interest rate accounts • Promoting/enabling transfers through microfinance institutions (MFIS) • Promoting financial literacy/banking the unbanked • Legalizing money transfer or remittances through ICT based systems • Linking up credit union cooperatives or banks with leading commercial bank institutions from developed countries with extensive branch networks in the sender and in the receiving countries • Increasing domestic banks presence in remittances markets • Pension plans
Stimulating investment of emittances	<ul style="list-style-type: none"> • Outreach through MFI infrastructure • Outreach through migrant's service bureaus • Tax breaks on imported capital goods • SME schemes (financial, infrastructure or innovative) • Training programs
Outreach to migrant collectives/Hometown Associations (HTAs)	<ul style="list-style-type: none"> • Matched funding • Public-private ventures • Competitive bidding for development projects
Influencing consumption patterns	<ul style="list-style-type: none"> • Promoting consumption of local goods and services • Enabling migrants to spend on their relatives' behalf

Source: Carling (2004): Policy options for increasing the benefits of remittances WP-04-08, Centre on Migration, Policy and Society and authors' own elaboration (2005).

The majority of sending countries permit migrants with legal status to operate bank accounts, and do not regulate remittances through those accounts. Thus, one policy initiative to increase competition would be for sending and receiving countries to work together within framed agreements to increase migrants' access to financial institutions. The US-Mexican 'Partnership for Prosperity' program of 2001 (involving a device to grant legal identity, the 'matricula consular', and low cost electronic transfers through the Federal Reserve Bank's Automated Clearing House system for Mexico) has helped reduce the cost of Mexican remittance transfers by 60% (ECOSOC, 2005). Germany has worked closely with Turkey to reduce and control remittance transfers, successfully channeling much of it into formal channels (ECOSOC, 2005). Such initiatives can significantly reduce transfer fees and foster the entry of new agents into the financial market, thereby expanding competition. Surveys and publicity campaigns such as the recent UK initiative can reduce the extent of information asymmetries.

Policy Initiatives in Remittance Receiving Countries

An overview of measures currently being used or proposed in developing countries to facilitate and promote the transfer of remittances can be found in Table 21. Among the policies listed are providing special tax regimes for remittances, increasing access to banking services by recipients; promoting financial literacy for receiving households, removing regulatory restrictions on money transfers; creating incentives to set up a business; supporting for migrant association projects and matched funding arrangements. In general these policy actions address one of two objectives, either improving the attractiveness of the home country to senders or influencing how remittances are used by receiving households.

Improving the Attractiveness of Receiving Countries to Senders. China, the Philippines, India, Mexico, Eritrea and Taiwan (China) provide examples of how governments use different approaches to intensify their financial ties with overseas communities. For example, the government of the Peoples Republic of China has offered investment packages to overseas Chinese

(Hsing, 2003). Since 2000, Mexico has implemented different measures to strengthen ties between Mexican emigrants and their communities of origin. These measures include: 1) the establishing of the Presidential Office for Mexicans Abroad; 2) legislative changes that allow Mexicans living abroad to hold US dollar accounts in Mexico and to maintain a dual nationality; and 3) issuing the *Matricula Consular* (a form of ID that allows undocumented immigrants to open a bank account). Some countries issue ID cards to expedite services in the country of origin for their migrants. Tunisia, for example, offers its migrant workers to Europe access to a 'carte consulaire' which permits access to special customs clearance, reduced airfares and foreign currency bank accounts.

Bonds targeted to nationals residing abroad can open opportunities for investment and facilitate the return of money from abroad. Many countries have successfully issued premium bonds to their diaspora (China, Bangladesh, Eritrea, India, Israel, Lebanon, Pakistan and the Philippines, see PRIO, 2005). Such remittances may have been a major factor behind the doubling of remittance flows to India between 2002 and 2003 (Maimbo *et al.*, 2005). Investments in the form of non-resident bonds are not strictly remittances, in that they do not represent household to household transactions. However, they can increase the volume of development finance provided by a given migrant community. There is also some evidence to suggest that even when these bonds are denominated in foreign currency, after maturity a part of the investment is likely to remain in the country (World Bank, 2005).

El Salvador, Mexico, Turkey and Peru have used their remittances to tap into international financial markets through securitization. In the case of Latin America, the originator of the securitization has been a local bank. However, this experience still can not be applied to other developing countries because the majority of local banks do not have investment grade ratings.

One important vehicle for attracting remittances is for governments to allow their domestic banks to open branches in major sending countries. This has been a feature of the financial market in the Middle East and North Africa for at least two decades. More recently governments in Armenia, Haiti, and India have allowed their domestic financial institutions (including some micro-finance institutions) to open branches in overseas locations to

provide services to their diaspora. These domestic banks bring trust, access to less served areas in the receiving country, and offer remittance services at competitive prices.

Lack of legal status in the host country limits the ability of undocumented migrants to make use of the formal financial system. Most sending countries require legal documentation for any bank transactions. A number of countries, most notably Mexico have attempted to address this by means of bilateral agreements with the host country to create instruments of legal identity, recognized in the host country regardless of migration status. The special arrangement for Mexicans in the US to open a bank account—the ‘*matricula consular*’—has been adapted and implemented by Guatemala, and other Latin American governments are discussing similar arrangements for their nationals in the US.

Another policy aimed at leveraging remittances is savings mobilization through social security, housing and microfinance programs. The Philippines, for example, allows its citizens to enroll or continue their social security coverage while abroad. Workers from the Philippines can also keep contributing to the Pag-IBIG Fund (or Home Development Mutual Fund). Migrant workers can access this fund through diplomatic offices abroad (ADB, 2004). Bangladesh has created a number of schemes tailored to investors and non residents such as saving account in foreign currency. The Inter-American Development Bank (IADB) has piloting programs to leverage remittances through enterprise development and capacity building for NGOs and microfinance institutions engaged in service delivery to migrant families. The IABD has also just established a new ‘Partnership Facility’ jointly with the International Fund for Agricultural Development (IFAD). The objectives of the initiative is to assist rural Latin American communities that receive remittances to increase the development impact of these resources through programs that promote savings and investments in rural areas.

Influencing How Remittances are Used. Apart from creating incentives for more remittances to flow through the formal financial system, governments in a number of large labour sending countries have attempted to develop schemes to channel remittances into specific objectives such as public revenues, investment or community development. Given the private to private nature of these

Box 3: *The Padrino Program in Mexico—Use of Collective Remittances*

Several states in Mexico have initiated many projects with migrant communities. The state of Guanajato was the first one to establish a program 'Adopta una Comunidad' to make use of remittances send by migrants in community projects. In 2002, President Fox expanded the program to encompass the 90 Mexican regions. The program changed the name to 'El Padrino' (The Godfather). The innovative base of the program is to request investors to become very involved in their communities instead of only writing a check.

In 2002, the program raised \$ millions for over 200 projects. The majority of the resources (40%) were used in employment-generating activities. Other activities included the construction of schools, roads, health centers, potable water facilities and others. Examples of some Padrinos are: the music group Los Tigres del Norte that gave the money for school construction. An LA-based entrepreneur offered marketing skills to a coffee cooperative in Chiapas. The founder of a fast food chain donated just over \$31,000 to bring electricity to a small rural town in Oaxaca state.

Source: Summarized from Alfredo Corchado and Ricardo Sandoval, 'Mexico aims for expatriates' heartstrings and pursestrings, Dallas Morning News, March 20, 2002

transactions, policy interventions have focused either on appropriating some of the private flow, largely without success, or on creating incentives to change individual or household behaviour.

Mexico is taking an innovative approach to promoting the role of individual migrants in community development back home. Some Mexican states have initiated projects with migrant communities through a program is called the 'Padrino Program'. It is directed towards successful Mexican-American business people who in consultation with local communities can choose to invest in one or more of over 1000 projects identified by the Presidential Office for Mexicans Abroad (see Box 3). Central America and the Caribbean are also piloting interesting approaches to attract targeted investments from their diaspora.

Home Town Associations (HTAs) are generally voluntary associations of migrants to achieve specified social and philanthropic purposes. The derive their name from the fact that in many cases the migrant communities that form them come from the same geographical area. HTAs residing in the US, France and Africa support community development projects in the home country,

most often without government support in either the country of origin or of residence. Donations by HTAs are often as much or more than the municipal budget for public works of the municipalities from which the members are drawn, particularly in towns with small populations (Orozco, 2003c).

A few governments have offered matching grants for remittances from diaspora groups or home-town associations to attract funding for specific community projects. The best-known of these matching schemes is Mexico's 3-for-1 program, under which, the local, state and federal governments all contribute \$1 for every \$1 of remittances sent to a community for a designated development project. Colombia has an HTA program, where external government funding is used to match migrant group funds for local projects benefiting vulnerable populations (IOM, Bogotá).

Little evaluation of the impact of these programs has been done. Resources have gone primarily to rural areas, where they have increased the supply of essential services (health, education, roads, and electricity). It is difficult to assess whether these investments—and the matching grants—have gone to the highest priority projects, although proponents argue that HTA involvement ensures that programs are focused on community needs, and that the associations promote increased accountability and transparency of local and national authorities.

5.2. Managing Migration

There is still debate on the role migration should play in the mix of policies available for development. Although mechanisms for international collective action are in place in goods, services and capital markets, migration is still largely the domain of individual national governments, and there is little consensus among sending and host countries as to whether migration management should be bilateral, regional, or global. There is an urgent need to bring a development perspective to the migration policy debate.

Policies in Receiving Countries

Populations in developed countries, mainly in the EU, have mixed feelings on the issue of migration. On one hand, there is a felt need for immigrants to help with labour shortages. On the other, the

Box 4: *Sentiments Toward Immigrants*

Does immigration policy affect natives' sentiments of immigrants? Bauer, Lofstrom and Zimmermann (2000) have done some research on whether immigrant sentiments vary across countries with different immigration policies. They test the premise that a policy that attracts relatively skilled workers could imply greater tolerance towards immigrants. They find that countries where natives are needed (e.g., Canada, New Zealand) view immigrants in a favorable way. On the other hand, countries such as Norway and the Netherlands responded that the number of immigrants should be reduced. One explanation is that both of these countries predominantly receive refugee immigrants.

A common concern about immigration is that immigrants take jobs away from natives. 'This sentiment appears to be prevalent in the UK, where about half of the native population feels that immigrants take jobs away'. In countries that received immigrants looking for jobs, the fear that immigrants take the jobs away is the main explanation for requests to the government to reduce immigration. In countries that receive asylum seekers and refugees, the population is concerned about crime.

The Britain's election in May underscored the growing debate over immigration. Britain's birth rate is at a historic low of 1.64 babies per women. This rate is not enough to replace its current population, The United Kingdom has seen a net influx of more than a million non-British immigrants. There are two views in the country. One argues that Britain needs the immigrants to perform jobs that natives do not want to do. The other view is that immigrants are a burden. They live on welfare benefits.

Source: Main information taken from Knight Ridder Newspapers: 'Britain's election underscores growing debate over immigration'. May 4, 2005.

integration of asylum seekers and immigrants is perceived as creating a burden (see Box 4). Host countries have yet to come to grips with the need to develop consistent policy frameworks in which immigrants can effectively and productively utilize their skills, knowledge, and previous work experience.

The use of labour contractors from developed countries to recruit and provide migrant workers to specific employers and in specific employment categories is widespread. These contract labour arrangements are vulnerable to abuse, such as misrepresentation of working conditions or failure to pay wages owed, particularly when the contractor maintains control over workers' passports (Pritchett, 2003). Some governments have made progress in regulating labour contractors, including through requirements that

contractors register and publicize means of complaining against their practices. Some have also required contractors to post bonds to cover a portion of wages owed to workers, and by making the employer liable (together with the contractor) for violations of law. Cooperation between origin and destination countries can improve safeguards against abuse.

An area in which greater clarity is needed is the treatment of undocumented migrants. Undocumented migration is both costly and dangerous. Since 1994 an estimated 2,600 undocumented migrants have died crossing the U.S-Mexico border (Meek, 2003). The average price for smuggling an illegal migrant from China to the United States was estimated at \$30,000 in 1991. The cost for migrants smuggled into Lithuania arranged from \$3,750 to \$12,000 in the mid 1990s (Salt and Stein, 1997). One constructive approach to undocumented migrants would be for developed countries to consider extending temporary migration policies to lower-skilled migrants. Most illegal, undocumented migrants are unskilled and lack access to existing programs. The political difficulty of enacting such policies is demonstrated, however, by the failure of the United States and Mexico to agree on such an approach within NAFTA despite high level political commitment by the Bush and Fox administrations.

It appears that there is agreement that efforts to restrict migration of all or some of high skilled workers are not likely to be effective. However, there is still a debate regarding how to compensate sender countries for any losses they might suffer as a result of developed countries' immigration policies (e.g., highly skilled labour selection). A recent proposal has been made for countries to compensate Caribbean countries of origin by providing subsidies for training health professionals. This approach could increase the supply of health workers in both Caribbean and destination countries (Commonwealth Secretariat, 2005).

Policies in Sending Countries

There is little clarity on how to address a number of problems in labour exporting countries arising from migration. Among, these are recovering the public expenditures involved in educating migrants, especially highly skilled migrants, dealing with specific impacts of skilled migration in such areas as education and

health, and protecting citizens from exploitation by illegal traffickers, recruitment agencies, and labour contractors.

Dealing with Fiscal Losses. There is an ongoing discussion by some governments on how they might recover the costs of educating an individual who chooses to leave the country. Most remittance receiving countries do not impose taxes on incoming remittances, although some, such as Belarus tax financial flows from unrelated parties. Where efforts to collect taxes from immigrants (or even to provide an option for making voluntary contributions), they generally have not been successful. Eritrea, for example, has experimented with a voluntary contribution scheme with mixed results. A number of countries impose an implicit tax on remittances in the form of financial service taxes, such taxes discourage use of the formal financial system, and exemption programs for migrants raise the possibility of tax evasion.

There has been little cost benefit evaluation of the return to public investments in the higher education of migrants. There is substantial evidence to suggest that in fiscally constrained developing countries, greater private financing of tertiary education may be desirable in general, but little to suggest that these policies would be particularly beneficial as a cost recovery measure for migrants alone. Some economies, such as Jordan, have exported skilled and managerial labour for generations under a largely public tertiary educational system, with tangible benefits for the economy. Some approaches to higher private financing of tertiary education, permitting entry of private universities or providing loans for public higher education rather than the usual comprehensive public funding of universities. Under the public loan schemes proposed, students would be required to repay their loans regardless of their country of residence.

Limiting the Costs of Migration. Among the largest costs to migrants from developing countries are fees paid to recruitment agencies. Asymmetries of information regarding foreign job markets, have allowed these agencies to collect the economic rents from host country limits on immigration (Lucas, 2004a; Lucas,

1987, Lucas and Stark, 1985). Once again evidence is fragmentary, but it suggests that migrants into many labour importing countries face substantial informational deficits. In mid-1990s, study of migrants from Bangladesh, India, Pakistan, and Sri Lanka to Kuwait, indicated that between 26 and 79% obtained jobs from recruitment agents, paying average fees that ranged from approximately twice to 11 times the monthly wage earned by immigrants in Kuwait (Abella and Albuero, 2003).

The majority of developing country programs designed to limit the monopsony power of recruiters have had little success. Although, for example, the Philippines is considered to have developed a model program, which limits private recruiter fees to one month of wages paid abroad, in practice, migrants sometimes pay from two to four times monthly wages (Martin, 2005). This is another case, in which close cooperation between countries of origin and host countries will be required to deal effectively with the problem.

Mitigating the Brain Drain

The brain drain remains a primary concern of many labour exporting economies (Grieco and Hamilton, 2004). The emigration of high-skilled workers from developing countries has increased dramatically. The number of highly-educated emigrants from developing countries residing in OECD countries doubled from 1990 to 2000 (Docquier and Rapoport, 2004a, b). Policies to take advantage of these trends for development in labour sending countries fall into two broad categories, those intended to provide incentives for highly skilled migrants to return to their countries of origin or policies to mobilize the diaspora resident in high income countries to contribute to development in their homelands without their physical return.

Migration of Skilled Professionals in Education and Health. For low income economies, such as those in Africa, high-skilled emigration may have a severe impact on the health and education sectors. Emigration of doctors and nurses may reduce the likelihood of some countries meeting the Millennium Development Goals. The health sector is particularly adversely affected because

it requires a balanced mix of skills of for example doctors, nurses, and midwives to be effective (Commander and others, 2003). Although, comprehensive data are unavailable, estimates suggest that for a number of countries emigration of health professionals constitutes a significant risk to the efficiency of their health sectors. Chanda (2001) estimates that at least 12% of the stock of doctors trained in India live in the United Kingdom. Perhaps one-half of the graduates of South African medical schools have emigrated to industrial countries (Pang *et al.*, 2002). According to Stalker (1994), Jamaica had to train five doctors, and Grenada 22, to keep just one. In Ethiopia, more than half of pathology graduates left the country from 1984–96, about half of Pakistan's medical graduates in any year leave, and of 1200 doctors trained in Zimbabwe during the 1990s only 360 were practicing in the country in 2001. In Ghana, a traditional high skill labour exporter, only about a third of medical graduates remain in the country (Chanda, 2001).

This pattern of human capital flight, is particularly harmful to Africa, which is already at risk of failing to meet the majority of health and education MDGs. Nevertheless, it is doubtful that individual countries of origin can have a significant impact on reducing the emigration of highly-skilled workers, given the incentive for emigration. From a global perspective addressing the special needs of low income countries in these areas will require cooperation between labour exporting and labour importing countries. An alternative, for example, self restraint on the part of OECD countries such as the unilateral pledge by the United Kingdom to stop actively recruiting health professionals from developing countries.

Bringing Migrants Back Home. Several governments have adopted programs designed to encourage the return of highly-educated nationals living abroad. Thailand and Ireland, for example, have offered generous research funding and monetary incentives (Pang *et al.*, 2002). China has offered attractive salary packages, multiple-entry visas and access to foreign exchange. The Philippines has a 20-year history of legislation to support its diaspora, including offering a wider range of real estate investment opportunities to its nationals living abroad than to foreigners.

Among the best known success stories is the Taiwanese (China) government's Hsinchu Industrial Park initiative, which in 2000 alone attracted more than 5,000 returning scientists. (Saxenian, 2001). Chinese migrants in the Silicon Valley helped boost flows of capital, skills, and information between Silicon Valley and the Hsinchu Park in Taiwan. IT entrepreneurs in the Valley benefited from the Chinese migrants' superior knowledge of investment opportunities and Asian market networks.

International organizations have also developed programs to promote return. The International Organization for Migration's Return of Qualified African Nationals program successfully attracted more than 2,000 highly skilled persons back to 41 African countries over a period of 16 years (1974–90). This concept has been expanded into the Migration for Development in Africa program (MIDA), which currently supports a variety of 'return options' including investments and temporary returns (IOM, 2002).

Mobilizing the Diaspora. Governments are realizing the potential role migrants can play in providing lucrative networks with their native countries. In an effort to tap into these unique resources and facilitate remittances, knowledge sharing and technology transfer, some source countries are creating policies designed to encourage long-term and long-distance linkages between emigrants and their countries of origin (Ghai, 2004). Steps such as these enable immigrants to take part in the economic development of their countries of origin without having to return home. For example, 10 Latin America countries passed new laws on dual nationality or citizenship; these include: Brazil, Colombia, Costa Rica, the Dominican Republic, Ecuador, El Salvador, Mexico, Panama, Peru, and Uruguay (Jones-Correa, 2001, 2002). Similarly, in Africa, Ghana has also adopted a dual citizenship policy.

Temporary or virtual return programs also offer considerable promise. The United Nations Development Program's TOKTEN projects support three week to three month development assignments at home for expatriates. These are run on a voluntary basis at much lower costs than the cost of hiring professional consultants. The Taiwanese (China) government is taken an interesting approach to its diaspora. It has chosen to focus less on attracting

investment from its nationals living abroad than on making use of their skills acquired abroad. The emphasis is on encouraging visiting diaspora to share their knowledge. This is done through government invitations to scientists, professionals and highly-skilled technicians to participate in seminars, teach in Taiwanese universities, or network with their Taiwanese counterparts, government officials and investors.

5.3. International Efforts at Collective Action

Although migration is at the top of the global agenda, efforts to create a viable international architecture for better management of international migration are still at an early stage. Because, migration has global externalities dealing with it effectively requires substantially increased cooperation at the international level, based on a multilateral system of rules and principles. Several international and inter-governmental organizations (e.g., United Nations, the World Bank, and the regional development banks) are undertaking work to assist in formulating and promoting mutually acceptable principles for a multilateral framework for managing migration. The United Nations has also launched a Global Commission on Migration to deliberate on improvements in the field of international migration (Wurcel, 2004).

Regional Agreements. Regional integration agreements and regional free trade agreements offer an attractive framework within which to manage migration among neighboring countries. Thus far, however, with the exception of the European Union they have made little progress towards ensuring the free movement of persons or workers. Even among the EU states, greater harmonization in the area of immigration from outside the union is needed.

Where FTAs among developing countries or between developed and developing countries have attempted to deal with migration issues, they have generally limited their coverage to temporary location of skilled workers, as illustrated in the case of the Chile Singapore agreement described in Box 5. The United States is pursuing some bilateral FTAs in which temporary movement of professionals is allowed. But again, the approach to trade in services,

Box 5: Chile and Singapore Free Trade Agreements with the US: Temporary Entry of Professionals

The Chile and Singapore Free Trade Agreements contain provisions allowing the temporary entry of business professionals into the other party, to facilitate trade in services.

Since services account for 65% of the U.S. economy, the international mobility of business professionals—particularly as employees providing services—has become an increasingly important aspect of competitive markets for suppliers. Facilitating the movement of professionals allows trade partners to more efficiently provide each other with services such as architecture, engineering, consulting, and constructions.

The principal negotiating objective regarding trade in services is to reduce or eliminate barriers to international trade in services. Each trade negotiation the United States enters, like Chile and Singapore, is approached individually to determine if the inclusion of a temporary entry chapter will benefit U.S. trade in services and, if so, whether a section on temporary entry of professionals is needed in the agreement.

The agreement with Chile and Singapore establishes the temporary movement of Chilean and Singaporean professionals in the United States through the use of the H-1BA visa.

The number of U.S. professionals allowed entry into Chile and Singapore is not limited under these FTAs, while the number of Chilean professionals in the United States is limited to 1400 and the number of Singaporean professionals to 5400.

Source: Trade Facts, Office of the United States Trade Representative, July 21, 2003.

including temporary location of workers, is not being applied uniformly. For example, the Central American Free Trade Agreement (CAFTA) and the FTA with the Americas (South America) have ruled out including agreements of this type.

In Africa, there are also barriers to the free movement of people. CEMAC, ECOWAS and UEMOA have introduced the use of intra-regional passports. However, most countries of the region have enacted or retained a series of laws, which in effect restrict 'foreigners' from participating in certain kinds of economic activities. The Common Market for Eastern and Southern Africa (COMESA) has adopted the Protocol on the Free Movement of Persons, Labor, and Services. However, ECOWAS has not yet implemented it.

Mode IV, the GATS and Other Trade Agreements Involving Skilled Labour Movement

The temporary movement of persons for delivery of services (Mode IV) was negotiated under the General Agreement on Trade and Services (GATS).³² The agreement established four possible modes or ways, in which services can be traded between World Trade Organization (WTO) Members:

- Mode I (cross-border supply)
- Mode II (consumption abroad)
- Mode III (commercial presence)
- Mode IV (presence of natural persons).

There were intense discussions between developed and developing countries at the time of the agreement concerning the free movement of labour. Mode IV is considered by most developing countries to be more regulatory rather than liberalizing of labour migration.

The majority of developing countries have not succeeded in obtaining market access for services providers under the GATS. Since this instrument establishes negotiations on a case by case basis, applications of Mode IV and its interpretation vary tremendously across countries. For example, there is no clear definition of what constitutes a 'self-employed' person on what the definition of an 'independent service supplier' is. Additionally, while service suppliers at all skill levels are included in Mode IV, in practice, WTO members have generally limited its application to high-skilled workers such as managers, executives and specialists. Developing countries are questioning the application of quotas and the definition of specialties for the purpose of granting work permits. They also would like to address the issue of rights of citizenship and residence. Some other questions pending are on the length of duration of stay of migrants with 'temporary worker' status.

Developing country demands in the current Doha round fall into three major areas: eliminating or reducing economic needs tests that can limit the entry of migrant workers, expediting the recognition of an individual's credentials, and making visa and work permit issuance easier and faster. The Philippines, India and Thailand are

³² For a review of the status of negotiation of the GATS see: *A Quick Guide to the GATS and Mode 4*, by Julia Nielson and Daria Taglioni, Trade Directorate, OECD.

pushing for market access concessions in Mode IV, but there is still some debate among developing countries on the role of Mode IV in relation to bilateral agreements, which some view as more advantageous for the free movement of labour.

6. Concluding Remarks

The central question about migration is not whether there should be more or less of it, but which policy options, adapted to their varying circumstances, countries have to increase the development impact of migration and remittances on their economies. Our review suggests a number of areas in which future research and debate will be needed to improve policy formulation related to migration. These include: how to make remittances more effective as tools for poverty reduction and development in migrants' countries of origin; how to mitigate the impact of highly skilled emigration, particularly of professionals in education and health, on low income countries; how to tap into the vibrant communities of the diaspora and work with them as development partners; and how to manage migration in a mutually beneficial way for both labour sending and labour importing countries.

The question of what is the appropriate institutional structure within which to manage migration also remains to be answered. Recent discussions in international fora have concluded that one possible approach to the collective action problem posed by migration would be the formation of a World Migration Organization (WMO) to improve the 'architecture and governance' of migration. There is growing support for such an organization. Perhaps, we can look forward to a time when the world will organize collectively to mutually set rules, promote good practices, and foster mutually beneficial solutions to migration problems.

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