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# 4

## Trends, Determinants, and Macroeconomic Effects of Remittances

Chapter 3 reviewed the trends, opportunities, and policy challenges associated with international migration. It also introduced the economic importance of the funds that international migrants send back to their country of origin. In recent years, those funds have emerged as a major source of external financing in developing countries. Although there is no universal agreement yet on how to measure international migrants' remittances to developing countries, a comprehensive measure of certain officially recorded flows—workers' remittances, compensation of employees, and migrant transfers—produced an estimate of \$167 billion for 2005, up from \$160 billion in 2004. Given measurement uncertainties, notably the unknown extent of unrecorded flows through formal and informal channels, the true size of remittance flows may be much higher—perhaps 50 percent or more. Because of their volume and their potential to reduce poverty, remittances are attracting growing attention from policymakers at the highest levels in both developed and developing countries.<sup>1</sup>

This chapter and chapters 5 and 6 consider remittances from several angles. The organizing framework is driven by three items on the international policy agenda: (1) understanding the true size and trends in remittance flows to developing countries, as well as their macroeconomic impact; (2) evaluating the impact of remittances on the households that receive

them; and (3) designing policies to reduce the transaction costs of remittances, strengthen the formal financial infrastructure supporting remittances, and leverage remittances to improve access to financial services in recipient economies.

Officially recorded remittance estimates may significantly underestimate the real magnitude of remittances. Model-based estimates and household surveys suggest that informal flows could add at least 50 percent to the official estimate, with significant regional and country variation. The true size of remittance flows could be even larger, in view of substantial underrecording of flows through formal channels.

Despite the prominence given to remittances from developed countries, South–South remittance flows make up 30–45 percent of total remittances received by developing countries, reflecting the fact that over half of migrants from developing countries migrate to other developing countries. Remittance flows to poor countries originate largely in the middle-income developing countries.

Recorded remittance flows have surged in recent years, driven by a combination of factors—among them better data collection, reflecting greater awareness of the development potential of remittances, as well as concerns about money laundering and terrorist financing; lower costs and wider networks in the industry that supports remittance; and

growth in the number of migrants and their incomes. Government policies to improve banking access and the technology of money transfers have also helped increase the flow of remittances and promote their transfer through formal channels.

Efforts to encourage remittances, however, sometimes generate unwanted effects. Tax incentives may attract remittance inflows, for example, but they also create opportunities for tax evasion. Likewise, matching-fund programs for migrant associations may channel collective remittances to development projects, but in so doing they may divert funds from other local funding priorities.

For some recipient countries, remittances are large enough to have broader macroeconomic implications. By generating a steady stream of foreign-exchange earnings, they can improve a country's creditworthiness for external borrowing, and through innovative financing mechanisms (such as securitization), they can expand access to capital and lower borrowing costs. While large and sustained remittance inflows can contribute to currency appreciation and so affect the production of cost-sensitive tradables (such as labor-intensive manufactures), this outcome may be less severe than it is in the case of natural-resource earnings (since remittances are distributed more widely and may avoid exacerbating the strains on institutional capacity that are often associated with natural-resource booms). Furthermore, the "Dutch disease" effects of remittances are of relatively minor concern insofar as remittances grow gradually over long periods. Remittances have a large positive effect on national income in many developing countries, and there is compelling evidence that they contribute significantly to poverty reduction (see chapter 5). Although the evidence on the effect of remittances on long-term growth remains inconclusive, in economies where the financial system is underdeveloped, remittances appear to alleviate credit constraints and may stimulate economic growth.

The plan of this chapter is as follows. In the next section, trends in remittance flows to developing countries are presented along with a range of estimates for their true size—that is, with informal flows included. We identify the major sending and receiving countries, including those in the South. In the following section, we examine the factors affecting remittance flows, including the prospects for future remittance growth, and policies and regulations in source and destination countries that affect the cost of remittances. In the final section, we consider the macroeconomic effects of remittances, including the effects on stability, country creditworthiness, international capital-market access, the real exchange rate, and competitiveness.

### Remittance data and trends

The quality and coverage of data on remittances leave much to be desired. First, there is no consensus on the boundaries of the phenomenon under study. Should only workers' remittances be counted, or should we include compensation of employees and migrant transfers? (See annex 4A.1 for more details on these nomenclatural disputes.) Second, in several countries, many types of *formal* remittance flows go unrecorded, due to weaknesses in data collection (related to both definitions and coverage).<sup>2</sup> Reporting of "small" remittance transactions made through formal channels is not mandatory in most countries,<sup>3</sup> and remittances sent through post offices, exchange bureaus, and other agents of money transfer operators (MTOs) are often not reflected in official statistics (de Luna Martinez 2005). Third, flows through *informal* channels (such as unregulated money transfer firms or family and friends who carry remittances) are rarely captured. Finally, remittances are often misclassified as export revenue, tourism receipts, nonresident deposits, or even foreign direct investment (FDI). Improving the quality of remittance statistics is the focus of ongoing cooperative international efforts (see box 4.1).

## Box 4.1 International working group on improving data on remittances

At its meeting in Sea Island in April 2004, the G-8 called upon the international financial institutions (IFIs) to lead a global effort to improve remittance statistics. In January 2005, the World Bank and International Monetary Fund (IMF) held an international meeting of data users and compilers who agreed that balance-of-payments statistics were the appropriate framework for collecting, reporting, and improving official statistics on remittances; that balance-of-payments concepts and definitions relating to remittances should be reviewed; and that improved guidance for collecting and compiling remittance statistics, including through the use of household surveys, was needed. Participants at the international meeting also agreed that improvements to relevant statistical concepts and definitions should be discussed in a Technical Sub-Group on the Movement of Persons (TSG), chaired by the UN Statistics Division with membership from central banks and national and international statistical agencies.

The TSG recommended that the “workers’ remittances” item in the balance of payments be replaced by “personal transfers.” The new term would cover all current transfers in cash or in kind made or received by resident households to or from other nonresident households. It went on to recommend that a new aggregate, “personal remittances,” be reported in the standard balance-of-payments presentation as a memorandum item. It was proposed that personal remittances comprise current and capital transfers in cash or in kind, made or received, by

resident households to or from nonresident households, and “net” compensation of employees from persons working abroad for short periods of time (less than one year).

The TSG also recommended that institutional remittances—those involving government, corporations, and nonprofit institutions serving households—should also be reported as a new memorandum item in the standard presentation of balance-of-payments statistics. That item would lead to a further memorandum item, “total remittances,” the sum of personal and institutional remittances.

Because the concepts of personal transfers and remittances are based on the concept of residence rather than migration status, the TSG recommended that the concept of “migrant” be replaced by the concept of “residence” in the balance-of-payments framework. Reporting of bilateral remittance flows is not currently required in the balance of payments, but the recommendation of the TSG is that flows to and from major partner countries be identified.

The TSG is expected to produce a final report in spring 2006.<sup>a</sup>

<sup>a</sup>A concurrent effort to improve remittance statistics is under way at the Center for Latin America Monetary Studies (CEMLA) with support from the Multilateral Investment Fund of the Inter-American Development Bank and technical advice from an international advisory council that includes the IMF and World Bank.

### *Officially recorded remittance flows are surging*

In this report (as in past editions of the World Bank’s annual *Global Development Finance* and the IMF’s 2005 *World Economic Outlook*), migrant remittances are calculated as the sum of workers’ remittances, compensation of employees, and migrant transfers (see annex 4A.1). Thus defined, remittances received by developing countries, estimated

using officially recorded data, rose to \$167 billion in 2005, up 73 percent from 2001 (table 4.1). More than half of that increase occurred in China, India, and Mexico. Low-income countries, led by India, registered an increase of \$18 billion during this period (box 4.2). Of 34 developing countries that received remittances in excess of \$1 billion in 2004, 26 countries registered more than 30 percent growth during 2001–4: Algeria

**Table 4.1 Workers' remittances to developing countries, 1990–2005**

\$ billions

	1990	1995	2000	2001	2002	2003	2004e	2005e	Change (%) 2005–2001
<b>Developing countries</b>	<b>31.2</b>	<b>57.8</b>	<b>85.6</b>	<b>96.5</b>	<b>113.4</b>	<b>142.1</b>	<b>160.4</b>	<b>166.9</b>	<b>73</b>
Lower middle income	13.9	30.0	42.6	47.4	57.3	72.5	83.5	88.0	86
Upper middle income	9.1	14.5	20.0	22.3	23.0	27.8	33.0	33.8	52
Low income	8.1	13.3	22.8	26.8	33.1	41.8	43.9	45	68
Latin America and the Caribbean	5.8	13.4	20.1	24.4	28.1	34.8	40.7	42.4	74
South Asia	5.6	10.0	17.2	19.2	24.2	31.1	31.4	32.0	67
East Asia and the Pacific	3.3	9.7	16.7	20.1	27.2	35.8	40.9	43.1	114
Middle East and North Africa	11.4	13.4	13.2	15.1	15.6	18.6	20.3	21.3	41
Europe and Central Asia	3.2	8.1	13.4	13.0	13.3	15.1	19.4	19.9	53
Sub-Saharan Africa	1.9	3.2	4.9	4.7	5.2	6.8	7.7	8.1	72
<b>World (developing &amp; industrial)</b>	<b>68.6</b>	<b>101.6</b>	<b>131.5</b>	<b>147.1</b>	<b>166.2</b>	<b>200.2</b>	<b>225.8</b>	<b>232.3</b>	<b>58</b>
Outward remittances from developing countries	6.1	12.5	12.1	14.3	18.7	20.2	24.1	–	–
Outward remittances from Saudi Arabia	11.2	16.6	15.4	15.1	15.9	14.8	13.6	–	–

Source: World Bank staff estimates based on IMF BoP Yearbook 2004 and country sources.

Note: Remittances are defined as the sum of workers' remittances, compensation of employees, and migrant transfers (see annex 4A.1). e = estimate.

– Data not available.

and Guatemala reported more than a tripling of remittance inflows; Brazil, China, Honduras, Nigeria, Pakistan, and Serbia and Montenegro reported growth in the range of 101–170 percent. (Also, five high-income countries—Austria, Australia, Belgium, Germany, and Spain—reported 45–79 percent growth in remittance inflows during 2001–4.)

The growing importance of remittances as a source of foreign exchange is reflected in the fact that remittance growth has outpaced private capital flows and official development assistance (ODA) over the last decade (table 4.2). Recorded remittance receipts were equivalent to about 6.7 percent of developing countries' imports and 7.5 percent of domestic investment. They also were larger than official flows and private equity (non-FDI) flows in 2004. Remittances were larger than public and private capital inflows in 36 developing countries in 2004 and larger than total merchandise exports in Albania, Bosnia and

**Table 4.2 Recorded remittances have grown faster than private capital flows and ODA**

\$ billions

	1995	2004
Workers' remittances	58	160
Foreign direct investment	107	166
Private debt and portfolio equity	170	136
Official development assistance	59	79

Source: World Bank (2005).

Herzegovina, Cape Verde, Gaza, Haiti, Jamaica, Kiribati, Lebanon, Nepal, Samoa, Serbia and Montenegro, and Tonga. In another 28 countries, they were larger than the earnings from the most important commodity export; for example, in Mexico, remittances are larger than FDI; in Sri Lanka, they are larger than tea exports; and in Morocco, they are larger than tourism receipts.

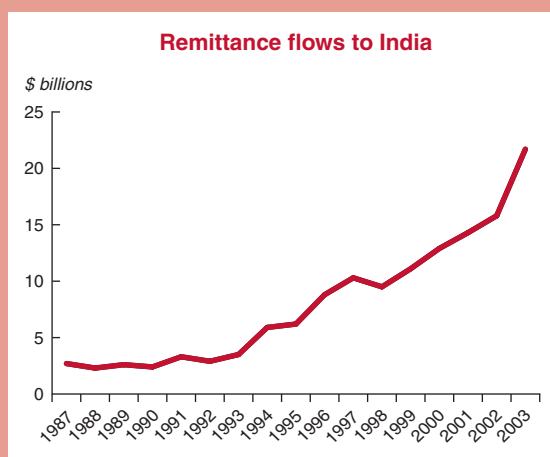
## Box 4.2 The recent surge in remittance flows to India

India has reported a spectacular increase in remittance inflows—from \$13 billion in 2001 to more than \$20 billion in 2003 (see figure). Several factors account for this remarkable increase. First, the number of migrants has grown sharply. During the oil boom in the 1970s and 1980s, thousands of low-skilled Indian workers migrated to the Persian Gulf countries. In the 1990s, migration to Australia, Canada, and the United States, increased significantly, particularly among information technology (IT) workers on temporary work permits.<sup>a</sup>

Second, the swelling of migrants' ranks coincided with (a) better incentives to send and invest money

in India's growing economy and (b) an easing of the regulations and controls, more flexible exchange rates, and gradual opening of the capital account. The elimination of the black-market premium on the rupee and convenient remittance services provided by Indian and international banks have no doubt shifted some remittance flows from informal *hawala* channels to formal channels.

Third, nonresident Indians have also responded to several attractive deposit schemes and bonds offered by the government of India. These offer attractive interest rates and an appreciating rupee. While nonresident deposits are conceptually different from remittances (they are a liability item in the capital account), evidence suggests that a large part of such deposits is converted to local currency. For example, for the Resurgent India Bond that matured in 2003, most of the redemption value stayed in India to meet various local currency needs of the nonresident depositors and their families. Nevertheless, remittances in the form of foreign-currency deposits can be speculative and may reverse in the event of deterioration in the investment sentiment.



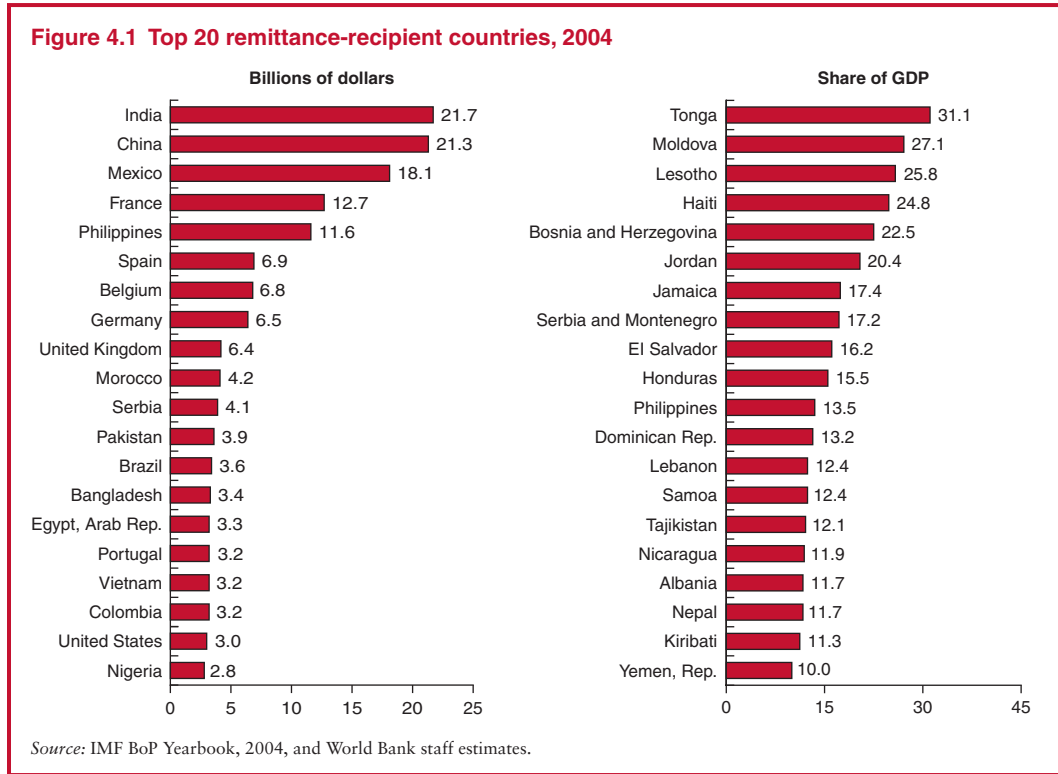
<sup>a</sup>In particular, migration to United States doubled during the 1990s. Remittances from United States as a share of total remittances to India grew from 37 percent in 1997 to 51 percent in 2003.

Figure 4.1 identifies the top 20 remittance recipients in 2004. Among developing countries, China, India, Mexico, and the Philippines were among the top recipients. Several industrial countries appear in this list as well.

When remittances are calculated in per capita terms or as a share of GDP, a different picture emerges. The top 20 recipients in shares of GDP are all developing countries; all receive more than 10 percent of GDP as remittance flows (figure 4.1). Small countries (Bosnia and Herzegovina, Haiti, Lesotho, Moldova, and Tonga) are among the most dependent on remittances.

High-income countries are the dominant source of global remittance flows (figure 4.2). The United States was the largest source country with nearly \$39 billion in outward remittances in 2004. However, outward remittances from developing countries amounted to \$24 billion in the same year.<sup>4</sup> When expressed in terms of GDP shares, outward remittances play the largest role in the upper-middle-income developing countries (0.7 percent of GDP in these countries compared to 0.2–0.4 percent in other developing countries and in high-income countries; figure 4.2).

**Figure 4.1 Top 20 remittance-recipient countries, 2004**



**South–South remittance flows are considerable**

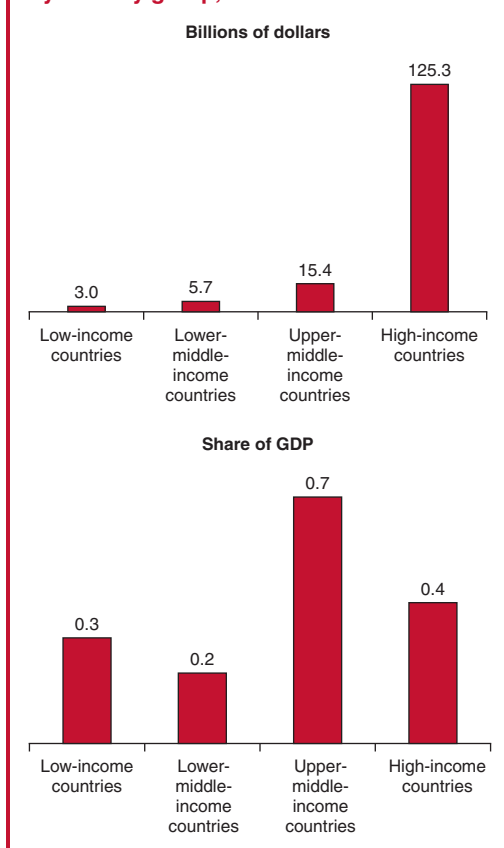
Official data show that several developing countries (China, Malaysia, and the Russian Federation) are among the top 20 sources of remittances. Anecdotally, outward remittances from India and South Africa are also believed to be large, although this is not reflected in the official data (Genesis Analytics 2005). The World Bank (2005a) points out a strong association between remittance receipts and the length of the border shared with more prosperous neighbors. Harrison and others (2004) also report that most remittance flows occur within the same region.

These factors all point to the conclusion that South–South remittance flows are substantial. But placing more precision on these flows is hard to do. First, relatively little is known about bilateral migration flows—that is, about how many migrants (or what share) in each receiving country come from each

sending country. Comprehensive global data are not available,<sup>5</sup> but estimates are that in poor countries of East Asia, South Asia, and Sub-Saharan Africa, more than two-thirds of emigrants migrate to a country in the same region. In South Asia and Sub-Saharan Africa, most migrate to another developing country.

Second, even less is known about how bilateral remittance patterns differ. We do not know, for example, how much, in total, is sent from one country to another, or how remittance propensities differ across sending and receiving countries. But by making plausible assumptions about these flows (in particular, that bilateral remittances are a function of the stock of migrants in the sending country), it is possible to estimate bilateral remittance flows and to calculate what proportion comes through South–South links.<sup>6</sup> Using this method, we estimate that nearly 30 percent of total remittance flows to developing countries originate in other developing countries. This

**Figure 4.2 Estimated remittance payment, by country group, 2004**



estimate is consistent with the fact that nearly half of the migrant stock from the South migrate to another country in the South.<sup>7</sup>

One of the challenges of understanding remittance flows is that their characteristics, costs, and channels can vary widely from one bilateral corridor to another (and also widely from different locations within each country). Understanding how remittance corridors differ in the kinds of migrants they serve and their means of transferring money is useful for providers of remittance services as well as policymakers (Hernandez-Coss 2004; Terry 2005; and chapter 6 of this volume). Some of the major remittance corridors are those that connect Canada and the United States to Latin America and Asia; the European Union to

Eastern Europe, Turkey, and North Africa; and the Persian Gulf to South and Southeast Asia.

#### *Informal remittances are large*

Remittances transferred through informal operators or hand carried by travelers are unlikely to be captured in official statistics, although they may represent a substantial addition to remittances sent through official channels. While it is extremely difficult to estimate the flows through informal channels, they appear to be large. First, the fact that recorded remittances to several countries through formal channels doubled, tripled, or quadrupled between 2001 and 2003 suggests that a significant part of the increase is likely to reflect a shift from informal to formal channels in response to the tightened regulatory scrutiny that has occurred since September 11, 2001.

Second, evidence from household surveys suggests widespread use of informal remittance channels (table 4.3).<sup>8</sup> Household surveys also help identify factors affecting the use of remittance channels. In the presence of a well-developed formal sector, regular remitters and large remitters are unlikely to use the informal sector. Trust in the financial system is an important prerequisite for a growing bank presence in the (formal) remittance market.

High remittance costs and the presence of dual exchange rates are two key factors affecting the choice of informal remittance

**Table 4.3 Choice of remittance channel in selected countries**

% remittances	% remittances	
	Formal	Informal
Dominican Republic	96	4
Guatemala	95	5
El Salvador	85	15
Armenia	62	38
Moldova	53	47
Bangladesh	46	54
Uganda	20	80

Source: World Bank staff estimates based on household surveys. See also Freund and Spatafora 2005.

channels.<sup>9</sup> If there were no cost advantages to using informal channels, there would be little incentive to use them, and remittances could arguably shift entirely to formal channels. Thus if the costs of formal transfers were reduced to the range reported in the informal sector (2–5 percent), and if official and parallel exchange rates were unified, the resultant increase in recorded remittance flows could be interpreted as an estimate of the size of informal flows.

Table 4.4 reports the results of an exercise to estimate the size of the informal remittance sector (see annex 4A.2 for a fuller explanation). Cross-country regression analysis shows that reported remittances are lower, and informal flows higher, in corridors where remittance costs are higher and where there are significant black-market premiums over the official exchange rate. Using the estimated coefficients from these regressions, the predicted increase in officially recorded remittances is calculated in response to a 2–5 percent decline in remittance costs and elimination of the exchange-rate premium. These calculations suggest that the informal remittance sector is at least 50 percent of the

official sector.<sup>10</sup> They also show significant regional variation. Informal remittances appear to be larger in Sub-Saharan Africa, the Middle East and North Africa, and Europe and Central Asia than in other regions.<sup>11</sup> While the magnitude of the regional estimates varies across methods, the relative ranking of regional effects is more robust.

### Factors affecting remittance flows

The surge in remittance flows over the past few years reflects a mix of factors, as noted. In some areas, there have been significant reductions in remittance costs—60 percent in the United States–Mexico corridor since 1999. On the measurement side, the sizeable depreciation of the dollar against most other major currencies (the euro in particular) since 2002 has increased the dollar value of nondollar remittances over time.<sup>12</sup> Improvements in data recording by central banks—in response to growing recognition of the importance of remittances by national authorities, and as a result of broader efforts to improve data quality—have generated sharp increases in remittance flows in some cases. In addition, heightened security and scrutiny by immigration and finance authorities in many high-income countries may have encouraged outward surges in remittances, as undocumented migrants responded to increased uncertainty and risk of deportation or other legal action by remitting a larger share of their savings or income. This factor has reportedly been important in Pakistan, which recorded a tripling of remittance receipts from 2001 to 2003.

#### *The surge in remittances is likely to continue in the medium term*

In addition to these special factors, powerful economic factors also influence the growth of remittances. Increases in the number of migrants will have the greatest and most direct impact, of course, along with compositional features, such as the mix between temporary and permanent workers (temporary workers

**Table 4.4 Estimated increase in formal remittances if transaction costs were reduced to 2 to 5 percent and dual exchange rates were eliminated**

Percent		
Region	Cross-sectional estimates	Panel estimates
<i>All developing countries</i>	69	54
Sub-Saharan Africa	201	122
Eastern Europe and Central Asia	151	73
East Asia and the Pacific	56	..
South Asia	25	55
Middle East and North Africa	165	..
Latin America and the Caribbean	51	99

Source: Freund and Spatafora 2005.

Note: Results averaged over 1995–2003. See annex 4A.2 for a fuller explanation of the procedures used. In column 3, a reduced form equation is estimated on the basis of the explanatory variables used in the cost regression reported in table 4A.2.2.

.. Negligible.



are believed to remit a larger share of their income) and the skill mix (low-skilled workers tend to send a higher proportion of their lower incomes). Employment opportunities in the host country affect income, and therefore remittances, while changes in the cost of living may affect the size of the surplus that remitters are able to send.

The complex interplay of these factors makes assessing the future growth potential of remittance flows quite difficult. It is plausible that in the coming years, official remittance flows will continue to rise at the 7–8 percent annual rate seen during the 1990s. With both the supply and demand for migrants growing, migration flows—especially temporary migration—are likely to continue to be strong. Growing income levels in source countries and rising costs of living in receiving countries, together with the falling costs of remittances, would also imply larger remittances, especially through recorded channels.

It is unlikely, however, that the surge in remittance flows seen in some countries since 2001 will continue much longer. The shift in flows from informal to formal channels, to the extent that it occurred in response to tightened scrutiny, is likely to dwindle. (In Pakistan, for example, remittance flows have flattened since 2003.) In the more mature United States–Mexico corridor, where remittance costs have already fallen drastically (by 60 percent since 1999), the effect of further cost reduction will not be as large as it was five years ago.

Some analysts argue that in the more mature markets, “remittance decay” may set in, especially if temporary or undocumented workers are allowed permanent and legal residence. While it is true that the marginal propensity to remit tends to decline with the length of a migrant’s stay in a host country, and ties with the home country weaken over time, there is no empirical evidence that the dollar amount of remittances actually declines in these circumstances.<sup>13</sup> On the contrary, the effect of rising incomes of the migrant sender may show up as an increase in remittances over time.

### *Government policies can affect remittance flows*

Many sending and receiving governments are only now beginning to think about policies to increase remittance flows and promote transfers through formal channels. In the remittance-receiving countries, these policies include tax exemptions for remittance income; improved access to banking services by recipients; incentives to attract investments by the diaspora; access to foreign exchange or lower duties on imports; support for the projects of migrant associations; and help for migrants in accessing financial systems. In the remittance-source countries, they include policies affecting access to banks, access to foreign exchange, support to migrant groups, types of immigration regimes, and cooperation with receiving countries.<sup>14</sup>

### *Policies in remittance-receiving countries*

*Taxes on incoming remittances.* Most remittance-receiving countries today do not impose taxes on incoming remittances. There may be some implicit tax on remittances, however, in the form of a general financial services tax<sup>15</sup> or on remittances in kind (for example, food, clothing, electronic items, or vehicles). When Vietnam removed its 5 percent tax on remittances in 1997, it found that the flow of remittances through formal channels increased. Such tax exemptions may well increase remittance inflows,<sup>16</sup> but they also raise the possibility of misuse for tax evasion.

*Travel and customs privileges for returns and imported goods.* Many remittance-receiving countries give preferential treatment to migrants sending home or bringing with them goods and equipment. For example, once a year Tunisians are entitled to import goods and/or services up to a customs value of TD1,000 without paying tax, and a private vehicle, home equipment, and furniture are tax free when they return; Guatemala permits a once-a-year tax-free remittance of any commodity valued up to \$500. Pakistan, Turkey, Vietnam, and many other countries also offer such import privileges.<sup>17</sup>

*Relaxation of exchange and capital controls.* Unification of exchange rates and allowing more banks and financial institutions to undertake foreign exchange transactions have been among the most successful ways of attracting remittances to formal channels and expanding remittance services in many countries. Also, allowing residents to hold foreign currency deposits using remittances from abroad is believed to have resulted in a large increase in formal remittances in many countries in South Asia and Africa (Siddiqui 2004). India's liberalization of the exchange rate in 1991 has been linked to a decrease in the use of illegal transfer channels to the state of Kerala; and the Philippines found that by abolishing exchange controls it quadrupled its formal inward remittances in the same year (Buencamino and Gorbunov 2002). Allowing the market to decide exchange rates in 2002 also helped the Bangladesh Bank to curb the informal *hundi* business significantly (Siddiqui 2004). In 2004, an increase in foreign currency reserves in Zimbabwe was ascribed, in part, to the introduction of a new money transfer system (Homelink) set up by the government to facilitate formal transfers.

*Allowing domestic banks to operate overseas.* Governments have allowed more of their domestic financial institutions (including microfinance institutions in some countries) to open branches and provide services to their migrants working in other countries. These domestic banks bring trust and offer remittance services at competitive prices. For example, the Groupe Banques Populaires has picked up 66 percent of total remittances to Morocco by offering low fees, simple procedures, and other nonfinancial services to Moroccans abroad (Amin and Freund 2005). Two small Armenian banks specializing in remittance transfers, Anelik and Unibank, have come to dominate the formal transfer system for Armenians in parts of Europe; and Fonkoze in Haiti has expanded its U.S.-based clientele in partnership with the City National

Bank of New Jersey. In Bangladesh the dramatic increase in formal remittances since 2001 is, in part, the result of the improved services of the banking sector (Siddiqui 2004).

*ID cards for migrants.* Providing identification cards to migrants (regardless of their legal migration status) to access banking facilities has also opened up more opportunities for formal remittance transfer. Mexican immigrants, for example, can obtain a photo-identification card in the form of a *matricula consular* from the Mexican consulates abroad. This card is widely accepted by commercial banks in the United States to open bank accounts (and in many states, for issuing driving licenses, see box 6.1). Other Latin American governments are discussing similar arrangements for their nationals in the United States. Most sending countries require legal documentation for any bank transaction. Some receiving countries issue ID cards to expedite domestic services for their emigrants, for example, the Tunisian *carte consulaire* for special customs clearance, reduced airfares, and foreign currency bank accounts in Tunisia.<sup>18</sup>

*Support to hometown associations (HTAs) and matching grants.* Providing funds to supplement or match collective remittances made by emigrant groups is another means to engage migrants in the development of home communities. With enhanced institutional capacities, HTAs could be valuable development partners for governments, the private sector, and communities, but importantly as a complement to, not a substitute for, strengthened financial and investment systems on the ground (Gubert 2005). A careful evaluation of support to HTAs through matching grant schemes and other means is yet to be undertaken (see box 4.3).

*Loans/pension schemes and bonds targeted at the diasporas.* These measures can expand opportunities for investment and provide incentives for the formal transfer of money from abroad (see also chapter 6). While investments

in the form of nonresident deposits or diaspora bonds are not, strictly speaking, remittances (because they involve the purchase of assets, rather than transfers to households), they may indirectly encourage remittances. Many countries have successfully issued premium bonds to their diaspora (for Bangladesh, China, Eritrea, India, Israel, Lebanon, Pakistan and the Philippines, see Carling 2005). Even when investments in these bonds are in foreign currency terms, after maturity some portion is likely to remain

in the country. Such schemes were a major factor behind the doubling of remittance flows to India between 2002 and 2003 (box 4.2).

*Active policies and institutional arrangements to support the diaspora.* Countries like Mexico and the Philippines with more successful remittance programs tend to have well established institutional frameworks to train, support, and ensure the welfare of their expatriates abroad. There is also a broad range of outreach activities to assist migrant welfare

### Box 4.3 Collective remittances through hometown associations and matching schemes

Many migrants are increasingly pooling their resources and investing collectively in development-related activities in home communities, either through hometown associations (HTAs) or other migrant group schemes.<sup>a</sup> HTAs are the most prominent, because of their proliferation among the Latin American and Caribbean diaspora in Canada and the United States since the late 1990s. Similar associations exist in France (some 1,000 *organisations de solidarité internationale issues de migrations* or OSIMs), the United Kingdom, and Africa.<sup>b</sup> The activities of HTAs are mixed and poorly documented, but they range from diaspora support in the host country to community investment projects in villages in the home country.

Collective remittances via HTAs currently account for only 1 percent of all remittances in Central America, but it is estimated that they could rise to 3–5 percent in ten years if their management and institutional capacity improves (IFAD 2005).

Most HTAs tend to be small scale and philanthropic in orientation, and they invest in projects of no more than \$10,000. They have traditionally focused on infrastructure and social projects (schools, churches, recreational parks, medical outreach clinics, and household support) and on channeling post-disaster humanitarian aid (for example, in El Salvador). In Africa, there is evidence that the more sustainable projects tend to facilitate household

distribution of consumer goods (as in general stores or grain banks) or the purchase of farming equipment (Gubert 2005). In Latin America, it is observed that when at least 30 percent of households in a town receive remittances, HTAs can help improve the quality of life of households (IOM 2005). But the focus of HTAs is expanding to include more investment in economic infrastructure and income-generating projects managed by the community and local NGOs or banks (Orozco 2003).

Governments have, on occasion, offered matching grants for remittances from diaspora groups or HTAs to attract funding for specific community projects.<sup>c</sup> The best known of these matching schemes is Mexico's 3-for-1 program, started in 1997, 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. By 2002, the 3-for-1 program had established projects totaling \$43.5 million, two-thirds of which benefited labor-intensive agricultural economies in four high emigration states (IOM 2005). In the period 2002–4, more than 3,000 such projects benefited some 1 million inhabitants in 23 Mexican states.<sup>d</sup>

Evidence from Mexico suggests, however, that HTAs have not been very successful. But in some cases (for example, Zacatecas) where HTAs have exchanged or debated project ideas and investment

### Box 4.3 (continued)

climate issues with the local and state governments, they are believed to have been successful.<sup>c</sup>

On the positive side, HTA involvement in projects is argued to ensure that programs are focused on community needs. Resources have gone primarily to rural areas, where they have increased the supply of essential services (health, education, roads, and electricity). Donations by HTAs are often as much as or more than the municipal budget for public works, particularly in towns with small populations (Orozco 2003). HTAs can promote higher standards of transparency and accountability among local authorities, and higher labor standards.

There are obviously limitations on the potential for HTAs to serve as conduits for broader development projects. They may not have the best information about the needs of the local community, or they may have different priorities. The capacity of HTAs to scale up or form partnerships is limited by the fact that their members are volunteers, and their fundraising ability finite. They can also become divided and weaken their own advocacy potential (Newland and Patrick 2004). When matching funds come from fiscally constrained governments, there is also the problem that they may be diverted from other—perhaps higher priority—development

projects, or from other regions with a greater need for assistance.

<sup>a</sup>HTAs are grassroots migrant organizations, usually formed around the interests and needs of a mutual hometown. The term has been coined in the United States, where many thousands of Latin American and Caribbean HTAs have sprung up in the past 15 years or so (Orozco and Welle 2004).

<sup>b</sup>Migrant associations exist in many countries, but are mostly concerned with the conditions of the diaspora and networking abroad. Some, like the Sierra Leonean Women's Forum in the United Kingdom, are concerned with immediate survival needs (food, clothing) back home (Black and others 2004).

<sup>c</sup>In addition to Mexico, the Salvadoran government partners with HTAs in rural development projects in El Salvador. In 2001, the federation of HTAs (COMUNIDADES) and the National Corporation of Municipalities created the Social Investment for Local Development Fund (FISDL) to provide matching project funding. In France, the Osims can also receive institutional and financial subsidies from the government for social and economic development projects back home (Magoni 2004).

<sup>d</sup>See "3 por 1. Proyectos Compartidos," prepared for the seminar "Migración, remesas y el Programa 3 por 1 para Migrantes," Secretaría de Desarrollo Social, Mexico and IADB, Washington DC, June 2005.

<sup>e</sup>See Gubert 2005, Iskander 2005, and Orozco 2004. The literature is not clear on what "success" means in these cases (beyond mere survival of the HTAs).

and promote remittances and investment in the home country, from pre-migration information and orientation (Philippines), IDs for customs and other purposes (Colombia, Tunisia), finance for study (Tunisia), support in legal and administrative disputes (Morocco), fairs and re-orientation visits for émigrés and their families (Colombia, Tunisia), shortened military service (and payment of fee in lieu, Turkey), hotline for migrant investors (Tunisia), and a diaspora trust fund (Nigeria). Some countries like Bangladesh, Egypt, Eritrea, Pakistan, Philippines, and Thailand (and Mexico and Turkey in the 1960s) have tried to impose mandatory remittance require-

ments on their émigrés, but with little success. Also, restrictive emigration policies have driven migrants into using clandestine remittance channels.<sup>19</sup>

#### *Policies in remittance-source countries*

Only a handful of remittance-sending countries have proactive remittance-supporting policies. Most are noninterventionist or have had little engagement to date, but this is changing with the growing appreciation of the significance of remittances for development in countries such as Australia, Canada, the United States, and most West European states (Ellerman 2003, Carling 2005). USAID has

undertaken extensive research on remittances, as has the United Kingdom's Department for International Development (DFID) and the Norwegian International Peace Institute (PRIO). All propose ways forward for more proactive policies by sending countries—for example, to support migrant associations, facilitate low cost, reduce bureaucratic remittance transfer, greater competition in the remittance market, and inform decision making by migrants and affected communities.

*Immigration policies.* Policies that affect the size, type, and tenure of migration flows also affect remittance patterns. A larger migration stock would in general imply larger remittance flows to the country of origin. Given the migration stock, a larger share of temporary

migrants is likely to lead to larger remittances. Also, as discussed above, the ties of migrants to their home country weaken with the passage of time, causing remittances to decline.

Given the personalized nature of remittances, governments are unlikely to have much success in using remittance policies to steer migration differently. Some countries, like Canada, France, and Germany, have tried to direct remittance flows to investments in the home country to encourage return migration, but these efforts have met with little success. There are also some examples of “forced” remittance transfer programs between sending and receiving countries, although these raise vexing legal issues and do not appear to be effective either in encouraging migrant return or mobilizing resources (box 4.4).

## Box 4.4 Forced remittances

While it is generally assumed that migrant workers are free to choose how much, when, and to whom to send money, there have been cases when sending or receiving governments, banks in the home country, or employers have decided to retain a certain proportion of pay for remittances. The rationale for such “forced” remittances is to ensure that temporary migrant workers do not stay on, but return home after the end of their contract. Sometimes, the objective of such measures is to steer the use of remittances to investment in the country of origin.

For example, from 1942 to 1964 the “Bracero program” regulated migration of 4.6 million farm workers between Mexico and the United States. From 1942–9, a tenth of the wages earned by these *braceros* was deducted from their pay by the U.S. employers and paid into accounts held by the Bank of Mexico at two commercial banks in San Francisco. From there it was transferred to the Bank of Mexico and then on to the Banco de Credito Agrícola. Alternatively, the employers gave the worker a check for the deducted amount at the end of the contract to be cashed back home in Mexico. A 1946 report by the Mexican government claimed that

\$8 million in forced savings had been paid out to *ex-braceros* and only \$6 million was unaccounted for; but the *LA Times* reported (on March 30, 2001) that a total of \$34 million in forced savings was collected during 1942–6. The loss of the money was explained by successive bank consolidations and restructuring, and as a result, records of accounts had disappeared (Migration News, <http://migration.ucdavis.edu/mn>). The *braceros* were mostly poorly educated peasants, who did not even know about the deductions and who later were intimidated by the forms and correspondence needed to claim their money (*LA Times*, op.cit.). In March 2001, a class action suit was filed on behalf of former *braceros* at a San Francisco district court claiming \$30 million–\$50 million in savings not returned and additional punitive damages. This claim was rejected because of the statute of limitations (*San Francisco Chronicle*, August 29, 2002). In 2003, the Mexican government agreed to reimburse, within six months, an upfront sum of \$150 per person and then monthly rates of pesos 200 for up to pesos 60,000, provided the *ex-braceros* could produce identification (the Bracero Net program).

Forced remittances may also be used by a government to encourage the use of remittances for

## Box 4.4 (continued)

investment in the domestic economy. Under the Deferred Pay Scheme, mine workers from Lesotho have 30 percent (initially 60 percent, until 1990) of their pay deposited at a Lesotho bank and the balance into a savings account at TEBA (The Employment Bureau of Africa) Bank. The certificate confirming the identity of the account holder is handed out by the TEBA Bank at the end of the contract, before the mine worker goes home to collect the balance from the deferred pay scheme.

A similar arrangement is foreseen in the memorandum of understanding between the Governments of Thailand and Laos on employment cooperation. All Laotian guest workers are obliged to pay 15 percent of their earnings into a “deportation fund” set up by the host country, Thailand. Workers who wish to return home can claim their contribution in full with interest. The request must be filed three months before the return date, and the money is to be paid to the workers within 45 days after the last day of employment (articles 11 and 12).

A milder form of induced remittances has been introduced for temporary Mexican farm workers in the United States and Canada. Before their departure visas and work permits are issued, the temporary farm workers register with the Ministry of Labor in Mexico. After the papers are delivered, migrants open a savings account with the subsidiary or an associated institution of a North American bank in Mexico. Once they arrive in the United States or Canada, the temporary workers either make the remittance transaction themselves or arrange with

the farmer-employer to pay directly into their savings account via payroll deduction.

Forced savings of this type raise legal issues in that they violate an accepted principle of wage protection, that is, the idea that “wages shall be paid directly to the worker concerned” (article 5 ILO Convention 95 of 1949). The only exception provided for is that the “worker concerned has agreed to the contrary.” It is not clear whether that has been the case with the *braceros* or with the other examples cited here. Convention 95 states that “employers shall be prohibited from limiting in any manner the freedom of the worker to dispose of his/her wages.” Article 8.2 further spells out that “workers shall be informed of the conditions under which such deductions may be made.” (Mexico ratified this convention in 1955. The United States has not ratified it.)

Forced remittances are also probably not the most effective measure to ensure that temporary migrant workers return home. If they return, it is likely not driven by their desire to reclaim their savings. When offered a choice, migrants avoid such systems. In South Africa a considerable number of mine workers from Lesotho did not participate in the deferred pay scheme, often in complicity with the mining companies (Sparreboom 1996, p. 13). If the Lesotho deferred pay scheme was voluntary, then the volume of savings would drop to a level of the voluntary schemes of workers from Botswana and Swaziland, namely 1 percent of the levels of the obligatory scheme (TEBA 1995).

*Banking and financial markets.* Greater relaxation and competition in money transfer markets leads to reduced prices and more money reaching the beneficiaries. This process is facilitated further by improving access of remittance service providers to national payment and settlement systems. This seems to have worked well within framed agreements such as the United States–Mexican Partnership for Prosperity program of 2001, involving the *matricula consular* to improve banking access

of Mexican immigrants in the United States and low-cost electronic transfers through the Federal Reserve Bank’s automated clearing-house system for Mexico (see chapter 6). Spain has initiated agreements between Spanish and Latin American financial institutions to reduce transfer fees and foster the entry of new agents into the financial market, particularly in rural areas. In the past, Germany worked closely with Turkey to encourage remittances into formal channels

(UN 2005). In some remittance-source countries, outward remittance flows are affected by exchange controls. For example, South Africa's policy of limiting foreign exchange dealings only to banks has prompted (unbanked) remitters to use informal channels—only 5 percent of remittances to other Southern African Development Community (SADC) countries are being sent via formal channels, according to Genesis Analytics (2005).<sup>20</sup>

*ID arrangements for migrants.* The U.S. facilitation of banking for both regular and irregular migrants from Mexico through the *matricula consular* mechanism has been highly successful in drawing more migrants into safer and cheaper remittance modes. The Federal Deposit Insurance Corporation (FDIC) through its New Alliance Task Force initiative, in collaboration with the Mexican consulates and commercial banks, has been successful in improving banking access as well as the financial literacy of immigrants.<sup>21</sup>

*Support to HTAs or migrant associations.* HTAs and similar entities receive some support from host governments in the United States, France, and parts of Africa in recognition of their development assistance potential. While HTAs could potentially play a useful role in community infrastructure and other collectively funded projects, their ability to effectively channel large amounts of aid remains untested.<sup>22</sup>

## Macroeconomic effects of remittances

Until recently most of the discussion and research on remittances was focused on the (microeconomic) end use by the recipient households, including the effects on poverty (see chapter 5). But as outlined earlier in this chapter, the large size of remittances relative to other external flows and to the GDP in many countries suggests that the macroeconomic effects of remittances may be of critical importance in many countries (recall that the top 19 remittance recipients receive more than 10 percent of their GDP in remittances).

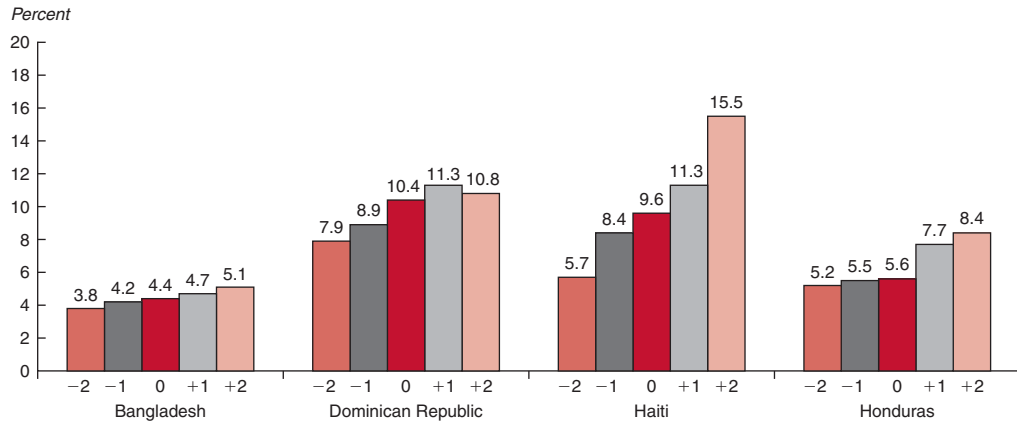
High levels (or large increases) in remittance flows can be expected to have direct repercussions on foreign exchange rates, domestic interest rates, and the balance of payments, and indirect repercussions on macrovariables. Because of their relative stability and targeting (directly to households), they may bring some additional benefits. However, as the experience with and analysis of natural resource booms have shown, large inflows can also have some undesirable side effects (see also box 4.5). And to the extent that remittance flows may naturally just go to countries that are doing poorly or respond anticyclically (increase during downturns, due to a drought, for example), it may be hard to disentangle how remittances affect macro-performance. In this section, we consider some of the macroeconomic channels through which remittances affect recipient countries.

### *Remittances are stable and may be countercyclical*

Remittances may move countercyclically relative to the economic cycle of the recipient country. Remittances may rise when the recipient economy suffers a downturn in activity or macroeconomic shocks due to financial crisis, natural disaster, or political conflict, because migrants may send more funds during hard times to help their families and friends. Remittances may thus smooth consumption and contribute to the stability of recipient economies by compensating for foreign exchange losses due to macroeconomic shocks.

Many authors have observed an increase in remittance inflows following a natural disaster (Clarke and Wallsten 2004) or an economic downturn (Kapur 2003). Yang (2004) showed that remittance receipts by Filipino households increased following the 1997 financial crisis. A 10 percent appreciation of a migrant's currency against the Philippine peso led to increases in household remittance receipts and a 0.6 percentage point decline in the poverty rate in migrant households. He also found evidence of positive spillover effects on households without migrant members due to

**Figure 4.3 Remittances as percent of private consumption, two years before and two years after natural disasters**



Note: The bar marked 0 is the year of the natural disaster.

increases in remittance-driven economic activity as well as by direct transfers from the migrant's origin household. Mishra (2005) finds that a 1 percent decrease in real GDP was associated with a 3 percent increase in remittances after a two-year lag in 13 Caribbean countries during 1980–2002. To the extent that remittances are used for investment purposes, however, they may behave procyclically just as other investment flows do. In Turkey and the Philippines, remittances were more volatile and procyclical in the 1990s than in the 1980s.<sup>23</sup>

Remittance flows (as a share of personal consumption) continued to rise after natural disasters in Bangladesh, Dominican Republic, Haiti, and Honduras (figure 4.3). In Albania, after an initial disruption in remittance inflows (as a share of personal consumption) in the year of conflict, remittance flows recovered quickly (figure 4.4). In Sierra Leone, remittances *increased* in the year of the conflict.<sup>24</sup> Remittances as a share of personal consumption rose in response to the financial crisis in Mexico in 1995 and in Indonesia and Thailand in 1997 (figure 4.5).

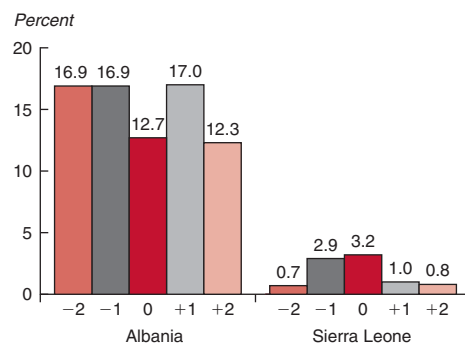
Yang (2005) found that the increase in remittances makes up for 13 percent of income losses in the current year and 28 percent

within four years of a hurricane. In contrast, increases in ODA and FDI make up for roughly 26 and 21 percent, respectively, within four years.

**Remittances can improve country creditworthiness**

Remittances can improve a country's creditworthiness and thereby enhance its access to international capital markets. The ratio of

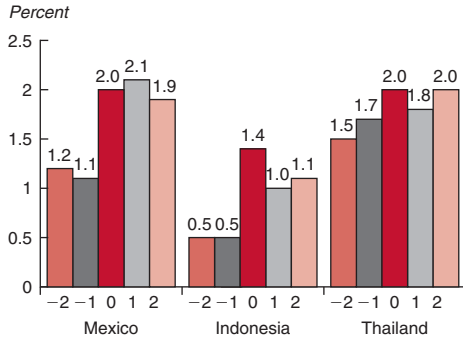
**Figure 4.4 Remittances as a share of personal consumption, two years before and two years after conflict**



Note: The bar marked 0 is the year of the conflict.



**Figure 4.5 Remittances as a share of personal consumption, two years before and two years after financial crises**



Note: The bar marked 0 is the year of the financial crisis.

credit ratings for Lebanon and Haiti by two notches; these would result in implied sovereign spread reductions ranging from 130 to 334 basis points (table 4.5).<sup>26</sup>

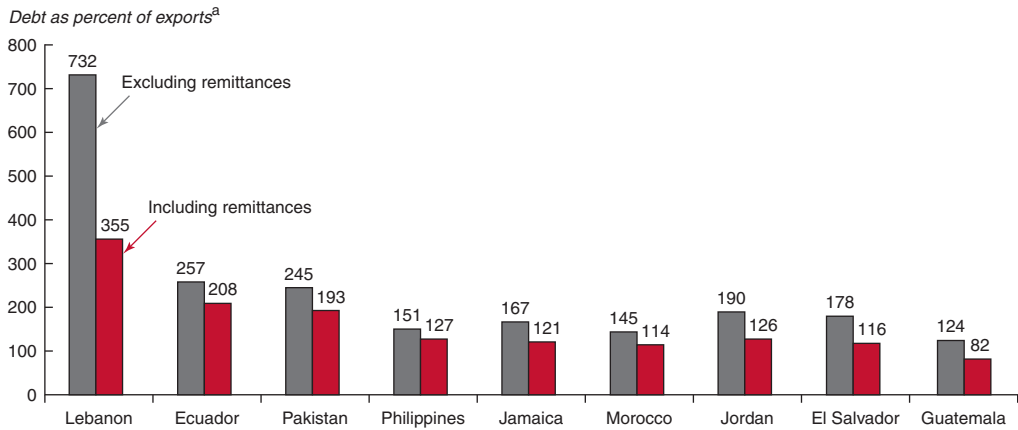
**Remittance securitization can help countries raise external financing**

Another way in which remittances affect international capital market access is through the use of structured finance techniques. Several banks in developing countries (for instance, Brazil) have been able to raise relatively cheap and long-term financing from international capital markets via securitization of future remittance flows.

Remittance securitization typically involves the borrowing entity (such as a bank) pledging its future remittance receivables to an offshore special purpose vehicle (SPV). The SPV issues the debt (figure 4.7). Designated correspondent banks are directed to channel remittance flows of the borrowing bank through an offshore collection account managed by a trustee. The collection agent makes principal and interest payments to the investors and sends excess collections to the borrowing bank. Since remittances do not enter the issuer’s home country, the rating agencies

debt to exports of goods and services, a key indebtedness indicator, would increase significantly if remittances were excluded from the denominator (figure 4.6). Country credit ratings by major international rating agencies often fail to account for remittances.<sup>25</sup> Model-based calculations using debt-to-export ratios that include remittances in the denominator indicate that including remittances in creditworthiness assessments would improve

**Figure 4.6 Indebtedness classification including and excluding remittances, 2003**



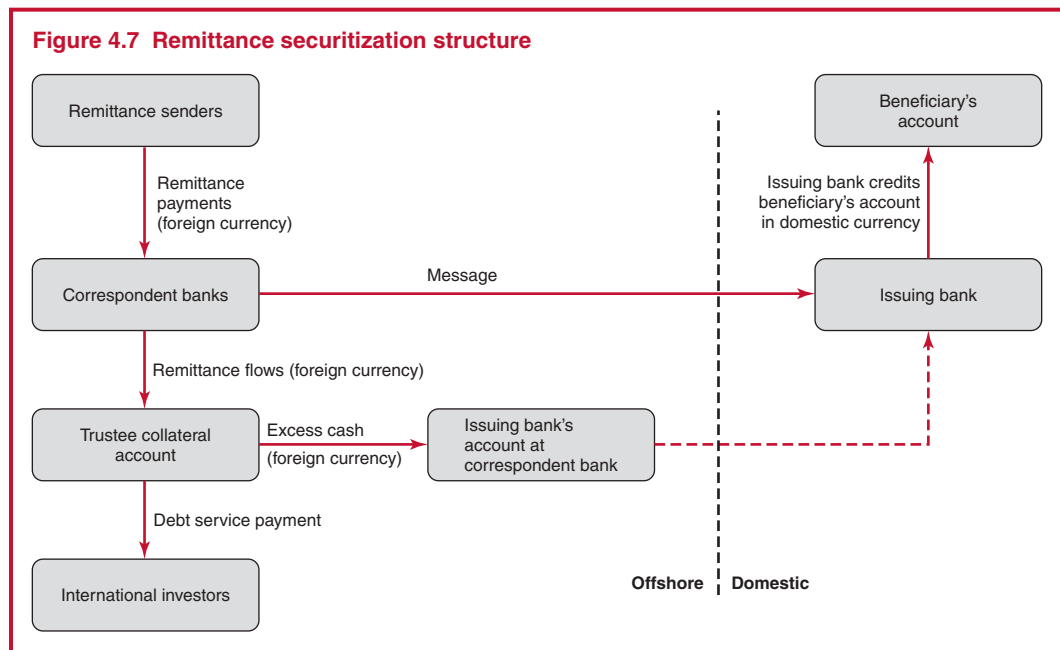
Source: World Development Indicators, and World Bank staff calculations.

Note: a. Present value of external debt as percent of exports of goods and services, and remittances.

**Table 4.5 Impact of remittances on country credit rating and sovereign spread**

	Remittances as % of GDP, 2004	Rating excluding remittances	Rating including remittances <sup>a</sup>	Spread saving (basis points)
Serbia and Montenegro	7	B+	BB-	150
Lebanon	14	B-	B+	130
Haiti <sup>a</sup>	28	CCC	B-	334
Nicaragua <sup>a</sup>	11	CCC+	B-	209
Uganda <sup>a</sup>	5	B-	B	161

Sources: Standard and Poors and World Bank staff calculations.  
 Note: a. Calculated using a model similar to Cantor and Packer (1995); see Ratha and De (2005).

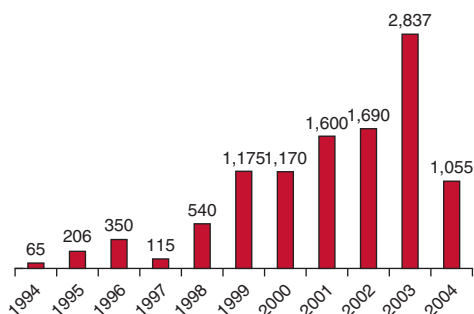
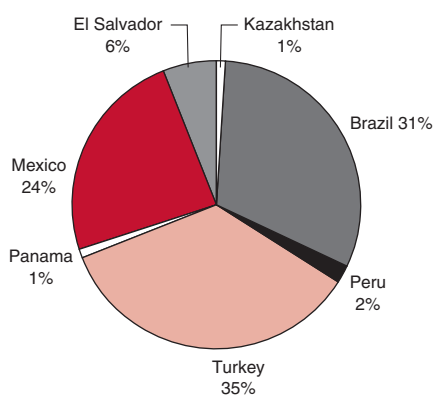


believe that the structure mitigates the usual sovereign transfer and convertibility risks. Such transactions also often resort to excess coverage to mitigate the risk of volatility and seasonality in remittances.

By mitigating currency convertibility risk, a key component of sovereign risk, the future flow securitization structure allows securities to be rated better than the sovereign credit rating. These securities are typically structured to obtain an investment grade rating. In the case of El Salvador, for example, the remittance-backed securities were rated investment grade, two to four notches above the sub-investment grade sovereign rating. Investment-grade rat-

ing makes these transactions attractive to a wider range of “buy-and-hold” investors (for example, insurance companies) that face limitations on buying sub-investment grade. As a result, the issuer can access international capital markets at a lower interest rate spread and longer maturity. Moreover, by establishing a credit history for the borrower, these deals enhance the ability and reduce the costs of accessing capital markets in the future.

The first major securitization deal involving international migrant remittances occurred in 1994 in Mexico. The volume of remittance securitization has grown rapidly since then (figure 4.8a). Using this instrument,

**Figure 4.8 Securitization of remittances, 1994–2004****a. Millions of dollars****b. By country**

Note: Applies to the first half of 2004 only.

Mexico, El Salvador, and Turkey raised about \$2.3 billion during 1994–2000. As electronic transfers became more widespread, it was easier to track complex transactions, and remittances securitization gave way to securitization of diversified payment rights (DPRs), including migrant remittances, but also payments related to exports and FDI. During 2000–4, a total of \$10.4 billion was raised through securitization of DPRs by Brazil (\$5.3 billion), Turkey (\$4.1 billion), El Salvador, Kazakhstan, Mexico, and Peru (figure 4.8b). Following a sharp increase in borrowing costs in 2002 (in part because of election-year uncertainties), Brazil has raised over \$4 billion by issuing bonds backed by di-

versified payment rights. These bonds resulted in a spread saving of more than 700 basis points compared to Brazil's sovereign spread.

As experience with this instrument broadens, and investors become more comfortable with its characteristics, it is possible that it could be used by a wider range of countries (including poor countries) and for a broader range of external flows (remittances, tourism receipts, and commodity earnings). It is not easy to estimate the potential size of such future-flow securitization. But preliminary calculations, assuming an over-collateralization ratio of 5:1 and using migrant remittance figures for 2003, show that developing countries could potentially issue nearly \$9 billion and low-income countries could raise up to \$3 billion annually from international capital markets.

Several policy hurdles need to be crossed before securitization deals can proceed. High fixed costs of legal, investment banking, and credit-rating services and long lead times can pose difficulties for developing countries with few large entities and high borrowing needs. A master trust arrangement can permit issuers to structure a large deal but to tap the market in several tranches. Pooling receivables of several branches (or even several borrowers) could also help increase the deal size to justify large fixed costs. While the absence of an appropriate legal infrastructure can also constrain issuance, this need not require an overhaul of the entire legal system. A more focused approach that concentrates on bankruptcy law may suffice, by making sure that pledged assets remain pledged in the event of default.

So far, only the top-rated (in local currency terms) financial institutions have issued future remittance-backed bonds in an effort to pierce the sovereign foreign currency rating ceiling (that is, to obtain a higher rating for these bonds than the sovereign foreign currency rating). The securitization transactions typically do not affect financial institutions' ability to deliver remittances to the ultimate beneficiaries. Loosely speaking, the financial institutions that undertake a securitization transaction are pledging their *rights* to foreign

currency, but not their obligations to deliver remittances (typically in local currency terms). Potential issuers should be reminded, however, of significant risks—currency devaluation and, in the case of flexible rate debt, unexpected increases in interest rates—that are associated with market-based foreign currency debt. Moreover, securitized debt is inflexible debt. Securitization of remittances (and other future flows) by public sector entities reduces the government’s flexibility in managing its external payments and can conflict with the negative pledge provision included in multilateral agencies’ loan and guarantee agreements, which prohibit the establishment of a priority for other debts over the multilateral debts.

*Large remittance inflows can lead to exchange rate appreciation and lower export competitiveness*

Large and sustained remittance inflows can cause an appreciation of the real exchange rate and make the production of cost-sensitive tradables, including cash crops and manufacturing less profitable. Although empirical evidence on the adverse effect of large inflows of foreign exchange in terms of trade and growth is limited,<sup>27</sup> it is plausible that this effect exists and is significant for some small economies where remittances are very high. Amuedo-Dorantes and Pozo (2004) found that a doubling of workers’ remittances resulted in real exchange rate appreciation of about 22 percent in a panel of 13 LAC countries (see also Winters and Martins 2004). Rajan and Subramanian (2005), however, did not find any evidence that remittance flows slow down growth by affecting competitiveness.<sup>28</sup> Moreover, as remittances tend to be relatively stable and persistent over long periods, the “Dutch disease” effects of remittances are less of a concern than similar effects of natural resource windfalls and other cyclical flows, and the real exchange rate level achieved through sensible policies may be sustainable (IMF 2005). Governments in countries receiving large remittances can mitigate the effects of real exchange rate appreciation by allocating a

larger portion of government expenditures on infrastructure and also practicing more liberal trade policies; both these measures would tend to increase exports and also contribute to improved labor productivity and competitiveness.

A related concern is whether reliance on unearned income in the form of remittances has adverse effects on the incentives to work, as well as on the quality of economic policies and governance, similar to the well-documented effects of windfall gains from natural resources such as oil. While oil exports are almost always found to have a strong negative impact on various governance indicators, such as control of corruption and rule of law, preliminary cross-country analysis suggests that remittance flows may not have such negative effects (box 4.5).<sup>29</sup>

*The evidence on the effect of remittances on long-term growth is inconclusive*

To the extent that they finance education and health and increase investment, remittances could have a positive effect on economic growth. Remittances may relieve credit constraints in the recipient community and spur entrepreneurial activity (Funkhouser 1992, Yang 2004, Woodruff and Zenteno 2004). Faini (2002) finds that the impact of remittances on growth is positive. He argues that remittances overcome capital market imperfections and allow migrant households to accumulate positive assets, as claimed by Stark and Lucas (1988) and Taylor (1994). Mishra (2005) found that a 1 percentage point increase in remittance inflows in 13 Caribbean countries increased private investment by 0.6 percentage point (all measured relative to GDP). To the extent that they increase consumption, remittances may increase per capita income *levels* and reduce poverty and income inequality, even if they do not directly impact growth (see chapter 5).

On the other hand, large outflow of workers, especially skilled workers, can reduce growth in labor-sending countries. Remittances may also indirectly affect labor supply,

## Box 4.5 Unlike oil windfalls, remittance inflows do not weaken institutional capacity

The economic performance of most mineral exporters, in particular oil exporters, has been far less impressive than that of resource-poor countries (Gelb and others 1988; Auty 2001; Gelb, Eifert, and Tallroth 2002). To a large extent this outcome seems driven by mismanagement of the economy and weak institutions. Sala-i-Martin and Subramanian (2003) show empirically that concentration of resource flows has deleterious effects on the institutional framework and capacity of a country. Natural resource windfalls—oil rents, for example—often foster weak institutions because they allow the authorities to pursue arbitrary, costly, and inefficient policies (Ross 2001). States that control such resources may resist secular modernization pressures because they create alternative sources of power (Isham and others 2003). These rents also perpetuate economic

inequality, which results in nepotism and a weak civil society. Resource rents are also believed to be associated with civil conflict (Collier and Hoeffler 2002).

In contrast, remittances are widely dispersed, the great bulk of them is allocated in small amounts, and for the most part, remittances avoid the government “middleman.” Hence the expectation is that they can avoid the negative effects of natural resource windfalls on poverty, growth, and institutional capacity. This is similar to an argument by Birdsall and Subramanian (2004) that countries would be better off if they distributed the bulk of the returns from resource flows to the general population, who would use the funds more effectively than a highly centralized government, and also greatly reduce the incentives for corruption.

by encouraging some remittance-recipient households to choose more leisure than labor. Chami, Fullenkamp, and Jahjah (2005) argue that remittances may slow down growth by reducing work efforts by remittance recipients.<sup>30</sup>

One recent study of the impact of remittances on growth over an extended period (1970–2003) for 101 developing countries found no significant link between remittances and per capita output growth, or between remittances and other variables such as education or investment rates (IMF 2005). This study, however, attributed this inconclusive result to measurement difficulties arising from the fact that remittances may behave counter-cyclically with respect to growth.<sup>31</sup> Also, empirically it is difficult to measure the effects of remittances on human capital formation, which may occur over a very long period of time.

Remittances, like aid, may be more effective in a good policy environment. For instance, a good investment climate with well-

developed financial systems and sound institutions is likely to imply that a higher share of remittances is invested in physical and human capital (IMF 2005). Indeed, Giuliano and Ruiz-Arranz (2005) show that in the economies where the financial system is underdeveloped, remittances alleviate credit constraints and work as a substitute for financial development, improving the allocation of capital and therefore accelerating economic growth. Recent research also shows that remittances may promote financial development (Aggarwal and others 2005), which in turn can enhance growth and reduce poverty (Beck and others 2004).

### Annex 4A.1 World Bank data on remittances

Using the definition in chapter 7 of *Global Development Finance 2003*, migrant remittances are considered the sum of workers’ remittances, compensation of employees, and migrants’ transfers. Data for these variables

**Table 4A.1.1 Countries with alternative estimates in 2004**

<i>\$ millions</i>	
Algeria	2,460
China	21,283
Gambia	8
Iran	1,032
Kenya	464
Lebanon	2,700
Malaysia	987
Mauritius	215
Nigeria	2,751
Serbia and Montenegro	4,129
Vietnam	3,200
Total	\$39,259

are taken mostly from the balance of payments (BoP) data file of the IMF (see also Ratha 2003). However, many countries do not report data on remittances in the IMF BoP statistics, even though it is known that emigration from those countries took place (see table 4A.1.1 for a list of these countries). In 2003 about 87 countries did not report any remittances' data. Further, there was no consistency in reporting the data. For example, only 28 countries report workers' remittances, compensation of employees, and migrants' transfers. Forty-five countries report both workers' remittances and compensation of employees; 11 countries report compensation of employees and migrants' transfers; and 3 countries report workers' remittances and migrants' transfers. There are 14 countries that report only workers' remittances and 19 countries that report only compensation of employees.

Reported data for developing countries show only \$113.4 billion in total remittances for the year 2003 (workers' remittances \$97.3 billion, compensation of employees \$14.8 billion, and migrants' transfers \$1.3 billion), and 83.8 billion in 2004 (workers' remittances \$68.7 billion, compensation of employees \$13.5 billion, and migrants' transfers \$1.5 billion). By filling in gaps for some developing countries for which remittance data were missing, we arrived at an estimate of \$142 billion in 2003, and \$160 billion in

2004 (the latest year for which BoP data are currently available). The gap-filling methods followed, and the reasons for making the adjustments are documented below.

Workers' remittances, as defined in the IMF Balance of Payments manual, published in 1993 (fifth edition), are current private transfers from migrant workers who are considered *residents* of the host country to recipients in their country of origin. If the migrants live in the host country for a year or longer, they are considered residents, regardless of their immigration status. If the migrants have lived in the host country for less than a year, their entire income in the host country should be classified as compensation of employees. Workers' remittances are transfers, whereas compensation of employees is considered factor income. In the earlier, fourth edition of the BoP manual, compensation of employees was called labor income and was classified as non-factor services (referred to just as services in the fifth edition).

Although the residence guideline in the manual is clear, this rule is often not followed for various reasons. Many countries compile data based on the citizenship of the migrant worker rather than on their residency status. Further, data are shown entirely as either compensation of employees or as worker remittances, although they should be split between the two categories if the guidelines were correctly followed; for example, Saudi Arabia and Israel record only compensation of employees. India shows very little compensation of employees, but large workers' remittances, although it is well known that India supplies a large number of temporary IT workers to the United States and European countries. On the other hand, the Philippines shows large compensation of employees and very few migrants' transfers. The distinction between these two categories appears to be entirely arbitrary, depending on country preference, convenience, and tax laws or data availability. This fact has been recognized at the World Bank since the 1980s, and worker remittances have been

treated as part of labor income and added to exports of goods and services in calculating debt service ratios.

Though small in comparison to compensation of employees and workers' remittances, migrants' transfers have become another source of confusion. Migrants' transfers are the net worth of migrants that are transferred from one country to another at the time of migration (for a period of at least one year). Migrants' transfers are considered capital transfers in the BoP fifth edition manual, although they were considered current private transfers in the fourth edition. As the number of temporary workers increases, the importance of migrants' transfers may increase. Therefore, in order to get a complete picture of the resource flow, one has to consider these three items together.

There are four main reasons for gaps in remittance data: vintage, missing data, data recorded under other than the three categories mentioned above, and data collection practices.

#### *Vintage*

The Balance of Payments Yearbook publishes data with a one-year lag. That is, the yearbook published in December of the current year should have data up to December of the previous year. However, this is not true for a number of developing countries, for which the latest data available are two or even more than three years old. For about 28 countries in 2003, and 59 countries in 2004, data have been obtained from World Bank country desks or extrapolated on the basis of earlier trends.

In addition, two countries, Algeria and Nigeria, have not reported data to the IMF for a number of years. For Algeria the IMF data stop in 1991, and for Nigeria data, stop in 1999. However, data for these countries are available from the country and reported in the country databases of the World Bank and IMF.

#### *Missing data*

Several developing countries (for example, Lebanon) do not report to the IMF.<sup>32</sup> Data

from the country desks are used for The Gambia, Iran, and Serbia and Montenegro; and data from central banks were used for Lebanon and Vietnam. Some high-income countries (notably Canada, Singapore, United Arab Emirates) also do not report remittance data.

#### *Classification under other categories*

Due to the difficulty in classifications, countries have often classified workers' remittances either as other current transfers or as transfers from other sectors. For example, in the case of Haiti, before 1989 and after 1997, data were recorded as workers' remittances, but during 1990–7, they were recorded as transfers from other sectors. Kenya and Malaysia data have similar difficulties. For these countries, data under "other sectors" from the IMF are treated as worker remittances. In China a large proportion of workers' remittances are classified as other private transfers in the IMF BoP file. Therefore, instead of the IMF's workers' remittances, we have used workers' remittances data from the country desk. It is not just the developing countries that follow this practice, many high-income OECD countries (for example, the United Kingdom) do the same.

There are also other problems in the data, such as the difficulty in separating travel expenditure from remittances, which have not been addressed here. The increased acceptance of credit and debit cards in developing countries further complicates the issue. In some countries, notably China, remittances may have been misclassified as FDI. The OECD definition of FDI (including the purchase of holiday or second homes by nonresidents) may be counted as FDI—a likely case in China. In the case of India and many other countries, remittances may have been classified as nonresident deposits, especially those in local currency terms.

#### *Data collection practices*

A survey of central banks, based on responses from 40 central banks, reveals widespread

problems with remittance data collection methodology (de Luna Martinez 2005). Most of the central banks use remittance data reported by commercial banks, but leave out flows through money transfer operators and informal personal channels.

Even when data are available and properly classified, in many cases they are not based on actual exchange records. In a number of cases, the preferred methodology of estimating the workers' remittances is based on taking the number of emigrants, and multiplying by an average amount sent. The sources for these data are migration records, surveys of exchange and financial houses, and household surveys. However, these data are often weak or out of date. Also the methodology for preparing estimates is not the same in all countries, and it is not always described in the country notes in the publicly available balance-of-payments data. It is hoped that the increased awareness about the importance of remittances and the shortcomings in both the remittance and migrant workers' data will result in efforts to improve the data transmission.

Table 4A.1.1 shows the countries where we have used alternative estimates of workers' remittances' using either country desk or the central bank data.

Perhaps the most difficult aspect of remittance data is estimating informal flows. In annex 4A.2, we discuss different ways of estimating informal flows. One way to estimate the true size of remittances is to undertake surveys of remittance senders and recipients. Unless new, adequately randomized and representative surveys of recipients and senders are carried out, evidence from existing household surveys would only be indicative rather than comprehensive.

### Annex 4A.2 A model-based estimation of informal remittance flows

Estimating the size of unrecorded flows is almost impossible. In what follows, we make an effort to arrive at some crude

estimates using a set of variables that are noted in the literature to affect the choice of the remittance channel. Empirically, this involves first estimating officially recorded remittances as a function of fee, exchange commission, and the presence of a dual exchange rate (and other variables shown in the equation below). Next, using the estimated coefficients on these variables, we predict what remittances would be if the values of these variables become closer to those prevailing in regions where informal flows are small. We then interpret the difference between these predicted remittances and the actual remittances as an estimate of informal flows.

For this purpose, we propose the following model of remittances:

$$\begin{aligned} REMIT = & \beta_0 + \beta_1 Host + \beta_2 Home \\ & + \beta_3 Migrant + \beta_4 Fee200 \\ & + \beta_5 Spread200 + \beta_6 Dual \end{aligned}$$

where *REMIT* is the log of remittances (or remittance per migrant or per capita); *Host* is the log of the host-country per capita output (trade or migration weighted across hosts); *Home* is the log of home-country per-capita output; *Migrant* is the log of the stock of migrant workers in OECD countries; *Fee200* is the fixed fee for sending \$200 from the United States to the source country; *Spread200* is the exchange commission for sending \$200; and *Dual* is a dummy variable for dual exchange rates. The last three variables are likely to have large impacts on the extent to which money is sent via formal channels. The data on remittances are available on a panel basis; data on transaction costs and on the number of migrant workers are only available for a cross-section. In table 4A.2.1 below, we report regression results for a cross-section of countries (using average figures for 1995–2003 for remittances and other time series variables). In table 4A.2.2, we show results of remittance cost functions estimated using cross-country data. These equations estimate panel data on remittance costs for use in panel data regressions reported in table 4A.2.3. Reduced form



**Table 4A.2.1 Regression results: determinants of worker remittances**

Explanatory variables	Dependent variable: Ln (Remittances) (1)	Dependent variable: Ln (Remittances) IV <sup>a</sup> (2)	Dependent variable: Ln (Remittances per emigrant) (3)	Dependent variable: Ln (Remittance per capita) (4)
Dual exchange rate	-0.42 (-1.32)	-0.18 (-0.46)	-0.31 (-0.90)	-0.74** (-2.04)
Service fee	-0.06** (-2.32)	-0.12* (-1.94)	-0.07** (-2.47)	-0.04 (-1.00)
Exchange-rate spread	-0.04 (-0.50)		-0.02 (-0.26)	-0.05 (-0.52)
Stock of migrant workers	0.73** (7.66)	0.64 (5.41)		0.22** (2.45)
Main host per capita income	-0.10 (-0.77)	-0.05 (-0.31)	-0.22* (-1.75)	0.11 (0.69)
Home per capita income	-0.15 (-1.03)	-0.17 (-1.00)	-0.06 (0.40)	0.72** (4.35)
Income	0.31** (4.05)	0.31 (3.75)		
Number of observations	104	85	104	104
R <sup>2</sup>	0.70	0.69	0.08	0.35

Source: Freund and Spatafora (2005).

Note: Robust t-statistics appear in parentheses.

a. Instruments include financial development and dollarization. Hansen's J-statistic is 2.49 (p-value 0.12), and the Shea partial R-squared of the instruments is 0.37.

\*\*significant at the 5 percent level; \*significant at the 10 percent level.

**Table 4A.2.2 Regression results: determinants of transaction costs**

Dependent variable: remittance cost

Explanatory variables	(1)	(2)	(3)	(4)	(5)
Bank concentration	0.05** (2.29)	0.03 (1.10)	0.03 (1.35)		
Financial development	-0.05** (-2.41)	-0.05** (-2.38)	-0.05** (-2.42)	-0.06** (-2.54)	-0.05** (-2.53)
Financial risk	0.04 (0.32)	-0.04 (-0.26)	0.03 (0.24)	-0.04 (-0.31)	0.01 (0.02)
Dollarization	-4.12** (-4.47)	-3.92** (-3.87)	-3.92** (-4.20)	-4.10** (-4.14)	-4.00** (-4.33)
Domestic output	-0.22 (-0.46)	-0.56 (-1.02)	-0.32 (-0.66)	-0.75 (-1.47)	-0.46 (-0.98)
Remittances		-0.30 (-1.18)		-0.42* (-1.85)	
Emigrant stock			-0.34 (-1.18)		-0.59** (-2.40)
R <sup>2</sup>	0.52	0.56	0.53	0.52	0.52
Number of observations	76	69	76	70	78

Source: Freund and Spatafora (2005).

Note: The dependent variable is the percentage cost of remitting \$200. Robust t-statistics appear in parentheses.

\*\*significant at the 5 percent level; \*significant at the 10 percent level.

**Table 4A.2.3 Panel regression results: determinants of remittances**

Explanatory variables	Ln (Remittances) (1)	Ln (Remittances) (2)	Ln (Remittances per capita) (3)	Ln (Remittances per capita) (4)
Dual exchange rates	-0.28** (-2.69)	-0.22** (-2.18)	-0.26** (-2.48)	-0.21** (-2.03)
Fitted cost	-0.08* (-1.70)		-0.08* (-1.74)	
Bank concentration		-0.00 (-1.00)		-0.00 (-1.03)
Financial development		0.03** (5.13)		0.02** (4.30)
Financial risk		0.00 (0.02)		0.01 (1.12)
Dollarization		0.62* (1.73)		0.58 (1.60)
Net errors and omissions	-0.02** (-2.07)	-0.02** (-2.03)	-0.02** (-2.12)	-0.02* (-1.97)
Home per capita income	2.10* (1.71)	3.64** (2.92)	0.43** (2.37)	0.63** (3.31)
Host per capita income	1.37 (1.39)	1.28 (1.34)	1.33 (1.33)	1.41 (1.46)
Home income	-1.71 (-1.38)	-3.13** (-2.46)		
Number of observations	295	295	295	295
R <sup>2</sup>	0.27	0.35	0.21	0.29

Source: Freund and Spatafora (2005).

Note: All regressions include country and year fixed effects. Robust t-statistics appear in parentheses.

\*\*significant at 5 percent level; \*significant at 10 percent level.

equations for remittances using statistically significant variables in the cost regressions are also shown in table 4A.2.3.

## Notes

1. In March 2004, the G-7 finance ministers indicated their intention to “continue to work on initiatives to reduce barriers that raise the cost of sending remittances and to integrate remittance services in the formal financial sector” and their commitment to “work with governments, the private sector, and multilateral development banks to broaden the access for families and entrepreneurs to financial services.” At the Sea Island Summit in June 2004, the G-8 heads of state called for “better coherence and coordination of international organizations working to enhance remittance services and heighten the developmental impact of remittance receipts.” They indicated that “G-8 countries will work with the World Bank, IMF, and other bodies to improve data on remittance flows and to develop standards for data collection in both sending and receiving countries.”

2. One market study estimates that *global* remittances are about 2.5 times the size reported in the IMF balance of payments (Aite Group 2005). The recent upward revision of China’s remittances to \$21 billion in 2004, from an earlier estimate of \$4.6 billion, lends some support to this notion, although there is no strong evidence that systematic misreporting is so large. The discrepancy for China is reportedly due to the fact that the Chinese figures include compensation only for state employees. Some authors believe that a portion of China’s FDI attributed to overseas Chinese may actually be a misclassification of migrant remittances. Some also believe that the recent surge in remittances to China in part reflected speculative inflows in anticipation of a revaluation of the yuan.

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

4. Saudi Arabia, the second largest source of remittances at \$13.6 billion (or 5.4 percent of GDP) in 2004, is now classified as a high-income country. Saudi Arabia’s per capita income level has risen in response

to the current high oil prices. The authorities prefer that Saudia Arabia be treated as a developing country.

5. Efforts are under way through the GTAP consortium to compile and estimate a comprehensive set of bilateral migrant stocks, which are used here. See Walmsley, Ahmed, and Parsons 2005.

6. More precisely, bilateral remittance flows are calculated by allocating reported remittance inflows in each country according to weights constructed as follows:

$$R(i,j) = [\text{Remittance flows to country } j] * [M(j,i)/\text{sum over } i \text{ of the nominator}]$$

$R(i,j)$  = remittance flows from country  $i$  to country  $j$  and  $M(j,i)$  = stock of migrants from country  $j$  in country  $i$ . Data on migrant stocks  $M(\cdot)$  are taken from the GTAP database (Walmsley, Ahmed, and Parsons 2005).

7. Including Saudi Arabia as a developing country would raise South–South remittances to 45 percent and South–South migration stock to 60 percent.

8. A World Bank survey of the African diaspora in Belgium conducted in spring 2005 revealed that 42 percent of remittances from Belgium to Senegal, and 55 percent to Congo and Nigeria, go through informal channels. Anecdotal evidence suggests that nearly 70 percent of remittances in the France–Mali corridor take place through informal channels. Hand-carriage is a popular yet informal channel of remittances in many countries. In the Philippines, 40 percent of total flows are estimated to be remittances brought home by migrants in person. Nearly 42 percent of outward remittances from South Africa are believed to move through informal channels (Genesis Analytics 2005).

9. In a calibration model, El Qorchi, Maimbo, and Wilson (2003) argue that the black-market premium is the key factor determining informal flows. Other factors affecting the choice of the channel are trust in the intermediary and anonymity and convenience factors, such as location, hours of operation, and language.

10. Results will underestimate the size of informal flows to the extent that they are affected by other factors, such as a lack of legal documentation of migrants and high tax rates. To the extent that there would still be some informal flows even at this lower remittance cost level, the estimates are actually lower bounds on the true size of informal remittances. However, it is possible that the increases estimated in table 4.4 represent new remittance flows, and not just the shift from the informal to the formal sector, in which case these estimates would overstate informality.

11. Page and Plaza (2005) use a similar methodology and find that the share of unrecorded remittances relative to the total remittances averages 48 percent worldwide (and 73 percent in Sub-Saharan Africa).

12. Between 2001 and 2004, the euro appreciated by 28 percent relative to the U.S. dollar. During this period, outward remittances from France and Germany actually declined by 5 percent in euro terms. Remittances from Italy and Spain increased nearly 40 percent in euro terms and 93 percent in U.S. dollar terms.

13. A survey of Congolese, Senegalese, and Nigerian diasporas in Belgium did not reveal any significant relationship between the propensity to remit and the number of years a migrant has lived in Belgium. On the contrary, several migrants who had been in Belgium for more than two decades continued to send significant amounts of remittances. Evidence from the Pacific Islands also do not support remittance decay (Connell and Brown 2005; Simati and Gibson 2001). Grieco (2003), however, reported evidence of remittance decay in the case of Micronesian migrants in Guam and Hawaii, caused by family reunification or death of the beneficiaries.

14. The information presented here derives from a survey of IOM country missions on the policies of their host countries, as well as studies by ADB, ECOSOC, USAID, DFID, and the World Bank.

15. For example, Colombia has a 0.4 percent tax on transactions through money exchange bureaux and banks, a temporary arrangement in effect until 2007. Belarus also taxes remittances from nonimmediate family members.

16. For example, in Tajikistan the removal of the state tax on cross-border bank transactions in 2003 reportedly helped raise remittances from \$78 million in 2002 to \$256 million in 2003 (Olimova and Bosc 2003).

17. For example, nonresident Pakistanis remitting over \$10,000 through banking channels can import any personal item valued up to \$1,200 duty-free per annum (World Bank 2005b).

18. Extension of voting franchise to migrants overseas and other policies of political inclusion may also catalyze remittances and other financial flows to the country of origin (Carey 2003; Yang 2003).

19. For example, Pakistan does not permit women under 35 to emigrate as domestic workers and Vietnam bans females from working overseas in the entertainment sector. Bangladesh recently abandoned similar restrictions recognizing that although such restrictions may protect migrants from exploitation, they may also encourage more irregular migration, rendering them even more vulnerable.

20. This is in part responsible for Western Union's withdrawal from the South African market (Genesis Analytics 2005).

21. Such activities complement government objectives to improve banking access in poor neighborhoods

(e.g., through the Community Reinvestment Act; see Frias 2004).

22. USAID also established an 18-month pilot program in 2004 with the PanAmerican Development Foundation to strengthen the capacity of U.S.-based HTAs. The UK government is also looking at the possibility of using HTAs as a conduit for development aid.

23. See also *Global Development Finance 2003*, chapter 7, and Sayan (2004). A separate study by Sayan (2005) finds that in a sample of 12 low-income and lower-middle-income countries during 1976–2003, real remittances responded to a fall in real GDP with a one-year lag. He also found evidence of countercyclicality due to consumption smoothing in India and Bangladesh and procyclicality due to a stronger investment motive in Jordan and Morocco.

24. Black (2004, p. 12) reports that remittances remained substantial during the civil war in Côte d'Ivoire.

25. This is likely to be the case in countries (such as the Philippines or Lebanon) where the headline worker remittance variable has underestimated or missing data.

26. Sovereign spread rises exponentially as credit ratings worsen along the rating scale. A one-notch improvement in credit ratings, therefore, results in higher spread saving for countries at the bottom of the rating scale.

27. See McMahon (1997) for a review of empirical studies on the so-called Dutch disease, a term coined by *The Economist* in 1977.

28. They argue that migrants may lose interest in remitting money and prefer to send goods instead, if the currency in the remittance recipient country is overvalued. Thus controlling overvaluation through prudent macroeconomic policies can help attract remittances.

29. Note that this result applies to cross-country comparison. It would be extremely difficult to empirically estimate the effect of remittances on institutional capacity over time in a given country, since institutional changes take place over a very long time. Also such an exercise would require controlling for reverse causality: remittances may respond to cyclical or abrupt changes in economic growth and governance. A priori, the effect of institutions on remittances can run either way: On the one hand, better institutional capacity may attract remittances meant for investment purposes. On the other hand, better institutional capacity (if they also mean better performance) may mean less emigration and dependence on remittances.

30. However, reduced work effort by some individuals may not reduce the aggregate work effort in a

typical developing country with a large pool of unemployed.

31. It is difficult to disentangle the reverse-causality problem (that growth also affects remittances) while measuring the effect of remittances on growth. Some researchers argue that the empirical results showing a negative association between remittances and growth may largely reflect the fact that remittances tend to rise when growth is weak in the remittance-recipient country.

32. The list of countries that do not report remittance data also includes the following 29 countries: Afghanistan, Angola, Bahamas, Bahrain, Bhutan, Burundi, Canada, Central African Republic, Chad, Congo Democratic Republic, Equatorial Guinea, Iraq, Kuwait, Liberia, Singapore, Somalia, Taiwan (China), Turkmenistan, United Arab Emirates, Uzbekistan, Zambia, and Zimbabwe.

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